Willtek

SCPI Reference Guide

2201
ProLock

Firmware version 1.10

boosting wireless efficiency

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Ordering information

This SCPI reference guide is issued as part of the 2201 ProLock. The ordering number for a published guide is M 293 003. The ordering number for the 2201 ProLock is M 100 301.

Table of Contents

About This Guide

Purpose and scope

The purpose of this guide is to help you successfully use the 2201 ProLock features and capabilities. This guide includes the general operation and a list of commands for remote control of the 2201 ProLock.

Assumptions

This guide is intended for intermediate and experienced users who want to use the 2201 ProLock effectively and efficiently. We are assuming that you have basic computer and mouse/track ball experience and are familiar with basic telecommunication concepts and terminology.

Related information

Use this guide in conjunction with the following information:

2201 ProLock: Getting started manual, ordering number M 295 003

2201 ProLock: User's guide, ordering number M 290 003

Technical assistance

If you need assistance or have questions related to the use of this product, call Willtek's support. You can also contact Willtek by e-mail at customer.support@willtek.com.

Table 1 Technical support contact

Region	Phone number	Fax number
Europe, Middle East, Asia, Africa	+49 (0)89 99641 311	+49 (0)89 99641 440
Americas	+1 973 386 9696	+1 973 386 9191
China	+86 21 5836 6669	+86 21 5835 5238

Conventions

This guide uses naming conventions and symbols, as described in the following tables.

Table 2 Typographical conventions

Description	Example
User interface actions appear in this **typeface**.	On the Status bar, click **Start**.
Buttons or switches that you press on a unit appear in this **TYPEFACE**.	Press the **ON** switch.
Code and output messages appear in this `typeface`.	`All results okay`
Text you must type exactly as shown appears in this **`typeface`**.	Type: **`a:\set.exe`** in the dialog box.
Variables appear in this <typeface>.	Type the new <hostname>.
Book references appear in this typeface.	Refer to Newton's Telecom Dictionary
A vertical bar | means "or": only one option can appear in a single command.	`platform [a|b|e]`
Square brackets [ ] indicate an optional argument.	`login [platform name]`
Slanted brackets < > group required arguments.	<`password`>

Table 3 Keyboard and menu conventions

Description	Example
A plus sign + indicates simultaneous keystrokes.	Press **Ctrl+s**
A comma indicates consecutive keystrokes.	Press **Alt+f,s**
A slanted bracket indicates choosing a submenu from menu.	On the menu bar, click **Start > Program Files**.

Introduction

1

This chapter describes the environment for remote control of the 2201 ProLock. The topics discussed in this chapter are as follows:

About the 2201 ProLock

Willtek's 2201 ProLock is a reasonably priced test instrument for 3G mobile phones and wireless data cards. Level 1 and level 2 service shops use ProLock to quickly test wireless devices, perform smaller repairs and bill manufacturers for warranty claims.

The 2201 ProLock is similar to the 4100 and 4200 series instruments because it is small, easy to use and affordable to large mobile phone retailers with a repair shop in the back office. ProLock, however, supports both GSM and WCDMA phones and wireless devices. Many mobile phones today include WCDMA functionality; manufacturers start to demand WCDMA testing in case of warranty claims from repair shops. ProLock fills the gap between the cheap GSM-only testers and sophisticated 3G test sets.

About remote control of the 2201 ProLock

Willtek provides a PC-based software, the 7310 Lector and Scriptor family of test automation programs. This software already includes standard test sequences for remote control of the 2201 ProLock. In addition, 7315 Scriptor includes a menu-driven test script editor that allows you to modify existing test sequences or generate your own ones.
For remote control through Lector or Scriptor, please refer to the 2201 ProLock user's guide and to the 7310 Lector and Scriptor user's guide.

If these remote control capabilities are not sufficient for your purposes or if you want to integrate the 2201 ProLock into a larger test setup with remote control of various devices, this manual will help you to set up the system and to write your own remote control software.

Remote Control of the 2201 ProLock

2

This chapter describes the remote control capabilities of the 2201 ProLock. Topics discussed in this chapter are as follows:

Remote control applications and requirements

SCPI (pronounced as 'skippy') is a world-wide standard. The basic idea of SCPI is to define a command language for measurement systems that is independent of the related manufacturers.

Like most other measurement devices and instruments, the 2201 ProLock can be integrated into test systems. Operation can be automated through software with sequences of commands that set up the different instruments and perform some measurements. The software can also evaluate the results and continue with another test. At the end of the test sequences, an overall result or verdict is issued, along with the individual measurement results.

There is a variety of interfaces that can be used for remote control. The interfaces supported by the 2201 ProLock are USB, RS-232 and Ethernet (TCP/IP). The lack of a particular interface in the ProLock does not necessarily mean that it cannot be integrated into the test system; computers integrated into remote control systems typically support at least one of the interfaces that the 2201 ProLock features.

What SCPI is

SCPI (**S**tandard **C**ommands for **P**rogrammable **I**nstruments) was introduced in 1990. It is a world-wide standard, independent of individual manufacturers.
The SCPI specification defines a command language for measurement systems and – in principle – is based on IEEE 488.2.
SCPI is independent of the physical transmission channel of the commands. The 2201 ProLock supports three different interfaces for remote control: USB, RS-232 and Ethernet (TCP/IP).

The idea behind SCPI is to shorten program development times for the automated control of test equipment and to make that program development as efficient as possible.
Of course, one of the main requirements for this goal is that the language must be understood by as many measurement devices as possible. Therefore, SCPI is pushed by the SCPI consortium. Quite a number of the main test and measurement equipment manufacturers are members of the SCPI consortium.

Implementing just standard commands on a complex communications test system like the 2201 ProLock would lead to poor performance. Therefore, we were obliged to find a compromise between standard commands and performance. This is the reason why you will find many more SCPI commands in the 2201 than specified in the standard SCPI specification. However, all SCPI commands implemented in the 2201 ProLock follow the standard SCPI syntax and rules.

For additional details on the SCPI standard, the current version can be found on page www.scpiconsortium.org/scpistandard.htm. You can download the full SCPI specification from there free of charge (about 3.5 MB in PDF format).

SCPI command structure

SCPI defines programming commands, program messages, return values and data formats, which are consistent for all measurement systems independent of their manufacturer and purpose.

SCPI uses a device-independent command set, the so-called ''Common commands'', understood by all SCPI devices.

The ProLock-specific SCPI commands are called ''Compound commands'' and will only be understood by the ProLock.

A subsystem in terms of SCPI is quite abstract: it is the set of commands implemented to perform specific tasks of the SCPI device (the 'measurement subsystem' of the ProLock, for instance, is the set of commands implemented for taking all kind of measurements, while the 'configuration subsystem' is the set of all configuration commands for all areas of the ProLock).
All these subsystems are using the same, SCPI-based messaging and data formats.

Any SCPI command is built in a hierarchical way – similar to how a path in a file system is built. The individual command elements are separated by colons (:).

The complete set of commands of a subsystem is called the 'command tree'. The command trees for the SCPI command set implemented in the ProLock are described in this manual.

Syntax and notation

There are two types of SCPI commands:

– compound commands and
– common commands.

Both types of commands differ in syntax.

Compound commands

Compound commands are always referred to as commands throughout this chapter.

– Any compound command is built in a hierarchical way. The single command elements are separated by colons (:).

- A command usually starts with a colon (:). However, the colon must be omitted when the subsequent command continues on the same hierarchical level (see examples below).
- The first command element always is the name of the subsystem like `CONFigure` or `MEASure`.
- Then follows one of the commands available for that subsystem like `GSM` or `RFTX`.
- The subsequent command element(s) may now be one or more subcommand(s) and/or one or more parameter term(s) (e.g. `BS:ID:BCC 5`).
- A SCPI program line may contain more than one command. In this case, the single commands have to be separated by a semicolon (;).
- There is also a short form for every command. This is usually formed of the first four letters (`CONF` instead of `CONFIGURE`). When the fourth letter is a vowel (a,e,i,o,u), only the first three letters are used (`RFG` instead of `RFGenerator`).
- Throughout this manual, the short form is always written in capitals to make it easy to identify it. However, the SCPI system of the ProLock is not case-sensitive.

Examples

- The complete SCPI command to set the base station color code (i.e. the training sequence) to 5 would be: `:CONFigure:GSM:BS:ID:BCC 5`. The short form `:CONF:GSM:BS:ID:BCC 5` is completely identical.
- `:RFGenerator:STATe ON` is identical with `:RFG:STAT ON`. However, the long version of the commands is – especially in the beginning – easier to work with.
- `:RFGenerator:STATe ON; LEVel 20` is a valid two-command statement. `STATe ON` and `LEVel` are both commands of the `RFGenerator` subsystem. Both are working on the same hierarchical level. Therefore, the colon in front of `LEVel 20` has to be omitted.
  An alternative with the identical meaning would be: `:RFGenerator:STATe ON; :RFGenerator:LEVel 20`. The form `:RFGenerator:STATe ON; :LEVel 20` would be invalid, because `LEVel` is no subsystem of the ProLock.
- `:RFGenerator:MODulation:STATe ON` is invalid. `STATe ON` is no subcommand of the `:RFG:MOD` level.
- `:RFGenerator:MODulation ON; FREQuency 850.2` In this case, the first part up to the semicolon(;) is valid. The second part is invalid as `FREQ` is no subcommand of the `:RFG:MOD` level.
  The correct command would be: `:RFGenerator:MODulation ON; :RFGenerator:FREQuency 850.2`.

Parameters

Many commands require parameters to be specified. Those parameters are placed behind the command, separated by at least one blank (space).
The following types of parameters do exist on the ProLock:

– **Numeric parameters**. These are integers, floating point numbers (with a maximum of 6 decimals) or exponential numbers (see specifications IEEE 488.2 NRf format or ANSI X3.42-1975 for details).

NOTE

The decimal point of floating point numbers must be the dot (.) within SCPI as a comma (,) will always be interpreted as the separator between two parameters (see Notes below for details).

– **Boolean** parameters are specified using the binary numbers 0 | 1, or ON | OFF instead.
– **Enumerated parameters** are strings that only may be selected from a predefined list. To distinguish them from string parameters, the enumerated parameters must **not** be put in quotation marks.
Example: `:CONFigure:GSM:TYPE GSM9001800` sets the 2201 to work as test set for GSM 900/1800.
– **String parameters** are user-defined strings.
– **Block parameters** are a special case and will be described with the related commands.

Queries

Many commands also have a query form. These queries enable you to read out the current value of parameters or the results of measurements.
For a query, simply add a question mark to the command (without any spaces or other symbols in-between).
Example: `:RFG:FREQ?` returns the current transmission frequency of the RF generator.

NOTE

The result of a query is saved internally on the 2201.

Common commands

Common commands are defined in IEEE 488.2.
They work on the device itself (and on any subsystem) and always start with an asterisk (*).

Example: `*RST` resets the 2201 and sets all system parameters to default values.

A list of all common commands can be found in subsection "Common commands" on page 7.

NOTE

The SCPI system is not case-sensitive. It does not matter for the syntax whether commands are written using capital letters, lowercase letters, or a mixture of both.
However, for easy maintenance of SCPI programs, it is recommended to type in the short form of a command in capital letters (`CONF`) and the rest of it in lowercase letters (`CONFigure`).

NOTE

Some commands allow more than one parameter. In those cases, the single parameters are separated by commas (,). There must not be any spaces between the commas and the parameters.
Example: `:CONF:GSM:BS:TCH:NCELl 63,45,39,17,23,9`

SCPI notation

`[ item ]` – Square brackets indicate an optional item which can also be omitted.

`item1 | item2` – Vertical bars separate entries of a list and indicate that precisely one element from that list must be used.

`< item >` – Pointed brackets indicate that either a parameter or a subcommand must be used in order to build a valid command.

`{ item }` – Braces stand for a parameter or a subcommand that has to be selected from a predefined table.

The <NR1 Numeric Response Data -- Integers> format defines integer decimal numbers with no decimal point or fractional part. For example:
```
123
+123
-12345
```

The <NR2 Numeric Response Data -- Fixed Point> format defines decimal numbers with a fractional part but no exponent. For example:
```
12.3
+1.234
-0.12345
```

The <NR3 Numeric Response Data -- Floating Point> format defines decimal numbers with a fractional part and an exponent. For example:
```
1.23E+5
123.4E-56
-12345.678E+90
```

The <Hexadecimal Numeric Response Data> format is exactly the same as the listening for-mat for hex numbers, except that lowercase letters are not allowed. For example:
```
#HAD0E
#H01F2
#HF3B
```

The <Octal Numeric Response Data> format is exactly the same as the listening format for octal numbers, except that lowercase letters are not allowed. For example:
```
#Q7035
#Q30572
#Q765432
```

The <Binary Numeric Response Data> format is exactly the same as the listening format for binary numbers, except that lowercase letters are not allowed. For example:

```
#B01101
#B10101010
#B1011
```

The <Character Response Data> format defines the means by which mnemonic strings are sent between devices. These strings contain only ASCII numeric digits, upper-case ASCII alphabetic characters, and the "_" character. They must start with an uppercase ASCII alphabetic character, and cannot be more than 12 characters long. For example:

```
START
R2_D2
```

The <String Response Data> format defines how a device sends an arbitrary text string. It is the same as the listening format except that double-quotes are legal characters but single-quotes are not. For example:

```
"You say hello"
```

Command subsystem overview

The various SCPI commands and their arguments/parameters are described below. Please note that any SCPI command specified with an invalid of without an argument required will be totally ignored by the system. This means that an incomplete SCPI command will not affect the current system status at all.

Command commands

The common commands are understood by all SCPI and IEEE 488.2 instruments. Their purpose is to perform general tasks and to read or work with the registers common to all SCPI instruments. The following common commands have been implemented.

Command	Short description	Command group
:*CLS	Resets the entire status reporting system.	General common commands
:*ESE	Sets and queries the event status register mask.	Event status register
:*ESR?	Reads out the current contents of the event status register.	Event status register
:*IDN?	Returns device identity.	General common commands
:*OPC	Waits until previous command has been completed.	General common commands
:*RST	Resets the entire test set. All parameters, limits etc. will be set to internally predefined default values.	General common commands
:*SRE	Sets and queries service register mask.	Service register
:*STB?	Returns the current contents of the service register and clears the service register.	Service register
:*WAI	Waits until previous command has been completed.	General common commands

The communication-related subsystems

These subsystems cover system relevant tasks, which are not primarily involved in the measurement process.

SYSTem – System parameters, such as the number of unread error messages, the test set's GBIP address etc. may be read out or set using the commands of this subsystem.

STATus – The STATus subsystem controls and provides information on the state of the 2201. There are two types of states: operational states describe what is currently going on within the test set while questionable states deliver questionable states of the 2201.

FORMat – The commands of this subsystem enable settings of the data output format in remote mode.

The SYSTem subsystem

System parameters, such as the number of unread error messages, the test set's GPIB address etc. may be read out or set using the commands of this subsystem.

The STATus subsystem

The STATus subsystem delivers detailed information about the internal status of the ProLock, its error conditions and special events. These three areas are dealt with in three different sections of the status subsystem. These three sections are addressed, using different commands.

Status Area	Related commands	Main functional aspects
Operation Status	STATus:OPERation...	These commands deal with the operation status of the ProLock. They describe what is currently going on inside the test set, mainly in respect of signaling and measuring.
System Errors	STATus:QUEStionable...	This area of the internal status report system mainly deals with errors and warnings regarding the hardware stages of the ProLock (like 'RF input overload' or 'frequency out of range'.
Execution Errors	*ESE, *ESR?	Mainly program or SCPI command execution errors are dealt with in this area of the internal status report system.

The status subsystem provides in-depth information about the internal status of the test set. Furthermore, powerful event processing tools allow any form of flexible control over the 2201 ProLock.

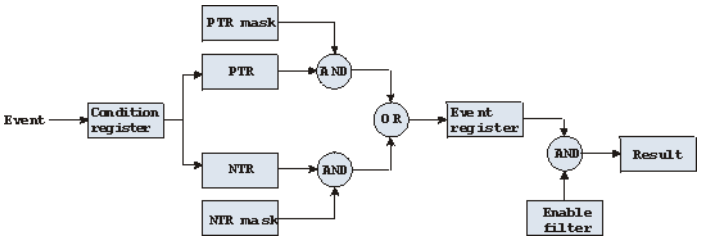
However, the use of the status subsystem is a bit tricky because of the many parameters involved. Therefore, we kindly suggest to carefully read subsection "Understanding the STATus subsystem" on page 12 before using the status subsystem.
A table of all registers implemented can be found in subsection "Table of registers" on page 15.

Understanding the STATus subsystem

The STATus subsystem is intended to deal with special events occurring inside the test set. It provides tools to enable any current condition to raise a system event.
These system events may then be used to trigger service requests (SRQ) on the GPIB.

There are several groups of registers, structured in a hierarchical order. Lower-level registers work on specific conditions and single parameters while higher-level registers integrate the result of several lower-level registers and thus provide a more general view.
The highest level of these registers is the service register, sometimes also referred to as the statusbyte register or status byte.

The figure below gives an example of a group of registers.



A group of registers starts with a Condition register. An internal Event will set the corresponding bit of the Condition register (to 'set a bit' means a transition from binary **0** to a binary **1**). Any Condition register will be updated continuously. This means that a bit will be reset as soon as the condition which rose that bit is no longer valid.

Example:
As soon as the ProLock starts to page a mobile under test, a certain bit of a certain condition register will be set. When the ProLock stops paging the mobile (because e.g. it responded to the paging requests), this bit will be reset. Now, there is no chance to find any evidence for a paging process in this Condition register.

Therefore, there is an **Event** register included in every group of registers. In the Event register, a bit will remain set even when the condition for it to be set is no longer valid. Any Event register, however, will be cleared after a query.

Example:
Continuing our example from above, in the related Event register, the corresponding bit would still be set. A query of this register would provide evidence that there has been some paging in progress. However, the Event register is not able to provide any information if the condition is still valid.

Summary 1: condition-type versus event-type registers

- The condition-type registers reflects the current status of the test set and is updated continuously. When you would like to know if a special condition is currently valid, then read out the related condition-type register with a query.
- The condition-type register and the event-type register have an identical structure. This means that they are of the same length and the single indicator bits are at the same positions.
- The event-type registers are the 'memory' of the status system. Once a bit has been set, it will remain set until the event-type register is read out with a query. When you want to trigger e.g. your program with a certain event, always read out the related event-type register.
- Event-type registers are read-only and self-destructive. They will be cleared after any query.

Transition of a bit from the condition-type to the event-type register

How will a bit find its way to the Event register?
This depends on the transition filter and its settings. The transition filter works as follows:

First, there are two branches: the Positive TRansition and the Negative TRansition filter. Both only react on the corresponding transitions of bits and both contain as many bit positions as the condition register.

PTR will carry a binary 1 at a bit position only when the corresponding bit of the condition register is set, while NTR will carry a binary 1 at a bit position only when the corresponding bit of the condition register is reset..

Both the output of PTR and NTR will be combined with the corresponding mask, using a logical AND operation.

These masks are user-definable (using the **STAT:xxxx:xTR** commands) and again contain as many bit positions as the condition register.

Example:
The only chance for bit 4 (that has just been set in the condition register) to reach the Event register is that the PTR mask carries a binary **1** at bit position 4.
The logical AND between the PTR filter and the PTR mask will then deliver a binary **1**. This binary **1** will pass the logical OR and thus set bit 4 of the Event register.

Summary 2: from the condition-type to the event-type registers

- There are two detectors for every bit of a condition register: the positive transition and the negative transition branch. Positive transition means a change of a bit from a binary **0** to a binary **1** while a negative transition is a bit change from a binary **1** to a **0**.
- To every branch, there is a filter mask (PTR and NTR mask). This filter mask is user-definable.

– The filter mask and the result of the transition filter are combined using a logical AND operation.
– The results of the AND operation in both branches will be combined, using a logical OR operation.
– The results of the OR operation are the contents of the related event-type register.

Moving up: an event reaches the condition register one hierarchical level up

The Event register contains summary bits, corresponding to the bits of the condition register. A summary bit will be set, when the initial event passes the transition filter.

The Enable filter is a mask to filter events that are allowed to move one level up. The Enable filter is user-definable (using the **STAT:xxxx:ENABle** commands) and again contains as many bit positions as the condition-type register.

Again, the Enable filter mask is ANDed with the Event register and a nonzero result will finally set the Result bit. This Result bit may be a summary bit either in a higher-level register, or in the service register.

Summary 3: raising the Result bit

The event-type register will be ANDed with the related Enable filter mask.
The Enable filter mask is user-definable.
The result of the logical AND operation between event-type register and related Enable filter will be the Result bit.
The result bit will set the corresponding bit of the condition register one level up.

At the top: the service register

The service register contains eight summary bits: three for the status groups available on the 2201, two for internal queue handling, two for remote control and one bit for it's own status: the summary status bit.

When an event passes through and sets one of the seven corresponding summary bits of the service register, the contents of the service register will be ANDed with the service register mask. This mask can be set using the ***SRE** common command.

When the logical AND operation of the current contents of the service register and the service register mask leads to a binary **1**, then the summary status bit will be set as well.

If both bit 6 of the service register mask and bit 6 (the summary status bit) of the service register are set, then a service request (SRQ) is executed.

Table of registers

The STATus subsystem uses and/or provides access the following registers:

Service register

This register represents the highest level within the report structure of the ProLock.
The service register contains eight bits. A detailed description of the service register can be found in the appendix (SCPI Command Reference).

Event status register group

This group of registers collects all general events of the 2201 (mostly command errors).
Depending of the setting of the event status register mask, bits set in the event status register may be transferred to bit 5 of the service register.
For further details regarding the event status register, please refer to the appendix (SCPI Command Reference).

General operation register group

This group of registers is 16 bits wide and reflects the general operation status of the ProLock.

NOTE

The commands related to the general operation register group and its subordinate groups of registers all start with **`:STATus:OPERation:`**.
See the various :STATus:OPERation:EVENt commands in Chapter 6 ''Status Commands'' for the meaning of the individual status bits.

Signaling operation register group

This group of registers is 16 bits wide. Its main task is to deal with events related to the signaling status. The signaling operations depend on the system option and the contents of the signaling operation register group are detailed in the appendix.
The Result bit of this group of registers is forwarded to bit 8 of the general operation register group.

Measuring operation register group

This group of registers is 16 bits wide. Its main task is to deal with events related to the measurement status.
The Result bit of this group of registers is forwarded to bit 9 of the general operation register group.

Bit	Decimal	Meaning
0	1	Set while RFTX measurements are in progress.
1	2	Set while RFRX measurements are in progress.
2	4	Set while RFSPectrum measurements are in progress.
3	8	Set while audio measurements are in progress.
4	16	Not in use.

5	32	Not in use.
6	64	Not in use.
7	128	Not in use.
8	256	Not in use.
9	512	Not in use.
10	1024	Not in use.
11	2048	Not in use.
12	4096	Not in use.
13	8192	Not in use.
14	16384	Not in use.
15	32768	Not in use.

General questionable status register group

This group of registers is 16 bits wide and reflects the general questionable status of the 2201. The events taken care of this group of registers are mainly errors and warnings.

Some of the bits of this register (like bits 9,10 and 11) are summary bits. Those summary bits are result bits of subordinate groups of registers and described below.

NOTE

The commands related to the general questionable status register group and its subordinate groups of registers all start with **`:STATus:QUESTionable:`**.

Bit	Decimal	Meaning
0	1	Voltage out of range. Not used on the 2201.
1	2	Current out of range. Not used on the 2201.
2	4	Time out of range. Not used on the 2201.
3	8	Power out of range. Not used on the 2201.
4	16	Temperature out of range. Not used on the 2201.
5	32	Frequency out of range. Not used on the 2201.
6	64	Phase out of range. Not used on the 2201.
7	128	Modulation out of range. Not used on the 2201.
8	256	Calibration out of range.
9	512	This is the RF summary bit. This is the Result bit of the RF questionable status register group (see below for details).

10	1024	This is the SYNChronization summary bit. This is the Result bit of the SNYChronization questionable status register group (see below for details).
11	2048	This is the AUDio summary bit. This is the Result bit of the AUDio questionable status register group (see below for details).
12	4096	Not in use.
13	8192	General warning, concerning the test set.
14	16384	Command not understood warning.
15	32768	Not in use.

RF questionable status register group

This group of registers is 16 bits wide. Its main task is to deal with warnings and errors regarding the RF stages of the ProLock.
The Result bit of this group of registers is forwarded to bit 9 of the general questionable status register group.

Bit	Decimal	Meaning
0	1	Input overload. Reduce RF power immediately to avoid possible damage of the ProLock's highly sensitive input stages!
1	2	Output level out of range.
2	4	Transmission frequency out of range.
3	8	Reception frequency out of range.
4...15		Not in use.

SYNChronization questionable status register group

This group of registers is 16 bits wide. Its main task is to deal with warnings and errors regarding the external synchronization of the ProLock.
The Result bit of this group of registers is forwarded to bit 10 of the general questionable status register group.

Bit	Decimal	Meaning
0	1	Set when an external RF synchronization signal is recognized on the EXT SNYC prog. socket.
1	2	Set when an external frame synchronization signal is recognized on the SNYC IN/OUT socket.
2...15		Not in use.

AUDio questionable status register group

This group of registers is 16 bits wide. Its main task is to deal with warnings and errors regarding the audio stages of the ProLock.
The Result bit of this group of registers is forwarded to bit 11 of the general questionable status register group.

Bit	Decimal	Meaning
0	1	Input overload. Reduce signal level immediately to avoid possible damage of the 2201's highly sensitive input stages!
1	2	Output level out of range.
2...15		Not in use.

The FORMat subsystem – overview

The FORMat subsystem sets and queries settings concerning the data output in remote mode.

The base station and mobile station parameter subsystems

These subsystems allow access to the base station (BS) parameters (i.e. the 2201 simulating a base station) and to the information received from the mobile under test like the measurement report. The commands of these subsystems are described here.

CONFigure – This subsystem incorporates all changeable BS parameters of all implemented communication systems.

NOTE

The settings made here directly affect all communication system-specific subsystems.

CALL – This subsystem handles call procedures and allows to read out the measurement report generated by the mobile under test.
The information available is dependent on the current state of a call, i.e. some commands require an established radio communication link between the ProLock and the mobile under test.

The CONFigure subsystem

This subsystem incorporates all changeable BS parameters of all systems implemented. The key commands are the following:

CONFigure:CSYStem	Selects the communications system to work with.
CONFigure:<SystemOption>:...	These commands select parameters within a communications system.
CONFigure:<SystemOption>:BS: ... or CONFigure:<SystemOption>:NB: ...	These are the commands to set specific system parameters like the base station's (or in WCDMA speak, the node B's) RF output power level or its identity.
CONFigure:<SystemOption> :MSTAtion:.. or .CONFigure:<SystemOption> :UE:...	The mobile-specific information is handed over to the ProLock using these commands. One example is the power level.
CONFigure:<SystemOption> :BER:...	These commands set the BER parameters.
CONFigure:<SystemOption> :GROup:...	With the help of these commands, groups of measurements may be defined.
CONFigure:COUPloss:...	These commands provide access to the coupling loss compensation feature of the ProLock.

NOTE

Always select the communication system via the `:Configure:CSYS-tem` command first before you change any parameters using different SCPI commands.

The CALL subsystem

This subsystem contains commands

- for call setup and handling procedures and
- to read out the measurement report, generated by the mobile.

The Measurement subsystems

The ProLock provides the following measurement subsystems:

"The MEASure subsystem" – This subsystem provides the commands for all kinds of measurements: Single-shot as well as series of measurements, measurements of single parameters as well as of groups of parameters.

"The FETCh subsystem" – To read out the lastest measurement result of a specific parameter or a group of parameters.

NOTE

FETCh requires that a measurement is started first, using the MEASure commands.

NOTE

FETCh will neither start nor terminate continuous measurements.

"The CALCulate Subsystem" – All kinds of statistic evaluations and checks of measurement results against predefined limits.

The MEASure subsystem

The MEASure subsystem is probably the most important SCPI command subsystem of the ProLock. There you will find all commands to acquire measurement results of the mobile under test.
Measurements can be taken as one-shot measurements or as series of measurements:

Type of measurement	Related command element	Short description
One-shot	[:CONTinuous]	Actually `:CONT` starts a measurement, that will be performed continuously. Single measurement results can be read out using the related `:FETCh` commands. Thus several measurements can be started (where those measurements are started first that take the longest time, like e.g. BER).
Series	:ARRay	This command element offers the possibility to carry through a specific measurement a certain number of times. All the single measurement result values can be read out with just one command. Using this feature, measurement results returned can then be used e.g. for statistic data evaluation on an external computer.

Example:

First a BER measurement command is issued to start a BER measurement (because it takes some time).
Then several RF TX measurements are performed and the measurement results are read out and used for statistic data evaluation.
After that the result of the BER measurement is read out.

Important notes:

- A newly issued RF TX MEASure command will terminate any RF TX or RF spectrum measurements currently in progress.
- A newly issued RF SPectrum MEASure command will terminate any RF TX or RF spectrum measurements currently in progress.
- A newly issued RF RX MEASure command will terminate any RF RX measurements currently in progress.
- A newly issued AF MEASure command will terminate any RF TX, RF RX, RF spectrum or AF measurements currently in progress.
- Measurements are always started, using the current system parameters and the current state of the ProLock.
- In case the ProLock is in a state that does not allow a specific measurement command to be performed or completed, an error message will be added to the ProLock's internal error queue. The related flag in "The STATus subsystem" will be set, too.
  In case this is the first error message to appear within the error queue, the error indicator bit of the service register (bit 2) will be set as well.

:MEASure[:CONTinuous]

MEASure commands that are stated with or without the optional `:CONTinuous` command element will make the ProLock perform the related measurement for an unlimited number of times.
The measurement will only be terminated if a new MEASure command of the same or related type is issued (see Notes above).

Syntax	`:MEASure[:CONTinuous]<{:measProp}>[?]`
Parameters	The one-shot measurements do not require any parameters.

Description

Starts the (continuous) measurement of the specified measurable property.
The CONTinuous command element is optional.
Unless a measurement result is read out (using the FETCh subsystem), no measurement result values will be given back.
The measurement result(s) of any measurement will be stored internally. Any previously stored result will be overwritten as soon as a new measurement result has been achieved.
The latest result measured may be read out using the FETCh subsystem.
Any FETCh command will wait for a measurement result value(s) to be available.
In case there is more than one measurement result value, the single measurement result values are separated by commas (like e.g. ''50.5,3.46''). Should the FETCh command fail to obtain a measurement result value (because e.g. the current state of the 2201 does not allow the measurement to be performed or completed), a timeout will occur and an error message will be added to the 2201's internal error queue.
The related flag in the STATus subsystem will be set, too.
In case this is the first error message to appear within the error queue, the error indicator bit of the service register (bit 2) will be set as well.
The main application of the combination of the MEAS and the FETC subsystems:
Starting a measurement that takes some time to deliver a measurement result back (e.g. the BER measurement. After the measurement has been started with the MEAS command, the test set 'is free' to perform other tasks. If in this case the query form of the MEAS command is used, the test set is blocked until a measurement result is available.
Sometimes, measurement results will need to 'sweep in'. In this case, the first measurement result might be totally misguiding. Using the MEAS command will allow the measurement result value to stabilize on a meaningful result before the latest result value is read out using the FETC subsystem.

Query

The query form of any MEASure command will start the (continuous) measurement of the specified measurable property.
The CONTinuous command element is optional.
After the first measurement has been completed, the measurement result value(s) will be delivered back in a string as outlined above.
Should the query fail to obtain a measurement result value, a timeout will occur and an error message will be added to the 2201's internal error queue as explained above.
The main application of the query form of a MEAS command is speed. When combined with 'fast' measurements (like e.g. the fast power level measurement), the query form of a MEAS command delivers measurement results as fast as possible.
Note: The measurement started with the query form of the MEAS command will be continued in the background. Any further measurement result values may be read out, using the appropriate FETCh command.

Examples

`:MEASure:GSM:CONTinuous:RFTX:PPEAk` and
`:MEASure:GSM:RFTX:PPEAk`
are identical. Either command will start the measurement of the peak phase error. The latest result of this measurement (like `"5.84"`) will be stored internally. It will be overwritten as soon as a new measurement result has been achieved.
To read out the current measurement result, use the `FETCh` subsystem:
`:FETCh:GSM:RFTX:PPEAk?`

:MEASure:RFTX:ALL
This command will start the continuous measurement of all relevant RFTX parameters. After this command has been issued, you may continue with e.g. an RF RX MEASure command.
All 19 single measurement results will be stored internally. As soon as a new measurement result has been achieved, the previous value will be overwritten.
To read out the measurement results achieved by the `:MEAS:RFTX:ALL` command, use the `:FETCh:GSM:RFTX:ALL?` command.

:MEASure:GSM:RFTX:ALL?
As in the example above, the continuous measurement of all relevant RFTX parameters will be started. Unlike the example above, this command will wait until all 19 measurement results have been achieved and will return all of them in a string, separated by commas. The measurements will continue and later results may be read out, using the `FETCh:GSM:RFTX:ALL?` command.

How to convert a result string back into numeric variables

The example program below illustrates how the returned string can be converted back into numeric variables in a program on an external PC controling the instrument.

```
PRINT #scpi, ":MEAS:GSM:RFTX:ALL?"
INPUT #scpi, result$
index = 0
result$ = result$ + ","

DO

' Find the position within result$, where the first
comma appears
P = INSTR(result$, ",")
' Read out the part of result$ in front of the first
comma and convert it into a numeric value
result(index) = VAL(LEFT$(result$, P - 1))
' Cut off the value just read from result$
result$ = MID$(result$, P +1))
index = index + 1

LOOP UNTIL result$=""
```

MEASure:ARRay

The `:ARRay` command element makes the 2201 perform any measurement property a user-definable number of times. All measurement result values obtained during the process will be stored in an internal array and can be read out using the related commands of the FETCh subsystem or will be returned in case the measurement process has been started using the query format of the command.

After the specified number of measurements have been performed, the measurement will be stopped and no further measurement result values will be stored internally. Therefore, any attempt to read out data again (unless any measurement has been started before) will result in a timeout and thus in an error message.
This is one of the main differences between the `[:CONTinuous]` and the `:ARRay` command element.

Note: Any measurement will be terminated if a new MEASure command of the same or related type is issued (see Notes in section "The MEASure subsystem" on page 21 for details).

Syntax	`MEASure:ARRay<{:measProp}>[?] <numMeas>`
Parameters	`numMeas` is the number of measurements to be performed.
Description	Takes a `numMeas` number of measurements of the specified type `measProp`. The results of the single measurements will be stored in an internal array. The measurement results array can be read out using the related command of the FETCh subsystem (see examples below for reference). After an array has been read out using the related `FETCh` command, the internal array will be cleared. Any subsequent `FETCh` command trying to read out the same measurement result array will not be able to read any measurement results and thus result in a timeout. In this case, an error message will be added to the 2201's internal error queue (for further details, refer to section ":MEASure[:CONTinuous]" on page 22).
Query	The query form of any `MEAS:ARR` command will start the related measurement the specified number of times. After the number of measurements specified have been performed, the measurement will be stopped. The query will then return a string containing all the measurement results. The single result values will be separated by commas. Any subsequent `FETCh` command trying to read out the same measurement result array will not be able to read any measurement results and thus result in a timeout. In this case, an error message will be added to the 2201's internal error queue (for further details, refer to section ":MEASure[:CONTinuous]" on page 22).

Examples	`:MEASure:GSM:ARRay:RFTX:PPEAk 10`
	This command will make the 2201 perform 10 independent measurements of the maximum phase error in GSM. After those 10 results have been achieved, the measurement will be stopped. The ten result values will be stored in an internal array. To read out the measurement result array, use the `FETCh` subsystem:
	`:FETCh:GSM:RFTX:PPEAK?`
	will return the 10 values in one string (like
	`"5.42,5.44,5.80,...5.72,5.64"`)
	Any subsequent `:FETCh:GSM:RFTX:PPEAK?` command will result in a timeout.
	`MEASure:GSM:ARRay:RFTX:ALL? 2`
	This command takes all relevant RFTX measurements twice. The measurements will be stopped as soon as the 2 x 19 result values are available. The 38 result values will be returned as a string; the single values will be separated by commas.
	Any subsequent `:FETCh:GSM:RFTX:PPEAK?` command will result in a timeout.

How to convert a result string back into numeric variables

The example program below illustrates how the returned string can be converted back into numeric variables in a program running on an external PC to control the instrument.

```
PRINT #scpi, ":MEAS:GSM:ARR:RFTX:ALL? 2"
INPUT #scpi, result$
index = 0
result$ = result$ + ","

DO

' Find the position within result$, where the first
comma appears
P = INSTR(result$, ",")
' Read out the part of result$ in front of the first
comma and convert it into a numeric value
result(index) = VAL(LEFT$(result$, P - 1))
' Cut off the value just read from result$
result$ = MID$(result$, P +1))
index = index + 1

LOOP UNTIL result$=""
```

:MEAS[:CONT]:BLOCkdata

The `BLOCkdata` command element of this subsystem is used to read out all the single measurement results necessary to generate the result graphics.

:MEASure:...:GROup

As mentioned before (see Notes in section "The MEASure subsystem" on page 21), a new measurement will always terminate a preceding one of the same or related type.
Therefore, the `GROup` command element has been implemented in the SCPI command set of the 2201. This command element allows to specify a user-definable list of measurements than can then be started with one command. The measurement results can be read out using the query form of this command – or with the related command of the FETCh subsystem..

NOTE

In this respect, `:MEAS:RFTX:ALL` can be regarded as a predefined 'group', containing all important RFTX measurements.

NOTE

The `AFANalyser` subsystem also allows to define 'groups'. However, all commands of the `AFANalyser` subsystem will only obtain measurement results if the Audio Option has been installed.

Syntax	`:CONFigure:MEASure:GROup[:RFTX] <{RFTXprop}>`
	`MEASure[:CONTinuous]:RFTX:GROup` or
	`MEASure:ARRay:RFTX:GROup`
	or
	`:CONFigure:MEASure:GROup:AFANalyser <{AFANprop}>`
	`MEASure[:CONTinuous]:AFANalyser:GROup` or
	`MEASure:ARRay:AFANalyser:GROup`

Parameters	`<{RFTXprop}>` is one or more of the single RFTX measurements
	`PPEAk,PRMS,FREQuency,LENGth,UTIMe,POWer,TEMPlate,CORNer,FLATness`
	`<{AFANprop}>` is one or more of the single AF Analyser measurements
	`SINad,DISTortion,FREQuency,ACV:PEAKp,ACV:RMS,DCV:RMS`

Description	Starting a 'group' measurement will take all measurements specified just with one single command. After the group command has been completed, all 'group' measurement results are available at the same time and can be read out using either the query form of the command or the related commands of the FETCh subsystem.

Example	`:CONF:GSM:MEAS:GRO:RFTX PPEAK,FREQency,POWer,LENGth`
	`:MEAS:RFTX:GRO`
	This sequence of commands first defines a group of RFTX measurements and then issues a group command. As soon as all the measurements specified in the group command have been completed, the measurement result values can be read out using the `:FETCh:GSM:RFTX:GRO?` command.

The FETCh subsystem

The FETCh subsystem enables you to read out the currently valid measurement result value(s) of a measurement.

Important notes

- Before a measurement value may be read out with commands of the FETCh subsystem, a MEASure command has to be issued first.
- After a continuous measurement has been started, the latest measurement result value can be obtained using the related **`:FETCh`** command.
- In case an array measurement has been started, the related **`:FETCh`** command will return the entire measurement result array.
- If there are no measurement results to be read out by a **FETCh** command for any reason, a timeout will occur. The wait time until a timeout occurs is dependent on the type of measurement to be performed (see below).
- If the preceding **`MEASure`** command and the **FETCh** command do not match, a timeout will occur.
- When you use the query form of any **`MEASure`** command, all measurement results obtained will be handed back and the internal result register will be cleared afterwards. Consequently, a subsequent **FETCh** command will lead to a timeout (as above).

- The following timeouts have been implemented:
  - 5 s for all RFTX measurements
  - 30 s for all RFRX measurements
  - 10 s for all RFSPectrum measurements
  - 10 s for all AF measurements

There are two versions of a FETCh command:

- The **:FETCh:LAST?** command will read out the latest result of the last MEASurement command issued - whatever command that was. Using this command, please keep in mind that your control program then has to take care of the number and format of the measurement result values returned.
- The **:FETCH:{measProp};** commands will read out the latest result of the measurement specified with **{measProp}**.

FETCh:LAST

The **:FETCh:LAST?** command will read out the latest result of the last MEASurement command issued - whatever command that was.
Using this command, please keep in mind that your control program then has to take care of the number and format of the measurement result values returned.
To convert a result string back into single measurement result values, please refer to section "How to convert a result string back into numeric variables" on page 24.

FETCh:BLOCkdata:...?

The commands with the **:BLOCkdata** command element are used to read out all the single measurement results necessary to generate the result graphics.

FETCh<{:measProp}>

The **:FETCH<{:measProp}>** commands will read out the latest result of the measurement specified with **measProp**.

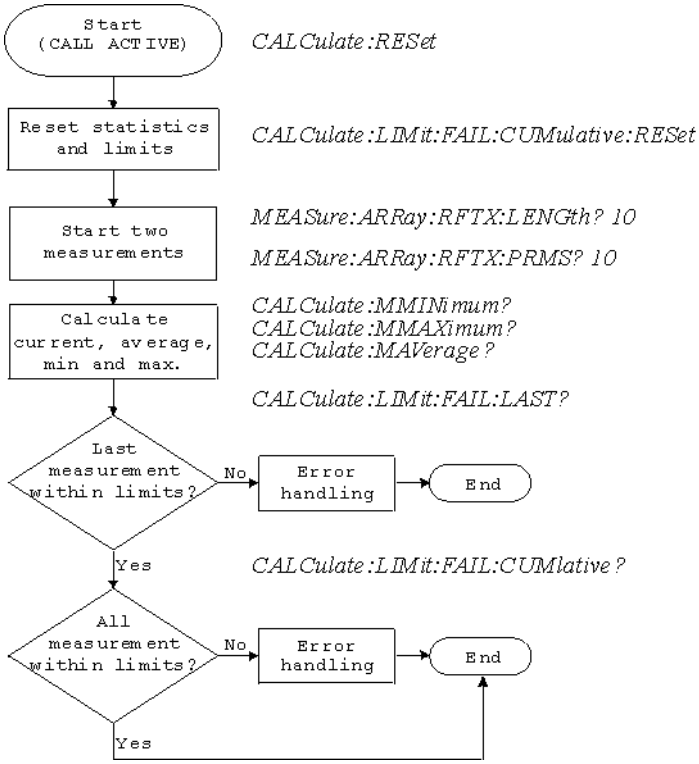
The CALCulate Subsystem

The CALCulate subsystem performs statistic evaluation of measurement results and also allows to check results against user-definable limits.

The basic scheme outlined below gives an idea of how to work with the CALCulate subsystem and to use the single queries as branching decisions within a program flow.

NOTE

Statistic evaluations on measurable properties like average, minimum or maximum will only be performed on the type of measurement started last (i.e. the **PRMS** measurement in the example below).



Reading the basic scheme

- First, the limits of the measurements to be performed are set (not shown in the basic scheme).
- After a call has been established, the CALCulate subsystem is reset using the **:CALCulate:RESet** command. Only measurements started after this command will be taken into account for the statistic evaluation. Any results from previously started (and still running) measurements will be ignored as well as all existing measurement results.
- The CALCulate subsystem of the 2201 allows to perform a cumulative check of the measurement results of a measurement. This means that all measurement results obtained (since the last reset of this part of the subsystem) will be checked against the corresponding limits.
  This cumulative check is reset as well in the example shown above with the **:CALCulate:LIMit:FAIL:CUMulative:RESet** command.
  For further details, check with section "CALCulate:LIMit" on page 30.
- Then, two measurements are started in this example (commands **:MEASure:ARRay:RFTX:LENGth? 10** and **:MEASure:ARRay:RFTX:PRMS? 10**).
- As soon as the measurements have been completed, the CALCulate subsystem is used to identify the minimum and maximum measurement result value and to calculate the average measurement result value. Please note that these commands will work only on the results of the measurement started last (the RMS-valued phase error in this example).
- The command **:CALCulate:LIMit:FAIL:LAST?** will return a boolean number, indicating whether the last measurement of the RMS-valued phase error was within the limits set (then a **0** will be returned) or whether it was off the limits (then a **1** will be returned.)

– The last command (**:CALCulate:LIMit:FAIL:CUMulative?**) is similar to the one above, with the main difference that this query will tell whether all measurements of the RMS-valued phase error taken since the last reset of the cumulative check are within the limits set (then a **0** will be returned) or whether at least one measurement result value did violate at least one of the user-definable limits (in this case, the query will deliver back a **1**).

CALCulate:LIMit

– The **CALCulate** commands that incorporate the **LIMit** command element
– check whether one or more measurement result(s) did violate the user-definable limits
– reset the cumulative limit evaluation system
– switch the limit evaluation system for specific measurements on or off
– set the limits

FAIL[:LAST]? - did the latest measurement result value fail?

Syntax	**:CALCulate:LIMit**:FAIL[:LAST]?
Returns	**0** when the limits were not violated or **1** in case at least one limit was violated by the latest measurement result value.
Description	Checks whether the latest measurement result value of the measurement started last is within its limits.
Examples	**:MEAS:GSM:ARR:RFTX:LENG** **:MEAS:GSM:ARR:RFTX:PRMS** **:CALC:GSM:LIM:FAIL:LAST?** This command of the CALCulate subsystem will check whether the latest measurement result value of the PRMS measurement is within its limits. **:MEAS:GSM:ARR:RFTX:LENG 10** **:CALC:GSM:LIM:FAIL:LAST?** In this example, the **:CALC** command will check if all 10 measurement result values of the burst length measurement array are within their limits.

{measProp}:LIMit[:FAIL] - did the latest measurement result value of a specific measurement fail?

Syntax	**:CALCulate**:{measProp}:LIMit[:FAIL]?
Returns	**0** when the limits were not violated or **1** in case at least one limit was violated by the latest measurement result value.
Description	Checks whether measurement result values of the measurement specified with the {measProp} command element are within their limits. In case, this command is used during a continuous measurement, only the latest measurement result will be checked. When this command is used subsequent to an array measurement, all measurement result values of the array will be checked against the limits. This means that a **1** will be returned if a single measurement result of an array is off the limits.

Example	**:MEAS:GSM:ARR:RFTX:LENG 10** **:MEAS:GSM:ARR:RFTX:PRMS 10** **:CALC:GSM:RFTX:LENG:LIM:FAIL?** In this example, the **:CALC** command will check whether all 10 measurement result values of the LENG measurement array are within their limits.

FAIL:CUMulative? - did any measurement result value fail?

Syntax	**CALCulate:LIMit**:FAIL:CUMulative?
Returns	**0** when the limits were not violated or **1** in case at least one limit was violated by at least one measurement result value.
Description	Checks whether all measurement result values of the measurement started last are within their limits.
Example	**:MEAS:GSM:ARR:RFTX:LENG 10** **:MEAS:GSM:ARR:RFTX:PRMS 10** **:CALC:GSM:LIM:FAIL:CUM?** This command of the CALCulate subsystem will check whether all measurement result values of the PRMS measurement are within their limits.

FAIL:CUM:RESet - resets the cumulative limit evaluation

Syntax	**CALCulate:LIMit**:FAIL:CUMulative:RESet
Description	Resets (clears) the cumulative check of measurement result values against their limits. Only the measurement results from **:MEAS:...** commands issued subsequent to this reset command will be taken into account for any limit checks.

{measProp}:LIMit:STATe - switches the limit check for a specific measurement on or off

Syntax	**CALCulate:**{measProp}:LIMit:STATe
Description	Switches the limit check for a measurement specified with the {measProp} command element either **ON** or **OFF**.
Example	**:CALC:RFTX:ALL:LIM:STAT OFF** Switches the limit check for the 19 main RF TX measurements off.

:{measProp}:LIMit:UPPer[:DATA] - sets the upper limit for a specific measurement

Syntax	**CALCulate**:{measProp}:LIMit:UPPer[:DATA]
Description	Sets the upper limit for the limit check of the measurement specified with the {measProp}; command element. The upper limit is the maximum measurement result allowed. Any measurement result value exceeding the value set with this command will result in a violation of the upper limit.

Example	**:CALC:GSM:RFTX:PRMS:LIM:UPP 10.0** This command sets the maximum RMS-valued phase error allowed to **10.0**. Any measurement result value exceeding this limit (e.g. 10.01) will result in a violation of the limits of the RMS-valued phase error measurement.

:{measProp}:LIMit:LOWer[:DATA] - sets the lower limit for a specific measurement

Syntax	**CALCulate**:{measProp}:LIMit:LOWer[:DATA]
Description	Sets the lower limit for the limit check of the measurement specified with the {measProp}; command element. The lower limit is the minimum measurement result allowed. Any measurement result value falling below the value set with this command will result in a violation of the lower limit.
Example	**:CALC:AFAN:SIN:LIM:LOW 25.5** This command sets the minimum SINAD required in order to pass the test to **25.5**. Any measurement result value falling below this limit (e.g. 25.4) will result in a violation of the limits of the RMS-valued phase error measurement.

CALCulate:{Statistics} On the results of the last measurement performed, statistic test evaluation can be used. The related commands are described in this section.

NOTE

The commands described in this section will be reset with any new **MEASure** command. Therefore, the commands described below will only deliver the statistic evaluation of the measurement started last.

Syntax	CALCulate:{Statistics}?
Parameters	**{Statistics}** is one command element out of the following list: **MAVerage | MMAXimum | MMINimum**
Returns	A floating point real number representing the result of the related statistic evaluation, performed on all available results of the measurement started last.
Description	Calculates and returns the specified statistical property referring to the most recent measurement.
Examples	**MEASure:GSM:ARRay:RFTX:ALL 10** **MEASure:GSM:ARRay:RFTX:PPEAk 10** **CALCulate:GSM:MMINimum?** The first command takes 10 measurements of all RFTX parameters (190 then all together); the second one takes ten measurements of the peak phase error. The **CALC:MMIN?** command will only deliver back the minimum result of the peak phase error measurement as this was the measurement started last. The value delivered back in the result string is **"5.05"** in this example.

Using limits The question 'do the performance characteristics of a mobile stay within the limits set by the appropriate specifications' is the core question of all GSM testing.
The **LIMit** subsystem of the 2201 offers a broad range of:

– defining single or complex limits, using the **[:DATA]** command element of the **CALCulate** subsystem and
– reading out the results of the limit checks, using the **:LIMit[:FAIL]?** query.

The limit evaluation system can be switched on or off for every single measurement parameter using the **:LIMit:SATe** command element.

[:DATa] - customize or query limits

Syntax	CALCulate<{measProp}>:LIMit<{limType}>[:DATa] <Val>
Parameters	**limType** is a placeholder for **:UPPer** or **:LOWer**. **Val** is the numeric value (floating) for the limit of the specific measurement parameter.
Description	Sets or queries the limit value(s) for the limit identified with **limType**. The limit evaluation will check the measurement results obtained against the limits set, using this command. Note: Some measurement types have more complex limits (such as the power/ time template or the modulation spectrum). Please find a detailled explanation on those complex limits in subsection "Working with complex limits" on page 34.
Examples	**:CALCulate:GSM:RFTX:PRMS:LIMit:UPPer:DATa 4.00** Sets the upper limit of the RMS phase error to **4.00**. **:CALC:GSM:RFTX:PPEA:LIM:UPP?** Queries the currently set upper result limit for the peak phase error. The value will be returend as floating in the result string like **6.35**.

[:FAIL]? - pass/fail result query

Syntax	CALCulate<{measProp}>:LIMit[:FAIL]?
Returns	A boolean value or array (dependent on the type of measurement as defined by **measProp**). When all measurements of a type are within the limits, a **0** (pass) will be returned. if at least one mesaurement result is beyond the limits, a **1** (fail) will be returend.
Description	Checks whether any of the current measurement(s) failed to meet the limits. The type of measurement is defined by **measProp**.
Examples	**MEASure:GSM:ARRay:RFTX:POWer 10** Starts a series of 10 measurements of the RF peak power. **CALCulate:GSM:RFTX:POWer:LIMit:FAIL?** This command reads out the result of the 10 measurements checked against the limit. When all 10 measurement results are within the limits, a single **0** will be returned. If one or more measurement results are beyond the limits, a single **1** will be returned.

:STATe - switch limit evaluation on/off

Syntax	CALCulate<{measProp}>:LIMit:STATe <limState>
Parameters	**limState** is either **ON** or **OFF.**
Description	Activates or deactivates the check of the measurement results against the limit of the measurement type defined by **measProp**. Note: When the limit evaulation has been switched off, a **:FAIL** query will only return **0**(s) (pass).
Example	**CALCulate:GSM:RFTX:PRMS:LIMit:STATe OFF** This command switches the limit evaluation of the RMS phase error off. **MEASure:GSM:RFTX:PRMS** Starts a series of RMS phase error measurements. **CALCulate:GSM:RFTX:PRMS:LIMit:FAIL?** This query of the pass/fail evaluation will always return **0** (pass) as the limit evaluation of this parameter has been switched off.

Working with complex limits

It is not possible to define all relevant limits by just one number. Some limits are quite complex, like the power/time template, the points or the modulation spectrum.

Limits for the power/time template

The limits for the power/time template are made up by a total of 16 vectors; 9 for the upper limits and 7 for the lower limits.
These vectors have the following format: x,y

- where x is the time in microseconds in relation to the beginning of the burst (i.e. the first bit of the useful part)
- and y is the RF power level in dB(c) in relation to the nominal output power level of the mobile.

Examples:

```
CALC:RFTX:TEMP:LIM:UPP -42,-47,-28,-47,-18,-28,-10,
-4,0,4, 552.8,1,560.8,-4,570.8,-28,580,-47
```

```
CALC:RFTX:TEMP:LIM:LOW 0,-150,0,-150,0,-40,20,
-1,270,-1,543,-1,543,-150
```

Limits for the points

The points are a maximum of eight positions to check critical parts of the burst. For each position, a minumum and a maximum RF power level may be specified.

- Positions are specified in microseconds in relation to the beginning of the burst (i.e. the first bit of the useful part)
- minimum and maximum RF power levels are specified in dB(c) in relation to the nominal output power level of the mobile.

Examples:

```
CALC:RFTX:CORN:POS -28,-18,-10,0,542.8,
552.8,560.8,570.8

CALC:RFTX:CORN:LIM:LOW -150,-150,-150,-150,
-150,-150,-150,-150

CALC:RFTX:CORN:LIM:UPP 4,4,4,4,4,4,4,4
```

SCPI command errors

This subsection contains a table of SCPI command errors.

NOTE

If a query for an error code returns **"0"** then no error did occur.

Error Code	Meaning
61	QNX semaphore error. The operating system of the 2201 encountered a flag communication error.
62	TMSG QNX send error.
63	TMSG QNX sync error.
64	Internal communication error.
65	Unknown message received.
66	GPIB cannot be initialized.
67	This command is invalid.
68	Internal error of the task state system.
69	Error of the GPIB system.
70	QNX proxy error.
71	Process coordination error.
72	Message sent to the GPIB system is not understood there.
75	Error within the error message system.
78	Language expression invalid.
80	Name attachment error.
81	Proxy attachment error.
82	Proxy detach error.
83	Timer attachment error.
85	Timer delete error.
86	Parameter can not be set.
87	INI file error.
88	The file selected was not found.
89	DSP setup error.
100	Command error.
101	Invalid character.
102	Syntax error.
103	Invalid separator.

104	Data type error.
108	Parameter not allowed.
109	Parameter missing.
111	Header separator error.
112	Program mnemonic too long.
113	Undefined header.
114	Header suffix out of range.
121	Invalid character within a number.
123	Exponent too large.
128	Numeric data not allowed in this context.
131	Invalid suffix.
134	Suffix too long.
138	No suffix allowed in this context.
141	Invalid character data.
144	Character data too long.
158	No string allowed in this context.
160	Block data error.
168	No block data allowed in this context.
200	General execution error.
201	Multislot not active.
202	The external synchronization frequency is not within the ranges specified.
203	External synchronization changed during remote operation.
204	The operation is not possible in the current state of the 2201.
221	Settings of the 2201 ProLock lead to a conflict.
222	Data out of range.
225	No communication system running.
226	Timeout occurred while waiting for an uplink message to arrive from the mobile.
227	Layers 2/3 failed. Communication could not be established due to problems on the layer 2 and/or layer 3 level.
228	Mobile can not work in the enhanced frequency range.
229	No call release while an SMS is in progress.
230	Generator/Analyzer not running.

231	System running – no system expected.
250	Mass storage error.
253	Corrupt media.
256	File name not found.
272	Macro execution error.
280	Program error.
310	System error.
320	Save/recall memory lost.
330	Function not supported.
350	Queue overflow.
362	There needs to be an active call in order to start the codec option.
364	No audio hardware. The audio option would be required to complete a command, but it is not installed.
365	No codec hardware. The codec option would be required to complete a command, but it is not installed.
370	No results available.
371	Fetch: timeout occurred.
372	Fetch: no BER synchronization.
373	Fetch: arb data.
374	Measurement task error.
375	Error in burst data encountered.
376	ACPM receive error.
377	Autotemplate error.
378	Setting value for modulation spectrum out of range.
399	Invalid error code.

Introduction To The SCPI Command Reference

3

This chapter includes important notes on the SCPI commands and how they are described in the subsequent chapters. Topics discussed in this chapter are as follows:

SCPI command reference structure

The following chapters contain lists of SCPI commands and queries. Each command is described with its valid input and output formats. There is a chapter for each subsystem.

Command response on USB and RS-232

When you are using a USB or RS-232 interface, every command, which is sent to the 2201 ProLock will be answered by a CR LF (Carriabe Return Line Feed) command.

Bluetooth commands

The SCPI commands for the 4489 Bluetooth Connectivity Test Package can be found in the Bluetooth Connectivity Test Products user's guide, ordering number M 292 018.

Signaling operation register group

This group of registers is 16 bits wide. Its main task is to deal with events related to the signaling status. The signaling operations depend on the system option and can be found in the :STATus:OPERation:SIGNalling group of commands (see the respective EVENt command for the signaling system at hand).
The Result bit of this group of registers is forwarded to bit 8 of the general operation register group.

Common Commands

4

This chapter contains an explanation of the common SCPI commands. The list is structured as follows:

Introduction

The common commands are understood by all SCPI and IEEE 488.2 instruments. Their purpose is to perform general tasks and to read or work with the registers common to all SCPI instruments. The following common commands have been implemented.

General common commands

*CLS

Syntax	:*CLS
Parameters	There are no parameters.
Description	Resets the entire status reporting system: – The service register will be cleared (all bits will be set to **0**). – The event status register will be cleared (all bits will be set to **0**). – The error message queue will be emptied. – All event-type registers will be cleared.
Query	There is no query form of this command available.

*IDN?

Syntax	:*IDN?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	Returns a string, containing the following information: – manufacturer's name – name of the device – serial number – software revision number All parameters are separated by commas. Note: In times of company mergers and acquisitions, it is a good idea to check the name of the device, not the manufacturer's name which may change between software updates. This does not preclude any name changes at Willtek but rather applies to instrumentation in general.
Example	"WILLTEK, 2303, 0511099, 3.10.0001".

*OPC

Syntax	:*OPC
Parameters	There are no parameters.

Description	Postpones the execution of a command until all commands issued previously have been completed.
Query	Returns the 'operation complete' flag in a string. A **1** indicates that all commands have been completed while a **0** means that there is at least one command still under execution.

***RST**

Syntax	:*RST
Parameters	There are no parameters.
Description	Resets the entire test set. All parameters, limits etc. will be set to the internally predefined default values.
Query	There is no query form of this command available.

***WAI**

Syntax	:*WAI
Parameters	There are no parameters.
Description	Postpones the execution of a command until all commands issued previously have been completed.
Query	There is no query form of this command available.

Commands affecting the event status register

The event status register contains eight bits. The meaning of these bits is outlined in the table below.

The commands working on the event status register are described below the table.

Bit	Decimal	Meaning
7	128	Power on – this bit is always set.
6	64	User Request – a **1** on this position indicates that the 2303 is no longer controlled by remote commands but by user interaction.
5	32	Command error – this bit indicates that one of the SCPI command errors occurred.
4	16	Execution error – is set after a SCPI execution error did occur.
3	8	Device-dependent error – this bit indicates that a device-specific SCPI error did occur.
2	4	Query error – is set after a SCPI query error occurred.

1	2	Request control – this bit is reserved for future use.
0	1	Operation complete flag – is set as soon as the execution of a command has been completed.

*ESE

Syntax	`:*ESE <int1>`
Parameters	**int1** is an integer. The valid range is from 0 to 255 (8 bits).
Description	Sets the enable filter (mask) of the event status register. **int1** is the decimal representation of the binary mask. The mask and the current content of the event status register will be ANDed. If the result is not zero, then bit 5 of the Service register will be set.
Query	The query form reads out the enable filter (mask) currently set and returns its binary representation in a string.
Example	`:*ESE 128` As soon as power has been switched on, bit 7 (Power on) will be set. ANDed with the mask **128**, a binary **1** will occur and thus bit 5 of the service register will be set.

*ESR?

Syntax	`:*ESR?`
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	Returns the decimal representation of the current contents of the event status register in a string. Note: This register is self-destructive, i.e. its contents will be cleared after reading.
Example	After power-on, an `:*ESR?` command will return **"128"**. This means that bit 7 is set and all the other bits of the event status register are **0**. The command will clear the event status register and a subsequent `:*ESR?` command will return **"0"**.

Commands affecting the service register

The service register represents the highest level within the report structure of the 2303.
The service register contains eight bits.
If any one of the bits 0...5 or 7 is set, the summary status bit (bit 6) of the service register will be set as well.

NOTE

The service register is self-destructive. This means that its contents will be cleared after reading.

Bit	Decimal	Meaning
7	128	OPERational status summary. When this bit is set, an event within the General Operation register group (e.g. the 2303 is waiting for a trigger) passed all filters.
6	64	Summary status bit. This bit will always be set as soon as any other bit of the service register has been set. Note: The summary status bit may be ANDed with the service request enable filter in order to generate a Service ReQuest on GPIB. The related command is ***SRE** (see below for details).
5	32	Event status summary. When this bit is set, an event within the Event Status register group (e.g. an error occurred) passed all filters.
4	16	Message available. This bit will be set to **1** as soon as a query has been completed and measurement result(s) are available.
3	8	QUESTionable status summary. If this bit is set, an event within the General Questionable Status register group (e.g. 'value out of range') passed all filters.
2	4	Error queue status. When this bit is set, the error queue contains error messages. Up to 10 error messages can be logged in the error queue. The error queue can be read out, using the :SYSTem:ERRor? command.
1	2	Remote command completed. This bit will be set to **1** after a remote (SCPI) command has been completed. Note: However, when the 2303 receives a SCPI command, it will block the GPIB until the command has been completed.
0	1	Message queue status. This bit will be set to **1** as soon as a message is available in the 2303's internal message queue. Up to 10 messages can be logged in the message queue. To write to or to read from the message queue, use the :SYSTem:MESSage command.

*SRE

Syntax	`:*SRE <int1>`
Parameters	**int1** is an integer. The valid range is from 0 to 255 (8 bits).
Description	Sets the enable filter (mask) for the service register. **int1** is the decimal representation of this binary mask. The mask and the current content of the service register will be ANDed. If the result is not zero, a service request (SRQ) will occur on the GPIB.
Query	The query form reads out the mask currently set and returns its binary representation in a string.

Example	**:*SRE 68** As soon as an error occurs, bits 2 and 6 of the service register will be set. ANDed with the mask (**68**), a binary **1** will be the result and a SRQ will occur on the GPIB.

*STB?

Syntax	:*STB?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	Returns the decimal representation of the current contents of the service register in a string. Note: This register is self-destructive, i.e. its contents will be cleared after reading.
Example	A **:*STB?** command returns **"68"**. The return value of **68** (= 64 + 4) means that an error occurred (4).

System Commands

5

This chapter contains an explanation of the SCPI commands from the System subsystem. The chapter is structured as follows:

Introduction

System parameters, such as the number of unread error messages, the test set's GPIB address etc. may be read out or set using the commands of this subsystem.

System subsystem

:SYSTem:ERRor[:NEXT]?

Syntax	:SYSTem:ERRor[:NEXT]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the oldest unread error message from the internal error queue of the ProLock. The queue entry returned will be a string containing the error no. and additional text. The maximum length of the string is 255 characters. Note: An overview of all SCPI error messages can be found in section ''SCPI command errors''.
Example	**:SYSTem:ERRor:NEXT?** String returned: **"66 GPIB cannot be initialised."**

:SYSTem:ERRor:COUNt?

Syntax	:SYSTem:ERRor:COUNt?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the number of unread error messages in the internal error queue of the ProLock. The string returned will contain one integer. The maximum number of errors stored internally is 10.
Example	**:SYSTem:ERRor:COUNt?** String returned: **"0"** This means that there are no unread error messages in the error queue.

:SYSTem:ERRor:CODE[:NEXT]?

Syntax	:SYSTem:ERRor:CODE[:NEXT]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the code of the oldest unread error message in the internal error queue of the ProLock. The string returned will contain one integer (and no text). Note: An overview of all SCPI error messages can be found in section ''SCPI command errors''.

Example	**:SYSTem:ERRor:CODE?** String returned: **"66"** This means that the GPIB could not be initialized.

:SYSTem:ERRor:CODE:ALL?

Syntax	:SYSTem:ERRor:CODE:ALL?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the error codes of all unread error messages in the internal error queue of the ProLock. The string returned will contain a maximum of 10 integers, separated by commas. Note: An overview of all SCPI error messages can be found in section ''SCPI command errors''.
Example	**:SYSTem:ERRor:CODE:ALL?** String returned: **"371,66"** This means that there were two unread error messages in the error queue (the first one indicating that there was a time-out on a **FETCh** command and the second one meaning that the GPIB could not be initialized).

:SYSTem:ERRor:REMote:DISPlay

Syntax	:SYSTem:ERRor:REMote:DISPlay <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: OFF|ON. Default is OFF.
Description	Switches the error display on the start screen on and off. If it is switched to ON, the error log will be displayed after the first error occurred.
Query	Reads and returns the current setting.
Example	**:SYST:ERR:REM:DISP ON** In remote case the error log window will be displayed.

:SYSTem:Message

Syntax	:SYSTem:Message <string1>
Parameters	**string1** is a string (text) parameter. The maximum length of **string1** is 255 characters.
Description	Writes the message specified with the **string1** parameter to the ProLock's internal system message queue.
Query	Reads and returns the oldest unread message in the ProLock's internal message queue. The string returned will contain a maximum of 255 characters.

Example	**:SYSTem:MESSage "23.17,Procedure A5"** **:SYST:MESS?** String returned: **"23.17,Procedure A5"** In this example, a RAPID! program performs some internal calculations and then writes the result to the system message queue. This result is then read by the external controller.

:SYSTem:COMMunicate:LOCal

Syntax	:SYSTem:COMMunicate:LOCal
Parameters	There are no parameters.
Description	Sets up the ProLock to allow manual operation on the front panel during SCPI operation. Note: This command may be used e.g. to allow interactive alignment procedures in a production or quality assurance flow.
Query	There is no query form of this command available.
Example	:SYSTem:COMM:LOC

:SYSTem:COMMunicate:GPIB:ADDRess

Syntax	:SYSTem:COMMunicate:GPIB:ADDRess <int1>[,<int2>]
Parameters	**intx** are two integers. The minimum value for **int1** is **1**, the maximum is **32**. The default value is **4**. The minimum value for **int2** is **0**, the maximum is **30**. The default value is **1**. **int1** must be specified while **int2** is an optional parameter.
Description	Sets the GPIB address of the ProLock. For details regarding the GPIB address, refer to section Setting the GPIB address.
Query	Reads and returns the current setting of the GPIB address as explained above.
Example	**:SYST:COMM:GPIB:ADDR 14** Sets the GPIB address to 14.

:SYSTem:COMMunicate:GPIB:TERMinator

Syntax	:SYSTem:COMMunicate:GPIB:TERMinator <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **LF|CR|CRLF**. Default is **LF**.
Description	Sets the terminator used on the GPIB. For details regarding the terminator, refer to section Setup.
Query	Reads and returns the current setting of the terminator used on the GPIB as explained above.
Example	**:SYST:COMM:GPIB:TERM CRLF** Sets the GPIB terminator to 'carriage return plus line feed'.

:SYSTem:COMMunicate:TCPip:ADDRess

Syntax	`:SYSTem:COMMunicate:TCPip:ADDRess <string>`
Parameters	**string** is a string only containing the IP address for the ProLock.
Description	This command sets the IP address of the ProLock. See section I/O Configuration for more details.
Query	Reads and returns the current setting of the IP address as explained above.
Example	**SYST:COMM:TCP:ADDR "192.16.16.114"** sets the IP address to a defined value.

:SYSTem:COMMunicate:TCPip:NETMask

Syntax	`:SYSTem:COMMunicate:TCPip:NETMask <string>`
Parameters	**string** is a string only containing the net mask for the ProLock.
Description	This command sets the net mask of the ProLock. See section I/O Configuration for more details.
Query	Reads and returns the current setting of the net mask as explained above.
Example	**SYST:COMM:TCP:NETM "255.255.255.0"** sets the net mask to a defined value.

:SYSTem:COMMunicate:TCPip:GATeway

Syntax	`:SYSTem:COMMunicate:TCPip:GATeway <string>`
Parameters	**string** is a string only containing the default gateway address for the ProLock.
Description	This command sets the default gateway address of the ProLock. See section I/O Configuration for more details.
Query	Reads and returns the current setting of the gateway address as explained above.
Example	**SYST:COMM:TCP:GAT "192.16.16.1"** sets the gateway address to a defined value.

:SYSTem:COMMunicate:TCPip:PORT

Syntax	`:SYSTem:COMMunicate:TCPip:PORT <int>`
Parameters	**int** defines the TCP/IP port address of the ProLock. The address must be in the range from 49152 to 65535.
Description	This command sets the port address on which the ProLock can be controlled via LAN. See section I/O Configuration for more details.
Query	Reads and returns the current setting of the port used by TCPIP as explained above.
Example	**SYST:COMM:TCP:PORT 49200** sets the TCP/IP port address to its default.

:SYSTem:COMMunicate:TCPip:TERMinator

Syntax	:SYSTem:COMMunicate:TCPip:TERMinator <PredefExp>
Parameters	**PredefExp** can take on one of the following values: **LF** or **CR** or **CRLF**. The default is **LF**.
Description	The command defines the delimiter for SCPI control strings. See section I/O Configuration for more details.
Query	Reads and returns the current setting of the terminator used by TCPIP as explained above.
Example	**SYST:COMM:TCP:TERM CRLF** sets the line terminator for SCPI commands via LAN to CR (Carriage Return) followed by LF (Line Feed).

:SYSTem:COMMunicate:TCPip:MOUNt

Syntax	:SYSTem:COMMunicate:TCPip:MOUNt <string1> <string2>
Parameters	**string1** defines the network address which shall be mounted as a device for remote control. The maximum allowable length of the string is 255 characters. **string2** is the symbolic device address used in SCPI programming. The maximum allowable length of **string2** is 25 characters. The default is "server".
Description	This command mounts a server disk as a ProLock device which can be used to load or save data to/from. See section I/O Configuration for more details.
Query	Reads and returns the last settings for the mount path and the corresponding local name as explained above.
Example	:SYST:COMM:TCP:MOUNt "unixpc/disk2/results","resdir"

:SYSTem:COMMunicate:TCPip:DHCP

Syntax	:SYSTem:COMMunicate:TCPip:DHCP <PredefExp>
Parameters	**PredefExp** can take on one of the following values: ON or OFF. The default is OFF.
Description	The command turns DHCP on or off. See section I/O Configuration for more details.
Query	Reads and returns the current setting of DHCP operation.
Example	:SYST:COMM:TCP:DHCP ON sets the software to use DHCP.

:SYSTem:COMMunicate:TCPip:WCDMa:ADDRess

Syntax	:SYSTem:COMMunicate:TCPip:WCDMa:ADDRess <string>
Parameters	string is a string only containing the IP address for the ProLock's WCDMA board.
Description	This command sets the IP address of the ProLock's WCDMA board.
Query	Reads and returns the current setting of the IP address as explained above.

Example	SYST:COMM:TCP:WCDMA:ADDR "192.16.16.114" sets the IP address to a defined value.

:SYSTem:COMMunicate:TCPip:WCDMa:NETMask

Syntax	:SYSTem:COMMunicate:TCPip:WCDMa:NETMask <string>
Parameters	string is a string only containing the net mask for the ProLock's WCDMA board.
Description	This command sets the Netmask of the ProLock's WCDMA board.
Query	Reads and returns the current setting of the IP address as explained above.
Example	SYST:COMM:TCP:WCDMA:NETM "255.255.255.0" sets the Netmask to a defined value.

:SYSTem:COMMunicate:TCPip:WCDMa:GATeway

Syntax	:SYSTem:COMMunicate:TCPip:WCDMa:GATeway <string>
Parameters	string is a string only containing the default gateway address for the ProLock's WCDMA board.
Description	This command sets the default gateway address of the ProLock's WCDMA board.
Query	Reads and returns the current setting of the IP address as explained above.
Example	SYST:COMM:TCP:WCDMA:GAT "192.16.16.1" sets the Gateway address to a defined value.

:SYSTem:COMMunicate:TCPip:WCDMa:HOSTaddress

Syntax	:SYSTem:COMMunicate:TCPip:WCDMa:HOSTaddress <string>
Parameters	string is a string only containing the Host IP address for the ProLock's WCDMA board.
Description	This command sets the Host IP address of the ProLock's WCDMA board.
Query	Reads and returns the current setting of the Host IP address as explained above.
Example	SYST:COMM:TCP:WCDMA:HOST "192.16.16.114" sets the Host IP address to a defined value.

:SYSTem:COMMunicate:SERA:PARameter

Syntax	:SYSTem:COMMunicate:SERA:PARameter <int1>,<int2>,<int3>,<PredefExpr4>
Parameters	There are four parameters. **int1** is the bit rate on the serial interface. Valid values are **110,300,600,1200,2400,4800,9600,19200,38400,57600, 115200**. The default value is **38400**. **int2** is the number of bits per character. The minimum value is **5**, the maximum is **8**. The default value is **8**. **int3** is the number of stop bits. It can take on the values **1** or **2**. The default value is **1**. **<PredefExpr4>** specifies the parity bit. The value is one of the following predefined expressions: **NO|ODD|EVEN**. Default is **NO**.
Description	Sets the parameters for serial port COM1. This command uses the following format: **baud,bits,stop,parity** where **baud** stands for the bit rate (**int1**), **bits** stands for the number of bits per character (**int2**) , **stop** stands for the number of stop bits (**int3**) and **parity** represents the parity (No, Odd or Even)(**PredefExpr4**).
Query	Reads and returns the current settings of COM1 as explained above.
Example	**:SYST:COMM:SERA:PAR 9600,8,1,ODD** **:SYST:COMM:SERA:PAR?** String returned: **"9600,8,1,ODD"**.

:SYSTem:COMMunicate:SERA:REMote

Syntax	:SYSTem:COMMunicate:SERA:REMote <PredefExpr>
Parameters	**PredefExpr**> can take on either of the following expressions: ON|OFF. Default is ON.
Description	Enables or disables remote control of the ProLock via the serial interface port COM 1. Note: The remote control capability at COM 1 should be disabled prior to controlling external equipment (e.g. the Bluetooth Connectivity Test products) through this interface.
Query	Returns the current setting.
Example	:SYST:COMM:SERA:REM OFF :SYST:COMM:SERA:REM? Returns the following string: "OFF"

:SYSTem:KEYBoard

Syntax	:SYSTem:KEYBoard <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **USA|BELGium_fr|BELGium_nl|CANFr|CANEng |DEN|FR|GER|ITA|JAP|LATAm_spa|LATAm_port |NL|NOR|PORTu-gal|SPA|SWE|SWISs_fr |SWISs_ger|UK**. Default is **USA**.

Description	Selects the language for the external keyboard. Note: The language setting defines the position and type of special characters.
Query	Reads and returns the current setting of the language of the external keyboard. The string returned will contain one of the predefined expressions as explained above.
Example	**:SYST:KEYB SWE** Sets the language for the external keyboard to 'Swedish'.

:SYSTem:DATE

Syntax	:SYSTem:DATE <int1>,<int2>,<int3>
Parameters	**intx** are three integers. The minimum value for **int1** is **1998**, the maximum is **2100**. The default value is **1998**. The minimum value for **int2** is **1**, the maximum is **12**. The default value is **1**. The minimum value for **int3** is **1**, the maximum is **31**. The default value is **1**.
Description	Sets the system date. This command uses the following format: **jjjjmmdd** where **jjjj** stands for the four digits of the year (**int1**), **mm** gives the two digits of the current month (**int2**) and, **dd** represents the day of the current month (**int3**).
Query	Reads and returns the current system date in a string, using the format explained above.
Example	**:SYST:DATE 2001,7,6** Sets the system date to the 6th of July, 2001.

:SYSTem:TIME

Syntax	:SYSTem:TIME <int1>,<int2>,<int3>
Parameters	**intx** are three integers. The minimum value for **int1** is **0**, the maximum is **23**. The default value is **0**. The minimum value for **int2** is **0**, the maximum is **59**. The default value is **0**. The minimum value for **int3** is **0**, the maximum is **59**. The default value is **0**.
Description	Sets the system time. This command uses the following format: **hhmmss** where **hh** stands for the two digits of the current hour, using a 24 hour time format (**int1**), **mm** gives the two digits of the current minute (**int2**) and, **ss** represents the seconds of the system time (**int3**).
Query	Reads and returns the current system time in a string, using the format explained above.
Example	**:SYST:TIME?** String returned: **"12,56,05"**.

:SYSTem:VERSion?

Syntax	:SYSTem:VERSion?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	Reads and returns the version number of the SCPI command system used on your ProLock. The command will return a string, containing one floating point real number.
Example	**:SYST:VERS?** String returned: **"2001.7"**.

Status Commands

6

This chapter contains an explanation of the Status subsystem SCPI commands. The list is structured as follows:

Introduction

The STATus subsystem offers commands to read out and deal with

- the general operation register group and its subordinate groups of registers and
- the general questionable status register group and its subordinate groups of registers.

NOTE

The commands to deal with the event status register group and the service register are part of the SCPI command errors.

STATus commands

:STATus:PRESet

Syntax	:STATus:PRESet
Parameters	There are no parameters.
Description	This command sets all user-definable settings of the status subsystem to their factory default values. The default values for the single commands are explained below.
Query	There is no query form of this command available.
Example	**:STATus:PRESet** Will reset all parameters of the status subsystem to their default values as listed below.

:STATus:OPERation[:EVENt]?

Syntax	:STATus:OPERation[:EVENt]?
Parameters	There are no parameters.
Description	Reads out the current contents of the General Operation Event Register. Note: Event-type registers are read-only and self-destructive. They will be cleared after any query.

Query	There is only a query form of this command available. The query will return a string, containing one integer. The value returned represents all general operation events that have occurred since the last query of this register. As with any event-type register, the single bits will remain set even when the reason for the bits to be set is no longer valid. Please note that this is the main difference between event-type and condition-type registers. Condition-type registers reflect the current state of the ProLock. Consequently, condition-type registers will be updated continuously. The bits of the operation event register have the following meaning: Bits 0 through 7: reserved Bit 8 (decimal 256): GSM signaling active Bit 9 (decimal 512): measurements active Bit 10 (decimal 1024): GPRS signaling active Bit 11 (decimal 2048): CDMA2000 signaling active Bit 12 (decimal 4096): WCDMA or TD-SCDMA signaling active Bit 13 (decimal 8192): 1xEV-DO signaling active Note: In case a certain event shall be trapped in a loop within a program, always query the event-type register.
Example	**:STATus:OPERation:EVENt?** Value returned: "768". This means that bit 8 (the 'GSM signaling active' bit) and bit 9 (the 'measurements active' bit) have been set.

:STATus:OPERation:CONDition?

Syntax	:STATus:OPERation:CONDition?
Parameters	There are no parameters.
Description	This command reads out the current contents of the General Operation Condition Register. This register reflects the current operational state of the ProLock and will be updated continuously. Note: This register is nondestructive. This means that it will keep its contents after any query.
Query	There is only a query form of this command available. The query will return a string, containing one integer. The integer will express all bits currently set in the 16 bit general operation condition register. Notes Bit 15 (the MSB) of this register is not used. Therefore, the maximum value returned will be **"32767"**.
Example	**:STATus:OPERation:CONDition?** Value returned: "512". This means that bit 9 (the MEASure summary bit) has been set, indicating that some measurement is currently in progress. Bit 9 will be reset as soon as the measurement has been completed.

:STATus:OPERation:ENABLe

Syntax	:STATus:OPERation:ENABLe <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **0**.

Description	This command sets the Enable filter of the General operation register group. This mask will be ANDed with the general operation event register and thus decide what kind of events will be forwarded to bit 7 of the service register. Note: The service register is often also referred to as the status byte register or status byte.
Query	There is no query form of this command available.
Example	**:STATus:OPERation:ENABle 129** This means that any setting of bits 1 (calibrating) or 7 (correcting) of the general operation event register will rise bit 7 of the service register.

:STATus:OPERation:NTRansition

Syntax	:STATus:OPERation:NTRansition <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **0**.
Description	Sets the NTR mask of the General operation register group. This mask will be ANDed with the up to 15 bits of the NTR transition filter of the general operation condition register to allow a reset (negative transition) of any bit (i.e. a transition from logic '1' to '0') to reach the general operation event register. Notes – The default of this mask is 0 – that means that the mask will not allow any negative transition of the lower 15 bits of the condition-type register to reach the event-type register. – Bit 16 of the general operation condition register is not used.
Query	There is no query form of this command available.
Example	**:STATus:OPERation:NTRansition 32767** This means that all of the negative transitions of the condition-type register will be forwarded to the event-type register.

:STATus:OPERation:PTRansition

Syntax	:STATus:OPERation:PTRansition <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **32767**.
Description	Sets the PTR mask of the General operation register group. This mask will be ANDed with the up to 15 bits of the PTR transition filter of the general operation condition register to allow a positive transition of any bit (i.e. a transition from logic '0' to '1') to reach the general operation event register. Notes The default of this mask is 32767 – that means that the mask will allow any positive transition of the lower 15 bits of the condition-type register to reach the event-type register. Bit 16 of the general operation condition register is not used.
Query	There is no query form of this command available.
Example	**:STATus:OPERation:PTRansition 0** This means that none of the positive transitions of the condition-type register will be forwarded to the event-type register.

:STATus:OPERation:SIGNalling:GSM[:EVENt]?

Syntax	:STATus:OPERation:SIGNalling:GSM[:EVENt]?
Parameters	There are no parameters.
Description	Reads out the current contents of the signaling operation event register. Note: Event-type registers are read-only and self-destructive. They will be cleared after any query.
Query	There is only a query form of this command available. The query will return a string, containing one integer. The value returned represents all signaling operation events that have occurred since the last query of this register. As with any event-type register, the single bits will remain set even when the reason for the bits to be set is no longer valid. Please note that this is the main difference between event-type and condition-type registers. Condition-type registers reflect the current state of the ProLock. Consequently, condition-type registers will be updated continuously. The bits of the signaling operation event register have the following meaning: Bit 0 (decimal 1): The ProLock is in idle mode Bit 1 (decimal 2): The ProLock is paging the mobile. Bit 2 (decimal 4): A call has been established and is currently active. Bit 3 (decimal 8): The BER loop has been closed. Bit 4 (decimal 16): Async mode (e.g. Generator/Analyzer) active. Bit 5 (decimal 32): The ProLock is calling the mobile under test. A BS call is in progress. Bit 6 (decimal 64): Not used (reserved). Bit 7 (decimal 128): Not used (reserved). Bit 8 (decimal 256): Alerting. Bits 9 through 15: Not used (reserved). Note: In case, a certain event shall be trapped in a loop within a program, always query the event-type register.
Example	**:STATus:OPERation:SIGNalling:GSM:EVENt?** Value returned: "8". This means that bit 3 of the signaling operation event register (stands for BER loop being closed) has been set.

:STAT:OPERation:SIGNalling:GSM:CONDition?

Syntax	:STAT:OPERation:SIGNalling:GSM:CONDition?
Parameters	There are no parameters.
Description	This command reads out the current contents of the signaling operation condition register. This register reflects the current state of the ProLock in terms of signaling and will be updated continuously. Note: This register is nondestructive. This means that it will keep its contents after any query.
Query	There is only a query form of this command available. The query will return a string, containing one integer. The integer will express all bits set in the 16 bit signaling operation condition register. Note: Bits 14 and 15 (the MSB) of this register are not used. Therefore, the maximum value returned will be **"16383"**.

Example	**:STATus:OPERation:SIGNalling:GSM:CONDition?** Value returned: "512". This means that bit 9 has been set and that there is a change of the call channel currently in progress. Bit 9 will be reset as soon as the change of the call channel has been completed. For details on return data (bits and decimals and their meaning) refer to section ":STATus:OPERation:SIGNalling:GSM[:EVENt]?" on page 61.

:STATus:OPERation:SIGNalling:GSM:ENABLe

Syntax	:STATus:OPERation:SIGNalling:GSM:ENABLe <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **0**.
Description	This command sets the enable filter of the signaling operation register group. This mask will be ANDed with the signaling operation event register and thus decide what kind of events will be forwarded to bit 8 of the General operation register group.
Query	There is no query form of this command available.
Example	**:STATus:OPERation:SIGNalling:GSM:ENABle 16** This means that any setting of bit 4 (MS clearing) of the signaling operation event register will rise bit 8 of the general operation condition register. For details on return data (bits and decimals and their meaning) refer to section ":STATus:OPERation:SIGNalling:GSM[:EVENt]?" on page 61.

:STAT:OPERation:SIGNalling:GSM:PTRansition

Syntax	:STAT:OPERation:SIGNalling:GSM:PTRansition <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **32767**.
Description	Sets the PTR mask of the Signaling operation register group. This mask will be ANDed with the up to 15 bits of the PTR filter of the signaling operation condition register to allow a positive transition of any bit (i.e. a transition from logic '0' to '1') to reach the signaling operation event register. Note: The default of this mask is 32767 – that means that the mask will allow any positive transition of the lower 15 bits of the condition-type register to reach the event-type register.
Query	There is no query form of this command available.
Example	**:STATus:OPERation:SIGNalling:GSM:PTRansition 0** This means that none of the positive transitions of the condition-type register will be forwarded to the event-type register. For details on return data (bits and decimals and their meaning) refer to section ":STATus:OPERation:SIGNalling:GSM[:EVENt]?" on page 61.

:STAT:OPERation:SIGNalling:GSM:NTRansition

Syntax	:STAT:OPERation:SIGNalling:GSM:NTRansition <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **0**.
Description	Sets the NTR mask of the Signaling operation register group. This mask will be ANDed with the up to 15 bits of the NTR filter of the signaling operation condition register to allow a reset (negative transition) of any bit (i.e. a transition from logic '1' to '0') to reach the signaling operation event register. Note: The default of this mask is 0 – that means that the mask will not allow any negative transition of the lower 15 bits of the condition-type register to reach the event-type register of this group.
Query	There is no query form of this command available.
Example	**:STATus:OPERation:SIGNalling:GSM:NTRansition 0** This means that none of the negative transitions of the condition-type register will be forwarded to the event-type register. For details on return data (bits and decimals and their meaning) refer to section ":STATus:OPERation:SIGNalling:GSM[:EVENt]?" on page 61.

:STATus:OPERation:SIGNalling:GPRS[:EVENt]?

Syntax	:STATus:OPERation:SIGNalling:GPRS[:EVENt]?
Parameters	There are no parameters.
Description	Reads out the current contents of the GPRS Signaling Operation Event Register. Note: Event-type registers are read-only and self-destructive. They will be cleared after any query.
Query	There is only a query form of this command available. The query will return a string containing one integer. The value returned represents all signaling operation events that have occurred since the last query of this register. As with any event-type register, the single bits will remain set even when the reason for the bits to be set is no longer valid. Please note that this is the main difference between event-type and condition-type registers. Condition-type registers reflect the current state of the ProLock. Consequently, condition-type registers will be updated continuously. Note: In case that a certain event shall be trapped in a loop within a program, always query the event-type register. The meaning of the bits is: bit 0 – Set when the mobile is GPRS Attached bit 1 – Set when signaling is in progress bit 2 – Set when the ProLock is ready to measure (PDTCH set up) Examples If the status is 0 then the mobile is not GPRS attached. If the status is 1, the mobile is attached (and nothing more). If the status is 3, the mobile is attached and a TBF setup is progressing (but not yet completed). If the status is 5, the mobile is attached and a TBF is set up; measurements can be taken immediately.

Example	:STATus:OPERation:SIGNalling:GPRS:EVENt? Value returned: "5". This means that bits 0 and 2 of the GPRS signaling operation event register have been set: The mobile is GPRS Attached and the PDTCH is set up so the ProLock is ready to take measurements. .

:STAT:OPERation:SIGNalling:GPRS:CONDition?

Syntax	:STAT:OPERation:SIGNalling:GPRS:CONDition?
Parameters	There are no parameters.
Description	This command reads out the current contents of the Signaling Operation Condition Register. This register reflects the current state of the ProLock in terms of signaling and will be updated continuously. Note: This register is nondestructive. This means that it will keep its contents after any query.
Query	There is only a query form of this command available. The query will return a string, containing one integer. The integer will express all bits set in the 16 bit signaling operation condition register. Note: See :STATus:OPERation:SIGNalling:GPRS[:EVENt] for the meaning of the individual bits of the register.
Example	:STATus:OPERation:SIGNalling:GPRS:CONDition? Value returned: "3". This means that bits 0 and 1 have been set. For details on return data (bits and decimals and their meaning) refer to section ":STATus:OPERation:SIGNalling:GPRS[:EVENt]?" on page 63.

:STATus:OPERation:SIGNalling:GPRS:ENABLe

Syntax	:STATus:OPERation:SIGNalling:GPRS:ENABLe <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 32767. The default value is 0.
Description	This command sets the Enable filter of the GPRS Signaling Operation Register Group. This mask will be ANDed with the GPRS signaling operation event register and thus decide what kind of events will be forwarded to bit 10 of the General Operation Register Group. See :STATus:OPERation:SIGNalling:GPRS[:EVENt] for the meaning of the individual bits of the register.
Query	There is no query form of this command available.
Example	:STATus:OPERation:SIGNalling:GPRS:ENABle 4 This means that any setting of bit 2 (PDTCH set up, ready for measurements) of the GPRS signaling operation event register will rise bit 10 of the general operation condition register. For details on return data (bits and decimals and their meaning) refer to section ":STATus:OPERation:SIGNalling:GPRS[:EVENt]?" on page 63.

:STAT:OPERation:SIGNalling:GPRS:PTRansition

Syntax	`:STAT:OPERation:SIGNalling:GPRS:PTRansition <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `32767`. The default value is `32767`.
Description	Sets the PTR mask of the GPRS Signaling Operation Register Group. This mask will be ANDed with the up to 15 bits of the PTR filter of the GPRS signaling operation condition register to allow a positive transition of any bit (i.e. a transition from logic '0' to '1') to reach the signaling operation event register. Note: The default of this mask is 32767 – that means that the mask will allow any positive transition of the lower 15 bits of the condition-type register to reach the event-type register.
Query	There is no query form of this command available.
Example	`:STATus:OPERation:SIGNalling:GPRS:PTRansition 0` This means that none of the positive transitions of the condition-type register will be forwarded to the event-type register. For details on return data (bits and decimals and their meaning) refer to section “:STATus:OPERation:SIGNalling:GPRS[:EVENt]?” on page 63.

:STAT:OPERation:SIGNalling:GPRS:NTRansition

Syntax	`:STAT:OPERation:SIGNalling:GPRS:NTRansition <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `32767`. The default value is `0`.
Description	Sets the NTR mask of the GPRS Signaling Operation Register Group. This mask will be ANDed with the up to 15 bits of the NTR filter of the GPRS signaling operation condition register to allow a reset (negative transition) of any bit (i.e. a transition from logic '1' to '0') to reach the signaling operation event register. Note: The default of this mask is 0 – that means that the mask will not allow any negative transition of the lower 15 bits of the condition-type register to reach the event-type register of this group.
Query	There is no query form of this command available.
Example	`:STATus:OPERation:SIGNalling:GPRS:NTRansition 0` This means that none of the negative transitions of the condition-type register will be forwarded to the event-type register. For details on return data (bits and decimals and their meaning) refer to section “:STATus:OPERation:SIGNalling:GPRS[:EVENt]?” on page 63.

:STATus:OPERation:SIGNalling:WCDMa[:EVENt]?

Syntax	`:STATus:OPERation:SIGNalling:WCDMa[:EVENt]?`
Parameters	There are no parameters.
Description	Reads out the current contents of the signaling operation event register. Note: Event-type registers are read-only and self-destructive. They will be cleared after any query.

Query	There is only a query form of this command available. The query will return a string containing one integer. The value returned represents all signaling operation events that have occurred since the last query of this register. As with any event-type register, the individual bits will remain set even when the reason for the bits to be set is no longer valid. Please note that this is the main difference between event-type and condition-type registers. Condition-type registers reflect the current state of ProLock. Consequently, condition-type registers will be updated continuously. The bits of the signaling operation event register have the following meaning: Bit 0 (decimal 1): not set: WCDMA mode disabled. set: The UE is not registered. Bit 1 (decimal 2): A UE is registered to the tester. Bit 2 (decimal 4): The tester is alerting the UE to answer call. Bit 3 (decimal 8): An uplink channel is assigned (speech call active or test loopback connection active). Bit 4 (decimal 16): Async mode (i.e. generator/analyzer) active. Bits 5 to 7: Not used (reserved). Bit 8 (decimal 256): A test loopback has been started. Bit 9 (decimal 512): A mobile-terminated call has been set up. Bit 10 (decimal 1024): A mobile-originated call has been set up. Bit 11 to 15: Not used (reserved) **Note:** In case a certain event shall be trapped in a loop within a program, always query the event-type register.
Example	`:STATus:OPERation:SIGNalling:WCDMa:EVENt?` Value returned in this example: "8". This means that bit 3 of the signaling operation event register has been set. For details on return data (bits and decimals and their meaning) refer to section “:STATus:OPERation:SIGNalling:WCDMa[:EVENt]?” on page 65.

`:STAT:OPERation:SIGNalling:WCDMa:CONDition?`

Syntax	`:STAT:OPERation:SIGNalling:WCDMa:CONDition?`
Parameters	There are no parameters.
Description	This command reads out the current contents of the signaling operation condition register. This register reflects the current state of ProLock in terms of signaling and will be updated continuously. Note: This register is non-destructive. This means that it will keep its contents after any query.
Query	There is only a query form of this command available. The query will return a string containing one integer. The integer will express all bits set in the 16 bit signaling operation condition register. Note: For further details regarding the basic functions of the STATus subsystem, please refer to section Understanding the STATus Subsystem.
Example	`:STATus:OPERation:SIGNalling:WCDMa:CONDition?` Value returned in this example: "512". This means that bit 9 has been set. Bit 9 will be reset as soon as the change of the call channel has been completed. For details on return data (bits and decimals and their meaning) refer to section “:STATus:OPERation:SIGNalling:WCDMa[:EVENt]?” on page 65.

:STATus:OPERation:SIGNalling:WCDMa:ENABLe

Syntax	`:STATus:OPERation:SIGNalling:WCDMa:ENABLe <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `32767`. The value default is `0`.
Description	This command sets the enable filter of the signaling operation register group. This mask will be ANDed with the signaling operation event register and thus decide what kind of events will be forwarded to bit 8 of the general operation register group.
Query	There is no query form of this command available.
Example	`:STATus:OPERation:SIGNalling:WCDMa:ENABle 16` This means that any setting of bit 4 of the signaling operation event register will rise bit 8 of the general operation condition register. For details on return data (bits and decimals and their meaning) refer to section ":STATus:OPERation:SIGNalling:WCDMa[:EVENt]?" on page 65.

:STAT:OPERation:SIGNalling:WCDMa:PTRansition

Syntax	`:STAT:OPERation:SIGNalling:WCDMa:PTRansition <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `32767`. The value default is `32767`.
Description	Sets the PTR mask of the signaling operation register group. This mask will be ANDed with the up to 15 bits of the PTR filter of the signaling operation condition register to allow a positive transition of any bit (i.e. a transition from logic '0' to '1') to reach the signaling operation event register. Note The default of this mask is `32767` - that means that the mask will allow any positive transition of the lower 15 bits of the condition-type register to reach the event-type register.
Query	There is no query form of this command available.
Example	`:STATus:OPERation:SIGNalling:WCDMa:PTRansition 0` This means that none of the positive transitions of the condition-type register will be forwarded to the event-type register. For details on return data (bits and decimals and their meaning) refer to section ":STATus:OPERation:SIGNalling:WCDMa[:EVENt]?" on page 65.

:STAT:OPERation:SIGNalling:WCDMa:NTRansition

Syntax	`:STAT:OPERation:SIGNalling:WCDMa:NTRansition <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `32767`. The value default is `0`.
Description	Sets the NTR mask of the signaling operation register group. This mask will be ANDed with the up to 15 bits of the NTR filter of the signaling operation condition register to allow a reset (negative transition) of any bit (i.e. a transition from logic '1' to '0') to reach the signaling operation event register. Note: The default of this mask is 0 - that means that the mask will not allow any negative transition of the lower 15 bits of the condition-type register to reach the event-type register of this group.

Query	There is no query form of this command available.
Example	`:STATus:OPERation:SIGNalling:WCDMa:NTRansition 0` This means that none of the negative transitions of the condition-type register will be forwarded to the event-type register. For details on return data (bits and decimals and their meaning) refer to section “:STATus:OPERation:SIGNalling:WCDMa[:EVENt]?” on page 65.

`:STATus:OPERation:MEASuring[:EVENt]?`

Syntax	`:STATus:OPERation:MEASuring[:EVENt]?`
Parameters	There are no parameters.
Description	Reads out the current contents of the measuring operation event register. Note: Event-type registers are read-only and self-destructive. They will be cleared after any query.
Query	There is only a query form of this command available. The query will return a string, containing one integer. The value returned represents all measuring operation events that have occurred since the last query of this register. As with any event-type register, the single bits will remain set even when the reason for the bits to be set is no longer valid. Please note that this is the main difference between event-type and condition-type registers. Condition-type registers reflect the current state of the ProLock. Consequently, the condition type registers will be updated continuously. Notes – For further details regarding the basic functions of the STATus subsystem, please refer to section “Understanding the STATus Subsystem”. – In case, a certain event shall be trapped in a loop within a program, always query the event-type register.
Example	**`:STATus:OPERation:MEASuring:EVENt?`** Value returned: "8". This means that bit 3 (stands for AF measurement) has been set.

`:STAT:OPERation:MEASuring:CONDition?`

Syntax	`:STAT:OPERation:MEASuring:CONDition?`
Parameters	There are no parameters.
Description	This command reads out the current contents of the measuring operation condition register. This register reflects the current state of the ProLock in terms of measurements and will be updated continuously. Note: This register is nondestructive. This means that it will keep its contents after any query.
Query	There is only a query form of this command available. The query will return a string, containing one integer. The integer will express all bits set in the 16 bit measuring operation condition register. Note: Bits 4 to 15 (the MSB) of this register are not used. Therefore, the maximum value returned will be **"7"**.

Example	**:STATus:OPERation:MEASuring:CONDition?** Value returned: "**1**". This means that bit 0 has been set and that there is an RFTX measurement currently in progress. This bit will be reset as soon as the RFTX measurements have been completed.

:STATus:OPERation:MEASuring:ENABLe

Syntax	:STATus:OPERation:MEASuring:ENABLe <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **0**.
Description	This command sets the enable filter of the Measuring operation register group. This mask will be ANDed with the measuring operation event register and thus decide what kind of events will be forwarded to bit 9 of the General operation register group.
Query	There is no query form of this command available.
Example	**:STATus:OPERation:MEASuring:ENABle 4** This means that any setting of bit 2 (RF spectrum) of the measuring operation event register will rise bit 9 of the general operation condition register.

:STAT:OPERation:MEASuring:PTRansition

Syntax	:STAT:OPERation:MEASuring:PTRansition <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **32767**.
Description	Sets the PTR mask of the Measuring operation register group. This mask will be ANDed with the up to 16 bits of the PTR filter of the measuring operation condition register to allow a positive transition of any bit (i.e. a transition from logic '0' to '1') to reach the measuring operation event register. Note: The default of this mask is 32767 – that means that the mask will allow any positive transition of the lower 15 bits of the condition-type register to reach the event-type register.
Query	There is no query form of this command available.
Example	**:STATus:OPERation:MEASuring:PTRansition 0** This means that none of the positive transitions of the condition-type register will be forwarded to the event-type register.

:STAT:OPERation:MEASuring:NTRansition

Syntax	:STAT:OPERation:MEASuring:NTRansition <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **32767**. The default value is **0**.

Description	Sets the NTR mask of the Measuring operation register group. This mask will be ANDed with the up to 16 bits of the NTR filter of the measuring operation condition register to allow a reset (negative transition) of any bit (i.e. a transition from logic '1' to '0') to reach the measuring operation event register. Note: The default of this mask is 0 – that means that the mask will not allow any negative transition of the 16 bits of the condition-type register to reach the event-type register of this group.
Query	There is no query form of this command available.
Example	**`:STATus:OPERation:MEASuring:NTRansition 0`** This means that none of the negative transitions of the condition-type register will be forwarded to the event-type register.

Format Commands

7

This chapter contains an explanation of the Format subsystem SCPI commands. The list is structured as follows:

Introduction

The FORMat subsystem sets and queries settings concerning the data output in remote mode.

FORMat subsystem

:FORMat:MRESult:STYPe

Syntax	:FORMat:MRESult:STYPe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **STB|SIGNalling|MEASuring|OPERation |QUEStionable|ALL**. Default is that no additional information will be provided with the measurement result values.
Description	Specifies the type of additional information to be returned with any measurement result obtained by a FETCh command. The meaning of the settings is as follows: **STB** will deliver the current contents of the Service register. **SIGNalling** stands for the current contents of the signaling operation condition register. **MEASuring** means that the current contents of the measuring operation condition register will be delivered back. **OPERation** will deliver the current contents of the general operation condition register. **QUEStionable** stands for the current contents of the general questionable status condition register. **ALL** will deliver the current contents of the eight most important registers. The order is as follows: 1. Service register, 2. event status register, 3. general operation condition register, 4. signaling operation condition register, 5. measuring operation condition register, 6. general questionable status condition register, 7. RF questionable status condition register, and 8. synchronization questionable status condition register. The contents of every single register will be returned as an integer; the single values will be separated by commas.
Query	There is no query form of this command available.
Example	**:FORMat:MRESult:HEADer ON** **:FORMat:MRESult:STYPe ALL** **:MEASure:RFTX:PRMS** **:FETCh:RFTX:PRMS** The first command switches the transmission of the additional information on, the second command specifies that all current contents of the eight most important registers shall be returned. The third command starts a continuous measurement. The last command finally delivers the latest measurement result value plus the current contents of the main registers. The string delivered back: **"0,128,256,8,1,0,0,0,4.63"**.

:FORMat:MRESult:HEADer

Syntax	:FORMat:MRESult:HEADer <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **OFF|ON**. Default is **OFF**.
Description	Switches the transmission of the additional information (see explanation of the command above) either on or off. **ON** means that the current contents of the corresponding register(s) will be added at the beginning of every string returned by a FETCh command.
Query	There is no query form of this command available.
Example	**:FORM:MRES:HEAD** This command will switch the transmission of the additional information off.

:FORMat:ADELimiter

Syntax	:FORMat:ADELimiter <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **COMMa|COLOn|SEMIcolon**. Default is **COMMa**.
Description	Selects the delimiter to be used to separate parameters on commands and single measurement result values. **COMMa** stands for commas (default), **COLOn** sets the delimiter to be a colon (:), while **SEMIcolon** will use and expect a semicolon (;) to be used.
Query	There is no query form of this command available.
Example	**:FORM:ADEL** Defines the comma to be used as delimiter for both commands and measurement results.

:FORMat:RESolution

Syntax	:FORMat:RESolution <int1>
Parameters	**int1** is an integer. The minimum value for **<int1>** is **0**, the maximum is **20**. The default value is **6**.
Description	Defines the number of digits after the decimal point to be used for floating point real numbers.
Query	There is no query form of this command available.
Example	**:FORM:RES 0** Defines that there will be no digits after the decimal point.

Configuration Commands

8

This chapter contains an explanation of the Configure subsystem SCPI commands. The list is structured as follows:

Introduction

This subsystem incorporates all changeable network parameters of all systems implemented. The key commands are as follows:

CONFigure:CSYStem	Selects the communications system to work with.
CONFigure:<SystemOption>:...	These commands select parameters within a communications system.
CONFigure:<SystemOption>:BS:... or CONFigure:<SystemOption> :NB:...	These are the commands to set specific system parameters like the base station's RF output power level or its identity.
CONFigure:<SystemOption> :MSTAtion:... or CONFigure:<SystemOption> :UE:...	The mobile-specific information is handed over to the ProLock using these commands. One example is the power level.
CONFigure:<SystemOption>:... :GROup:...	With the help of these commands, groups of measurements may be defined.
CONFigure:COUPloss:...	These commands provide access to the coupling loss compensation feature of the ProLock.

NOTE

Always select the communication system via the `:Configure:CSYStem` command first before you change any parameters using different SCPI commands.

General commands

:CONFigure:CSYStem

Syntax	:CONFigure:CSYStem <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: NONe|GSM|GPRS|EGPRs|WCDMa. Default is NONe.
Description	Selects the type of communication system to be used. NONe means that there is no system loaded and that there will be no basic generator or analyzer functionality available. This parameter may be used to cancel all RF radiation from the ProLock. GENana will make the ProLock work as a generator and analyzer for circuit-switched GSM signals. GSM will set up the ProLock as a test set for circuit-switched GSM systems. All tests performed with this setting require a call setup. Therefore, this test mode is called the 'call mode'. GPRS will bring the ProLock into call mode for standard GSM and GPRS systems. This means that this parameter will enable testing of all kinds of GSM signals (circuit-switched signals in single or multislot mode as well as packet-data channels (GPRS)). WCDMA sets up the ProLock for the call mode of Wideband CDMA. Note: Please keep in mind that you have to select the communication system first when working with SCPI, as the default of this command is NONe.
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.
Example	**:CONFigure:CSYStem GSM** **:CONF:CSYS?** Value returned: **"GSM"**.

Commands for the GSM option

:CONFigure:GSM:TYPE

Syntax	`:CONFigure:GSM:TYPE <PredefExp>`
Parameters	**PredefExp** is one of the following predefined expressions: **GSM9001800|GSM9001900**. Default is **GSM9001800**.
Description	Selects the type of GSM system to be used after the ProLock was brought into GSM call mode. **GSM9001800** will make the ProLock work as a test set for the GSM system types GSM 900 and GSM 1800. **GSM9001900** will set up the ProLock as a test set for the GSM system types GSM 900 and GSM 1900. Notes – This command will have no effect when the ProLock is in generator/analyzer mode. – The main reason for this command to exist is the 'double numbering' of channels. GSM 1800 and GSM 1900 use the same channel numbers above channel number 511, but the related physical channels are in different frequency bands.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	**:CONFigure:GSM:TYPE GSM9001900** **:CONF:GSM:TYPE?** Value returned: **"GSM9001900"**.

:CONFigure:GSM:ASSAll

Syntax	`:CONFigure:GSM:ASSAll <int1>,<int2>`
Parameters	**int1** and **int2** are two integers. The minimum value for **int1** is **0**, the maximum value is **1023**. The default value for **int1** is **45**. The minimum value for **int2** is **0**, the maximum value is **31**. The default value for **int2** is **10**.
Description	This command changes the TCH (traffic channel) number and the mobile's power control level in one assignment. **int1** is the new TCH channel number and **int2** is the MS power control level. Note: The RF power control level is a code. The corresponding RF output power of the mobile under test depends on the type of GSM system and the frequency range.
Query	The query form of this command will return the current setting. The string delivered back will contain two integers. The first one expresses the TCH number and the second one the MS power control level.
Example	**:CONFigure:GSM:ASAll 45,10** **:CONF:GSM:ASA?** Value returned: **"45,10"**.

:CONFigure:GSM:BS:LEVel

Syntax	:CONFigure:GSM:BS:LEVel <real1>
Parameters	**real1** is a floating point real number. The minimum value for **real1** is **-120.0**, the maximum value **-10.0**. The minimum resolution possible for **real1** is **0.1**. The default value for **real1** is **-60.0**.
Description	This command sets the RF output power level of the ProLock (i.e. the simulated base station). The physical dimension of **real1** is dBm.
Query	The query form of this command will return the current RF output power setting of the ProLock. The string delivered back will contain one real number.
Example	**:CONFigure:GSM:BS:LEVel -50.5** **:CONF:GSM:BS:LEV?** Value returned: **"-50.5"**.

:CONFigure:GSM:BS:CMODe

Syntax	:CONFigure:GSM:BS:CMODe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **FACCh|SDCCh**.|
Description	sets the mode of call setup to FACCH or SDCCH
Query	Returns the mode of call setup
Example	**:CONFigure:GSM:BS:CMODe FACCh** **:CONFigure:GSM:BS:CMODe?** Value returned: **"FACCh"**.

:CONFigure:GSM:BS:LAI:MCC

Syntax	:CONFigure:GSM:BS:LAI:MCC <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **1000**. The default value for **int1** is **1**.
Description	This command sets the mobile country code. More details regarding the MCC can be found in section Basic System Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:LAI:MCC 238** **:CONF:GSM:BS:LAI:MCC?** Value returned: **"238"**.

:CONFigure:GSM:BS:LAI:MNC[:DATA]

Syntax	`:CONFigure:GSM:BS:LAI:MNC[:DATA] <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **99** for a two-digit MNC and **999** for a three-digit MNC; see command :CONF:GSM:BS:LAI:MNC:FORMat. The default value for **int1** is **1**.
Description	This command sets the mobile network code. More details regarding the MNC can be found in section Basic System Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:LAI:MNC 20** **:CONF:GSM:BS:LAI:MNC?** Value returned: **"20"**.

:CONFigure:GSM:BS:LAI:MNC:FORM

Syntax	`:CONFigure:GSM:BS:LAI:MNC:FORM <PredefExp>`
Parameters	**PredefExp** is one of the following predefined expressions: **TWODigits|THREedigits**. Default is **TWODigits**.
Description	This command sets the format of the mobile network code.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	**:CONFigure:GSM:BS:LAI:MNC:FORM THRE** **:CONF:GSM:BS:LAI:MNC:FORM?** Value returned: **"THRE"**.

:CONFigure:GSM:BS:LAI:LAC

Syntax	`:CONFigure:GSM:BS:LAI:LAC <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **65535**. The default value for **int1** is **1**.
Description	This command sets the location area code. For details, please refer to section Basic System Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:LAI:LAC 17399** **:CONF:GSM:BS:LAI:LAC?** Value returned: **"17399"**.

:CONFigure:GSM:BS:NCC

Syntax	`:CONFigure:GSM:BS:NCC <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **7**. The default value for **int1** is **2**.
Description	This command sets the network color code. For details, please refer to section Basic System Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:NCC 2** **:CONF:GSM:BS:NCC?** Value returned: **"2"**.

:CONFigure:GSM:BS:BCC

Syntax	`:CONFigure:GSM:BS:BCC <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **7**. The default value for **int1** is **0**.
Description	This command sets the base station color code. For details, please refer to section Basic System Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:BCC 1** **:CONF:GSM:BS:BCC?** Value returned: **"1"**.

:CONFigure:GSM:BS:BCH:ARFCn

Syntax	`:CONFigure:GSM:BS:BCH:ARFCn <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **1023**. The default value for **int1** is **63**.
Description	This command sets the channel number for the ProLock base channel (BCCH). For details, please refer to section Test Parameters. Note: The base channel is sometimes also referred to as the 'channel number of the main carrier'.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:BCH:ARFCn 60** **:CONF:GSM:BS:BCH:ARFC?** Value returned: **"60"**.

:CONFigure:GSM:BS:TCH:ARFCn

Syntax	:CONFigure:GSM:BS:TCH:ARFCn <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **1023**. The default value for **int1** is **45**.
Description	This command sets the traffic channel (TCH) number to be used. For details, please refer to section Test Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:TCH:ARFCn 917** **:CONF:GSM:BS:TCH:ARFC?** Value returned: **"917"**.

:CONFigure:GSM:BS:TCH:TYPE

Syntax	:CONFigure:GSM:BS:TCH:TYPE <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **FR|EFR**. Default is **FR**.
Description	This command sets the type of traffic channel. **FR** stands for full rate and **EFR** for enhanced full rate. For details, please refer to section Test Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	**:CONFigure:GSM:BS:TCH:TYPE EFR** **:CONF:GSM:BS:TCH:TYPE?** Value returned: **"EFR"**.

:CONFigure:GSM:BS:CI

Syntax	:CONFigure:GSM:BS:CI <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **65535**. The default value for **int1** is **255**.
Description	This command sets the cell identity parameter (i.e. the radio cell number), broadcast in the system information message. For more details on the CI, please refer to section Basic System Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:CI 127** **:CONF:GSM:BS:CI?** Value returned: **"127"**.

:CONFigure:GSM:BS:CBA

Syntax	:CONFigure:GSM:BS:CBA <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **1**. The default value for **int1** is **0**.
Description	This command sets the cell barred access parameter. A **0** set for the CBA will allow the mobile to contact the base station, while a **1** will block the base station and the mobile under test will not be granted access.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:BS:CBA 1** **:CONF:GSM:BS:CBA?** Value returned: **"1"**.

:CONFigure:GSM:BS:ATTach

Syntax	:CONFigure:GSM:BS:ATTach <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **OFF**.
Description	Switches the IMSI Attach/Detach flag in the System Information messages broadcast on the BCCH on or off. If ON, the mobile must register and deregister with the network simulated by the ProLock when switched on or off, respectively. This can be used to detect when the mobile is switched on and listening to the ProLock network.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	**:CONFigure:GSM:BS:ATTach OFF** **:CONF:GSM:BS:ATT?** Value returned: **"OFF"**.

:CONFigure:GSM:MSTAtion:DRX

Syntax	:CONFigure:GSM:MSTAtion:DRX <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **7**. The default value for **int1** is **0**.
Description	This command sets the BS-PA-MFRMS parameter, broadcast in the control channel description information element. This parameter is used for discontinuous reception (DRX). For more information about DRX, please refer to section Basic System Parameters. Note: The value entered here is coded according to the following scheme: the number of multiframes used is the number entered here plus 2. This means that the default value (**0**) will lead to a DRX period of two multiframes.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	**:CONFigure:GSM:MSTAtion:DRX 2** **:CONF:GSM:MSTA:DRX?** Value returned: **"2"**, resulting in a DRX period of four multiframes.

:CONFigure:GSM:MSTAtion:TADVance

Syntax	:CONFigure:GSM:MSTAtion:TADVance <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **63**. The default value for **int1** is **0**.
Description	This command sets the timing advance for the mobile under test to use. The current setting of the timing advance is broadcast to the mobile in the SACCH physical header. Note: More details regarding the timing advance can be found in section Time Slots and Bursts.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**:CONFigure:GSM:MSTAtion:TADVance 12** **:CONF:GSM:MSTA:TADV?** Value returned: **"12"**.

:CONFigure:GSM:MSTAtion:PLEVel[:ALL]

Syntax	:CONFigure:GSM:MSTAtion:PLEVel[:ALL] <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **31**. The default value for **int1** is **10**.
Description	This command sets the mobile's power control level. Notes – The RF power control level is a code. The corresponding RF output power of the mobile under test depends on the type of GSM system and the frequency range. – The power control level is broadcast in the SACCH physical header.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	**CONFigure:GSM:MSTAtion:PLEVel:ALL 17** **:CONF:GSM:MSTA:PLEV?** Value returned: **"17"**.

:CONFigure:GSM:MSTAtion:MODE

Syntax	:CONFigure:GSM:MSTAtion:MODE <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **FACCh|SDCCh**. Default is **FACCh**.

Description	Defines whether the call setup takes place on **FACCh** or on **SDCCh**. Note: There are two standard signaling channels in GSM: SDCCH and FACCH. The FACCH is always associated with a traffic channel. However, some mobiles will only listen to signaling provided on the SDCCH. For details, please check with section Basic System Parameters.
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.
Example	**:CONFigure:GSM:BS:CMODe FACCh** **:CONF:GSM:BS:CMOD?** Value returned: **"FACC"**.

:CONFigure:GSM:BER:LOOP

Syntax	:CONFigure:GSM:BER:LOOP <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **NONResidual|RESidual|FAST**. Default is **NONResidual**.
Description	This command sets the type of BER loop (inside the mobile under test) to be used for bit error measurements. **NONResidual** means that a standard bit error ratio test will be performed. This test is called **BER** on the graphical user interface of the ProLock. **RESidual** will set up the test loop of a residual bit error ratio measurement. This test is called **RBER** on the graphical user interface of the ProLock. **FAST** means that a fast bit error ration measurement will be performed. This test is called **FastBER** on the graphical user interface of the ProLock.
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.
Example	**:CONFigure:GSM:BER:LOOP RESidual** **:CONF:GSM:BER:LOOP?** Value returned: **"RES"**.

:CONFigure:GSM:BER:BITPattern

Syntax	:CONFigure:GSM:BER:BITPattern <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **PRBS9|PRBS15|PRBS23|ALLZero|ALLOne| ONEZero|ZEROone**. Default is **PRBS9**.

Description	This command selects the test bit sequence to be used for the BER measurements. **PRBS9** stands for a pseudorandom bit sequence. The length of this sequence will be 511 bits ((2 to the power of 9)-1). **PRBS15** is a pseudorandom bit sequence with a length of 32767 bits. **PRBS23** is a pseudorandom bit sequence as well. The length is 8388607 bits. **ALLZero** means that all bits used for testing are 'zeros' (**000...**). In case, **ALLOne** is selected, all bits used for testing will be set to 'ones' (**111...**). **ONEZero** stands for a bit sequence starting with a 'one' and continuing with the inverted value of the current bit (**10101...**). **ZEROone** means a bit sequence starting with a 'zero' and continuing with the inverted value of the current bit (**01010...**).
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.
Example	**:CONFigure:GSM:BER:BITPattern ALLZero** **:CONF:GSM:BER:BITP?** Value returned: **"ALLZ"**.

:CONFigure:GSM:BER:COUNt

Syntax	:CONFigure:GSM:BER:COUNt <long1>
Parameters	**long1** is a long integer number. The minimum value for **long1** is **2,000**, the maximum value is **1,000,000**. The default value for **long1** is **10,000**.
Description	This command sets the number of bits that shall be used for a BER measurement.
Query	The query form of this command will return the current setting. The string delivered back will contain one long integer number.
Example	**:CONFigure:GSM:BER:COUNt 100000** **:CONF:GSM:BER:COUN?** Value returned: **"100000"**.

:CONFigure:GSM:BER:RTDelay

Syntax	:CONFigure:GSM:BER:RTDelay <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **30**. The default value for **int1** is **0**.
Description	This command allows to predefine a round trip delay in order to achieve a fast synchronization. Note: During BER testing, there will be a delay between the reception of the first burst of a particular voice block at the mobile and the transmission of the first burst of the same voice block (after decoding and coding) on the uplink. This delay is called the round trip delay.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	**:CONFigure:GSM:BER:RTDelay 9** **:CONF:GSM:BER:RTD?** Value returned: **"9"**

:CONFigure:GSM:SMS:MCLass

Syntax	:CONFigure:GSM:SMS:MCLass <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 3. The default value for int1 is 0.
Description	This command allows to predefine the SMS data coding scheme message class.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:GSM:SMS:MCLass 1 :CONF:GSM:SMS:MCL? Value returned in this example: "1".

:CONFigure:GSM:MEASure:GROUp[:RFTX]

Syntax	:CONFigure:GSM:MEASure:GROUp[:RFTX] <PredefExp1> ,[PredefExp2],[PredefExp3],[PredefExp4] ,[PredefExp5],[PredefExp6],[PredefExp7] ,[PredefExp8],[PredefExp9]
Parameters	**PredefExpx** is one of the following predefined expressions: **PPEAk|PRMS|FREQuency|LENGth|UTIMe|POWer|TEMPlate|CORNer|FLATness**. Default is **PPEAK**.
Description	This command allows to set a user-specific sequence of RF TX tests on the ProLock. The sequence has to be started with the appropriate commands of the **MEASure** subsystem (**:MEAS:GSM:CONT:RFTX:GROU** or **:MEAS:GSM:ARR:RFTX:GROU**). The meaning of the parameters is as follows: **PPEAk** is the peak phase error measurement, **PRMS** the root-mean square value of the phase error measurement. **FREQuency** means the frequency error of the mobile under test, **LENGth** the length of the burst in microseconds. **UTIMe** stands for the timing error of the mobile under test in microseconds, taking the ordered timing advance into account. **POWer** is the mobile's RF output power level in dBm. **TEMPlate** indicates whether the power/time template has been violated by a burst or not. **CORNER** gives the RF power level in dBm at eight predefined positions of a burst (see section Corner Points for details). **FLATness** gives an indication whether the mobile's RF output power is constant during the useful part of the burst. Notes – This command must be used with at least one parameter specified. All other parameters are optional. – Unless organized in this sequence, the start of a new RF TX test will always terminate the preceding one instantly. Therefore, this command is an efficient way to perform several RF TX measurements in a sequence.

Query	The query form of this command will return the current sequence of RF TX tests to be performed by the ProLock. The string delivered back will contain a maximum of nine short-form versions of the predefined expressions explained above.
Example	**:CONFigure:GSM:MEASure:GROUp:RFTX PRMS,POWer,FLATness** **:CONF:GSM:MEAS:GROU?** Value returned: **"PRMS,POW,FLAT"**

:CONFigure:GSM:MEASure:LEVel:EXPect

Syntax	:CONFigure:GSM:MEASure:LEVel:EXPect <real1>
Parameters	**real1** is a floating point real number. The minimum value for **real1** is **-16.0**, the maximum value **30.0**. The minimum resolution possible for **real1** is **0.1**. The default value for **real1** is **0.0**.
Description	this Level is expected for Fast Power Measurement (avoids delays due to gain control)
Query	The query form of this command will return the currently expected level for Fast Power Measurement
Example	:CONFigure[:GSM]:MEASure:LEVel:EXPect 7 :CONFigure[:GSM]:MEASure:LEVel:EXPect? Value returned: "7".

General configuration commands

:CONFigure:COUPloss:STATe

Syntax	:CONFigure:COUPloss:STATe <PredefExp1>
Parameters	**PredefExp1** is one of the following predefined expressions: **ON|OFF**. Default is **OFF**.
Description	This command switches the use of a coupling loss table either on or off. Note: Coupling loss tables are used to compensate e.g. losses in cables. For more details, please refer to section Coupling Loss.
Query	The query form of this command will return the current setting. The string delivered back will contain one predefined expression as explained above.
Example	**:CONFigure:COUPloss:STATe ON** **:CONF:COUP:STAT?** Value returned: **"ON"**

:CONFigure:COUPloss:NAME

Syntax	:CONFigure:COUPloss:NAME <string1>
Parameters	**string1** is as string giving the complete file name (and directory) of the coupling loss file to be loaded. The maximum length of **string1** is 50 characters. The default for **string1** is **"example.cpl"**.
Description	This command loads the coupling loss description file, specified with the command's parameter. Please note that the data contained in the file need to be activated (using the **CONF:COUP:STAT ON** command described above) before the data contained in the file specified will have any effect on the measurement results. For more details, please refer to section ''Coupling Loss''.
Query	The query form of this command will return the name of the currently loaded coupling loss description file. The string delivered back will contain the full file name.
Example	**:CONFigure:COUPloss:NAME "m7389.cpl"** **:CONF:COUP:NAME?** Value returned: **"m7389.cpl"**

:CONFigure:COUPloss:DATA

Syntax	:CONFigure:COUPloss:DATA <string1> ,<realf1>,<reala1>,<realf2>,<reala2> [,realf3] [,reala3] [,realf4] [,reala4] [,realf5] [,reala5] [,realf6] [,reala6] [,realf7] [,reala7] [,realf8] [,reala8] [,realf9] [,reala9] [,realf10] [,reala10] [,realf11] [,reala11] [,realf12] [,reala12] [,realf13] [,reala13] [,realf14] [,reala14] [,realf15] [,reala15] [,realf16] [,reala16] [,realf17] [,reala17] [,realf18] [,reala18] [,realf19] [,reala19] [,realf20] [,reala20]

Parameters	**string1** is the file name of the coupling loss data stored in directory /rapid/cpl. The maximum length of **string1** is 255 characters. **realfx** are floating point real numbers, giving frequencies in MHz while **realax** are floating point real numbers, giving the corresponding coupling loss in dB. All **realfx** have to be within two frequency ranges. The lower frequency range is from **800.0** MHz to **1000.0** MHz; the higher frequency range is from **1700.0** MHz to **2000.0** MHz. The minimum resolution for all **realfx** values is 10 Hz (**0.00001** MHz). The default value for all **realfx** is **800.0** MHz. The minimum value for all **realax** is **-5.0** dB. The maximum value for all **realax** is **40.0** dB. The minimum resolution for all **realax** is **0.01** dB. The default value for all **realax** is **0.0**. Notes – Please keep in mind that at least one pair of values for a frequency and the related attenuation must be specified per frequency range, while all other 18 pairs are optional. – All **realax** values are interpreted as an attenuation level in dB. As a consequence, negative values mean an amplification of the input signal.
Description	With the help of this command, you may create a coupling loss description table, similar to how you would do it on the graphical user interface of the ProLock.
Query	The query form of this command returns the coupling loss values of the current setting.

Example	`:CONFigure:COUPloss:DATA "Motorola7389.cpl",825.0,15.0,1750.0,19.0`
	`:CONF:COUP:DATA?`
	Value returned: `825.0,15.0,1750.0,19.0`

:CONFigure:ESYNc

Syntax	`:CONFigure:ESYNc?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form will return the status of the current external synchronization. The string delivered back will contain one of the following expressions: `NONE|MHZ5|MHZ10|MHZ13`.
Example	`:CONFigure:ESYNc?` Value returned for example: `"MHZ10"`. In this example, the ProLock's frequency reference is synchronized to an external 10 MHz clock signal fed into the EXT SYNC connector on the rear panel.

Commands for the GPRS option

:CONFigure:GPRS:BS:RCL

Syntax	`:CONFigure:GPRS:BS:RCL <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `1`, the maximum value is `7`. The default value for `int1` is `1`.
Description	This command sets the routing area color code. This code is used to indicate to the mobile that adjacent cells belong to different routing areas. This parameter is broadcast by the ProLock in the SI3 and SI4 rest octets.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:RCL 3`
	`:CONF:GPRS:BS:RCL?`
	Value returned: `"3"`

:CONFigure:GPRS:BS:RCO

Syntax	`:CONFigure:GPRS:BS:RCO <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `255`. The default value for `int1` is `0`.
Description	This command sets the routing area code. This code is used to indicate the routing area, the base station belongs to. This parameter is broadcast by the ProLock in the SI13 rest octets.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:RC0 124`
	`:CONF:GPRS:BS:RCO?`
	Value returned: `"124"`

:CONFigure:GPRS:BS:ALPHa

Syntax	`:CONFigure:GPRS:BS:ALPHa <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `15`. The default value for `int1` is `0`.
Description	This command sets the alpha factor in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information). The alpha factor is one of the GPRS power control parameters. It is required by the mobile to calculate the uplink power level it has to use on a PDCH (packed data channel). The alpha factor is broadcast by the ProLock in the SI13 rest octets.

Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:ALPHa 10`
	`:CONF:GPRS:BS:ALPH?`
	Value returned: `"10"`

:CONFigure:GPRS:BS:RLCMac:USF

Syntax	`:CONFigure:GPRS:BS:RLCMac:USF <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `7`. The default value for `int1` is `0`.
Description	This command sets the uplink state flag (USF) in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information). The USF is used to either assign a block to a particular mobile (one out of seven possible) or to mark it as unassigned. All time slots will use the same USF. The USF is part of the MAC header on the PDTCH.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:RLCMac:USF 0`
	`:CONF:GPRS:BS:RLCM:USF?`
	Value returned: `"0"`

:CONFigure:GPRS:BS:RLCMac:USF:INC

Syntax	`:CONFigure:GPRS:BS:RLCMac:USF:INC <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	Switches the auto-incrementing of the USF either on or off. For further details regarding the USF, please refer to the description of the `:CONFigure:GPRS:BS:RLCMac:USF` command above.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:BS:RLCMac:USF:INC OFF`
	`:CONF:GPRS:BS:RLCM:USF:INC?`
	Value returned: `"OFF"`.

:CONFigure:GPRS:BS:RLCMac:RRBP[:DATA]

Syntax	`:CONFigure:GPRS:BS:RLCMac:RRBP[:DATA] <PredefExp1>`
Parameters	`PredefExp1` is one of the following predefined expressions: `N13|N17|N21|26`. Default is `N13`.

Description	This command sets the relative reserved block period (RRBP) in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information). The RRBP marks the block to which the USF parameter corresponds, in relation to the block currently used.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:BS:RLCMac:RRBP:DATA N21`
	`:CONF:GPRS:BS:RLCM:RRBP?`
	Value returned: `"N21"`

:CONFigure:GPRS:BS:RLCMac:RRBP:MODE

Syntax	`:CONFigure:GPRS:BS:RLCMac:RRBP:MODE <PredefExp1>`
Parameters	`PredefExp1` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command indicates whether the value specified for the relative reserved block period (RRBP) shall be used by the mobile (`ON`) or not (`OFF`) in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information).
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:BS:RLCMac:RRBP:MODE OFF`
	`:CONF:GPRS:BS:RLCM:RRBP:MODE?`
	Value returned: `"OFF"`

:CONFigure:GPRS:BS:RLCMac:PR

Syntax	`:CONFigure:GPRS:BS:RLCMac:PR <PredefExp1>`
Parameters	`PredefExp1` is one of the following predefined expressions: `RNG6|RNG14|RNG22|RNG30`. Default is `RNG6`.
Description	This command specifies the power reduction (PR) in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information). The power reduction the reduction in RF power (in dB) from the BCCH to the PDCH in downlink. `PredefExp1` indicates the range of the power reduction: `RNG6` stands for a power reduction of 0...6 dB, `RNG 14` indicates a power reduction of 8...14 dB, `RNG22` stands for a power reduction of 16...22 dB, while `RNG30` indicates a power reduction of 24...30 dB.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:BS:RLCMac:RRBP:PR RNG6`
	`:CONF:GPRS:BS:RLCM:RRBP:PR?`
	Value returned: `"RNG6"`

:CONFigure:GPRS:BS:RLCMac:TFI

Syntax	`:CONFigure:GPRS:BS:RLCMac:TFI <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `31`. The default value for `int1` is `0`.
Description	This command sets the temporary flow identifier (TFI) in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information).
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:RLCMac:TFI 15`
	`:CONF:GPRS:BS:RLCM:TFI?`
	Value returned: `"15"`

:CONFigure:GPRS:BS:RLCMac:BSN[:DATA]

Syntax	`:CONFigure:GPRS:BS:RLCMac:BSN[:DATA] <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `127`. The default value for `int1` is `0`.
Description	This command sets the block sequence number (BSN) in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information). The BSN is the absolute block sequence number modulo 128 of each RLC data block within the TBF. It is used to enumerate the RLC data blocks, starting with 1.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:RLCMac:BSN:DATA 1`
	`:CONF:GPRS:BS:RLCM:BSN?`
	Value returned: `"1"`

:CONFigure:GPRS:BS:RLCMac:BSN:INC

Syntax	`:CONFigure:GPRS:BS:RLCMac:BSN:INC <PredefExp1>`
Parameters	`PredefExp1` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the auto-increment of the block sequence number either on (`ON`) or off (`OFF`) as long as the ProLock is working in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information).
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:BS:RLCMac:BSN:INC OFF`
	`:CONF:GPRS:BS:RLCM:BSN:INC?`
	Value returned: `"OFF"`

:CONFigure:GPRS:BS:ATTach

Syntax	`:CONFigure:GPRS:BS:ATTach <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `OFF`.
Description	Switches the IMSI Attach/Detach flag in the System Information messages broadcast on the BCCH on or off. If ON, the mobile must register and deregister with the network simulated by the ProLock when switched on or off, respectively. This can be used to detect when the mobile is switched on and listening to the ProLock network.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.

Example	`:CONFigure:GPRS:BS:ATTach OFF`
	`:CONF:GPRS:BS:ATT?`
	Value returned: `"OFF"`.

:CONFigure:GPRS:BS:MSTAtion:MSLot

Syntax	`:CONFigure:GPRS:BS:MSTAtion:MSLot <int1>`
Parameters	`int1` is an integer parameter. The minimum value for `int1` is `1`, the maximum value is `4`. The default value for `int1` is `1`.
Description	This command either sets the number of UL time slots expected by the ProLock (asynchronous mode) or the number of UL time slots that the mobile under test is commanded to use (synchronous mode) during multislot testing.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:MSTAtion:MSLot 4`
	`:CONF:GPRS:BS:MSTA:MSL?`
	Value returned: `"4"`.

:CONFigure:GPRS:BS:BCC

Syntax	`:CONFigure:GPRS:BS:BCC <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `7`. The default value for `int1` is `0`.
Description	This command sets the base station color code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:BCC 1`
	`:CONF:GPRS:BS:BCC?`
	Value returned: `"1"`.

:CONFigure:GPRS:BS:BCH:ARFCn

Syntax	`:CONFigure:GPRS:BS:BCH:ARFCn <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `1023`. The default value for `int1` is `63`.
Description	This command sets the channel number for the ProLock's base channel (BCCH). Note: The base channel is sometimes also referred to as the 'channel number of the main carrier'.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:BCH:ARFCn 60`
	`:CONF:GPRS:BS:BCH:ARFC?`
	Value returned: `"60"`.

:CONFigure:GPRS:BS:CBA

Syntax	`:CONFigure:GPRS:BS:CBA <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `1`. The default value for `int1` is `0`.
Description	This command sets the cell barred access parameter. A `0` set for the CBA will allow the mobile to contact the base station, while a `1` will block the base station and the mobile under test will not be granted access.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:CBA 1`
	`:CONF:GPRS:BS:CBA?`
	Value returned: `"1"`.

:CONFigure:GPRS:BS:CI

Syntax	`:CONFigure:GPRS:BS:CI <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `65535`. The default value for `int1` is `255`.
Description	This command sets the cell identity parameter (i.e. the radio cell number), broadcast in the system information message.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	:CONFigure:GPRS:BS:CI 127 :CONF:GPRS:BS:CI? Value returned: "127".

:CONFigure:GPRS:BS:LAI:MCC

Syntax	:CONFigure:GPRS:BS:LAI:MCC <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 1000. The default value for int1 is 1.
Description	This command sets the mobile country code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:GPRS:BS:LAI:MCC 238 :CONF:GPRS:BS:LAI:MCC? Value returned: "238".

:CONFigure:GPRS:BS:LAI:MNC

Syntax	:CONFigure:GPRS:BS:LAI:MNC <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 99 for a two-digit MNC and 999 for a three-digit MNC; see command :CONF:GSM:BS:LAI:MNC:FORMat. The default value for int1 is 1.
Description	This command sets the mobile network code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:GPRS:BS:LAI:MNC 20 :CONF:GPRS:BS:LAI:MNC? Value returned: "20".

:CONFigure:GPRS:BS:LAI:MNC:FORMat

Syntax	:CONFigure:GPRS:BS:LAI:MNC:FORMat <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: TWODigits|THREedigits. Default is TWODigits.
Description	This command sets the format of the mobile network code.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	:CONFigure:GPRS:BS:LAI:MNC:FORMat THRE :CONF:GPRS:BS:LAI:MNC:FORM? Value returned: "THRE".

:CONFigure:GPRS:BS:LAI:LAC

Syntax	`:CONFigure:GPRS:BS:LAI:LAC <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `65535`. The default value for `int1` is `1`.
Description	This command sets the location area code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:LAI:LAC 17399`
	`:CONF:GPRS:BS:LAI:LAC?`
	Value returned: `"17399"`.

:CONFigure:GPRS:BS:LEVel

Syntax	`:CONFigure:GPRS:BS:LEVel <real1>`
Parameters	`real1` is a floating point real number. The minimum value for `real1` is `-120.0`, the maximum value is `-10.0`. The resolution of `real1` is `0.1`. The default value for `real1` is `-60.0`.
Description	Sets the (standard) output level of the ProLock. If individual levels are selected for GPRS tests, this level is used on the base channel. Applies to GSM/GPRS synchronous mode.
Query	The query form of this command will return the current setting. The string delivered back will contain one real number.

Example	`:CONFigure:GPRS:BS:LEVel -100.0`
	`:CONF:GPRS:BS:LEVel?`
	Value returned: `"-100.0"`.

:CONFigure:GPRS:BS:MSLot[:DATA]

Syntax	`:CONFigure:GPRS:BS:MSLot[:DATA] <int1>`
Parameters	`int1` is an integer parameter. The minimum value for `int1` is `1`, the maximum value is `2`. The default value for `int1` is `1`.
Description	Sets the number of PDTCH channels (slots) to be sent in the downlink. Applies to GPRS synchronous mode.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:MSLot[:DATA] 1`
	`:CONF:GPRS:BS:MSLot[:DATA]?`
	Value returned: `"1"`.

:CONFigure:GPRS:BS:MSLot:LEVel[:DATA]

Syntax	:CONFigure:GPRS:BS:MSLot:LEVel[:DATA] <real1>, <real2>, <real3>, <real4>
Parameters	real1 to real4 are floating point real numbers. The minimum value for each realx is -120.0, the maximum value is -10.0. The resolution of each realx is 0.1. The default value for each realx is -60.0.
Description	Sets individual downlink slot levels for active (PDTCH) slots in Multislot GPRS operation (BCH remains at the level set by CONFigure:GPRS:BS:LEVel. Applies to GPRS synchronous test mode. Data are used only if CONFigure:GPRS:BS:MSLot:LEVel:MODE is set to INDL.
Query	The query form of this command will return the current setting. The string delivered back will contain four real numbers.
Example	:CONFigure:GPRS:BS:MSLot:LEVel:DATA -80.0,-20.5,-60.0,-60.0 :CONF:GPRS:BS:MSL:LEV:DATA? Values returned: "-80.0,-20.5,-60.0,-60.0".

:CONFigure:GPRS:BS:MSLot:LEVel:MODE

Syntax	:CONFigure:GPRS:BS:MSLot:LEVel:MODE <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: INDLev|STDLev. Default is INDLev.
Description	Selects between individual slot levels and standard slot level for PDTCHs. If STDLev is selected, the ProLock transmits at the level selected by CONFigure:GPRS:BS:LEVel. If INDLev is selected, the ProLock uses the power levels selected with CONFigure:GPRS:BS:MSLot:LEVel for the up to four used time slots; time slot 0 is transmitted at the level selected by CONFigure:GPRS:BS:LEVel, and the level selected by CONFigure:GPRS:BS:MSLot:UNUSed for the other slots.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	:CONFigure:GPRS:BS:MSLot:LEVel:MODE INDLev :CONF:GPRS:BS:MSL:LEV:MODE? Value returned: "INDLev".

:CONFigure:GPRS:BS:MSLot:LEVel:UNUSed

Syntax	:CONFigure:GPRS:BS:MSLot:LEVel:UNUSed <real1>
Parameters	real1 is a floating point real number. The minimum value for real1 is -120.0, the maximum value is -10.0. The resolution of real1 is 0.1. The default value for real1 is -60.0.
Description	Sets the power level that the ProLock transmits in the unused time slots in packet data mode (i.e. except in time slot 0 and the assigned PDCH slots). Applies to GPRS synchronous mode.

Query	The query form of this command will return the current setting. The string delivered back will contain one real number.

Example	`:CONFigure:GPRS:BS:MSLot:LEVel:UNUSed -60.0`
	`:CONF:GPRS:BS:MSL:LEV:UNUS?`
	Value returned: `"-60.0"`.

:CONFigure:GPRS:BS:NCC

Syntax	`:CONFigure:GPRS:BS:NCC <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `7`. The default value for `int1` is `2`.
Description	This command sets the network color code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:NCC 2`
	`:CONF:GPRS:BS:NCC?`
	Value returned: `"2"`.

:CONFigure:GPRS:BS:NCEL

Syntax	`:CONFigure:GPRS:BS:NCELl` `[int1],[int2],[int3],[int4],[int5],[int6]`
Parameters	`int1` to `int6` are integers. The minimum value for each `intx` is `0`, the maximum value is `1023`. The default value for each `intx` is `0`.
Description	This command is used to set the channel numbers for up to six neighboring cells. These channel numbers are broadcast in the system information message by the ProLock. The mobile under test has to perform a MS report on those frequency channels. Notes: All six integer values are optional. If the command is sent without any channel number specified, the default values (=0) will be broadcast by the ProLock in the system information message. Let's assume that there was a first command sent with six channel numbers specified. After that, a second command is sent with only two channel numbers specified. Now, the ProLock will alter only the first two channel numbers and maintain all other settings (see example below for details).
Query	The query form of this command will always return the complete set of neighboring channel numbers currently in use. The string delivered back will always contain six integers.

Example	`:CONFigure:GPRS:BS:NCELl 10,20,30,40,50,60`
	`:CONF:GPRS:BS:NCEL 70,80`
	`:CONF:GPRS:BS:NCEL?`
	Values returned: `"70,80,30,40,50,60"`.

:CONFigure:GPRS:BS:ORIGinate

Syntax	:CONFigure:GPRS:BS:ORIGinate <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ONRequest|ONLOcation. Default is ONRequest.
Description	In GSM/GPRS, a TCH can be assigned either on request or as soon as the mobile has been registered (= immediately after a location update). ONRequest will assign a TCH only when either the mobile under test or the ProLock initializes a call. ONLOcation will assign a TCH as soon as the registration has been completed.
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version one of the predefined expressions as explained above.
Example	:CONFigure:GPRS:BS:ORIGinate ONLOcation :CONF:GPRS:BS:ORIG? Value returned: "ONLO".

:CONFigure:GPRS:BS:PDTCh:ARFCn

Syntax	:CONFigure:GPRS:BS:PDTCh:ARFCn <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 1023. The default value for int1 is 2.
Description	This command sets the frequency channel number of the simulated packet data traffic channel.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:GPRS:BS:PDTCh 2 :CONF:GPRS:BS:PDTC? Value returned: "2".

:CONFigure:GPRS:BS:TCH:ARFCn

Syntax	:CONFigure:GPRS:BS:TCH:ARFCn <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 1023. The default value for int1 is 45.
Description	This command sets the traffic channel (TCH) number to be used.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:GPRS:BS:TCH:ARFCn 917 :CONF:GPRS:BS:TCH:ARFC? Value returned: "917".

:CONFigure:GPRS:BS:TCH:TSLot

Syntax	`:CONFigure:GPRS:BS:TCH:TSLot <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is 2, the maximum value is 6. The default value for `int1` is 2.
Description	This command sets the time slot to be used for the traffic channel (TCH) or the PDTCH.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BS:TCH:TSLot 5`
	`:CONF:GPRS:BS:TCH:TSL?`
	Value returned: `"5"`.

:CONFigure:GPRS:BS:TCH:TYPE

Syntax	`:CONFigure:GPRS:BS:TCH:TYPE <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: FR|EFR. Default is FR.
Description	This command sets the type of traffic channel. FR stands for full rate and EFR for enhanced full rate.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.

Example	`:CONFigure:GPRS:BS:TCH:TYPE EFR`
	`:CONF:GPRS:BS:TCH:TYPE?`
	Value returned: `"EFR"`.

:CONFigure:GPRS:BLER:COUNt

Syntax	`:CONFigure:GPRS:BLER:COUNt <int1>`
Parameters	`int1` is an integer parameter. The minimum value for `int1` is `0`, the maximum value is `10000`. The default value for `int1` is `1`.
Description	Defines the number of samples (blocks) for each BLER measurement. Applies to BLER measurements in GPRS synchronous mode.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BLER:COUNt 1`
	`:CONF:GPRS:BLER:COUNt?`
	Value returned: `"1"`.

:CONFigure:GPRS:BER:LOOP

Syntax	`:CONFigure:GPRS:BER:LOOP <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `NONResidual|RESidual|FAST`. Default is `NONResidual`.
Description	This command sets the type of BER loop (inside the mobile under test) to be used for bit error measurements. `NONResidual` means that a standard bit error ratio test will be performed. This test is called BER on the graphical user interface of the ProLock. `RESidual` will set up the test loop of a residual bit error ratio measurement. This test is called RBER on the graphical user interface of the ProLock. `FAST` means that a fast bit error ration measurement will be performed. This test is called `FastBER` on the graphical user interface of the ProLock.
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:BER:LOOP RESidual`
	`:CONF:GPRS:BER:LOOP?`
	Value returned: `"RES"`.

:CONFigure:GPRS:BER:BITPattern

Syntax	`:CONFigure:GPRS:BER:BITPattern <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `PRBS9|PRBS15|PRBS23|ALLZero|ALLOne| ONEZero|ZEROone`. Default is `PRBS9`.
Description	This command selects the test bit sequence to be used for the BER measurements. `PRBS9` stands for a pseudorandom bit sequence. The length of this sequence will be 511 bits ((2 to the power of 9)-1). `PRBS15` is a pseudorandom bit sequence with a length of 32767 bits. `PRBS23` is a pseudorandom bit sequence as well. The length is 8388607 bits. `ALLZero` means that all bits used for testing are 'zeros' (`000...`). In case, `ALLOne` is selected, all bits used for testing will be set to 'ones' (`111...`). `ONEZero` stands for a bit sequence starting with a 'one' and continuing with the inverted value of the current bit (`10101...`). `ZEROone` means a bit sequence starting with a 'zero' and continuing with the inverted value of the current bit (`01010...`).
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:BER:BITPattern ALLZero`
	`:CONF:GPRS:BER:BITP?`
	Value returned: `"ALLZ"`.

:CONFigure:GPRS:BER:COUNt

Syntax	`:CONFigure:GPRS:BER:COUNt <long1>`
Parameters	`long1` is a long integer number. The minimum value for `long1` is `2,000`, the maximum value is `100,000`. The default value for `long1` is `1,000,000`.
Description	This command sets the number of bits that shall be used for a BER measurement.
Query	The query form of this command will return the current setting. The string delivered back will contain one long integer number.

Example	`:CONFigure:GPRS:BER:COUNt 100000`
	`:CONF:GPRS:BER:COUN?`
	Value returned: `"100000"`.

:CONFigure:GPRS:BER:RTDelay

Syntax	`:CONFigure:GPRS:BER:RTDelay <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `30`. The default value for `int1` is `0`.
Description	This command allows to predefine a round trip delay in order to achieve a fast synchronization. Note: During BER testing, there will be a delay between the reception of the first burst of a particular voice block at the mobile and the transmission of the first burst of the same voice block (after decoding and coding) on the uplink. This delay is called the round trip delay.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:BER:RTDelay 9`
	`:CONF:GPRS:BER:RTD?`
	Value returned: `"9"`

:CONFigure:GPRS:MSTAtion:DRX

Syntax	`:CONFigure:GPRS:MSTAtion:DRX <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `7`. The default value for `int1` is `0`.
Description	This command sets the BS-PA-MFRMS parameter, broadcast in the control channel description information element. This parameter is used for discontinuous reception (DRX). Note: The value entered here is coded according to the following scheme: the number of multiframes used is the number entered here plus 2. This means that the default value (`0`) will lead to a DRX period of two multiframes.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	:CONFigure:GPRS:MSTAtion:DRX 2 :CONF:GPRS:MSTA:DRX? Value returned: "2", resulting in a DRX period of four multiframes.

:CONFigure:GPRS:MSTAtion:TADVance

Syntax	:CONFigure:GPRS:MSTAtion:TADVance <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 63. The default value for int1 is 0.
Description	This command sets the timing advance for the mobile under test to use. The current setting of the timing advance is broadcast to the mobile in the SACCH physical header.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:GPRS:MSTAtion:TADVance 12 :CONF:GPRS:MSTA:TADV? Value returned: "12".

:CONFigure:GPRS:MSTAtion:PLEVel[:ALL]

Syntax	CONFigure:GPRS:MSTAtion:PLEVel[:ALL] <int1>
Parameters	int1 is an integer. The minimum value for int1 is 1, the maximum value is 31. The default value for int1 is 10.
Description	This command sets the mobile's power control level. Notes: The RF power control level is a code. The corresponding RF output power of the mobile under test depends on the type of GSM system and the frequency range. The power control level is broadcast in the SACCH physical header.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:GPRS:MSTAtion:PLEVel:ALL 17 :CONF:GPRS:MSTA:PLEV? Value returned: "17".

:CONFigure:GPRS:MSTAtion:MODE

Syntax	:CONFigure:GPRS:MSTAtion:MODE <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: FACCh | SDCCh. Default is FACCh.
Description	Defines whether the call setup takes place on FACCh or on SDCCh. Note: There are two standard signaling channels in GSM: SDCCH and FACCH. The FACCH is always associated with a traffic channel. However, some mobiles will only listen to signaling provided on the SDCCH.

Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:BS:CMODe FACCh`
	`:CONF:GPRS:BS:CMOD?`
	Value returned: `"FACC"`.

:CONFigure:GPRS:MSTAtion:MSLot

Syntax	`:CONFigure:GPRS:MSTAtion:MSLot <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `1`, the maximum value is `4`. The default value for `int1` is `2`.
Description	This command sets the number of UL time slots that the mobile under test is commanded to use during multislot testing.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:MSTAtion:MSLot 4`
	`:CONF:GPRS:MSTA:MSL?`
	Value returned: `"4"`.

:CONFigure:GPRS:MSTAtion:LOOPback

Syntax	`:CONFigure:GPRS:MSTAtion:LOOPback <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	Selects the loopback mode. If the parameter `PredefExp` is set to `ON`, the mobile station will support GPRS loopback (mode B), if the parameter `PredefExp` is set to `ON`, the mobile station will not support GPRS loopback (mode A).
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.

Example	`:CONFigure:GPRS:MSTAtion:LOOPback ON`
	`:CONF:GPRS:MSTA:LOOP?`
	Value returned: `"ON"`.

:CONFigure:GPRS:MSTAtion:PSLots

Syntax	`:CONFigure:GPRS:MSTAtion:PSLots <int1>, <int2>, <int3>, <int4>`
Parameters	`int1` to `int4` are integer parameters. The minimum value for each `intx` is `-26`, the maximum value is `39`. The resolution of each `intx` is `2`, the default value for each `intx` is `5`.
Description	Sets the uplink power level in the range of -23 ... +39 dBm (GSM900) or -26 ... +36 dBm (upper band). Applies to GPRS synchronous mode.

Query	The query form of this command will return the current setting. The string delivered back will contain four integers.

Example	`:CONFigure:GPRS:MSTAtion:PSLots -10,-6,0,6`
	`:CONF:GPRS:MSTA:PSL?`
	Value returned: `"-10,-6,0,6"`.

:CONFigure:GPRS:TYPE

Syntax	`:CONFigure:GPRS:TYPE <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `GSM9001800|GSM9001900`. Default is `GSM9001800`.
Description	Selects the type of GSM system to be used after the ProLock was brought into GSM call mode. `GSM9001800` will make the ProLock work as a test set for the GSM system types GSM 900 and GSM 1800. `GSM9001900` will set up the ProLock as a test set for the GSM system types GSM 900 and GSM 1900. Notes: This command will have no effect when the ProLock is in generator/analyzer mode. The main reason for this command to exist is the 'double numbering' of channels. GSM 1800 and GSM 1900 use the same channel numbers above channel number 511, but the related physical channels are in different frequency regions.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.

Example	`:CONFigure:GPRS:TYPE GSM9001900`
	`:CONF:GPRS:TYPE?`
	Value returned: `"GSM9001900"`.

:CONFigure:GSM:SMS:MCLass

Syntax	`:CONFigure:GSM:SMS:MCLass <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `3`. The default value for `int1` is `0`.
Description	This command allows to predefine the SMS data coding scheme message class.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GSM:SMS:MCLass 1`
	`:CONF:GSM:SMS:MCL?`
	Value returned in this example: `"1"`.

:CONFigure:GPRS:MEASure:GROUp[:RFTX]

Syntax	:CONFigure:GPRS:MEASure:GROUp[:RFTX] <PredefExp1> ,[PredefExp2],[PredefExp3],[PredefExp4] ,[PredefExp5],[PredefExp6],[PredefExp7] ,[PredefExp8],[PredefExp9]
Parameters	PredefExpx is one of the following predefined expressions: PPEAk|PRMS|FREQuency|LENGth|UTIMe|POWer| TEMPlate|CORNer|FLATness. Default is PPEAK.
Description	This command allows you to set a user-specific sequence of RF TX tests on the ProLock. The sequence has to be started with the appropriate commands of the MEASure subsystem (:MEAS:GPRS:CONT:RFTX:GROU or :MEAS:GPRS:ARR:RFTX:GROU). The meaning of the parameters is as follows: PPEAk is the peak phase error measurement, PRMS the root-mean square value of the phase error measurement. FREQuency means the frequency error of the mobile under test, LENGth the length of the burst in microseconds. UTIMe stands for the timing error of the mobile under test in microseconds, taking the ordered timing advance into account. POWer is the mobile's RF output power level in dBm. TEMPlate indicates whether the power/time template has been violated by a burst or not. CORNER gives the RF power level in dBm at eight predefined positions of a burst. FLATness gives an indication whether the mobile's RF output power is constant during the useful part of the burst. Notes: This command must be used with at least one parameter specified. All other parameters are optional. Unless organized in this sequence, the start of a new RF TX test will always terminate the preceding one instantly. Therefore, this command is an efficient way to perform several RF TX measurements in a sequence.
Query	The query form of this command will return the current sequence of RF TX tests to be performed by the ProLock. The string delivered back will contain a maximum of nine short-form versions of the predefined expressions explained above.
Example	:CONFigure:GPRS:MEASure:GROUp:RFTX PRMS,POWer,FLATness :CONF:GPRS:MEAS:GROU? Value returned: "PRMS,POW,FLAT"

:CONFigure:GPRS:MSLot:RESult

Syntax	:CONFigure:GPRS:MSLot:RESult <int1>
Parameters	int1 is an integer parameter. The minimum value for int1 is 1, the maximum value is 4. The default value for int1 is 1.
Description	Sets the number of the burst for which to deliver measurement results. Delivers the results for the selected slot out of the number of all measured slots. This command can be used in GPRS synchronous mode when the mobile transmits on multiple time slots but results are fetched from one (selectable) time slot only.

Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:GPRS:MSLot:RESult 1`
	`:CONF:GPRS:MSLot:RESult?`
	Value returned: `"1"`.

:CONFigure:GPRS:IDREquest

Syntax	`:CONFigure:GPRS:IDREquest <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `OFF|ON`. Default is `OFF`.
Description	Switches the ID Request procedure during the Attach on or off
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.

Example	`:CONFigure:GPRS:IDREquest ON`
	`:CONF:GPRS:IDRE?`
	Value returned in this example: `"ON"`.

Commands for the EDGE option

:CONFigure:EGPRs:ANALyzer:LEVel:EXPect:MODE

Syntax	:CONFigure:EGPRs:ANALyzer:LEVel:EXPect:MODE <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is OFF.
Description	Switches the use of the 'expected level feature' ON or OFF. Please refer to the description of the :CONF:EGPRs:ANAL:LEV:EXP command above for details.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.
Example	:CONFigure:EGPRs:ANALyzer:LEVel:EXPect:MODE ON :CONF:EGPRs:ANAL:Lev:EXP:MODE? Value returned in this example: "ON".

:CONFigure:EGPRs:BS:RCL

Syntax	:CONFigure:EGPRs:BS:RCL <int1>
Parameters	int1 is an integer. The minimum value for int1 is 1, the maximum value is 7. The default value for int1 is 1.
Description	This command sets the routing area color code. This code is used to indicate to the mobile that adjacent cells belong to different routing areas. This parameter is broadcast by the ProLock in the SI3 and SI4 rest octets.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BS:RCL 3 :CONF:EGPRs:BS:RCL? Value returned in this example: "3"

:CONFigure:EGPRs:BS:RCO

Syntax	:CONFigure:EGPRs:BS:RCO <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 255. The default value for int1 is 0.
Description	This command sets the routing area code. This code is used to indicate the routing area, the base station belongs to. This parameter is broadcast by the ProLock in the SI13 rest octets.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	CONFigure:EGPRs:BS:RC0 124 :CONF:EGPRs:BS:RCO? Value returned in this example: "124"

:CONFigure:EGPRs:BS:ALPHa

Syntax	:CONFigure:EGPRs:BS:ALPHa <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 15. The default value for int1 is 0.
Description	This command sets the alpha factor in (asynchronous) generator/analyzer mode (please refer to the description of the :CONF:CSYS:GPG command for further information). The alpha factor is one of the GPRS power control parameters. It is required by the mobile to calculate the uplink power level it has to use on a PDCH (packed data channel). The alpha factor is broadcast by the ProLock in the SI13 rest octets.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BS:ALPHa 10 :CONF:EGPRs:BS:ALPH? Value returned in this example: "10"

:CONFigure:EGPRs:BS:RLCMac:USF

Syntax	:CONFigure:EGPRs:BS:RLCMac:USF <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 7. The default value for int1 is 0.
Description	This command sets the uplink state flag (USF) in (asynchronous) generator/analyzer mode (please refer to the description of the :CONF:CSYS:GPG command for further information). The USF is used to either assign a block to a particular mobile (one out of seven possible) or to mark it as unassigned. All time slots will use the same USF. The USF is part of the MAC header on the PDTCH
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BS:RLCMac:USF 0 :CONF:EGPRs:BS:RLCM:USF? Value returned in this example: "0"

:CONFigure:EGPRs:BS:RLCMac:USF:INC

Syntax	:CONFigure:EGPRs:BS:RLCMac:USF:INC <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.

Description	Switches the auto-incrementing of the USF either ON or OFF. For further details regarding the USF, please refer to the description of the :CONFigure:EGPRs:BS:RLCMac:USF command above.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.
Example	:CONFigure:EGPRs:BS:RLCMac:USF:INC OFF :CONF:EGPRs:BS:RLCM:USF:INC? Value returned in this example: "OFF".

:CONFigure:EGPRs:BS:RLCMac:RRBP[:DATA]

Syntax	:CONFigure:EGPRs:BS:RLCMac:RRBP[:DATA] <PredefExp1>
Parameters	PredefExp1 is one of the following predefined expressions: N13|N17|N21|26. Default is N13.
Description	This command sets the relative reserved block period (RRBP) in (asynchronous) generator/analyzer mode (please refer to the description of the :CONF:CSYS:GPG command for further information). The RRBP marks the block to which the USF parameter corresponds, in relation to the block currently used.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.
Example	:CONFigure:EGPRs:BS:RLCMac:RRBP:DATA N21 :CONF:EGPRs:BS:RLCM:RRBP? Value returned in this example: "N21"

:CONFigure:EGPRs:BS:RLCMac:RRBP:MODE

Syntax	:CONFigure:EGPRs:BS:RLCMac:RRBP:MODE <PredefExp1>
Parameters	PredefExp1 is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command indicates whether the value specified for the relative reserved block period (RRBP) shall be used by the mobile (ON) or not (OFF) in (asynchronous) generator/analyzer mode (please refer to the description of the :CONF:CSYS:GPG command for further information).
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.
Example	:CONFigure:EGPRs:BS:RLCMac:RRBP:MODE OFF :CONF:EGPRs:BS:RLCM:RRBP:MODE? Value returned in this example: "OFF"

:CONFigure:EGPRs:BS:RLCMac:PR

Syntax	:CONFigure:EGPRs:BS:RLCMac:PR <PredefExp1>
Parameters	PredefExp1 is one of the following predefined expressions: RNG6|RNG14|RNG22|RNG30. Default is RNG6.
Description	This command specifies the power reduction (PR) in (asynchronous) generator/analyzer mode (please refer to the description of the :CONF:CSYS:GPG command for further information). The power reduction the reduction in RF power (in dB) from the BCCH to the PDCH in downlink. PredefExp1 indicates the range of the power reduction: RNG6 stands for a power reduction of 0...6 dB, RNG14 indicates a power reduction of 8...14 dB, RNG22 stands for a power reduction of 16...22 dB, while RNG30 indicates a power reduction of 24...30 dB.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.
Example	:CONFigure:EGPRs:BS:RLCMac:RRBP:PR RNG6 :CONF:EGPRs:BS:RLCM:RRBP:PR? Value returned in this example: "RNG6"

:CONFigure:EGPRs:BS:RLCMac:TFI

Syntax	:CONFigure:EGPRs:BS:RLCMac:TFI <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 31. The default value for int1 is 0.
Description	This command sets the temporary flow identifier (TFI) in (asynchronous) generator/analyzer mode (please refer to the description of the :CONF:CSYS:GPG command for further information).
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BS:RLCMac:TFI 15 :CONF:EGPRs:BS:RLCM:TFI? Value returned in this example: "15"

:CONFigure:EGPRs:BS:RLCMac:BSN[:DATA]

Syntax	:CONFigure:EGPRs:BS:RLCMac:BSN[:DATA] <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 127. The default value for int1 is 0.

Description	This command sets the block sequence number (BSN) in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information). The BSN is the absolute block sequence number modulo 128 of each RLC data block within the TBF. It is used to enumerate the RLC data blocks, starting with 1.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:RLCMac:BSN:DATA 1`
	`:CONF:EGPRs:BS:RLCM:BSN?`
	Value returned in this example: "1"

:CONFigure:EGPRs:BS:RLCMac:BSN:INC

Syntax	`:CONFigure:EGPRs:BS:RLCMac:BSN:INC <PredefExp1>`
Parameters	`PredefExp1` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the auto-increment of the block sequence number either on (`ON`) or off (`OFF`) as long as the ProLock is working in (asynchronous) generator/analyzer mode (please refer to the description of the `:CONF:CSYS:GPG` command for further information).
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.

Example	`:CONFigure:EGPRs:BS:RLCMac:BSN:INC OFF`
	`:CONF:EGPRs:BS:RLCM:BSN:INC?`
	Value returned in this example: "OFF"

:CONFigure:EGPRs:BS:ATTach

Syntax	`:CONFigure:EGPRs:BS:ATTach <PredefExp>`
Parameters	PredefExp is one of the following predefined expressions: `ON|OFF`. Default is `OFF`.
Description	Switches the IMSI Attach/Detach flag in the System Information messages broadcast on the BCCH on or off. If ON, the mobile must register and deregister with the network simulated by the ProLock when switched on or off, respectively. This can be used to detect when the mobile is switched on and listening to the ProLock network.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.

Example	`:CONFigure:EGPRs:BS:ATTach OFF`
	`:CONF:GSM:BS:ATT?`
	Value returned in this example: "OFF".

:CONFigure:EGPRs:BS:MSTAtion:MSLot

Syntax	`:CONFigure:EGPRs:BS:MSTAtion:MSLot <int1>`
Parameters	`int1` is an integer parameter. The minimum value for `int1` is `1`, the maximum value is `4`. The default value for `int1` is `1`.
Description	This command either sets the number of UL time slots expected by the ProLock (asynchronous mode) or the number of UL time slots that the mobile under test is commanded to use (synchronous mode) during multislot testing.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:MSTAtion:MSLot 4`
	`:CONF:EGPRs:MSTA:MSL?`
	Value returned in this example: "`4`".

:CONFigure:EGPRs:BS:BCC

Syntax	`:CONFigure:EGPRs:BS:BCC <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `7`. The default value for `int1` is `0`.
Description	This command sets the base station color code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:BCC 1`
	`:CONF:EGPRs:BS:BCC?`
	Value returned in this example: "`1`".

:CONFigure:EGPRs:BS:BCH:ARFCn

Syntax	`:CONFigure:EGPRs:BS:BCH:ARFCn <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `1023`. The default value for `int1` is `63`.
Description	This command sets the channel number for the ProLock's base channel (BCCH). Note: The base channel is sometimes also referred to as the 'channel number of the main carrier'.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:BCH:ARFCn 60`
	`:CONF:EGPRs:BS:BCH:ARFC?`
	Value returned in this example: "`60`".

:CONFigure:EGPRs:BS:CBA

Syntax	`:CONFigure:EGPRs:BS:CBA <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `1`. The default value for `int1` is `0`.
Description	This command sets the cell barred access parameter. A `0` set for the CBA will allow the mobile to contact the base station, while a `1` will block the base station and the mobile under test will not be granted access.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:CBA 1`
	`:CONF:EGPRs:BS:CBA?`
	Value returned in this example: "`1`".

:CONFigure:EGPRs:BS:CI

Syntax	`:CONFigure:EGPRs:BS:CI <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `65535`. The default value for `int1` is `255`.
Description	This command sets the cell identity parameter (i.e. the radio cell number), broadcast in the system information message.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:CI 127`
	`:CONF:EGPRs:BS:CI?`
	Value returned in this example: "`127`".

:CONFigure:EGPRs:BS:LAI:MCC

Syntax	`:CONFigure:EGPRs:BS:LAI:MCC <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `1000`. The default value for `int1` is `1`.
Description	This command sets the mobile country code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:LAI:MCC 238`
	`:CONF:EGPRs:BS:LAI:MCC?`
	Value returned in this example: "`238`".

:CONFigure:EGPRs:BS:LAI:MNC

Syntax	`:CONFigure:EGPRs:BS:LAI:MNC <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `99` for a two-digit MNC and `999` for a three-digit MNC; see command `:CONF:GSM:BS:LAI:MNC:FORMat`. The default value for `int1` is `1`
Description	This command sets the mobile network code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:LAI:MNC 20`
	`:CONF:EGPRs:BS:LAI:MNC?`
	Value returned in this example: "`20`".

:CONFigure:EGPRs:BS:LAI:MNC:FORMat

Syntax	`:CONFigure:EGPRs:BS:LAI:MNC:FORMat <PredefExp>`
Parameters	PredefExp is one of the following predefined expressions: `TWODigits|THREedigits`. Default is `TWODigits`.
Description	This command sets the format of the mobile network code.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.

Example	`:CONFigure:EGPRs:BS:LAI:MNC:FORMat THRE`
	`:CONF:EGPRs:BS:LAI:MNC:FORM?`
	Value returned in this example: "`THRE`".

:CONFigure:EGPRs:BS:LAI:LAC

Syntax	`:CONFigure:EGPRs:BS:LAI:LAC <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `65535`. The default value for `int1` is `1`.
Description	This command sets the location area code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:LAI:LAC 17399`
	`:CONF:EGPRs:BS:LAI:LAC?`
	Value returned in this example: "`17399`".

:CONFigure:EGPRs:BS:LEVel

Syntax	`:CONFigure:EGPRs:BS:LEVel <real1>`
Parameters	`real1` is a floating point real number. The minimum value for `real1` is `-120.0`, the maximum value is `-10.0`. The resolution of `real1` is `0.1`. The default value for real1 is `-60.0`.
Description	Sets the (standard) output level of the ProLock. If individual levels are selected for GPRS tests, this level is used on the base channel. Applies to GSM/GPRS synchronous mode.
Query	The query form of this command will return the current setting. The string delivered back will contain one real number.

Example	`:CONFigure:EGPRs:BS:LEVel -100.0`
	`:CONF:EGPRs:BS:LEVel?`
	Value returned in this example: "`-100.0`".

:CONFigure:EGPRs:BS:MSLot[:DATA]

Syntax	`:CONFigure:EGPRs:BS:MSLot[:DATA] <int1>`
Parameters	`int1` is an integer parameter. The minimum value for `int1` is `1`, the maximum value is `2`. The default value for `int1` is `1`.
Description	Sets the number of PDTCH channels (slots) to be sent in the downlink. Applies to GPRS synchronous mode.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:BS:MSLot[:DATA] 1`
	`:CONF:EGPRs:BS:MSLot[:DATA]?`
	Value returned in this example: "`1`".

:CONFigure:EGPRs:BS:MSLot:LEVel[:DATA]

Syntax	`:CONFigure:EGPRs:BS:MSLot:LEVel[:DATA] <real1>, <real2>, <real3>, <real4>`
Parameters	`real1` to `real4` are floating point real numbers. The minimum value for each realx is `-120.0`, the maximum value is `-10.0`. The resolution of each realx is `0.1`. The default value for each realx is `-60.0`.
Description	Sets individual downlink slot levels for active (PDTCH) slots in Multislot GPRS operation (BCH remains at the level set by `CONFigure:EGPRs:BS:LEVel`. Applies to GPRS synchronous test mode. Data are used only if `CONFigure:EGPRs:BS:MSLot:LEVel:MODE` is set to `INDL`.
Query	The query form of this command will return the current setting. The string delivered back will contain four real numbers.

Example	`:CONFigure:EGPRs:BS:MSLot:LEVel:DATA -80.0,-20.5,-60.0,-60.0`
	`:CONF:EGPRs:BS:MSL:LEV:DATA?`
	Values returned in this example: "`-80.0,-20.5,-60.0,-60.0`".

:CONFigure:EGPRs:BS:MSLot:LEVel:MODE

Syntax	:CONFigure:EGPRs:BS:MSLot:LEVel:MODE <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: INDLev|STDLev. Default is INDLev.
Description	Selects between individual slot levels and standard slot level for PDTCHs. If STDLev is selected, the ProLock transmits at the level selected by CONFigure:EGPRs:BS:LEVel. If INDLev is selected, the ProLock uses the power levels selected with CONFigure:EGPRs:BS:MSLot:LEVel for the up to four used time slots; time slot 0 is transmitted at the level selected by CONFigure:EGPRs:BS:LEVel, and the level selected by CONFigure:EGPRs:BS:MSLot:UNUSed for the other slots.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	:CONFigure:EGPRs:BS:MSLot:LEVel:MODE INDLev :CONF:EGPRs:BS:MSL:LEV:MODE? Value returned in this example: "INDLev".

:CONFigure:EGPRs:BS:MSLot:LEVel:UNUSed

Syntax	:CONFigure:EGPRs:BS:MSLot:LEVel:UNUSed <real1>
Parameters	real1 is a floating point real number. The minimum value for real1 is -120.0, the maximum value is -10.0. The resolution of real1 is 0.1. The default value for real1 is -60.0.
Description	Sets the power level that the ProLock transmits in the unused time slots in packet data mode (i.e. except in time slot 0 and the assigned PDCH slots). Applies to GPRS synchronous mode.
Query	The query form of this command will return the current setting. The string delivered back will contain one real number.
Example	:CONFigure:EGPRs:BS:MSLot:LEVel:UNUSed -60.0 :CONF:EGPRs:BS:MSL:LEV:UNUS? Value returned in this example: "-60.0".

:CONFigure:EGPRs:BS:NCC

Syntax	:CONFigure:EGPRs:BS:NCC <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 7. The default value for int1 is 2.
Description	This command sets the network color code.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BS:NCC 2 :CONF:EGPRs:BS:NCC? Value returned in this example: "2".

:CONFigure:EGPRs:BS:NCEL

Syntax	:CONFigure:EGPRs:BS:NCELl [int1],[int2],[int3],[int4],[int5],[int6]
Parameters	int1 to int6 are integers. The minimum value for each intx is 0, the maximum value is 1023. The default value for each intx is 0.
Description	This command is used to set the channel numbers for up to six neighboring cells. These channel numbers are broadcast in the system information message by the ProLock. The mobile under test has to perform a MS report on those frequency channels. Notes: – All six integer values are optional. If the command is sent without any channel number specified, the default values (=0) will be broadcast by the ProLock in the system information message. – Let's assume that there was a first command sent with six channel numbers specified. After that, a second command is sent with only two channel numbers specified. Now, the ProLock will alter only the first two channel numbers and maintain all other settings (see example below for details).
Query	The query form of this command will always return the complete set of neighbouring channel numbers currently in use. The string delivered back will always contain six integers.
Example	:CONFigure:EGPRs:BS:NCELl 10,20,30,40,50,60 :CONF:EGPRs:BS:NCEL 70,80 :CONF:EGPRs:BS:NCEL? Values returned in this example: "70,80,30,40,50,60".

:CONFigure:EGPRs:BS:ORIGinate

Syntax	:CONFigure:EGPRs:BS:ORIGinate <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ONRequest|ONLOcation. Default is ONRequest.
Description	In GSM/GPRS, a TCH can be assigned either on request or as soon as the mobile has been registered (= immediately after a location update). ONRequest will assign a TCH only when either the mobile under test or the ProLock initializes a call. ONLOcation will assign a TCH as soon as the registration has been completed.
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version one of the predefined expressions as explained above.
Example	:CONFigure:EGPRs:BS:ORIGinate ONLOcation :CONF:EGPRs:BS:ORIG? Value returned in this example: "ONLO".

:CONFigure:EGPRs:BS:PDTCh:ARFCn

Syntax	:CONFigure:EGPRs:BS:PDTCh:ARFCn <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 1023. The default value for int1 is 2.
Description	This command sets the frequency channel number of the simulated packet data traffic channel.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BS:PDTCh 2 :CONF:EGPRs:BS:PDTC? Value returned in this example: "2".

:CONFigure:EGPRs:BS:TCH:ARFCn

Syntax	:CONFigure:EGPRs:BS:TCH:ARFCn <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 1023. The default value for int1 is 45.
Description	This command sets the traffic channel (TCH) number to be used.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BS:TCH:ARFCn 917 :CONF:EGPRs:BS:TCH:ARFC? Value returned in this example: "917".

:CONFigure:EGPRs:BS:TCH:TSLot

Syntax	:CONFigure:EGPRs:BS:TCH:TSLot <int1>
Parameters	int1 is an integer. The minimum value for int1 is 2, the maximum value is 6. The default value for int1 is 2.
Description	This command sets the time slot to be used for the traffic channel (TCH).
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BS:TCH:TSLot 5 :CONF:EGPRs:BS:TCH:TSL? Value returned in this example: "5".

:CONFigure:EGPRs:BS:TCH:TYPE

Syntax	:CONFigure:EGPRs:BS:TCH:TYPE <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: FR|EFR. Default is FR.
Description	This command sets the type of traffic channel. FR stands for full rate and EFR for enhanced full rate.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	:CONFigure:EGPRs:BS:TCH:TYPE EFR :CONF:EGPRs:BS:TCH:TYPE? Value returned in this example: "EFR".

:CONFigure:EGPRs:BER:RTDelay

Syntax	:CONFigure:EGPRs:BER:RTDelay <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 30. The default value for int1 is 0.
Description	This command allows to predefine a round trip delay in order to achieve a fast synchronization. Note: During BER testing, there will be a delay between the reception of the first burst of a particular voice block at the mobile and the transmission of the first burst of the same voice block (after decoding and coding) on the uplink. This delay is called the round trip delay.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:BER:RTDelay 9 :CONF:EGPRs:BER:RTD? Value returned in this example: "9"

:CONFigure:EGPRs:MSTAtion:DRX

Syntax	:CONFigure:EGPRs:MSTAtion:DRX <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 7. The default value for int1 is 0.
Description	This command sets the BS-PA-MFRMS parameter, broadcast in the control channel description information element. This parameter is used for discontinuous reception (DRX). Note: The value entered here is coded according to the following scheme: the number of multiframes used is the number entered here plus 2. This means that the default value (0) will lead to a DRX period of two multiframes.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	:CONFigure:EGPRs:MSTAtion:DRX 2 :CONF:EGPRs:MSTA:DRX? Value returned in this example: "2", resulting in a DRX period of four multi-frames.

:CONFigure:EGPRs:MSTAtion:TADVance

Syntax	:CONFigure:EGPRs:MSTAtion:TADVance <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 63. The default value for int1 is 0.
Description	This command sets the timing advance for the mobile under test to use. The current setting of the timing advance is broadcast to the mobile in the SACCH physical header.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:MSTAtion:TADVance 12 :CONF:EGPRs:MSTA:TADV? Value returned in this example: "12".

:CONFigure:EGPRs:MSTAtion:PLEVel[:ALL]

Syntax	:CONFigure:EGPRs:MSTAtion:PLEVel[:ALL] <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 31. The default value for int1 is 10.
Description	This command sets the mobile's power control level. Notes: – The RF power control level is a code. The corresponding RF output power of the mobile under test depends on the type of GSM system and the frequency range. – The power control level is broadcast in the SACCH physical header.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.
Example	:CONFigure:EGPRs:MSTAtion:PLEVel:ALL 17 :CONF:EGPRs:MSTA:PLEV? Value returned in this example: "17".

:CONFigure:EGPRs:MSTAtion:MODE

Syntax	:CONFigure:EGPRs:MSTAtion:MODE <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: FACCh|SDCCh. Default is FACCh.

Description	Defines whether the call setup takes place on FACCh or on SDCCh. Note: There are two standard signalling channels in GSM: SDCCH and FACCH. The FACCH is always associated with a traffic channel. However, some mobiles will only listen to signalling provided on the SDCCH.
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.

Example	`:CONFigure:EGPRs:BS:CMODe FACCh`
	`:CONF:EGPRs:BS:CMOD?`
	Value returned in this example: "FACC".

:CONFigure:EGPRs:MSTAtion:MSLot

Syntax	`:CONFigure:EGPRs:MSTAtion:MSLot <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is 1, the maximum value is 4. The default value for `int1` is 2.
Description	This command either sets the number of UL time slots expected by the ProLock (asynchronous mode) or the number of UL time slots that the mobile under test is commanded to use (synchronous mode) during multislot testing.
Query	The query form of this command will return the current setting. The string delivered back will contain one integer.

Example	`:CONFigure:EGPRs:MSTAtion:MSLot 4`
	`:CONF:EGPRs:MSTA:MSL?`
	Value returned in this example: "4".

:CONFigure:EGPRs:MSTAtion:LOOPback

Syntax	`:CONFigure:EGPRs:MSTAtion:LOOPback <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: ON|OFF. Default is ON.
Description	Selects the loopback mode. If the parameter `PredefExp` is set to ON, the mobile station will support GPRS loopback (mode B), if the parameter `PredefExp` is set to OFF, the mobile station will not support GPRS loopback (mode A).
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.

Example	`:CONFigure:EGPRs:MSTAtion:LOOPback ON`
	`:CONF:EGPRs:MSTA:LOOP?`
	Value returned in this example: "ON".

:CONFigure:EGPRs:MSTAtion:PSLots

Syntax	:CONFigure:EGPRs:MSTAtion:PSLots <int1>, <int2>, <int3>, <int4>
Parameters	int1 to int4 are integer parameters. The minimum value for each intx is -26, the maximum value is 39. The resolution of each intx is 2, the default value for each intx is 5.
Description	Sets the uplink power level in the range of -23 ... +39 dBm (GSM900) or -26 ... +36 dBm (upper band). Applies to GPRS synchronous mode.
Query	The query form of this command will return the current setting. The string delivered back will contain four integers.
Example	:CONFigure:EGPRs:MSTAtion:PSLots -10,-6,0,6 :CONF:EGPRs:MSTA:PSL? Value returned in this example: "-10,-6,0,6".

:CONFigure:EGPRs:TYPE

Syntax	:CONFigure:EGPRs:TYPE <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: GSM9001800|GSM9001900. Default is GSM9001800.
Description	Selects the type of GSM system to be used after the ProLock was brought into GSM call mode. GSM9001800 will make the ProLock work as a test set for the GSM system types GSM 900 and GSM 1800. GSM9001900 will set up the ProLock as a test set for the GSM system types GSM 900 and GSM 1900. Notes – This command will have no effect when the Willtek 2201 ProLock is in generator/analyzer mode. – The main reason for this command to exist is the 'double numbering' of channels. GSM 1800 and GSM 1900 use the same channel numbers above channel number 511, but the related physical channels are in different frequency regions.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions as explained above.
Example	:CONFigure:EGPRs:TYPE GSM9001900 :CONF:EGPRs:TYPE? Value returned in this example: "GSM9001900".

:CONFigure:EGPRs:MEASure:GROUp[:RFTX]

Syntax	:CONFigure:EGPRs:MEASure:GROUp[:RFTX] <PredefExp1>,[PredefExp2],[PredefExp3],[PredefExp4],[PredefExp5],[PredefExp6],[PredefExp7],[PredefExp8],[PredefExp9]
Parameters	PredefExpx is one of the following predefined expressions: PPEAk|PRMS|FREQuency|LENGth|UTIMe|POWer|TEMPlate|CORNer|FLATness. Default is PPEAK.
Description	This command allows you to set a user-specific sequence of RF TX tests on the ProLock. The sequence has to be started with the appropriate commands of the MEASure subsystem (:MEAS:EGPRs:CONT:RFTX:GROU or :MEAS:EGPRs:ARR:RFTX:GROU). The meaning of the parameters is as follows: PPEAk is the peak phase error measurement, PRMS the root-mean square value of the phase error measurement. FREQuency means the frequency error of the mobile under test, LENGth the length of the burst in microseconds. UTIMe stands for the timing error of the mobile under test in microseconds, taking the ordered timing advance into account. POWer is the mobile's RF output power level in dBm. TEMPlate indicates whether the power/time template has been violated by a burst or not. CORNER gives the RF power level in dBm at eight pre-defined positions of a burst. FLATness gives an indication whether the mobile's RF output power is constant during the useful part of the burst. Notes: – This command must be used with at least one parameter specified. All other parameters are optional. – Unless organized in this sequence, the start of a new RF TX test will always terminate the preceding one instantly. Therefore, this command is an efficient way to perform several RF TX measurements in a sequence.
Query	The query form of this command will return the current sequence of RF TX tests to be performed by the ProLock. The string delivered back will contain a maximum of nine short-form versions of the predefined expressions explained above
Example	:CONFigure:EGPRs:MEASure:GROUp:RFTX PRMS,POWer,FLATness :CONF:EGPRs:MEAS:GROU? Value returned in this example: "PRMS,POW,FLAT"

:CONFigure:EGPRs:MEASure:GROUp:AFANalyser

Syntax	:CONFigure:EGPRs:MEASure:GROUp:AFANalyser <PredefExp1>,[PredefExp2],[PredefExp3],[PredefExp4],[PredefExp5],[PredefExp6]
Parameters	PredefExpx is one of the following predefined expressions: SINad|DISTortion|FREQuency|ACVPeakp|ACVRms|DCVRms. Default is SINad.

Description	This command allows you to set a user-specific sequence of AF tests on the ProLock. The sequence has to be started with the appropriate commands of the MEASure subsystem (`:MEAS:CONT:AFAN:GROU` or `:MEAS:ARR:AFAN:GROU`). The meaning of the parameters is as follows: `SINad` is the signal to noise ratio, expressed in dB, `DISTortion` is the distortion measurement on the third harmonic of a sine wave and expressed in %. `FREQuency` is the measurement of the audio frequency. `ACVPeakp` stands for an AC voltage peak-to-peak measurement, while `ACVRms` is the same measurement, but the result will be expressed as root-mean square value of the AC voltage. `DCVRms` is used to measure ripple on DC lines (this measurement gives the root-mean spare voltage of the AC component of the applied DC signal). Notes – This command must be used with at least one parameter specified. All other parameters are optional. – Unless organized in this sequence, the start of a new AF test will always terminate the preceding one instantly. Therefore, this command is an efficient way to perform several AF measurements in a sequence. – Please note that any AF test command will need the audio option to be installed on the ProLock.
Query	The query form of this command will return the current sequence of AF tests to be performed by the ProLock. The string delivered back will contain a maximum of six predefined short-form versions of the expressions explained above.

Example	`:CONFigure:EGPRs:MEASure:GROUp:AFANalyser SINad,DISTortion,FREQuency`
	`:CONF:EGPRs:MEAS:GROU:AFAN?`
	Value returned in this example: "`SIN,DIST,FREQ`"

:CONFigure:EGPRs:MEASure:ACPM:TRANsient

Syntax	`:CONFigure:EGPRs:MEASure:ACPM:TRANsient <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `EDGes|FULL`. Default is `EDGes`.
Description	Selects the time period over which the ProLock calculates the RF output spectrum due to switching transients (or ACP Transient for short). If `FULL` is selected, the ProLock will perform the measurement over the whole burst (including the edges); this is in line with the ETSI specifications. With `EDGes`, measurements are performed over the leading and trailing edges of the burst only, ignoring any spectral impact of the modulation (active part of the burst). The latter measurement takes less time and hence leads to faster measurements.
Query	The query form of this command will return the current setting. The string delivered back will contain the short-form version of one of the predefined expressions explained above.

Example	`:CONF:EGPRs:MEASure:ACPM:TRAN FULL`
	`:CONF:EGPRs:MEASure:ACPM:TRAN?`
	In this example, the query will return the string `FULL`.

:CONFigure:EGPRs:MSLot:RESult

Syntax	`:CONFigure:EGPRs:MSLot:RESult <int1>`
Parameters	`int1` is an integer parameter. The minimum value for `int1` is `1`, the maximum value is `4`. The default value for `int1` is `1`.
Description	Sets the number of the burst for which to deliver measurement results. Delivers the results for the selected slot out of the number of all measured slots. This command can be used in GPRS synchronous mode when the mobile transmits on multiple time slots but results are fetched from one (selectable) time slot only.
Query	The query form of this command is not available.

Example	`:CONFigure:EGPRs:MSLot:RESult 1`
	`:CONF:EGPRs:MSLot:RESult?`
	Value returned in this example: "`1`".

Commands for the WCDMA option

CONFigure:WCDMa:POWMeasure:RRCFilter

Syntax	:CONFigure:WCDMa:POWMeasure:RRCFilter <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. The default is ON.
Description	This command sets the state of the RRC Filter for power measurements.
Query	The query form of this command returns the current setting for PredefExp.
Example	:CONF:WCDM:POWM:RRCF OFF :CONF:WCDMA:POWM:RRCF? Value returned in this example: OFF.

:CONF:WCDMa:POWMeasure:ULTArget

Syntax	:CONF:WCDMa:POWMeasure:ULTArget <Real1>
Parameters	Real1 is a floating point real number. The minimum value is -50, the maximum value 33. The minimum resolution is 0.1. The default value is -50.
Description	This command will set the UL Target Power.
Query	This query gets the UL Target Power.
Example	:CONF:WCDM:POWM:ULTA -10.0:CONF:WCDM:POWM:ULTA? Value returned in this example: -10.0

:CONF:WCDMa:POWMeasure:ULTArget:FORCe

Syntax	:CONF:WCDMa:POWMeasure:ULTArget:FORCe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: NONe|MINimum|MAXimum. Default is NONe.
Description	This command forces the UE to transmit with minimum or maximum power. If set to NONe the UE is set to transmit with the value set by command: CONF:WCDM:POWM:ULTA.
Query	The query form of this command returns the current setting for PredefExp.
Example	:CONF:WCDM:POWM:ULTA:FORC MAX :CONF:WCDM:POWM:ULTA:FORC? Value returned in this example: MAX.

:CONFigure:WCDMa:NB:LEVel

Syntax	:CONFigure:WCDMa:NB:LEVel <Real1>
Parameters	Real1 is a floating point real number. The minimum value is -120, the maximum value -20. The minimum resolution is 0.1. The default value is -70.

Description	This command sets the RF output level of the ProLock. The value specified for `real1` is the power output level in dBm.
Query	The query form of this command will return the current setting of the ProLock.

Example	`:CONF:WCDM:NB:LEV -38.0`
	`:CONF:WCDMA:NB:LEV?`
	Value returned in this example: `-38.0`.

:CONFigure:WCDMa:NB:LEVel:RELative

Syntax	`:CONFigure:WCDMa:NB:LEVel:RELative <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `CPICh|IOR`. The default is `CHICh`.
Description	This command sets the power type which each code channel is relative to.
Query	The query form of this command returns the current setting for `PredefExp`.

Example	`:CONF:WCDM:NB:LEV:REL IOR`
	`:CONF:WCDMA:NB:LEV:REL?`
	Value returned in this example: `IOR`.

NOTE

In remote mode (via SCPI) the power levels of the individual code channels can only be set relative to I_{or} (output power). Furthermore in remote mode you have to make sure that the sum of the power levels for all code channel plus OCNS is equal to I_{or}.

Code channel levels relative to I_{or}

PCPICH_Ec	:	$10.\log_{10}(\rho \cdot Ior)$ dBm	$= 10.\log_{10}(\rho)$ dB
SCH_Ec	:	$10.\log_{10}(\alpha \cdot Ior)$ dBm	$= 10.\log_{10}(\alpha)$ dB
P-CCPCH_Ec	:	$10.\log_{10}(\gamma \cdot Ior)$ dBm	$= 10.\log_{10}(\gamma)$ dB
S-CCPCH_Ec	:	$10.\log_{10}(\chi \cdot Ior)$ dBm	$= 10.\log_{10}(\chi)$ dB
PICH_Ec	:	$10.\log_{10}(\delta \cdot Ior)$ dBm	$= 10.\log_{10}(\delta)$ dB
AICH_Ec	:	$10.\log_{10}(\mu \cdot Ior)$ dBm	$= 10.\log_{10}(\mu)$ dB
DPCH_Ec	:	$10.\log_{10}(\lambda \cdot Ior)$ dBm	$= 10.\log_{10}(\lambda)$ dB
OCNS_Ec	:	$10.\log_{10}(\sigma \cdot Ior)$ dBm	$= 10.\log_{10}(\sigma)$ dB

- $\rho + 0.1 * \alpha + 0.9 * \alpha + 0.96 * \delta + \lambda <= 1$
- $\sigma = 1 - (\rho + 0.1 * \alpha + 0.9 * \alpha + 0.96 * \delta + \lambda)$
- OCNS_Ec – PCPICH_Ec <= 15.0 dB
- SCH_Ec, P-CCPCH_Ec, S-CCPCH_Ec, PICH_Ec, AICH_Ec, DPCH_Ec <= PCPICH_Ec
- PICH_Ec[dB] – PCPICH_Ec[dB] >= –10dB (PICH_Ec and PCPICH_Ec are relative to I_{or})

– AICH_Ec[dB] – PCPICH_Ec[dB] >= –22dB (AICH_Ec and PCPICH_Ec are relative to I_{or})

:CONFigure:WCDMa:NB:LEVel:CPICh

Syntax	`:CONFigure:WCDMa:NB:LEVel:CPICh <Real1>`
Parameters	`Real1` is a floating point real number. The minimum value is `-35`, the maximum value is `0`. The minimum resolution is `0.1`. The default value is `-4.1`.
Description	This command sets the Primary CPICH power relative to Ior. This is an exception, because this special code channel is always defined relative to Ior, regardless of what is set with `CONF:WCDM:LEV:REL`.
Query	The query form of this command will return the current setting of the ProLock.

Example	`:CONF:WCDM:NB:LEV:CPIC -30`
	`:CONF:WCDMA:NB:LEV:CPIC?`
	Value returned in this example: `-30`.

:CONFigure:WCDMa:NB:LEVel:DPCH

Syntax	`:CONFigure:WCDMa:NB:LEVel:DPCH <Real1>`
Parameters	`Real1` is a floating point real number. The minimum value is `-35`, the maximum value is `0`. The minimum resolution is `0.1`. The default value is `-5.0`.
Description	This command sets the DPCH power relative to CPICH or Ior, depending on what is set with `CONF:WCDM:LEV:REL`.
Query	The query form of this command will return the current setting of the ProLock.

Example	`:CONF:WCDM:NB:LEV:DPCH -20`
	`:CONF:WCDMA:NB:LEV:DPCH?`
	Value returned in this example: `-20`.

:CONFigure:WCDMa:NB:LEVel:PCCPch

Syntax	`:CONFigure:WCDMa:NB:LEVel:PCCPch <Real1>`
Parameters	`Real1` is a floating point real number. The minimum value is `-35`, the maximum value is `0`. The minimum resolution is `0.1`. The default value is `-6.0`.
Description	This command sets the PCCPCH power relative to CPICH or Ior, depending on what is set with `CONF:WCDM:LEV:REL`.
Query	The query form of this command will return the current setting of the ProLock.

Example	`:CONF:WCDM:NB:LEV:PCCP -10`
	`:CONF:WCDMA:NB:LEV:PCCP?`
	Value returned in this example: `-10`.

:CONFigure:WCDMa:NB:LEVel:SCCPch

Syntax	`:CONFigure:WCDMa:NB:LEVel:SCCPch <Real1>`

Parameters	Real1 is a floating point real number. The minimum value is -35, the maximum value is 0. The minimum resolution is 0.1. The default value is -3.0.
Description	This command sets the SCCPCH power relative to CPICH or Ior, dependent from what is set with CONF:WCDM:LEV:REL.
Query	The query form of this command will return the current setting of the ProLock.
Example	:CONF:WCDM:NB:LEV:SCCP -15 :CONF:WCDMA:NB:LEV:SCCP? Value returned in this example: -15.

:CONFigure:WCDMa:NB:LEVel:PSCH

Syntax	:CONFigure:WCDMa:NB:LEVel:PSCH <Real1>
Parameters	Real1 is a floating point real number. The minimum value is -35, the maximum value is 0. The minimum resolution is 0.1. The default value is -3.0.
Description	This command sets the PSCH power relative to CPICH or Ior, depending on what is set with CONF:WCDM:LEV:REL.
Query	The query form of this command will return the current setting of the ProLock.
Example	:CONF:WCDM:NB:LEV:PSCH -12 :CONF:WCDMA:NB:LEV:PSCH? Value returned in this example: -12.

:CONFigure:WCDMa:NB:LEVel:PICH

Syntax	:CONFigure:WCDMa:NB:LEVel:PICH <Real1>
Parameters	Real1 is a floating point real number. The minimum value is -35, the maximum value is 0. The minimum resolution is 1.0. The default value is 0.0.
Description	This command sets the PICH power relative to CPICH or Ior, depending on what is set with CONF:WCDM:LEV:REL. Also this parameter range depends on the setting from CONF:WCDM:LEV:REL. Its minimum is -35.0 in case that it is relative to Ior. If it is relative to CPICH, however, then it is -10.0.
Query	The query form of this command will return the current setting of the ProLock.
Example	:CONF:WCDM:NB:LEV:PICH -16 :CONF:WCDMA:NB:LEV:PICH? Value returned in this example: -16.

:CONFigure:WCDMa:NB:LEVel:AICH

Syntax	:CONFigure:WCDMa:NB:LEVel:AICH <Real1>
Parameters	Real1 is a floating point real number. The minimum value is -35, the maximum value is 0. The minimum resolution is 1.0. The default value is -6.0.
Description	This command sets the AICH power relative to CPICH or Ior, depending on what is set with CONF:WCDM:LEV:REL.
Query	The query form of this command will return the current setting of the ProLock.

Example	:CONF:WCDM:NB:LEV:AICH -17 :CONF:WCDMA:NB:LEV:AICH? Value returned in this example: -17.

:CONFigure:WCDMa:NB:LEVel:OCNS

Syntax	:CONFigure:WCDMa:NB:LEVel:OCNS <Real1>
Parameters	Real1 is a floating point real number. The minimum value is -35, the maximum value is 15. The minimum resolution is 0.1. The default value is -5.0.
Description	This command sets the OCNS power relative to CPICH or Ior, depending on what is set with CONF:WCDM:LEV:REL.
Query	The query form of this command will return the current setting of the ProLock.
Example	:CONF:WCDM:NB:LEV:OCNS -18 :CONF:WCDMA:NB:LEV:OCNS? Value returned in this example: -18.

:CONFigure:WCDMa:NB:LEVel:OCNS:STATe

Syntax	:CONFigure:WCDMa:NB:LEVel:OCNS:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. The default is OFF.
Description	This command sets the OCNS state on or off.
Query	The query form of this command returns the current setting for PredefExp.
Example	:CONF:WCDM:NB:LEV:OCNS:STAT OFF :CONF:WCDMA:NB:LEV:OCNS:STAT? Value returned in this example: OFF.

:CONFigure:WCDMa:NB:CELL:MCC

Syntax	:CONFigure:WCDMa:NB:CELL:MCC <Int1>
Parameters	Int1 is an integer number. The minimum value is 0, the maximum value 999. The default value is 1.
Description	This command sets the mobile country code (MCC).
Query	The query form of this command will return the current setting of the ProLock. The string delivered will contain one integer number.
Example	:CONF:WCDM:NB:CELL:MCC 1 :CONF:WCDMA:NB:CELL:MCC? Value returned in this example: 1.

:CONFigure:WCDMa:NB:CELL:MNC

Syntax	:CONFigure:WCDMa:NB:CELL:MNC <Int1>

Parameters	`Int1` is an integer number. The minimum value is `0`, the maximum value `99`. The default value is `1`.
Description	This command sets the mobile network code (MNC).
Query	The query form of this command will return the current setting of the ProLock. The string delivered will contain one integer number.

Example	`:CONF:WCDM:NB:CELL:MNC 0`
	`:CONF:WCDMA:NB:CELL:MNC?`
	Value returned in this example: `0`.

`:CONFigure:WCDMa:NB:CELL:LAC`

Syntax	`:CONFigure:WCDMa:NB:CELL:LAC <Int1>`
Parameters	`Int1` is an integer number. The minimum value is `0`, the maximum value `65535`. The default value is `4660`.
Description	This command sets the UE's LAC.
Query	The query form of this command will return the current setting of the ProLock. The string delivered will contain one integer number.

Example	`:CONF:WCDM:NB:CELL:LAC 0`
	`:CONF:WCDMA:NB:CELL:LAC?`
	Value returned in this example: `0`.

`:CONFigure:WCDMa:NB:CELL:URA`

Syntax	`:CONFigure:WCDMa:NB:CELL:URA <Int1>`
Parameters	`Int1` is an integer number. The minimum value is `0`, the maximum value `65535`. The default value is `29136`.
Description	This command sets the UE's URA.
Query	The query form of this command will return the current setting of the ProLock. The string delivered will contain one integer number.

Example	`:CONF:WCDM:NB:CELL:URA 30000`
	`:CONF:WCDMA:NB:CELL:URA?`
	Value returned in this example: `30000`.

`:CONFigure:WCDMa:NB:CELL:CIDentity`

Syntax	`:CONFigure:WCDMa:NB:CELL:CIDentity <Int1>`
Parameters	`Int1` is an integer number. The minimum value is `0`, the maximum value `216494545`. The default value is `216494544`.
Description	This command sets the UE's cell identity.
Query	The query form of this command will return the current setting of the ProLock. The string delivered will contain one integer number.

Example	:CONF:WCDM:NB:CELL:CID 216494545 :CONF:WCDMA:NB:CELL:CID? Value returned in this example: 216494545.

:CONFigure:WCDMa:NB:CELL:PSC

Syntax	:CONFigure:WCDMa:NB:CELL:PSC <Int1>
Parameters	Int1 is an integer number. The minimum value is 0, the maximum value 511. The default value is 0.
Description	This command sets the NB primary scrambling code.
Query	The query form of this command will return the current setting of the ProLock. The string delivered will contain one integer number.
Example	:CONF:WCDM:NB:CELL:PSC 5 :CONF:WCDMA:NB:CELL:PSC? Value returned in this example: 5.

:CONFigure:WCDMa:NB:CELL:KI

Syntax	:CONFigure:WCDMa:NB:CELL:KI <string1>
Parameters	string1 is a string, giving the KI value. The length of string1 is 32 characters. The default for string1 is "000102030405060708090A0B0C0D0E0F".
Description	This command sets the KI value.
Query	The query form of this command will return the current setting.
Example	:CONF:WCDM:NB:CELL:KI "000102030405060708090A0B0C0D0E0F" :CONF:WCDMA:NB:CELL:KI? Value returned in this example: "000102030405060708090A0B0C0D0E0F"

:CONFigure:WCDMa:NB:RMC

Syntax	:CONFigure:WCDMa:NB:RMC <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: RMC12|RMC64|RMC144|RMC384. The default is RMC12.
Description	This command sets the Reference Measurement Channel.
Query	The query form of this command returns the current setting for PredefExp.
Example	:CONF:WCDM:NB:RMC RMC384 :CONF:WCDMA:NB:RMC? Value returned in this example: RMC384.

:CONFigure:WCDMa:NB:BAND

Syntax	:CONFigure:WCDMa:NB:BAND <PredefExp>

Parameters	`PredefExp` is one of the following predefined expressions: `BAND1 | BAND2 | BAND3 | BAND4 | BAND5 | BAND6 | BAND8`. The default is `BAND1`.
Description	This command sets the actual WCDMA operating band. The channels will be set to the first in this band. For example if Band is set to BAND1 the uplink channel is set to 9612 and the downlink channel is set to 10562.
Query	The query form of this command returns the current setting for `PredefExp`.
Example	`:CONF:WCDM:NB:BAND BAND2` Value returned in this example: `BAND2`.

:CONFigure:WCDMa:NB:DLUarfcn

Syntax	`:CONFigure:WCDMa:NB:DLUarfcn <Int1>`
Parameters	`Int1` is an integer number. The minimum value is `412`, the maximum value `10838`. The default value is `10700`.
Description	This command sets the WCDMA Downlink channel. Note: This command also sets the Uplink channel to the corresponding channel.
Query	The query form of this command will return the current setting of the ProLock. The string delivered back will contain one integer number.

Example	`:CONF:WCDM:NB:DLU 5000`
	`:CONF:WCDMA:NB:DLU?`
	Value returned in this example: `5000`.

:CONFigure:WCDMa:NB:DLFRequency

Syntax	`CONFigure:WCDMa:NB:DLFRequency?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The query form of this command will return the center frequency in Hz depending on the DLUarfcn which is set.
Example	`:CONF:WCDM:NB:DLFR?` Value returned if DLUarfcn is set to 10700: `2140000000`.

:CONFigure:WCDMa:NB:ULUarfcn

Syntax	`:CONFigure:WCDMa:NB:ULUarfcn <Int1>`
Parameters	`Int1` is an integer number. The minimum value is `12`, the maximum value `9888`. The default value is `9750`.
Description	This command sets the WCDMA Uplink channel. Note: This command also sets the Downlink channel to the corresponding channel.
Query	The query form of this command will return the current setting of the ProLock. The string delivered will contain one integer number.

Example	:CONF:WCDM:NB:ULU 5000 :CONF:WCDMA:NB:ULU? Value returned in this example: 5000.

:CONFigure:WCDMa:NB:ULFRequency

Syntax	:CONFigure:WCDMa:NB:ULFRequency?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The query form of this command will return the center frequency in Hz depending on the ULUarfcn which is set.
Example	:CONF:WCDM:NB:ULFR? Value returned if ULUarfcn is set to 9750: 1950000000.

:CONFigure:WCDMa:MEASure:UEReport:TRCH

Syntax	:CONFigure:WCDMa:MEASure:UEReport:TRCH
Parameters	PredefExp is one of the following predefined expressions: RAB1|RAB2|RAB3|SRB. The default is RAB1.
Description	Defines on which kind of Transport Channel the BLER estimation within the UE applies.
Query	The query form of this command returns the measurement that has been choosen.
Example	:CONF:WCDM:MEAS:UEReport:TRCH RAB2 :CONF:WCDMA:MEAS:UEReport:TRCH? Returned string in this example: RAB2.

:CONFigure:WCDMa:MEASure:GROup:RFTX

Syntax	:CONFigure:WCDMa:MEASure:GROup:RFTX <PredefExp1>[, <PredefExp2>][, ... <PredefExp11>]
Parameters	At least one and up to 11 parameters can be given, each with the same range of predefined expressions: NONe|FREQuency|CPOWer|ERMS|EPEAk|MRMS| MPEAk|PRMS|PPEAk|RHO|IQOFfset|IQIMbalance. Default is NONE in all cases.
Description	Sets the group of measurements to be carried out. Up to 11 measurements can be grouped.
Query	The query form of this command returns the measurements that have been grouped.
Example	:CONF:WCDM:MEAS:GRO:RFTX CPOW,FREQ,ERMS :CONF:WCDMA:MEAS:GRO? Returned string in this example: CPOW,FREQ,ERMS.

:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence :SELEct

Syntax	:CONFigure:WCDMa:MEASure:RFTX :INNErloop:SEQuence:SELEct <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ILS1|ILS2|ILS33|ILS4|ILS5|SEQA|SEQB|SEQC|SEQDSEQE| SEQF|SEQG|SEQH Default is ILS1.
Description	This command selects the inner loop power control sequence.
Query	The query form of this command will return the current selected inner loop power control sequence.
Example	:CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE SEQE :CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE? Value returned in this example: "SEQE".

:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence :ISLA

Syntax	:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLA <string1>
Parameters	string1 is a string, defining the inner loop power control sequence. The maximum length of string1 is 20 characters. The default for string1 is "11111111110000000000".
Description	This command defines the inner loop power control sequence for the user sequence ISL1 that could be selected using the command :CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE ISL1.
Query	The query form of this command will return the Inner loop power control sequence associated with user defined sequence ISL1 and that could be selected using the command :CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE ISL1.
Example	:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLA "11111111110000000000" :CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLA? Value returned in this example: "11111111110000000000"

:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence :ISLB

Syntax	:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLB <string1>
Parameters	string1 is a string, defining the inner loop power control sequence. The maximum length of string1 is 20 characters. The default for string1 is "10101010101010101010".
Description	This command defines the inner loop power control sequence for the user sequence ISL2 that could be selected using the command :CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE ISL2.

Query	The query form of this command will return the inner loop power control sequence associated with user defined sequence ISL2 and that could be selected using the command `:CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE ISL2`.

Example	`:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLB "1111111110000000000"`
	`:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLB?`
	Value returned in this example: `"1111111110000000000"`

:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence :ISLC

Syntax	`:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLC <string1>`
Parameters	`string1` is a string, defining the inner loop power control sequence. The maximum length of `string1` is 20 characters. The default for `string1` is `"1111111111"`.
Description	This command defines the Inner loop power control sequence for the user sequence ISL3 that could be selected using the command `:CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE ISL3`.
Query	The query form of this command will return the Inner loop power control sequence associated with user defined sequence ISL3 and that could be selected using the command `:CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE ISL3`.

Example	`:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLC "1111111110000000000"`
	`:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLC?`
	Value returned in this example: `"1111111110000000000"`

:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence :ISLV

Syntax	`:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLV <string1>`
Parameters	`string1` is a string, defining the inner loop power control sequence. The maximum length of `string1` is 20 characters. The default for `string1` is `"0000000001111111111"`.
Description	This command defines the inner loop power control sequence for the user sequence ISL5 that could be selected using the command `:CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE ISL5`.
Query	The query form of this command will return the inner loop power control sequence associated with user defined sequence ISL5 and that could be selected using the command `:CONF:WCDM:MEAS:RFTX:INNE:SEQ:SELE ISL5`.

Example	`:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLV "1111111110000000000"`
	`:CONFigure:WCDMa:MEASure:RFTX:INNErloop:SEQuence:ISLV?`
	Value returned in this example: `"1111111110000000000"`

:CONFigure:WCDMa:MEASure:RFTX:INNErloop:ALGOrithm

Syntax	:CONFigure:WCDMa:MEASure:RFTX:INNErloop:ALGOrithm <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ALGO1|ALGO2 Default is ALGO1.
Description	This command selects the TPC algorithm for inner loop power control.
Query	The query form of this command will return the current selected inner loop power control algorithm. This command has only effect on definable sequences ILS1, ILS2, ILS3, ILS4, ILS5.
Example	:CONF:WCDM:MEAS:RFTX:INNE:ALGO ALGO2 :CONF:WCDM:MEAS:RFTX:INNE:ALGO? Value returned in this example: "ALGO2".

:CONFigure:WCDMa:MEASure:RFTX:INNErloop:STEPsize

Syntax	:CONFigure:WCDMa:MEASure:RFTX:INNErloop:STEPsize <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: STEP1|STEP2 Default is STEP1.
Description	This command selects the TPC algorithm step size for the inner loop power control, but only if algorithm 1 is selected. This command has only effect on definable sequences ILS1, ILS2, ILS3, ILS4, ILS5.
Query	The query form of this command will return the current selected inner loop power control algorithm step size.
Example	:CONF:WCDM:MEAS:RFTX:INNE:STEP STEP2 :CONF:WCDM:MEAS:RFTX:INNE:STEP? Value returned in this example: "STEP2".

:CONFigure:WCDMa:MEASure:RFTX:INNErloop:MODe

Syntax	:CONFigure:WCDMa:MEASure:RFTX:INNErloop:MODe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: NORMal|SINGle Default is NORMal.
Description	This command sets the mode of the inner loop power control algorithm.
Query	The query form of this command will return the current selected mode for the inner loop power control algorithm.
Example	:CONF:WCDM:MEAS:RFTX:INNE:MOD SING :CONF:WCDM:MEAS:RFTX:INNE:MOD? Value returned in this example: "SING".

:CONFigure:WCDMa:MEASure:RFRX:SYNChronise

Syntax	:CONFigure:WCDMa:MEASure:RFRX:SYNChronise

Parameters	There are no parameters.
Description	This command will synchronise the ProLock to the data looped back from the mobile. The command has to be executed on a normal output level before measuring the Bit Error Rate or the Block Error Rate.
Query	The query form of this command returns whether the ProLock could synchronise to the data from the mobile or not. If it is synchronised, the output level can be changed to low values and a Bit/Block Error Rate can be measured.

Example	`:CONFigure:WCDMa:MEASure:RFRX:SYNChronise`
	`:CONFigure:WCDMa:MEASure:RFRX:SYNChronise?`
	Value returned in this example `"ON"`.

:CONFigure:WCDMa:MEASure:RFRX:NBLOck

Syntax	`:CONFigure:WCDMa:MEASure:RFRX:NBLOck <Int1>`
Parameters	`Int1` is an integer number. The minimum value is `10`, the maximum value `4096`. The default value is `40`.
Description	This command sets the number of blocks to use in the BER/BLER test.
Query	The query form of this command will return the current setting of the ProLock.

Example	`:CONF:WCDM:MEAS:RFRX:NBLO 1000`
	`:CONF:WCDMA:MEAS:RFRX:NBLO?`
	Value returned in this example: `1000`.

:CONFigure:WCDMa:MEASure:RFRX:BITPattern

Syntax	`:CONFigure:WCDMa:MEASure:RFRX:BITPattern <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `PRBS9|PRBS15|PRBS23|ALLZero|ALLOne|ONEZero|ZEROone`. Default is `PRBS9`.
Description	This command sets the bit pattern for the WCDMA signal.
Query	The query form of this command returns the current setting. A query will return a string, containing one of the predefined expressions explained above.

Example	`:CONF:WCDM:MEAS:RFRX:BITP ONEZero`
	`:CONF:WCDM:MEAS:RFRX:BITP?`
	Value returned in this example `"ONEZero"`.

Call Commands

9

This chapter contains an explanation of the Call subsystem SCPI commands. The list is structured as follows:

Introduction

This subsystem contains commands

- for call setup and handling procedures.
- to read out the measurement report generated by the mobile.
- to read out the mobile's ID and further mobile parameters.

GSM commands

:CALL:GSM:BSORiginate

Syntax	:CALL:GSM:BSORiginate
Parameters	There are no parameters.
Description	Initiates a call-setup by the base station (ProLock). For details regarding a BS initiated call, please refer to section BS Call.
Query	There is no query form of this command available.
Example	**:CALL:GSM:BSOR** This command will initiate a BS-originated call.

:CALL:GSM:RSIGnaling

Syntax	:CALL:GSM:RSIGnaling
Parameters	There are no parameters.
Description	Makes the ProLock use reduced signaling. This means that the test set will provide a base channel and react to the mobile's signals without prior call setup. For details regarding reduced signaling, please refer to section Reduced Signaling.
Query	There is no query form of this command available.
Example	:CALL:GSM:RSIG

:CALL:GSM:BSRelease

Syntax	:CALL:GSM:BSRelease
Parameters	There are no parameters.
Description	This command will make the ProLock terminate the ongoing call. For details regarding a BS terminated call, please refer to section BS Call.
Query	There is no query form of this command available.
Example	**:CALL:GSM:BSR** This command will release the call.

:CALL:GSM:MSORiginate

Syntax	:CALL:GSM:MSORiginate
Parameters	There are no parameters.
Description	This command initiates the MS call procedure on the ProLock. For details regarding the MS call procedure, please refer to section MS Call. Note: This command is no longer required. This means that the ProLock will automatically respond to the mobile's channel request.
Query	There is no query form of this command available.
Example	As this command is no longer required, an example was skipped.

:CALL:GSM:MSRelease

Syntax	:CALL:GSM:MSRelease
Parameters	There are no parameters.
Description	This command prepares the call termination by the mobile under test. For details regarding the MS call procedure, please refer to section MS Call. Note: This command is no longer required.
Query	There is no query form of this command available.
Example	As this command is no longer required, an example was skipped.

:CALL:GSM:PAGing

Syntax	:CALL:GSM:PAGing <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **OFF**.
Description	Switches the continuous paging of the mobile **ON** or **OFF**. **ON** means that the ProLock will start to broadcast paging requests, but will not answer to the mobile's access bursts. For details regarding continuous paging, please refer to section Call Graph.
Query	There is no query form of this command available.
Example	**:CALL:GSM:PAG ON** This command switches continuous paging on.

:CALL:GSM:ASSignment

Syntax	`:CALL:GSM:ASSignment <PredefExp>`
Parameters	**PredefExp** is one of the following predefined expressions: **LATe|EARLy**. Default is **LATe**.
Description	Determines whether early or late assignment shall be used. For details regarding assignment, please refer to section Basic System Parameters.
Query	There is no query form of this command available.
Example	**:CALL:GSM:ASS EARL** Early assignment will be used.

:CALL:GSM:SMS:MSOR

Syntax	`:CALL[:GSM]:SMS:MSOR <string1>`
Parameters	There are no parameters.
Description	This command reads out the text and the phone number of the last received short message.
Query	There is only a query form of this command available. The query will return a string containing 2 values coded as explained above.

Example	`:CALL:GSM:SMS:MSOR?`
	The string delivered back in this example is:
	`"2201 ProLock","+4989996410".`

:CALL[:GSM]:SMS:MSOR:TEXT

Syntax	`:CALL[:GSM]:SMS:MSOR:TEXT <string1>`
Parameters	There are no parameters.
Description	This command reads out the text of the last received short message.
Query	There is only a query form of this command available. The query will return a string containing a value coded as explained above.
Example	`:CALL:GSM:SMS:MSOR:TEXT?` The string delivered in this example is: `"2201 ProLock".`

:CALL[:GSM]:SMS:MSOR:NUMB

Syntax	:CALL[:GSM]:SMS:MSOR:NUMB <string1>
Parameters	There are no parameters.
Description	This command reads out the phone number of the last received short message.
Query	There is only a query form of this command available. The query will return a string containing a value coded as explained above.
Example	:CALL:GSM:SMS:MSOR:NUMB? The string delivered back in this example is: ""+4989996410"".

:CALL[:GSM]:SMS:BSOR

Syntax	:CALL[:GSM]:SMS:BSOR <string1>
Parameters	There are no parameters.
Description	This command sends a short message.
Query	A query form of this command is not available.
Example	:CALL:GSM:SMS:BSOR "Willtek Mobile Tester","12345" This command will send a BS-originated short message.

:CALL:GSM:BERLoop

Syntax	:CALL:GSM:BERLoop <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **OFF**.
Description	This command is used to close or open the internal loop of the mobile for BER testing. **ON** means that the ProLock will tell the mobile under test to close its internal loop, while **OFF** will make the ProLock tell the mobile under test to open the internal loop. For details regarding BER testing, please refer to section BER Measurements.
Query	The query form of this command will return the current setting. The string delivered back will contain one of the predefined expressions explained above.
Example	**:CALL:GSM:BERL ON** **:CALL:BERL?** Value returned: "ON".

:CALL:GSM:MSINfo:ALL

Syntax	:CALL:GSM:MSINfo:ALL
Parameters	There are no parameters.
Description	This command reads out all MS Info result values with one query. For details on MS Info, please refer to section MS Info Test Menu. The query will deliver back 15 single values in the following sequence, all separated by commas: – RX Lev (Integer) The mobile estimates the RF power level at which it receives the base station. The coding of this figure can be found in section Coding of RX Lev. – RX Qual (Integer) Based on the number of bits corrected by its own channel decoder, the mobile estimates the BER. The coding of this figure can be found in section Coding of RX Qual. – Number (String) This position contains the number dialed on the mobile. In case the call was BS originated, this position will be left empty (i.e. two consecutive commas in the result string). – IMSI (String) This is the international mobile subscriber identity. – IMEI (String) This position contains the international mobile equipment identity. – MS Class (Integer) Shows the mobile's power class. The coding of this figure can be found in section MS Power Classes. – Rev. Level (Integer) This parameter indicates whether the mobile supports all features of GSM phase 1 or phase 2 or any later phase. – RX Lev Sub (Integer) Similar to RX Lev, but only carried out on a subset of frames. For details, please refer to section MS Report Display. The coding of the RX Lev Sub result value can be found in section Coding of RX Lev. – SMS (Boolean) A **0** on this position means that the mobile under test has no SMS capabilities, while a **1** indicates that the mobile can handle SMS. – Ext. Freq (Boolean) A **0** on this position means that the mobile under test can't use the extended GSM frequency range (E-GSM), while a **1** indicates that the mobile is able to work in the extended GSM frequency range. – A5 Cyph. (Integer) This position shows the A5 ciphering key supported by the mobile. – Timing Advance (Integer) Here, the timing advance of the mobile is shown in bit periods. More details regarding the timing advance can be found in section Timeslots and Bursts. – Dualband (Integer) A **6** on this position indicates that the mobile under test supports both the E-GSM and GSM 1800 (PCN) bands. – MS Pwr (Integer) Here, the power control level currently used by the mobile is shown. This figure is coded according to the scheme explained in section Power Control Levels and Tolerances. – EFR (Boolean) A **0** on this position means that the mobile under test cannot use enhanced full rate TCHs, while a **1** indicates that the mobile is capable of doing so.
Query	There is only a query form of this command available. The query will return a string containing 15 values coded as explained above.
Example	**:CALL:GSM:MSINfo:ALL?** The string delivered back is, for example: **"49,0,"+4989996410","001010123456789", "520040190000430",4,2,49,1,0,3,0,1,16,1"**.

:CALL:GSM:MSINfo:RXLevel

Syntax	:CALL:GSM:MSINfo:RXLevel
Parameters	There are no parameters.
Description	The mobile estimates the RF power level at which it receives the base station. The coding of the result value delivered back can be found in section Coding of RX Lev.
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	**:CALL:GSM:MSINfo:RXL?** The string delivered back: **"49"**.

:CALL:GSM:MSINfo:RXQual

Syntax	:CALL:GSM:MSINfo:RXQual
Parameters	There are no parameters.
Description	Based on the number of bits corrected by its own channel decoder, the mobile estimates the BER. The coding of the result value delivered back can be found in section Coding of RX Qual.
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	**:CALL:GSM:MSINfo:RXQ?** The string delivered back: **"0"**.

:CALL:GSM:MSINfo:NUMBer

Syntax	:CALL:GSM:MSINfo:NUMBer
Parameters	There are no parameters.
Description	This query will deliver back the number dialed on the mobile as a string. In case the call was BS originated, the string will be empty (**""**).
Query	There is only a query form of this command available. The query will deliver back a string.
Example	**:CALL:MSINfo:NUMB?** The string delivered back: **"+4989996410"**.

:CALL:GSM:MSINfo:IMSI

Syntax	:CALL:GSM:MSINfo:IMSI
Parameters	There are no parameters.
Description	This query will deliver the international mobile subscriber identity as stored on the mobile's SIM card.

Query	There is only a query form of this command available. The query will deliver back a string.
Example	**:CALL:GSM:MSINfo:IMSI?** The string delivered back: **"001010123456789"**.

:CALL:GSM:MSINfo:IMEI

Syntax	:CALL:GSM:MSINfo:IMEI
Parameters	There are no parameters.
Description	This query will deliver back the international mobile equipment identity as stored inside the mobile (the so-called serial number).
Query	There is only a query form of this command available. The query will deliver back a string.
Example	**:CALL:GSM:MSINfo:IMSI?** The string delivered back: **"520040190000430"**.

:CALL:GSM:MSINfo:IMEI:SV

Syntax	:CALL:GSM:MSINfo:IMEI:SV
Parameters	There are no parameters.
Description	This query will deliver back the international mobile equipment identity and the software version number as stored inside the mobile.
Query	There is only a query form of this command available. The query will deliver back a string.
Example	**:CALL:GSM:MSINfo:IMSI:SV?** The string delivered back: "52004019000043-0(01)". The first part is the IMEI with the calculated check digit after the hyphen; the string in brackets indicates the software version reported over the air interface.

:CALL:GSM:MSINfo:MSCLass

Syntax	:CALL:GSM:MSINfo:MSCLass
Parameters	There are no parameters.
Description	This query will deliver back the code representing the mobile's power class. The coding of this figure can be found in section MS Power Classes.
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	**:CALL:GSM:MSINfo:MSCLass?** The integer delivered back: **"4"**.

:CALL:GSM:MSINfo:RLEVel

Syntax	:CALL:GSM:MSINfo:RLEVel
Parameters	There are no parameters.
Description	This query will deliver back the mobile's GSM revision level (GSM phase **1** or phase **2** or any later phase).
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	**:CALL:GSM:MSINfo:RLEVel?** The integer delivered back: **"2"**.

:CALL:GSM:MSINfo:RXLSub

Syntax	:CALL:GSM:MSINfo:RXLSub
Parameters	There are no parameters.
Description	This query is similar to **:CALL:MSINfo:RXLevel?** as explained above. However, this measurement is only carried out on a subset of frames. For details, please refer to section MS Report Display. The coding of this result value can be found in section Coding of RX Lev.
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	**:CALL:GSM:MSINfo:RXLSub?** The integer delivered back: **"49"**.

:CALL:GSM:MSINfo:SMS

Syntax	:CALL:GSM:MSINfo:SMS
Parameters	There are no parameters.
Description	This query will deliver back a boolean number indicating whether the mobile is able to handle short message service (SMS) or not. A **0** delivered back indicates that the mobile under test has no SMS capabilities.
Query	There is only a query form of this command available. The query will deliver back one boolean number.
Example	**:CALL:GSM:MSINfo:SMS?** The boolean number delivered back: **"1"**.

:CALL:GSM:MSINfo:ATTached?

Syntax	:CALL:GSM:MSINfo:ATTached?
Parameters	There are no parameters.
Description	There is only a query form of this command available.

Query	The query will deliver back one boolean number, indicating whether the mobile is GSM-attached to the base station simulated by the ProLock. The GSM attach is usually part of the location update procedure. In a real network, the mobile can be paged only when it is attached and a TMSI (temporary mobile subscriber identity) is assigned to the mobile. Without the attach procedure, the mobile can be called (by its IMSI) if the Test SIM is being used.
Example	**:CALL:GSM:MSINfo:ATT?** The boolean number delivered back: **"1"**.

:CALL:GSM:MSINfo:EGSM

Syntax	:CALL:GSM:MSINfo:EGSM
Parameters	There are no parameters.
Description	This query will deliver back a boolean number indicating whether the mobile is able to use the extended GSM frequency range (channel numbers 0 and 975 to 1023) or not. A **0** indicates that the mobile under test cannot use the extended GSM frequency range.
Query	There is only a query form of this command available. The query will deliver back one boolean number.
Example	**:CALL:GSM:MSINfo:EGSM?** The boolean number delivered back: **"0"**.

:CALL:GSM:MSINfo:AFIVe

Syntax	:CALL:GSM:MSINfo:AFIVe
Parameters	There are no parameters.
Description	This query will deliver back the A5 ciphering key supported by the mobile.
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	**:CALL:GSM:MSINfo:AFIVe?** The integer delivered back: **"3"**.

:CALL:GSM:MSINfo:TADVance

Syntax	:CALL:GSM:MSINfo:TADVance
Parameters	There are no parameters.
Description	This query will deliver back the timing advance currently used by the mobile (in bit periods). More details regarding the timing advance can be found in section Timeslots and Bursts.
Query	There is only a query form of this command available. The query will deliver back one integer.

Example	**:CALL:GSM:MSINfo:TADVance?** The integer delivered back: **"0"**.

:CALL:GSM:MSINfo:DUALband

Syntax	:CALL:GSM:MSINfo:DUALband
Parameters	There are no parameters.
Description	This query will deliver back an integer indicating whether the mobile is able to use both the GSM and PCN frequency ranges (GSM 900 and GSM 1800).
Query	There is only a query form of this command available. The query will deliver back one integer indicating the supported bands: 1 - P-GSM only 2 - E-GSM only 4 - GSM 1800 only 5 - P-GSM and GSM 1800 6 - E-GSM and GSM 1800
Example	**:CALL:GSM:MSINfo:DUALband?** The integer delivered back is: **"6"**.

:CALL:GSM:MSINfo:PCONtrol

Syntax	:CALL:GSM:MSINfo:PCONtrol
Parameters	There are no parameters.
Description	This query will deliver back the power control level currently used by the mobile. This figure is coded according to the scheme explained in section Power Control Levels and Tolerances.
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	**:CALL:GSM:MSINfo:PCONtrol?** The integer delivered back is: **"16"**.

:CALL:GSM:MSINfo:EFRCapab

Syntax	:CALL:GSM:MSINfo:EFRCapab
Parameters	There are no parameters.
Description	This query will deliver back a boolean number indicating whether the mobile is capable of using enhanced full rate TCHs or not. A **0** means that the mobile under test is not able to support enhanced full rate TCHs.
Query	There is only a query form of this command available. The query will deliver back one boolean number.
Example	**:CALL:GSM:MSINfo:EFRCapab?** The boolean number delivered back is: **"1"**.

GSM/GPRS commands

:CALL:GPRS:MSINfo:IMSI

Syntax	:CALL:GPRS:MSINfo:IMSI
Parameters	There are no parameters.
Description	This query will deliver back the international mobile subscriber identity as stored on the mobile's SIM card.
Query	There is only a query form of this command available. The query will deliver back a string.
Example	:CALL:GPRS:MSINfo:IMSI? The string delivered back is: "001010123456789".

:CALL:GPRS:MSINfo:IMEI

Syntax	:CALL:GPRS:MSINfo:IMEI
Parameters	There are no parameters.
Description	This query will deliver back the international mobile equipment identity as stored inside the mobile (the so-called serial number).
Query	There is only a query form of this command available. The query will deliver back a string.
Example	:CALL:GPRS:MSINfo:IMSI? The string delivered back is: "520040190000430".

:CALL:GPRS:MSINfo:MSCLass

Syntax	:CALL:GPRS:MSINfo:MSCLass
Parameters	There are no parameters.
Description	This query will deliver back the code representing the mobile's power class.
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	:CALL:GPRS:MSINfo:MSCLass? The integer delivered back is: "4".

:CALL:GPRS:MSINfo:AFIVe

Syntax	:CALL:GPRS:MSINfo:AFIVe
Parameters	There are no parameters.
Description	This query will deliver back the A5 ciphering key supported by the mobile.
Query	There is only a query form of this command available. The query will deliver back one integer.

Example	:CALL:GPRS:MSINfo:AFIVe? The integer delivered back is: "3".

:CALL:GPRS:MSINfo:TADVance

Syntax	:CALL:GPRS:MSINfo:TADVance
Parameters	There are no parameters.
Description	This query will deliver back the timing advance currently used by the mobile (in bit periods).
Query	There is only a query form of this command available. The query will deliver back one integer.
Example	:CALL:GPRS:MSINfo:TADVance? The integer delivered back is: "0".

:CALL:GPRS:MSINfo:ATYPe

Syntax	:CALL:GPRS:MSINfo:ATYPe?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	This query returns a string containing an integer number pointing to the attach type. A return value of 1 indicates that the mobile requested a standalone GPRS attach. 2 indicates that the mobile requested a GPRS attach after IMSI attach. 3 means that the mobile requested a combined IMSI/GPRS attach.
Example	:CALL:GPRS:MSINfo:ATYPe? Returns a string like the following: "2"

:CALL:GPRS:MSINfo:SMTime

Syntax	:CALL:GPRS:MSINfo:SMTime?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	Returns a string containing the switch-measure time reported by the mobile phone. Valid return values are in the range 0 through 15.
Example	:CALL:GPRS:MSIN:SMT? Returns a string, for example 4

:CALL:GPRS:MSINfo:SMSTime

Syntax	:CALL:GPRS:MSINfo:SMSTime?
Parameters	There are no parameters.

Description	Only the query form is supported.
Query	Returns a string containing the switch-measure-switch time reported by the mobile phone. Valid return values are in the range 0 through 15.
Example	:CALL:GPRS:MSIN:SMST? Returns a string, for example 4

:CALL:GPRS:MODE

Syntax	:CALL:GPRS:MODE <PredefExpr>
Parameters	PredefExp is one of the following expressions: TX|BCS|USF|STOP|DETach.
Description	Initiates the signaling state required for the respective measurement, or leads back to idle mode. TX starts the signaling required for transmitter measurements. BCS starts signaling to bring the mobile into a state where BLER-BCS measurements are possible. USF initiates signaling that allows both BLER-USF and TX measurements. STOP initiates signaling to terminate the current uplink and/or downlink TBF. DETach starts the signaling to resume GPRS idle mode.
Query	Returns the short form predefined expression for MODE.
Example	:CONF:GPRS:MSTA:MSL 3 CALL:GPRS:MODE USF MEAS:GPRS:MULT:TX:ALL?Initiates an uplink TBF on three time slots, starts the transmitter measurements and returns results for three time slots.

EDGE commands

:CALL:EGPRs:MSINfo:ALL

Syntax	:CALL:EGPRs:MSINfo:ALL
Parameters	There are no parameters.
Description	This command reads out all EGPRS MS Info result values with one query. The query will deliver back 3 single values in the following sequence, all separated by commas: – IMSI (String) This is the international mobile subscriber identity. – IMEI (String) This position contains the international mobile equipment identity. – MClass shows the GPRS multislot class reported by the MS. Valid return values are in the range 1 to 29.
Query	There is only a query form of this command available. The query will return a string containing 15 values coded as explained above.
Example	:CALL:EGPRs:MSINfo:ALL? The string delivered back in this example is: "001010123456789", "520040190000430",3.

:CALL:EGPRs:MSINfo:IMSI

Syntax	:CALL:EGPRs:MSINfo:IMSI
Parameters	There are no parameters.
Description	This query will deliver back the international mobile subscriber identity as stored on the mobile's SIM card.
Query	There is only a query form of this command available. The query will deliver back a string.
Example	:CALL:EGPRs:MSINfo:IMSI? The string delivered back in this example is: "001010123456789".

:CALL:EGPRs:MSINfo:IMEI

Syntax	:CALL:EGPRs:MSINfo:IMEI
Parameters	There are no parameters.
Description	This query will deliver back the international mobile equipment identity as stored inside the mobile (the so-called serial number).
Query	There is only a query form of this command available. The query will deliver back a string.
Example	:CALL:EGPRs:MSINfo:IMEI? The string delivered back in this example is: "520040190000430".

:CALL:EGPRS:MSINfo:MCLass:GPRS

Syntax	:CALL:EGPRS:MSINfo:MCLass:GPRS?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	Returns a string containing the GPRS multislot class reported by the MS. Valid return values are in the range 1 to 29.
Example	CALL:EGPRS:MSIN:MCL:GPRS? Returns a string, for example "10"

:CALL:EGPRs:MODE

Syntax	:CALL:EGPRs:MODE <PredefExpr>
Parameters	PredefExp is one of the following expressions: TX|STOP|DETach.
Description	Initiates the signaling state required for the respective measurement, or leads back to idle mode. TX starts the signaling required for transmitter measurements. STOP initiates signaling to terminate the current uplink and/or downlink TBF. DETach starts the signaling to resume GPRS idle mode.
Query	Returns the short form predefined expression for MODE.
Example	:CONF:EGPRs:MSTA:MSL 3 CALL:EGPRs:MODE TX MEAS:EGPRs:MULT:TX:ALL? Initiates a downlink TBF on three time slots, starts the transmitter measurements and returns results for three time slots.

WCDMA commands

:CALL:WCDMa:POWer:ULTArget

Syntax	:CALL:WCDMa:POWer:ULTArget <Real1>
Parameters	Real1 is a floating point real number. The minimum value is -50, the maximum value 33. The minimum resolution is 0.1. The default value is -50.
Description	This command will set the UL target power.
Query	This query gets the UL target power.
Example	:CALL:WCDM:POW:ULTA -10.0:CALL:WCDM:POW:ULTA? Value returned in this example: -10.0

:CALL:WCDMa:POWer:ULTArget:FORCe

Syntax	:CALL:WCDMa:POWer:ULTArget:FORCe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: NONe|MINimum|MAXimum. Default is NONe.
Description	This command forces the UE to transmit with minimum or maximum power. If set to NONe the UE is set to transmit with the value specified by command: CALL:WCDM:POW:ULTA.
Query	The query form of this command returns the current setting for PredefExp.
Example	:CALL:WCDM:POW:ULTA:FORC MAX :CALL:WCDM:POW:ULTA:FORC? Value returned in this example: MAX.

:CALL:WCDMa:POWer:PREAmble

Syntax	:CALL:WCDMa:POWer:PREAmble?
Parameters	There are no parameters.
Description	There is no set form of this command.
Query	This query gets the calculated Preamble Initial Power.
Example	:CALL:WCDM:POW:PREA? Value returned in this example: -20.0

:CALL:WCDMa:ACTive

Syntax	:CALL:WCDMa:ACTive?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	This query checks if a call is established. Possible returns are NO|YES.

Example	:CALL:WCDM:ACT? The string delivered is, for example: "YES".

:CALL:WCDMa:NB:ORIGinate

Syntax	:CALL:WCDMa:NB:ORIGinate
Parameters	There are no parameters.
Description	Initiates a call setup by the base station (2201 ProLock).
Query	There is no query form of this command available.
Example	:CALL:WCDM:NB:ORIG This command will initiate a NB-originated call in the ProLock (i.e. the mobile phone will be called).

:CALL:WCDMa:NB:RELease

Syntax	:CALL:WCDMa:NB:RELease
Parameters	There are no parameters.
Description	This command will make the ProLock terminate the ongoing call.
Query	There is no query form of this command available.
Example	:CALL:WCDM:NB:REL This command will release the call.

:CALL:WCDMa:NB:LOOPback[:STARt]

Syntax	:CALL:WCDMa:NB:LOOPback[:STARt]
Parameters	There are no parameters.
Description	This command will set the UE into loopback test mode.
Query	This query checks if the UE is in loopback mode. Possible returns are ON|OFF.
Example	:CALL:WCDM:NB:LOOP:CALL:WCDM:NB:LOOP? Value returned in this example: "ON".

:CALL:WCDMa:NB:LOOPback:RELease

Syntax	:CALL:WCDMa:NB:LOOPback:RELease
Parameters	There are no parameters.
Description	This command will stop loopback mode.
Query	There is no query form of this command available.
Example	:CALL:WCDM:NB:LOOP:REL

:CALL:WCDMa:UE:NUMBer

Syntax	:CALL:WCDMa:UE:NUMBer?
Parameters	There are no parameters.
Description	This query will deliver the number dialed on the mobile as a string. In case the call was NB-originated, the string will be empty ("").
Query	There is only a query form of this command available. The query will deliver a string.
Example	:CALL:WCDM:UE:NUMB? The string delivered is, for example: "5551234".

:CALL:WCDMa:UE:IMEIsv

Syntax	:CALL:WCDMa:UE:IMEIsv?
Parameters	There are no parameters.
Description	This query will report the IMEI-(SV) of the UE.
Query	There is only a query form of this command available. The query will deliver a string.
Example	:CALL:WCDM:UE:IMEI? The string delivered is, for example: "5553434251234".

:CALL:WCDMa:UE:IMSI

Syntax	:CALL:WCDMa:UE:IMSI?
Parameters	There are no parameters.
Description	There is only a query form of this command available. The query will deliver a string.
Query	This query will deliver back a string containing the international mobile subscriber identity.
Example	:CALL:WCDM:UE:IMSI? The string delivered in this example could be: "001010123456789".

:CALL:WCDMa:UE:POWClass

Syntax	:CALL:WCDMa:UE:POWClass?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	This query will deliver the code representing the UE's power class. The query will deliver one integer.
Example	:CALL:WCDM:UE:POWC? The integer delivered back could be: 3.

:CALL:WCDMa:UE:MRAT

Syntax	:CALL:WCDMa:UE:MRAT?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	This query will report the supported Multi-RAT capabilities of the Mobile. Possible returns are NON|GSM.
Example	:CALL:WCDM:UE:MRAT? The string delivered in this example could be: "GSM".

:CALL:WCDMa:UE:MCAPability

Syntax	:CALL:WCDMa:UE:MCAPability?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	This query reports the UE's measurement capabilities for compressed mode for Uplink (first return value) and Downlink (second return value). 0 means compressed mode is not needed, 1 means compressed mode is needed.
Example	:CALL:WCDM:UE:MCAP? The string delivered in this example could be: 1,1.

:CALL:WCDMa:UE:POSitioning

Syntax	:CALL:WCDMa:UE:POSitioning?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	This query reports the supported positioning mechanisms. Positioning capabilities have 4 possible values: NONe|NETWork|GPS|BOTH (none, Network based, UE based, both). What is meant by UE based is UE GPS methods and what is meant by Network based is Network based methods.
Example	:CALL:WCDM:UE:POS? The string delivered in this example could be: "NET".

:CALL:WCDMa:UE:REGistration

Syntax	:CALL:WCDMa:UE:REGistration?
Parameters	There are no parameters.
Description	This command will check if the UE has registered. If not, it will set the Status Register Pending flag
Query	This query checks if the UE has registered with the ProLock. Possible returns are NO|YES.

Example	:CALL:WCDM:UE:REG?

:CALL:WCDMa:UE:REGistration:CLEar

Syntax	:CALL:WCDMa:UE:REGistration:CLEar
Parameters	There are no parameters.
Description	This command causes the ProLock to erase any stored information about a previous registration by a mobile.
Query	There is no query form of this command available.
Example	:CALL:WCDM:UE:REG:CLE

Measurement Commands

10

This chapter contains an explanation of the Measure subsystem SCPI commands. The list is structured as follows:

Introduction

The MEASure subsystem is probably the most important SCPI command subsystem of the Willtek 2201 ProLock. There, you will find all commands required to acquire measurement results of the mobile under test.

GSM commands

:MEASure:GSM[:CONTinuous]:RFTX:STOP

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:STOP
Parameters	There are no parameters.
Description	Stops a continuous measurement of the RF TX tests. Note Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.
Example	**:CONF:GSM:MEAS:GRO:RFTX POW,PRMS** **:MEAS:RFTX:GRO** **:MEAS:RFTX:STOP** Configures, starts and stops a measurement.

:MEASure:GSM[:CONTinuous]:RFTX:GROup

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:GROup
Parameters	There are no parameters.
Description	Starts a continuous measurement of the RF TX tests, specified with the :CONF:GSM:MEAS:GRO:RFTX command. To read out the latest measurement results, use the :FETCh:GSM:RFTX:GROup command. Note: Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly.
Query	The query form of this command will start the sequence of RF TX measurements as specified with the :CONF:GSM:MEAS:GRO:RFTX command. As soon as all measurements of the first sequence have been completed, a string will be delivered back, containing the related measurement result values, separated by commas. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the measurements specified. The order of the measurement result values within the string is as described below for the **:MEAS:GSM:CONT:RFTX:ALL** command.

Example	**:CONF:GSM:MEAS:GRO:RFTX POW,PRMS** **:MEASure:GSM:CONTinuous:RFTX:GROup?** In this example, the group of measurements is defined by a power level measurement combined with a RMS phase error measurement. The string returned is: **"4.53,9.98"**. Because of the internal order (see description of the command below), the first measurement result value delivered back is the RMS phase error, the second one the mobile's RF output power level.

:MEASure:GSM[:CONTinuous]:RFTX:ALL

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:ALL
Parameters	There are no parameters.
Description	Starts a continuous measurement of the most important RF TX tests. To read out the latest measurement results, use the :FETCh:GSM:RFTX:ALL command. The RF TX tests performed by this command are: **PPEAk**, the peak phase error measurement, **PRMS**, the root-mean square valued phase error measurement, **FREQuency** means the frequency error of the mobile under test, **LENGth** the length of the burst in microseconds, **UTIMe** stands for the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), **POWer** is the mobile's RF output power level in dBm, **TEMPlate** indicates whether the power/time template has been violated by a burst or not, **CORNer** gives the RF power level in dBm at eight predefined positions of a burst (see section Corner Points for details), **FLATness** gives an indication whether the mobile's RF output power is constant during the active part of the burst. Notes: – Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly. – For a further description of the single measurements, see description of the related commands below.

Query	The query form of this command starts the measurements and - after all 19 measurements have been completed and all measurement results obtained - delivers a string, containing 19 measurement result values, separated with commas. The order and type of these measurement result values delivered back is as follows: 1. **PPEAk**, floating point real number, representing the result of the peak phase error measurement, 2. **PRMS**, floating point real number representing the result of the root-mean square valued phase error measurement, 3. **FREQuency**, floating point real number representing the mobile's frequency error, 4. **LENGth**, floating point real number representing the length of the burst in microseconds, 5. **UTIMe**, floating point real number representing the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), 6. **POWer**, floating point real number representing the mobile's RF output power level in dBm, 7. **TEMPlate** boolean number. A **0** indicates that the power/time template (PTT) was not violated by the last burst measured, while a **1** means that the burst did violate the PTT. 8...15. **CORNer**, eight floating point real numbers, representing the RF power level in dBm at eight predefined positions of a burst. 16...19. **FLATness**, four floating point real numbers, representing the absolute minimum and maximum relative RF power levels of the mobile and their positions during the active part of the burst. Note: For a further description of the single measurements, see description of the related commands below.
Example	**:MEASure:GSM:CONTinuous:RFTX:ALL?** In this case, all relevant RF TX measurements will be performed in a sequence. As soon as all measurements have been completed and all measurement results obtained, a string will be delivered back containing 19 measurement results: **"5.13,1.94,-2.22,557.0,0.1,11.22,0,-72.18, -61.91,-20.91,-0.05,-0.04,-17.97,-56.60, -73.95,-0.05,-0.01,0.02,-0.05"**.

:MEASure:GSM[:CONTinuous]:RFTX:PPEAk

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:PPEAk
Parameters	There are no parameters.
Description	Starts a continuous measurement of the peak phase error. To read out the latest measurement result, use the :FETCh:GSM:RFTX:PPEAk command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of degrees.
Example	**:MEASure:GSM:CONTinuous:RFTX:PPEAk?** The string returned is: **"5.13"**.

:MEASure:GSM[:CONTinuous]:RFTX:PRMS

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:PRMS
Parameters	There are no parameters.
Description	Starts a continuous measurement of the root-mean square valued (RMS) phase error. To read out the latest measurement result, use the :FETCh:GSM:RFTX:PRMS command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of degrees.
Example	**:MEASure:GSM:CONTinuous:RFTX:PRMS?** The string returned is: **"1.54"**.

:MEASure:GSM[:CONTinuous]:RFTX:FREQuency

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:FREQuency
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's frequency error. To read out the latest measurement result, use the :FETCh:GSM:RFTX:FREQuency command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of Hertz.
Example	**:MEASure:GSM:CONTinuous:RFTX:FREQuency?** The string returned is: **"-31.92"**.

:MEASure:GSM[:CONTinuous]:RFTX:LENGth

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:LENGth
Parameters	There are no parameters.
Description	Starts a continuous measurement of the burst length. To read out the latest measurement result, use the :FETCh:GSM:RFTX:LENGth command. For details regarding this RF TX measurement, refer to section Burst Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of microseconds.
Example	**:MEASure:GSM:CONTinuous:RFTX:LENGth?** The string returned is: **"557.0"**.

:MEASure:GSM[:CONTinuous]:RFTX:UTIMe

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:UTIMe
Parameters	There are no parameters.
Description	Starts a continuous measurement of the uplink timing error. To read out the latest measurement result, use the :FETCh:GSM:RFTX:UTIMe command. For details regarding this RF TX measurement, refer to section Burst Results Display.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of microseconds.
Example	**:MEASure:GSM:CONTinuous:RFTX:UTIMe?** The string returned is: **"0.1"**.

:MEASure:GSM[:CONTinuous]:RFTX:POWer

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:POWer
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's RF output power level. To read out the latest measurement result, use the :FETCh:GSM:RFTX:POWer command. For details regarding this RF TX measurement, refer to section Burst Results Display.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of dBm.
Example	**:MEASure:GSM:CONTinuous:RFTX:POWer?** The string returned is: **"11.22"**.

:MEASure:GSM[:CONTinuous]:RFTX:TEMPlate

Syntax	:MEASure:GSM[:CONTinuous]:RFTX:TEMPlate
Parameters	There are no parameters.
Description	Starts a continuous check of the UL burst against the power/time template (PTT). To read out the latest measurement result, use the :FETCh:GSM:RFTX:TEMPlate command. For details regarding this RF TX measurement, refer to section Burst Test Menu. The power/time template (PTT) is user-definable. For details, please refer to section Power/Time Templates (PTT). Note: The power/time template can also be set using the :CALC:RFTX:TEMP commands.

Query	The query form of this command will start the (continuous) check and return a result value as soon as the first check has been completed. The string delivered back will contain one boolean number. A **0** indicates that there was no violation of the PTT, while a **1** means that the last burst measured did violate the PTT.
Example	**:MEASure:GSM:CONTinuous:RFTX:TEMPlate** This command will start the continuous check of the burst against the PTT.

:MEASure:GSM[:CONTinuous]:BLOCkdata:BURStshape

Syntax	:MEASure:GSM[:CONTinuous]:BLOCkdata:BURStshape
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's UL burst shape. To read out the measurement result values of the last burst sampled, use the :FETCh:GSM:RFTX:BLOCkdata:BURStshape command. The aim of this measurement is to obtain the pure RF power levels, sampled by the ProLock in order to display the shape of the burst graphically on another computer or to perform some special analysis of the burst shape. For details regarding the burst measurement, also refer to section Burst Test Menu.
Query	The query form of this command will start the measurement and return an array of measurement result values as soon as the first measurement has been completed. The string delivered back will contain 700 floating point real numbers with the physical dimension of dB (except the first two). The first data position of the array is the absolute position of the middle of the burst (i.e. bit 73) within the burst data supplied. In order to allocate the RF power level obtained for the middle of the burst, add 2 to this first value of the array to find the relative position within this data array (as the first two positions of this array are no data values). The second number is the absolute peak power level of the burst in dBm, obtained at the middle of the burst. All the data values following are relative RF power levels (in dB) with the peak power level (second data value of the array) being the reference. The single measurement result values are separated by commas.
Example	**:MEAS:GSM:CONT:BLOC:BURStshape?** The array returned is: **"353.0,10.0,-73.5,-69.6,-70.8, ...-0.1,0.0,0.2,...-68.4"**. The data have the following meaning: **353.0** on the first position means that the absolute position of the middle of the burst is position 353 of the burst data array. Thus, it can be found on position 355 of the data block returned. The relative power level at the middle of the burst will always be **0.0** as it is the reference point. The peak power of the burst (obtained at the reference point 'middle of the burst') can be found on the second position of the data array and is **10.0** dBm. Then follows the relative RF power levels sampled at the various time positions of the burst (**-73.5,-69.6,...** dB). This means that the absolute power level at the first position sampled is -63,5 dBm (-73.5+10.0). All the remaining data values are relative RF power levels sampled by the ProLock during the burst period.

:MEASure:GSM[:CONTinuous]:BLOCkdata:PHASeerror

Syntax	:MEASure:GSM[:CONTinuous]:BLOCkdata:PHASeerror
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's phase error curve. To read out the measurement result values of the latest phase error curve, use the :FETCh:GSM:RFTX:BLOCkdata:PHASeerror command. The aim of this measurement is to obtain the pure phase error levels, calculated by the ProLock in order to graphically display the phase error curve on another computer or to perform some special analysis of the phase error on an external computer. For details regarding the phase error measurement, please also refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return an array of measurement result values as soon as the first measurement has been completed. The string delivered back will contain 590 floating point real numbers with the physical dimensions of degrees (except the first two). The first number is the absolute position of the middle of the burst (i.e. bit 73). In order to allocate the phase error obtained for bit 73, add 2 to this first value of the array to find the relative position within this data array (as the first two positions of this array are no data values). The second number of this data array is always set to **0.0**. All the data values following are phase errors, forming the curve of the phase error during a burst. The single measurement result values are separated by commas.
Example	**:MEAS:GSM:CONT:BLOCkdata:PHASeerror?** The array returned is: **"353.0,0.0,0.0,0.21,0.41,0.32, ...-2.17,-2.01,-1.87,...0.0"**. The data have the following meaning: **353.0** on the first position means that the absolute position of the middle of the burst is position 353 of the pure data array. Thus, it can be found on position 355 of the entire data block. The result value **0.0** on the second position has no particular meaning. However, it may be used to detect a phase error data array. All the remaining data levels are phase errors calculated, forming the graph of the phase error.

:MEASure:GSM[:CONTinuous]:RFRX:STOP

Syntax	:MEASure:GSM[:CONTinuous]:RFRX:STOP
Parameters	There are no parameters.
Description	Stops a continuous measurement of the RF RX tests. Note Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.
Example	**:MEAS:RFRX:RBER ALL** **:MEAS:RFRX:STOP** Starts and stops a measurement.There are no parameters.

:MEASURE:GSM[:CONTinuous]:RFRX:RBER:ALL

Syntax	`:MEASURE:GSM[:CONTinuous]:RFRX:RBER:ALL`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the residual bit error ratios (RBER). To read out the latest measurement results, use the `:FETCh:GSM:RFRX:RBER:ALL` command. The RF RX tests performed by this command are: **CIB**, the residual bit error ratio of the class Ib bits, **CII**, the residual bit error ratio of the class II bits, and **FER**, the frame erasure ratio. Notes: – More details regarding RBER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – Please keep in mind that the start of a new RF RX test will always terminate the preceding one instantly. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.
Query	The query form of this command starts the measurements and - after all measurements have been completed and all measurement results obtained - delivers a string, containing three floating point real numbers. The order and meaning of these numbers delivered back is as follows: 1. **CIB**, representing the residual bit error ratio of the class Ib bits, 2. **CII**, representing the residual bit error ratio of the class II bits and 3. **FER**, representing the frame erasure ratio. The single result values are separated by commas.
Example	**`:MEAS:GSM:CONT:RFRX:RBER:ALL?`** In this case, all RBER measurements will be performed. As soon as all measurements have been completed and all measurement results obtained, a string will be delivered back containing the three measurement result values: **`"0.0,1.2,0.0"`**.

:MEASURE:GSM[:CONTinuous]:RFRX:RBER:CIB

Syntax	`:MEASURE:GSM[:CONTinuous]:RFRX:RBER:CIB`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the residual bit error ratio of the class Ib bits. To read out the latest measurement result, use the `:FETCh:GSM:RFRX:RBER:CIB` command. Notes: – More details regarding RBER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.

Example	**:MEASure:CONTinuous:RFRX:RBER:CIB?** Measurement result string delivered back: **"0.1"**.

:MEASURE:GSM[:CONTinuous]:RFRX:RBER:CII

Syntax	:MEASURE:GSM[:CONTinuous]:RFRX:RBER:CII
Parameters	There are no parameters.
Description	Starts a continuous measurement of the residual bit error ratio on the class II bits. To read out the latest measurement result, use the :FETCh:GSM:RFRX:RBER:CII command. Notes: – More details regarding RBER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	**:MEAS:GSM:CONT:RFRX:RBER:CII?** Measurement result string delivered back: **"1.2"**.

:MEASURE:GSM[:CONTinuous]:RFRX:RBER:FER

Syntax	:MEASURE:GSM[:CONTinuous]:RFRX:RBER:FER
Parameters	There are no parameters.
Description	Starts a continuous measurement of the frame erasure ratio. To read out the latest measurement result, use the :FETCh:GSM:RFRX:RBER:FER command. Notes: – More details regarding RBER testing can be found in section BER Live Display. – The number of samples to be used for testing can be set, using the **:CONF:GSM:BER:COUNt** command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the frame erasure ratio.
Example	**:MEAS:GSM:CONT:RFRX:RBER:FER?** Measurement result string delivered back: **"0.0"**.

:MEASURE:GSM[:CONTinuous]:RFRX:BER:ALL

Syntax	`:MEASURE:GSM[:CONTinuous]:RFRX:BER:ALL`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the (nonresidual) bit error ratios (BER). To read out the latest measurement results, use the `:FETCh:GSM:RFRX:BER:ALL` command. The RF RX tests performed on this command are: **CIA**, the bit error ratio of the class Ia bits, **CIB**, the bit error ratio of the class Ib bits, and **CII**, the bit error ratio of the class II bits. Notes: – More details regarding BER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – Please keep in mind that the start of a new RF RX test will always terminate the preceding one instantly. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.
Query	The query form of this command starts the measurements and - after all measurements have been completed and all measurement results obtained - delivers a string, containing three floating point real numbers. The order and meaning of these numbers delivered back is as follows: 1. **CIA**, representing the bit error ratio of the class Ia bits, 2. **CIB**, representing the bit error ratio of the class Ib bits, and 3. **CII**, representing the bit error ratio of the class II bits. The single measurement result values are separated by commas.
Example	**`:MEASure:GSM:CONTinuous:RFRX:BER:ALL?`** In this case, all BER measurements will be performed in a sequence. As soon as all measurements have been completed and all measurement results obtained, a string will be delivered back containing the three measurement result values: **`"0.0,0.0,0.2"`**.

:MEASURE:GSM[:CONTinuous]:RFRX:BER:CIA

Syntax	`:MEASURE:GSM[:CONTinuous]:RFRX:BER:CIA`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the (nonresidual) bit error ratio of the class Ia bits. To read out the latest measurement result, use the `:FETCh:GSM:RFRX:BER:CIA` command. Notes: – More details regarding BER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.

Example	**:MEAS:GSM:CONT:RFRX:BER:CIA?** Measurement result string delivered back: **"0.0"**.

:MEASURE:GSM[:CONTinuous]:RFRX:BER:CIB

Syntax	:MEASURE:GSM[:CONTinuous]:RFRX:BER:CIB
Parameters	There are no parameters.
Description	Starts a continuous measurement of the (nonresidual) bit error ratio of the class Ib bits. To read out the latest measurement result, use the :FETCh:GSM:RFRX:BER:CIB command. Notes: – More details regarding BER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	**:MEAS:GSM:CONT:RFRX:BER:CIB?** Measurement result string delivered back: **"0.1"**.

:MEASURE:GSM[:CONTinuous]:RFRX:BER:CII

Syntax	:MEASURE:GSM[:CONTinuous]:RFRX:BER:CII
Parameters	There are no parameters.
Description	Starts a continuous measurement of the (nonresidual) bit error ratio on the class II bits. To read out the latest measurement result, use the :FETCh:GSM:RFRX:BER:CII command. Notes: – More details regarding BER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	**:MEAS:GSM:CONT:RFRX:BER:CII?** Measurement result string delivered back: **"0.2"**.

:MEASure[:GSM][:CONTinuous]:RFRX:BER:CRC

Syntax	:MEASure[:GSM][:CONTinuous]:RFRX:BER:CRC
Parameters	There are no parameters.
Description	Starts a continuous measurement of the (non-residual) bit error ratio on the class II bits. To read out the latest measurement result, use the :FETCh:GSM:RFRX:BER:CII command. Notes – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	:MEAS:GSM:RFRX:BER:CRC? Measurement result string delivered back in this example: "0.2".

:MEASure:GSM[:CONTinuous]:RFRX:FBER

Syntax	:MEASure:GSM[:CONTinuous]:RFRX:FBER
Parameters	There are no parameters.
Description	Starts a continuous measurement of the fast bit error ratio (C-type loop). To read out the latest measurement result, use the :FETCh:GSM:RFRX:FBER command. Notes: – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	**:MEAS:GSM:CONT:RFRX:FBER?** Measurement result string delivered back: **"1.5"**.

:MEASURE:GSM[:CONTinuous]:RFRX:RTDelay

Syntax	:MEASURE:GSM[:CONTinuous]:RFRX:RTDelay
Parameters	There are no parameters.
Description	Starts a continuous measurement of the round trip delay for data during bit error ratio measurements. To read out the latest measurement result, use the :FETCh:GSM:RFRX:RTD command. Note: More details regarding the round-trip delay can be found in section BER Live Display.

Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one integer, representing the round trip delay.
Example	**:MEAS:GSM:CONT:RFRX:RTDelay?** Measurement result string delivered back: **"8"**.

:MEASure:GSM:ARRay:RFTX:GROup

Syntax	:MEASure:GSM:ARRay:RFTX:GROup <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the RF TX tests, specified with the :CONF:GSM:MEAS:GRO:RFTX command for a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFTX:GROup command. Note: Please keep in mind that the start of a new RF TX test will always terminate any preceding measurement of the same type instantly.
Query	The query form of this command will start the sequence of RF TX measurements as specified with the :CONF:GSM:MEAS:GRO:RFTX command for a specific number of times (set with the **int1** parameter). As soon as all measurements have been completed, a string will be delivered back, containing the related measurement result values, separated by commas. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the measurements specified. The order of the measurement result values within the string is as described below for the **:MEAS:GSM:CONT:RFTX:ALL** command. Note: Please keep in mind that the number of measurement result values delivered back is the number of measurement result values of a single execution multiplied with the **int1** parameter.
Example	**:CONF:GSM:MEAS:GRO:RFTX POW,PRMS** **:MEASure:GSM:ARRay:RFTX:GROup? 3** In this example, the group of measurements is defined by a power level measurement combined with a RMS phase error measurement. This group of measurements will be carried out three times. After all measurements have been completed, a result string will be delivered back, containing six measurement result values. The string returned is: **"4.53,9.98,4.08,10.02,4.32,9.99"**. Because of the internal order (see description of the command below), the first (third and fifth) measurement result value delivered back is the RMS phase error, while the second (fourth and sixth) measurement result value is the mobile's RF output power level.

:MEASure:GSM:ARRay:RFTX:ALL

Syntax	:MEASure:GSM:ARRay:RFTX:ALL <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.

Description	Performs a sequential measurement of the most important RF TX tests for a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFTX:ALL` command. The RF TX tests performed by this command are: **PPEAk**, the peak phase error measurement, **PRMS**, the root-mean square valued phase error measurement, **FREQuency** means the frequency error of the mobile under test, **LENGth** the length of the burst in microseconds, **UTIMe** stands for the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), **POWer** is the mobile's RF output power level in dBm, **TEMPlate** indicates whether the power/time template has been violated by a burst or not, **CORNer** gives the RF power level in dBm at eight predefined positions of a burst (see section Corner Points for details), **FLATness** gives an indication whether the mobile's RF output power is constant during the active part of the burst. Notes: – Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly. – For a further description of the single measurements, see description of the related commands below.
Query	The query form of this command performs the measurements and - after all measurements have been completed and all measurement results obtained - delivers a string, containing (19 * **int1**) measurement result values. The single measurement result values are separated by commas. The order and type of these measurement result values delivered back is as follows: 1. **PPEAk**, floating point real number, representing the result of the peak phase error measurement, 2. **PRMS**, floating point real number representing the result of the root-mean square valued phase error measurement, 3. **FREQuency**, floating point real number representing the mobile's frequency error, 4. **LENGth**, floating point real number representing the length of the burst in microseconds, 5. **UTIMe**, floating point real number representing the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), 6. **POWer**, floating point real number representing the mobile's RF output power level in dBm, 7. **TEMPlate** boolean number. A **0** indicates that the power/time template (PTT) was not violated by the last burst measured, while a **1** means that the burst did violate the PTT. 8...15. **CORNer**, eight floating point real numbers, representing the RF power level in dBm at eight predefined positions of a burst. 16...19. **FLATness**, four floating point real numbers, representing the absolute minimum and maximum relative RF power levels of the mobile and their positions during the active part of the burst.

Example	**:MEASure:GSM:ARRay:RFTX:ALL 2** **:FETCh:GSM:RFTX:ALL?** In this case, the sequence of the most important RF TX measurements will be performed twice. All 38 measurement result values will be kept in an internal memory until they are read out with the **FETCh** command. After the internal memory has been read out, it will be cleared. Note: A subsequent **:FETCh** command (without any previous start of a measurement) will therefore try to read nonexisting measurement data and thus create a timeout error.

:MEASure:GSM:ARRay:RFTX:PPEAk

Syntax	:MEASure:GSM:ARRay:RFTX:PPEAk <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the peak phase error for a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFTX:PPEAk command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers with the physical dimension of degrees. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFTX:PPEAk? 5** The string returned is: **"5.13,5.23,4.97,5.21,4.59"**.

:MEASure:GSM:ARRay:RFTX:PRMS

Syntax	:MEASure:GSM:ARRay:RFTX:PRMS <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the root-mean square valued (RMS) phase error for a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFTX:PRMS command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers with the physical dimension of degrees. The single measurement results are separated by commas.

Example	**:MEASure:ARRay:RFTX:PRMS? 5** The string returned is: **"2.33,2.53,1.97,2.41,1.79"**.

:MEASure:GSM:ARRay:RFTX:FREQuency

Syntax	:MEASure:GSM:ARRay:RFTX:FREQuency <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the mobile's frequency error for a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFTX:FREQ command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers with the physical dimension of Hertz. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFTX:FREQuency 5** **:FETCh:GSM:RFTX:FREQ?**. The frequency error measurement will be performed five times. The measurement result values will be stored internally and are read out by the **FETC** command. The string returned is: **"22.33,22.53,21.97,22.41,21.79"**.

:MEASure:GSM:ARRay:RFTX:LENGth

Syntax	:MEASure:GSM:ARRay:RFTX:LENGth <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the burst length for a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFTX:LENGth command. For details regarding this RF TX measurement, refer to section Burst Test Menu.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers with the physical dimension of microseconds. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFTX:LENGth 5** **:FETCh:GSM:RFTX:LENG?**. The measurement of the burst length will be performed five times. The measurement result values will be stored internally and are read out by the **FETC** command. The string returned is: **"556.4,557.2,558.2,557.8,556.5"**.

:MEASure:GSM:ARRay:RFTX:UTIMe

Syntax	`:MEASure:GSM:ARRay:RFTX:UTIMe <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the uplink timing error for a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFTX:UTIMe` command. For details regarding this RF TX measurement, refer to section Burst Results Display.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers with the physical dimension of microseconds. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFTX:UTIMe? 5** The string returned is: **"0.0,0.1,0.0,-0.2,0.1"**.

:MEASure:GSM:ARRay:RFTX:POWer

Syntax	`:MEASure:GSM:ARRay:RFTX:POWer <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **1000**. The default value for **int1** is **0**.
Description	Performs the measurement of the mobile's RF output power level a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFTX:POWer` command. For details regarding this RF TX measurement, refer to section Burst Results Display.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers with the physical dimension of dBm. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFTX:POWer? 5** The string returned is: **"11.22,11.09,11.21,11.14,10.99"**.

:MEASure:GSM:ARRay:RFTX:TEMPlate

Syntax	`:MEASure:GSM:ARRay:RFTX:TEMPlate <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.

Description	Performs a check of the UL bursts against the power/time template (PTT) a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFTX:TEMPlate` command. For details regarding this RF TX measurement, refer to section Burst Test Menu. The power/time template (PTT) is user-definable. For details, please refer to section Power/Time Templates (PTT). Note: The power/time template can also be set using the `:CALC:RFTX:TEMP` commands.
Query	The query form of this command will perform the check of the burst shape against the PTT the specified number of times (**int1** parameter). As soon as all checks have been completed, all check result values will be returned in a string. The string delivered back will contain **int1** boolean numbers. A **0** indicates that there was no violation of the PTT by that burst, while a **1** means that a burst did violate the PTT. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFTX:TEMPlate 10** **:FETCh:GSM:RFTX:TEMP?**. The check of the current burst against the PTT will be performed ten times. The check result values will be stored internally and are read out by the **FETC** command. The string returned is: **"0,0,0,0,0,0,1,0,0,0"**, indicating that the seventh burst checked violated the PTT.

:MEASure:GSM:ARRay:RFRX:RBER:ALL

Syntax	`:MEASure:GSM:ARRay:RFRX:RBER:ALL <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs a sequential measurement of the residual bit error ratios (RBER) a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFRX:RBER:ALL` command. The RF RX tests performed by this command are: **CIB**, the residual bit error ratio of the class Ib bits, **CII**, the residual bit error ratio of the class II bits, and **FER**, the frame erasure ratio. Notes: – More details regarding RBER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – Please keep in mind that the start of a new RF RX test will always terminate the preceding one instantly. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.

Query	The query form of this command will perform the measurements the specified number of times (**int1** parameter). After all measurements have been completed and all measurement results obtained, the query delivers a string, containing (3 * **int1**) measurement result values. The single measurement result values are separated by commas. All measurement result values are floating point real numbers. The order of the measurement result values delivered back is as follows: 1. **CIB**, representing the residual bit error ratio of the class Ib bits, 2. **CII**, representing the residual bit error ratio of the class II bits and 3. **FER**, representing the frame erasure ratio.
Example	**:MEASure:GSM:ARRay:RFRX:RBER:ALL 2** **:FETCh:GSM:RFRX:RBER:ALL?** In this case, the sequence of the residual bit error measurements will be performed twice. All six measurement result values will be kept in an internal memory until they are read out with the **FETCh** command. The string returned is: **"0.1,1.5,0.0,0.2,2.7,0.1"**.

:MEASure:GSM:ARRay:RFRX:RBER:CIB

Syntax	:MEASure:GSM:ARRay:RFRX:RBER:CIB <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the residual bit error ratio of the class Ib bits a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFRX:RBER:CIB command. Notes: – More details regarding RBER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.
Query	The query form of this command will perform the measurement the specified number of times (**<int1>** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **<int1>** floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFRX:RBER:CIB? 5** The string returned is: **"0.2,0.2,0.1,0.3,0.2"**.

:MEASure:GSM:ARRay:RFRX:RBER:CII

Syntax	:MEASure:GSM:ARRay:RFRX:RBER:CII <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.

Description	Performs the measurement of the residual bit error ratio of the class II bits a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFRX:RBER:CII` command. Notes: – More details regarding RBER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	**`:MEASure:GSM:ARRay:RFRX:RBER:CII? 5`** The string returned is: **`"1.4,1.4,1.5,1.7,1.3"`**.

:MEASure:GSM:ARRay:RFRX:RBER:FER

Syntax	`:MEASure:GSM:ARRay:RFRX:RBER:FER <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the frame erasure ratio a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFRX:RBER:FER` command. Notes: – More details regarding RBER testing can be found in section BER Live Display. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers, representing the frame erasure ratios. The single measurement results are separated by commas.
Example	**`:MEASure:GSM:ARRay:RFRX:RBER:FER 5`** **`:FETCh:GSM:RFRX:RBER:FER?`** The string returned is: **`"0.0,0.1,0.0,0.2,0.1"`**.

:MEASure:GSM:ARRay:RFRX:BER:ALL

Syntax	`:MEASure:GSM:ARRay:RFRX:BER:ALL <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.

Description	Performs a sequential measurement of the (nonresidual) residual bit error ratios (RBER) a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFRX:BER:ALL` command. The RF RX tests performed by this command are: **CIA**, the (nonresidual) bit error ratio of the class Ia bits, **CIB**, the (nonresidual) bit error ratio of the class Ib bits, and **CII**, the (nonresidual) bit error ratio of the class II bits. Notes: – More details regarding BER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – Please keep in mind that the start of a new RF RX test will always terminate the preceding one instantly. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.
Query	The query form of this command will perform the measurements the specified number of times (**int1** parameter). After all measurements have been completed and all measurement results obtained, the query delivers a string, containing (3 * **int1**) measurement result values. The single measurement result values are separated by commas. All measurement result values are floating point real numbers. The order of the measurement result values delivered back is as follows: 1. **CIA**, representing the (nonresidual) bit error ratio of the class Ia bits, 2. **CIB**, representing the (nonresidual) bit error ratio of the class Ib bits, and 3. **CII**, representing the (nonresidual) bit error ratio of the class II bits.
Example	**`:MEASure:GSM:ARRay:RFRX:BER:ALL 2`** **`:FETCh:GSM:RFRX:BER:ALL?`** In this case, the sequence of the (nonresidual) bit error measurements will be performed twice. All six measurement result values will be kept in an internal memory until they are read out with the **FETCh** command. The string returned is: **`"0.1,1.5,0.0,0.2,2.7,0.1"`**.

:MEASure:GSM:ARRay:RFRX:BER:CIA

Syntax	`:MEASure:GSM:ARRay:RFRX:BER:CIA <int1>`
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the (nonresidual) bit error ratio on the class Ia bits a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the `:FETCh:GSM:RFRX:BER:CIA` command. Notes: – More details regarding BER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the `:CONF:GSM:BER:COUNt` command.

Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFRX:BER:CIA? 5** The string returned is: **"1.4,1.4,1.5,1.7,1.3"**.

:MEASure:GSM:ARRay:RFRX:BER:CIB

Syntax	:MEASure:GSM:ARRay:RFRX:BER:CIB <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the (nonresidual) bit error ratio on the class Ib bits a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFRX:BER:CIB command. Notes: – More details regarding BER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFRX:BER:CIB? 5** The string returned is: **"1.4,1.4,1.5,1.7,1.3"**.

:MEASure:GSM:ARRay:RFRX:BER:CII

Syntax	:MEASure:GSM:ARRay:RFRX:BER:CII <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the (nonresidual) bit error ratio on the class II bits a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFRX:BER:CII command. Notes: – More details regarding BER testing can be found in section BER Live Display. – More details regarding bit classes can be found in section Voice Coding. – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.

Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFRX:BER:CII? 5** The string returned is: **"1.4,1.4,1.5,1.7,1.3"**.

:MEASure[:GSM]:ARRay:RFRX:BER:CRC

Syntax	:MEASure[:GSM]:ARRay:RFRX:BER:CRC <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the (non-residual) bit error ratio on the class II bits a specific number of times (set with the int1 parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFRX:BER:CII command. Notes – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.
Query	The query form of this command will perform the measurement the specified number of times (int1 parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain int1 floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	:MEAS:GSM:ARR:RFRX:BER:CRC? 5 The string returned in this example is: "1.4,1.4,1.5,1.7,1.3".

:MEASure:GSM:ARRay:RFRX:FBER

Syntax	:MEASure:GSM:ARRay:RFRX:FBER <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the fast bit error ratio (C-loop) test a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFRX:FBER command. Notes: – More details regarding Fast BER testing can be found in section BER Live Display. – The number of samples to be used for testing can be set, using the :CONF:GSM:BER:COUNt command.

Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFRX:FBER? 5** The string returned is: **"1.4,1.4,1.5,1.7,1.3"**.

:MEASure:GSM:ARRay:RFRX:RTDelay

Syntax	:MEASure:GSM:ARRay:RFRX:RTDelay <int1>
Parameters	**int1** is an integer. The minimum value for **int1** is **0**, the maximum value is **100**. The default value for **int1** is **0**.
Description	Performs the measurement of the round trip delay (of data during bit error ratio measurements) a specific number of times (set with the **int1** parameter). To read out the entire measurement results array, use the :FETCh:GSM:RFRX:RTD command. Note: More details regarding the round-trip delay can be found in section BER Live Display.
Query	The query form of this command will perform the measurement the specified number of times (**int1** parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain **int1** integers, representing the single round trip delays. The single measurement results are separated by commas.
Example	**:MEASure:GSM:ARRay:RFRX:RTDelay? 5** The string returned is: **"8,8,8,8,8"**.

GSM/GPRS commands

Please note that the accuracy specified for multislot transmitter measurements applies to the time slot with the highest power level. The accuracy of results at levels of more than 10 dB below the highest power level may be significantly lower.

:MEASure:GPRS[:CONTinuous]:RFTX:STOP

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:STOP
Parameters	There are no parameters.
Description	Stops continuous RF transmitter measurements. Note Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.
Example	:MEAS:GPRS:RFTX:ALL :MEAS:GPRS:RFTX:STOP Starts and stops a measurement.

:MEASure:GPRS[:CONTinuous]:RFTX:GROup

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:GROup
Parameters	There are no parameters.
Description	Starts a continuous measurement of the GSM RF TX tests, specified with the :CONF:GPRS:MEAS:GRO:RFTX command. To read out the latest measurement results, use the :FETCh:GPRS:RFTX:GROup command. Note: Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly.
Query	The query form of this command will start the sequence of RF TX measurements as specified with the :CONF:GPRS:MEAS:GRO:RFTX command. As soon as all measurements of the first sequence have been completed, a string will be delivered back, containing the related measurement result values, separated by commas. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the measurements specified. The order of the measurement result values within the string is as described below for the :MEAS:GPRS:CONT:RFTX:ALL command.
Example	:CONF:GPRS:MEAS:GRO:RFTX POW,PRMS :MEASure:GPRS:CONTinuous:RFTX:GROup? In this example, the group of measurements is defined by a power level measurement combined with a RMS phase error measurement. The string returned is: "4.53,9.98". Because of the internal order (see description of the command below), the first measurement result value delivered back is the RMS phase error, the second one the mobile's RF output power level.

:MEASure:GPRS[:CONTinuous]:RFTX:ALL

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:ALL
Parameters	There are no parameters.
Description	Starts a continuous measurement of the most important GSM RF TX tests. To read out the latest measurement results, use the :FETCh:GPRS:RFTX:ALL command. The RF TX tests performed by this command are: PPEAk, the peak phase error measurement, PRMS, the root-mean square valued phase error measurement, FREQuency means the frequency error of the mobile under test, LENGth the length of the burst in microseconds, UTIMe stands for the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), POWer is the mobile's RF output power level in dBm, TEMPlate indicates whether the power/time template has been violated by a burst or not, CORNer gives the RF power level in dBm at eight predefined positions of a burst (see section Corner Points for details), FLATness gives an indication whether the mobile's RF output power is constant during the active part of the burst. Notes: Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly. For [:CONTinuous] measurements in general, check with section :MEASure:GPRS[:CONTinuous]. For a further description of the single measurements, see description of the related commands below.

Query	The query form of this command starts the measurements and - after all 19 measurements have been completed and all measurement results obtained - delivers a string, containing 19 measurement result values, separated with commas. The order and type of these measurement result values delivered back is as follows: 1. PPEAk, floating point real number, representing the result of the peak phase error measurement, 2. PRMS, floating point real number representing the result of the root-mean square valued phase error measurement, 3. FREQuency, floating point real number representing the mobile's frequency error, 4. LENGth, floating point real number representing the length of the burst in microseconds, 5. UTIMe, floating point real number representing the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), 6. POWer, floating point real number representing the mobile's RF output power level in dBm, 7. TEMPlate boolean number. A 0 indicates that the power/time template (PTT) was not violated by the last burst measured, while a 1 means that the burst did violate the PTT. 8...15. CORNer, eight floating point real numbers, representing the RF power level in dBm at eight predefined positions of a burst. 16...19. FLATness, four floating point real numbers, representing the absolute minimum and maximum relative RF power levels of the mobile and their positions during the active part of the burst. Note: For a further description of the single measurements, see description of the related commands below.

Example	`:MEASure:GPRS:CONTinuous:RFTX:ALL?`
	In this case, all relevant RF TX measurements will be performed in a sequence. As soon as all measurements have been completed and all measurement results obtained, a string will be delivered back containing 19 measurement results:
	`"5.13,1.94,-2.22,557.0,0.1,11.22,0,-72.18,-61.91,-20.91,-0.05,-0.04,-17.97,-56.60,-73.95,-0.05,-0.01,0.02,-0.05".`

:MEASure:GPRS[:CONTinuous]:RFTX:PPEAk

Syntax	`:MEASure:GPRS[:CONTinuous]:RFTX:PPEAk`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the GSM peak phase error. To read out the latest measurement result, use the `:FETCh:GPRS:RFTX:PPEAk` command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of degrees.
Example	`:MEASure:GPRS:CONTinuous:RFTX:PPEAk?` The string returned is: `"5.13"`.

:MEASure:GPRS[:CONTinuous]:RFTX:PRMS

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:PRMS
Parameters	There are no parameters.
Description	Starts a continuous measurement of the root-mean square valued (RMS) phase error in GSM. To read out the latest measurement result, use the :FETCh:GPRS:RFTX:PRMS command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of degrees.
Example	:MEASure:GPRS:CONTinuous:RFTX:PRMS? The string returned is: "1.54".

:MEASure:GPRS[:CONTinuous]:RFTX:FREQuency

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:FREQuency
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's frequency error in GSM mode. To read out the latest measurement result, use the :FETCh:GPRS:RFTX:FREQuency command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of Hertz.
Example	:MEASure:GPRS:CONTinuous:RFTX:FREQuency? The string returned is: "-31.92".

:MEASure:GPRS[:CONTinuous]:RFTX:LENGth

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:LENGth
Parameters	There are no parameters.
Description	Starts a continuous measurement of the burst length in GSM mode. To read out the latest measurement result, use the :FETCh:GPRS:RFTX:LENGth command. For details regarding this RF TX measurement, refer to section Burst Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of microseconds.
Example	:MEASure:CONTinuous:RFTX:LENGth? The string returned is: "557.0".

:MEASure:GPRS[:CONTinuous]:RFTX:UTIMe

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:UTIMe
Parameters	There are no parameters.
Description	Starts a continuous measurement of the GSM uplink timing error. To read out the latest measurement result, use the :FETCh:GPRS:RFTX:UTIMe command. For details regarding this RF TX measurement, refer to section Burst Results Display.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of microseconds.
Example	:MEASure:GPRS:CONTinuous:RFTX:UTIMe? The string returned is: "0.1".

:MEASure:GPRS[:CONTinuous]:RFTX:POWer

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:POWer
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's RF output power level. To read out the latest measurement result, use the :FETCh:GPRS:RFTX:POWer command. For details regarding this RF TX measurement, refer to section Burst Results Display.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of dBm.
Example	:MEASure:GPRS:CONTinuous:RFTX:POWer? The string returned is: "11.22".

:MEASure:GPRS[:CONTinuous]:RFTX:TEMPlate

Syntax	:MEASure:GPRS[:CONTinuous]:RFTX:TEMPlate
Parameters	There are no parameters.
Description	Starts a continuous check of the UL burst against the power/time template (PTT). To read out the latest measurement result, use the :FETCh:GPRS:RFTX:TEMPlate command. For details regarding this RF TX measurement, refer to section Burst Test Menu. The power/time template (PTT) is user-definable. For details, please refer to section Power/Time Templates (PTT). Note: The power/time template can also be set using the :CALC:RFTX:TEMP commands.

Query	The query form of this command will start the (continuous) check and return a result value as soon as the first check has been completed. The string delivered back will contain one boolean number. A `0` indicates that there was no violation of the PTT, while a `1` means that the last burst measured did violate the PTT.
Example	`:MEASure:GPRS:CONTinuous:RFTX:TEMPlate` This command will start the continuous check of the burst against the PTT.

:MEASure:GPRS[:CONTinuous]:RFTX:CORNer

Syntax	`:MEASure:GPRS[:CONTinuous]:RFTX:CORNer`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's RF output power level on eight user-definable positions of the ramping phases of a burst (the so-called points). To read out the latest measurement results, use the `:FETCh:GPRS:RFTX:CORNer` command. For details regarding this RF TX measurement, please refer to section Burst Results Display. More details regarding the points can be found in section Corner Points. Note: The points can also be set using the `:CALC:RFTX:CORN` commands.
Query	The query form of this command will start the measurement and return eight measurement result values as soon as the first measurement has been completed. The string delivered back will contain eight floating point real numbers with the physical dimension of dBm. The single values are separated by commas.
Example	`:MEASure:GPRS:CONTinuous:RFTX:CORNer?` The string returned is: `"-72.18,-61.91,-20.91,-0.05, -0.04,-17.97,-56.60,-73.95"`.

:MEASure:GPRS[:CONTinuous]:RFTX:FPOWer

Syntax	`:MEASure:GPRS[:CONTinuous]:RFTX:FPOWer`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the fast burst peak power level. This measurement is very similar to the `:MEAS:GPRS:RFTX:POWer` measurement, but it is faster. To read out the latest measurement result, use the `:FETCh:GPRS:RFTX:FPOWer` and the `:CALCulate:GSM:RFTX:POWer:...` commands. For further details, refer to the description of the `:CONF:GPRS:MEAS:LEV:EXP` command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimensions of dBm.
Example	`:MEASure:GPRS:CONTinuous:RFTX:FPOWer?` The string returned is: `"13.05"`.

:MEASure:GPRS[:CONTinuous]:BLOCkdata:BURStshape

Syntax	`:MEASure:GPRS[:CONTinuous]:BLOCkdata:BURStshape`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's UL burst shape. To read out the measurement result values of the last burst sampled, use the `:FETCh:GPRS:BLOCkdata:BURStshape` command. The aim of this measurement is to obtain the pure RF power levels, sampled by the ProLock in order to display the shape of the burst graphically on another computer or to perform some special analysis of the burst shape. For details regarding the burst measurement, also refer to section Burst Test Menu.
Query	The query form of this command will start the measurement and return an array of measurement result values as soon as the first measurement has been completed. The string delivered back will contain 700 floating point real numbers with the physical dimension of dB (except the first two). The first data position of the array is the absolute position of the middle of the burst (i.e. bit 73) within the burst data supplied. In order to allocate the RF power level obtained for the middle of the burst, add 2 to this first value of the array to find the relative position within this data array (as the first two positions of this array are no data values). The second number is the absolute peak power level of the burst in dBm, obtained at the middle of the burst. All the data values following are relative RF power levels (in dB) with the peak power level (second data value of the array) being the reference. The single measurement result values are separated by commas.
Example	`:MEAS:GPRS:CONT:BLOC:BURStshape?` The array returned is: `"353.0,10.0,-73.5,-69.6,-70.8, ...-0.1,0.0,0.2,...-68.4"`. The data have the following meaning: `353.0` on the first position means that the absolute position of the middle of the burst is position 353 of the burst data array. Thus, it can be found on position 355 of the data block returned. The relative power level at the middle of the burst will always be `0.0` as it is the reference point. The peak power of the burst (obtained at the reference point 'middle of the burst') can be found on the second position of the data array and is `10.0` dBm in this example. Then follows the relative RF power levels sampled at the various time positions of the burst (`-73.5,-69.6,...` dB). This means that the absolute power level at the first position sampled is -63,5 dBm (-73.5+10.0). All the remaining data values are relative RF power levels sampled by the ProLock during the burst period.

:MEASure:GPRS[:CONTinuous]:BLOCkdata:PHASeerror

Syntax	`:MEASure:GPRS[:CONTinuous]:BLOCkdata:PHASeerror`
Parameters	There are no parameters.

Description	Starts a continuous measurement of the mobile's phase error curve. To read out the measurement result values of the latest phase error curve, use the `:FETCh:GPRS:BLOCkdata:PHASeerror` command. The aim of this measurement is to obtain the pure phase error levels, calculated by the ProLock in order to graphically display the phase error curve on another computer or to perform some special analysis of the phase error on an external computer. For details regarding the phase error measurement, please also refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return an array of measurement result values as soon as the first measurement has been completed. The string delivered back will contain 590 floating point real numbers with the physical dimensions of degrees (except the first two). The first number is the absolute position of the middle of the burst (i.e. bit 73). In order to allocate the phase error obtained for bit 73, add 2 to this first value of the array to find the relative position within this data array (as the first two positions of this array are no data values). The second number of this data array is always set to `0.0`. All following 709 data values are phase errors, forming the curve of the phase error during a burst. The single measurement result values are separated by commas.
Example	`:MEAS:GPRS:CONT:BLOCkdata:PHASeerror?` The array returned in this example is: `"353.0,0.0,0.0,0.21,0.41,0.32, ...-2.17,-2.01,-1.87,...0.0"`. The data have the following meaning: `353.0` on the first position means that the absolute position of the middle of the burst is position 353 of the pure data array. Thus, it can be found on position 355 of the entire data block. The result value `0.0` on the second position has no particular meaning. However, it may be used to detect a phase error data array. All the remaining data levels are phase errors calculated, forming the graph of the phase error.

:MEASure:GPRS[:CONTinuous]:RFRX:STOP

Syntax	`:MEASure:GPRS[:CONTinuous]:RFRX:STOP`
Parameters	There are no parameters.
Description	Stops continuous RF receiver measurements. **Note** Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.

Example	`:MEAS:GPRS:RFRX:RBER:ALL`
	`:MEAS:GPRS:RFRX:STOP`
	Starts and stops a measurement.

:MEASure:GPRS[:CONTinuous]:RFRX:RBER:ALL

Syntax	`:MEASure:GPRS[:CONTinuous]:RFRX:RBER:ALL`
Parameters	There are no parameters.

Description	Starts a continuous measurement of the residual bit error ratios (RBER). To read out the latest measurement results, use the `:FETCh:GPRS:RFRX:RBER:ALL` command. The RF RX tests performed by this command are: `CIB`, the residual bit error ratio of the class Ib bits, `CII`, the residual bit error ratio of the class II bits, and `FER`, the frame erasure ratio. Notes: More details regarding RBER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. Please keep in mind that the start of a new RF RX test will always terminate the preceding one instantly. The number of samples to be used for testing can be set using the `:CONF:GPRS:BER:COUNt` command.
Query	The query form of this command starts the measurements and - after all measurements have been completed and all measurement results obtained - delivers a string, containing three floating point real numbers. The order and meaning of these numbers delivered back is as follows: 1. `CIB`, representing the residual bit error ratio of the class Ib bits, 2. `CII`, representing the residual bit error ratio of the class II bits and 3. `FER`, representing the frame erasure ratio. The single result values are separated by commas.
Example	`:MEAS:GPRS:CONT:RFRX:RBER:ALL?` In this case, all RBER measurements will be performed. As soon as all measurements have been completed and all measurement results obtained, a string will be delivered back containing the three measurement result values: `"0.0,1.2,0.0"`.

:MEASure:GPRS[:CONTinuous]:RFRX:RBER:CIB

Syntax	`:MEASure:GPRS[:CONTinuous]:RFRX:RBER:CIB`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the residual bit error ratio of the class Ib bits. To read out the latest measurement result, use the `:FETCh:GPRS:RFRX:RBER:CIB` command. Notes: More details regarding RBER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the `:CONF:GPRS:BER:COUNt` command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	`:MEASure:CONTinuous:RFRX:RBER:CIB?` Measurement result string delivered back: `"0.1"`.

:MEASure:GPRS[:CONTinuous]:RFRX:RBER:CII

Syntax	:MEASure:GPRS[:CONTinuous]:RFRX:RBER:CII
Parameters	There are no parameters.
Description	Starts a continuous measurement of the residual bit error ratio on the class II bits. To read out the latest measurement result, use the :FETCh:GPRS:RFRX:RBER:CII command. Notes: More details regarding RBER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	:MEAS:GPRS:CONT:RFRX:RBER:CII? Measurement result string delivered back: "1.2".

:MEASure:GPRS[:CONTinuous]:RFRX:RBER:FER

Syntax	:MEASure:GPRS[:CONTinuous]:RFRX:RBER:FER
Parameters	There are no parameters.
Description	Starts a continuous measurement of the frame erasure ratio. To read out the latest measurement result, use the :FETCh:GPRS:RFRX:RBER:FER command. Notes: More details regarding RBER testing can be found in section BER Live Display. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the frame erasure ratio.
Example	:MEAS:GPRS:CONT:RFRX:RBER:FER? Measurement result string delivered back: "0.0".

:MEASure:GPRS[:CONTinuous]:RFRX:BER:ALL

Syntax	:MEASure:GPRS[:CONTinuous]:RFRX:BER:ALL
Parameters	There are no parameters.

Description	Starts a continuous measurement of the (nonresidual) bit error ratios (BER). To read out the latest measurement results, use the `:FETCh:GPRS:RFRX:BER:ALL` command. The RF RX tests performed on this command are: `CIA`, the bit error ratio of the class Ia bits, `CIB`, the bit error ratio of the class Ib bits, and `CII`, the bit error ratio of the class II bits. Notes: More details regarding BER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. Please keep in mind that the start of a new RF RX test will always terminate the preceding one instantly. The number of samples to be used for testing can be set, using the `:CONF:GPRS:BER:COUNt` command.
Query	The query form of this command starts the measurements and - after all measurements have been completed and all measurement results obtained - delivers a string, containing three floating point real numbers. The order and meaning of these numbers delivered back is as follows: 1. `CIA`, representing the bit error ratio of the class Ia bits, 2. `CIB`, representing the bit error ratio of the class Ib bits, and 3. `CII`, representing the bit error ratio of the class II bits. The single measurement result values are separated by commas.
Example	`:MEASure:GPRS:CONTinuous:RFRX:BER:ALL?` In this case, all BER measurements will be performed in a sequence. As soon as all measurements have been completed and all measurement results obtained, a string will be delivered back containing the three measurement result values: `"0.0,0.0,0.2"`.

:MEASure:GPRS[:CONTinuous]:RFRX:BER:CIA

Syntax	`:MEASure:GPRS[:CONTinuous]:RFRX:BER:CIA`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the (nonresidual) bit error ratio of the class Ia bits. To read out the latest measurement result, use the `:FETCh:GPRS:RFRX:BER:CIA` command. Notes: More details regarding BER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the `:CONF:GPRS:BER:COUNt` command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	`:MEAS:GPRS:CONT:RFRX:BER:CIA?` Measurement result string delivered back: `"0.0"`.

:MEASure:GPRS[:CONTinuous]:RFRX:BER:CIB

Syntax	:MEASure:GPRS[:CONTinuous]:RFRX:BER:CIB
Parameters	There are no parameters.
Description	Starts a continuous measurement of the (nonresidual) bit error ratio of the class Ib bits. To read out the latest measurement result, use the :FETCh:GPRS:RFRX:BER:CIB command. Notes: More details regarding BER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	:MEAS:GPRS:CONT:RFRX:BER:CIB? Measurement result string delivered back: "0.1".

:MEASure:GPRS[:CONTinuous]:RFRX:BER:CII

Syntax	:MEASure:GPRS[:CONTinuous]:RFRX:BER:CII
Parameters	There are no parameters.
Description	Starts a continuous measurement of the (nonresidual) bit error ratio on the class II bits. To read out the latest measurement result, use the :FETCh:GPRS:RFRX:BER:CII command. Notes: More details regarding BER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	:MEAS:GPRS:CONT:RFRX:BER:CII? Measurement result string delivered back: "0.2".

:MEASure:GPRS[:CONTinuous]:RFRX:BER:CRC

Syntax	:MEASure:GPRS[:CONTinuous]:RFRX:BER:CRC
Parameters	There are no parameters.

Description	Starts a continuous measurement of the (non-residual) bit error ratio on the class II bits. To read out the latest measurement result, use the `:FETCh:GPRS:RFRX:BER:CII` command. The number of samples to be used for testing can be set using the `:CONF:GPRS:BER:COUNt` command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	`:MEAS:GPRS:RFRX:BER:CRC?` Measurement result string delivered back in this example: `"0.2"`.

:MEASure:GPRS[:CONTinuous]:RFRX:FBER

Syntax	`:MEASure:GPRS[:CONTinuous]:RFRX:FBER`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the fast bit error ratio (C-type loop). To read out the latest measurement result, use the `:FETCh:GPRS:RFRX:FBER` command. Notes: More details regarding Fast BER testing can be found in section BER Live Display. The number of samples to be used for testing can be set, using the `:CONF:GPRS:BER:COUNt` command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number, representing the bit error ratio.
Example	`:MEAS:GPRS:CONT:RFRX:FBER?` Measurement result string delivered back: `"1.5"`.

:MEASure:GPRS[:CONTinuous]:RFRX:RTDelay

Syntax	`:MEASure:GPRS[:CONTinuous]:RFRX:RTDelay`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the round trip delay for data during bit error ratio measurements. To read out the latest measurement result, use the `:FETCh:GPRS:RFRX:RTD` command. Note: More details regarding the round-trip delay can be found in section BER Live Display.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one integer, representing the round trip delay.
Example	`:MEAS:GPRS:CONT:RFRX:RTDelay?` Measurement result string delivered back: `"8"`.

:MEASure:GPRS[:CONTinuous]:MULTislot:RFTX:ALL

Syntax	:MEASure:GPRS[:CONTinuous]:MULTislot:RFTX:ALL
Parameters	There are no parameters.
Description	Measures repetitively all RF TX parameters for the number of time slots set by the :CONFigure:GPRS:MSTAtion:MSLot command. The number of time slots measured is the first parameter in the result string. To read out the latest measurement results, use the :FETCh:GPRS:MULTislot:RFTX:ALL command. The RF TX tests performed by this command are: PPEAk, the peak phase error measurement, PRMS, the root-mean square valued phase error measurement, FREQuency means the frequency error of the mobile under test, LENGth is the length of the burst in microseconds, UTIMe stands for the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), POWer is the mobile's RF output power level in dBm, TEMPlate indicates by returning 1 and 0 that the power/time template has and has not been violated by a burst respectively, CORNer gives the RF power level in dBm at eight predefined positions of a burst, FLATness indicates whether the mobile's RF output power is constant during the active part of the burst. Notes: Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly. For more information on the single measurements, see description of the related commands below.
Query	The query form of this command starts the measurements and - after all measurements have been completed and all measurement results have been obtained for all time slots - delivers a string, containing an integer number indicating the number of time slots measured followed by 19 measured values for each time slot, separated with commas. The order and type of the measurement results delivered back are as follows: 1. The number of time slots measured, an integer number, 2. PPEAk, floating point real number, 3. PRMS, floating point real number, 4. FREQuency, floating point real number, 5. LENGth, floating point real number, 6. UTIMe, floating point real number, 7. POWer, floating point real number, 8. TEMPlate, a boolean number, 9...16. CORNer, eight floating point real numbers, 17...20. FLATness, four floating point real numbers. The items 2... 20 are repeated in the same order and format for each time slot measured.

Example	:MEAS:GPRS:CONT:MULT:RFTX:ALL? For the number of measured time slots set to 1, 19 relevant RF TX measurements will be performed in a sequence. As soon as all measurements have been completed and all measurement results obtained, a string will be delivered back containing the number of time slots measured and the measurement results. Example: "1,5.13,1.94,-2.22,557.0,0.1,11.22,0,-72.18,-61.91,-20.91,-0.05,-0.04,-17.97,-56.60,-73.95,-0.05,-0.01,0.02,-0.05".

:MEASure:GPRS[:CONTinuous]:MULTislot:RFTX:PPEAk

Syntax	:MEASure:GPRS[:CONTinuous]:MULTislot:RFTX:PPEAk
Parameters	There are no parameters.
Description	Measures repetitively the peak phase error for all time slots assigned by the ProLock using the :CONFigure:GPRS:MSTAtion:MSLot command. To read out the latest measurement result, use the :FETCh:GPRS:MULTislot:RFTX:PPEAk command.
Query	The query form of this command starts the measurements and returns measurement results as soon as the measurements have been completed. The string delivered back contains an integer number indicating the number of time slots measured followed by floating point real numbers with the physical dimension of degrees, representing the measurement results for each time slot.
Example	:MEAS:GPRS:CONT:MULT:RFTX:PPEA? For the number of time slots measured set to 2, an example of the string returned is: "2,5.13,6.28".

:MEASure:GPRS[:CONTinuous]
:MULTislot:RFTX:TEMPlate

Syntax	:MEASure:GPRS[:CONTinuous]:MULTislot:RFTX:TEMPlate
Parameters	There are no parameters.
Description	Checks repetitively the TX bursts against the power/time template (PTT). To read out the latest measurement result, use the :FETCh:GPRS:MULTislot:RFTX:TEMPlate command. Note: The power/time templates are user-definable and can be set up using the :CALC:GPRS:RFTX:TEMP commands.
Query	The query form of this command starts the check and returns measurement results as soon as the check has been completed. The string delivered back contains an integer number indicating the number of time slots measured, followed by boolean numbers signaling in turn possible violation of the power-time template (PTT) for each slot. A 0 indicates no violation of the PTT, while a 1 means that a burst measured violated the PTT.
Example	:MEAS:GPRS:CONT:MULT:RFTX:TEMP? For two TX bursts measured, an example of the string returned is: "2,0,1" indicating a PTT violation in the second slot.

:MEASure:GPRS[:CONTinuous]:MULTislot:RFRX:BLER

Syntax	:MEASure:GPRS[:CONTinuous]:MULTislot:RFRX:BLER
Parameters	There are no parameters.
Description	Measures repetitively the BLER in USF or BLER-BCS test mode for each of the time slots assigned by the ProLock using the :CONFigure:GPRS:MSTAtion:MSLot and :CONFigure:GPRS:BS:MSLot[:DATA] commands respectively. The test mode can be set by the :CALL:GPRS:MODE command. Notes: The start of a new RF RX test will always terminate the preceding one instantly. The number of samples to be used for testing can be set using the :CONF:GPRS:BLER:COUNt command. To read out the latest measurement results, use the :FETCh:GPRS:MULTislot:RFRX:BLER command.
Query	The query form of this command starts the measurements and - after all measurements have been completed and all measurement results obtained - delivers a string, containing an integer number indicating the number of time slots measured, a floating point real number giving the BLER for all slots followed by floating point real numbers giving the BLER for individual slots, separated by commas.
Example	:MEASure:GPRS:CONT:MULT:RFRX:BLER? For the number of time slots set to 2, an example of the string returned is: "2,0.2,0.0,0.2".

:MEASure:GPRS:ARRay:RFTX:GROup

Syntax	:MEASure:GPRS:ARRay:RFTX:GROup <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Performs the RF TX tests, specified with the :CONF:GPRS:MEAS:GRO:RFTX command for a specific number of times (set with the int1 parameter). To read out the entire measurement results array, use the :FETCh:GPRS:RFTX:GROup command. Note: Please keep in mind that the start of a new RF TX test will always terminate any preceding measurement of the same type instantly.
Query	The query form of this command will start the sequence of RF TX measurements as specified with the :CONF:MEAS:GRO:RFTX command for a specific number of times (set with the int1 parameter). As soon as all measurements have been completed, a string will be delivered back, containing the related measurement result values, separated by commas. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the measurements specified. The order of the measurement result values within the string is as described below for the :MEAS:GPRS:CONT:RFTX:ALL command. Note: Please keep in mind that the number of measurement results delivered back is the number of measurement results of a single execution multiplied with the int1 parameter.

Example	`:CONF:GPRS:MEAS:GRO:RFTX POW,PRMS`
	`:MEASure:GPRS:ARRay:RFTX:GROup? 3`
	In this example, the group of measurements is defined by a power level measurement combined with a RMS phase error measurement. This group of measurements will be carried out three times. After all measurements have been completed, a result string will be delivered back, containing six measurement result values.
	The string returned is:
	`"4.53,9.98,4.08,10.02,4.32,9.99"`.
	Because of the internal order (see description of the command below), the first (third and fifth) measured value delivered back is the RMS phase error, while the second (fourth and sixth) measured value is the mobile's RF output power level.

:MEASure:GPRS:ARRay:RFTX:ALL

Syntax	`:MEASure:GPRS:ARRay:RFTX:ALL <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Measures multiple times (set with the `int1` parameter) all RF TX parameters. To read out the entire measurement results array, use the `:FETCh:GPRS:RFTX:ALL` command. The RF TX tests performed by this command are: `PPEAk`, the peak phase error measurement, `PRMS`, the root-mean square valued phase error measurement, `FREQuency` means the frequency error of the mobile under test, `LENGth` is the length of the burst in microseconds, `UTIMe` stands for the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), `POWer` is the mobile's RF output power level in dBm, `TEMPlate` indicates by returning 1 and 0 that the power/time template has and has not been violated by a burst respectively, `CORNer` gives the RF power level in dBm at eight predefined positions of a burst, `FLATness` indicates whether the mobile's RF output power is constant during the active part of the burst. Notes: Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly. For more information on the single measurements, see description of the related commands below.

Query	The query form of this command returns a string, containing `int1` times 19 measured values separated with commas. The order and type of the measurement results delivered back are as follows: 1. `PPEAk`, floating point real number, 2. `PRMS`, floating point real number, 3. `FREQuency`, floating point real number, 4. `LENGth`, floating point real number, 5. `UTIMe`, floating point real number, 6. `POWer`, floating point real number, 7. `TEMPlate`, a boolean number, 8...15. `CORNer`, eight floating point real numbers, 16...19. `FLATness`, four floating point real numbers. The items 1... 19 are repeated in the same order and format `int1` times for all measurements.

Example	`:MEAS:GPRS:ARR:RFTX:ALL 2`
	`:FETCH:GPRS:RFTX:ALL?`
	In this example, the sequence of the RX TX measurements will be performed twice. All 38 measured values will be kept in an internal memory until they are read out with the `:FETCh` command. After the internal memory has been read out, it will be cleared.
	Note: Consequently, a subsequent `:FETCh` command (without any previous start of a measurement) will try to read nonexisting measurement data and result in a timeout error.

:MEASure:GPRS:ARRay:RFTX:PPEAk

Syntax	`:MEASure:GPRS:ARRay:RFTX:PPEAk <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Measures multiple times (set with the `int1` parameter) the peak phase error. To read out the entire measurement results array, use the `:FETCh:GPRS:RFTX:PPEAk` command.
Query	The query form of this command returns a string, containing `int1` floating point real numbers with the physical dimension of degrees, representing the measurement results. The single measurement results are separated by commas.
Example	`:MEAS:GPRS:ARR:RFTX:PPEA? 5` An example of the string returned is: `"5.13,5.23,4.97,5.12,4.59"`.

:MEASure:GPRS:ARRay:RFTX:PRMS

Syntax	`:MEASure:GPRS:ARRay:RFTX:PRMS <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Measures multiple times (set with the `int1` parameter) the rms phase error. To read out the entire measurement results array, use the `:FETCh:GPRS:RFTX:PRMS` command.

Query	The query form of this command returns a string, containing `int1` floating point real numbers with the physical dimension of degrees, representing the measurement results. The single measurement results are separated by commas.
Example	`:MEAS:GPRS:ARR:RFTX:PRMS? 5` An example of the string returned is: `"5.13,5.23,4.97,5.12,4.59"`.

:MEASure:GPRS:ARRay:RFTX:FREQuency

Syntax	`:MEASure:GPRS:ARRay:RFTX:FREQuency <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Measures multiple times (set with the `int1` parameter) the frequency error. To read out the entire measurement results array, use the `:FETCh:GPRS:RFTX:FREQ` command.
Query	The query form of this command returns a string, containing `int1` floating point real numbers with the physical dimension of Hz, representing the measurement results. The single measurement results are separated by commas.

Example	`:MEAS:GPRS:ARR:RFTX:FREQ 5`
	`:FETC:GPRS:RFTX:FREQ?`
	The frequency error measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: `"22.33,22.53,21.97,22.41,21.79"`.

:MEASure:GPRS:ARRay:RFTX:LENGth

Syntax	`:MEASure:GPRS:ARRay:RFTX:LENGth <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Measures multiple times (set with the `int1` parameter) the burst length. To read out the entire measurement results array, use the `:FETCh:GPRS:RFTX:LENGth` command.
Query	The query form of this command returns a string, containing `int1` floating point real numbers with the physical dimension of microseconds, representing the measurement results. The single measurement results are separated by commas.

Example	`:MEAS:GPRS:ARR:RFTX:LENG 5`
	`:FETC:GPRS:RFTX:LENG?`
	The measurement of the burst length will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: `"556.4,557.2,558.2,557.8,556.5"`.

:MEASure:GPRS:ARRay:RFTX:UTIMe

Syntax	:MEASure:GPRS:ARRay:RFTX:UTIMe <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Measures multiple times (set with the int1 parameter) the uplink timing error. To read out the entire measurement results array, use the :FETCh:GPRS:RFTX:UTIMe command.
Query	The query form of this command returns a string, containing int1 floating point real numbers with the physical dimension of microseconds, representing the measurement results. The single measurement results are separated by commas.
Example	:MEAS:GPRS:ARR:RFTX:UTIM? 5 An example of the string returned is: "0.0,0.1,0.0,-0.2,0.1".

:MEASure:GPRS:ARRay:RFTX:POWer

Syntax	:MEASure:GPRS:ARRay:RFTX:POWer <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Measures multiple times (set with the int1 parameter) the burst peak power. To read out the entire measurement results array, use the :FETCh:GPRS:RFTX:POWer command.
Query	The query form of this command returns a string, containing int1 floating point real numbers with the physical dimension of dBm, representing the measurement results. The single measurement results are separated by commas.
Example	:MEAS:GPRS:ARR:RFTX:POW? 5 An example of the string returned is: "11.22,11.09,11.21,11.14,10.99".

:MEASure:GPRS:ARRay:RFTX:TEMPlate

Syntax	:MEASure:GPRS:ARRay:RFTX:TEMPlate <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Checks multiple times (set with the int1 parameter) if TX burst fits into the power/time template. To read out the entire measurement results array, use the :FETCh:GPRS:RFTX:TEMPlate command. Note: The power/time template is user-definable. It can be set up using the :CALC:GPRS:RFTX:TEMP commands.

Query	The query form of this command returns a string, containing `int1` boolean numbers. A `0` indicates no violation of the PTT by the current burst, while a `1` signals PTT violation. The single measurement results are separated by commas.

Example	`:MEAS:GPRS:ARR:RFTX:TEMP 10`
	`:FETC:GPRS:RFTX:TEMP?`
	The check of the current burst against the PTT will be performed ten times. The check resuls will be stored internally and read out by the `FETC` command. An example of the string returned is: `"0,0,0,0,0,0,1,0,0,0"`, indicating that the seventh burst checked violated the PTT.

:MEASure:GPRS:ARRay:RFTX:FPOWer

Syntax	`:MEASure:GPRS:ARRay:RFTX:FPOWer <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Measures multiple times (set with the `int1` parameter) the fast burst peak power. This measurement is very similar to the `:MEAS:GPRS:ARR:RFTX:POW` measurement, but its is faster. To read out the entire measurement results array, use the `:FETCh:GPRS:RFTX:FPOWer` and the `:CALCulate:GSM:RFTX:POWer:`... commands.
Query	The query form of this command returns a string, containing `int1` floating point real numbers with the physical dimension of dBm, representing the measurement results. The single measurement results are separated by commas.
Example	`:MEAS:GPRS:ARR:RFTX:FPOW? 5` An example of the string returned is: `"13.02,13.09,13.01,13.14,13.29"`.

:MEASure:GPRS:ARRay:RFRX:RBER:ALL

Syntax	`:MEASure:GPRS:ARRay:RFRX:RBER:ALL <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.

Description	Performs a sequential measurement of the residual bit error ratios (RBER) a specific number of times (set with the `int1` parameter). To read out the entire measurement results array, use the `:FETCh:GPRS:RFRX:RBER:ALL` command. The RF RX tests performed by this command are: `CIB`, the residual bit error ratio of the class Ib bits, `CII`, the residual bit error ratio of the class II bits, and `FER`, the frame erasure ratio. Notes: More details regarding RBER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. Please keep in mind that the start of a new RF RX test will always terminate the preceding one instantly. The number of samples to be used for testing can be set, using the `:CONF:GPRS:BER:COUNt` command. For further details regarding group measurements, please refer to section `:MEASure:...:GROup`. More information regarding `ARRay` measurements can be found in section `:MEASure:ARRay`.
Query	The query form of this command will perform the measurements the specified number of times (`int1` parameter). After all measurements have been completed and all measurement results obtained, the query delivers a string, containing (3 * `int1`) measurement result values. The single measurement result values are separated by commas. All measurement result values are floating point real numbers. The order of the measurement result values delivered back is as follows: 1. `CIB`, representing the residual bit error ratio of the class Ib bits, 2. `CII`, representing the residual bit error ratio of the class II bits and 3. `FER`, representing the frame erasure ratio.

Example	`:MEASure:GPRS:ARRay:RFRX:RBER:ALL 2`
	`:FETCh:GPRS:RFRX:RBER:ALL?`
	In this case, the sequence of the residual bit error measurements will be performed twice. All six measurement result values will be kept in an internal memory until they are read out with the `FETCh` command.
	The string returned is:
	`"0.1,1.5,0.0,0.2,2.7,0.1"`.

:MEASure:GPRS:ARRay:RFRX:RBER:CIB

Syntax	`:MEASure:GPRS:ARRay:RFRX:RBER:CIB <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Performs the measurement of the residual bit error ratio of the class Ib bits a specific number of times (set with the `int1` parameter). To read out the entire measurement results array, use the `:FETCh:GPRS:RFRX:RBER:CIB` command. Notes: More details regarding RBER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the `:CONF:GPRS:BER:COUNt` command.

Query	The query form of this command will perform the measurement the specified number of times (<int1> parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain <int1> floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	:MEASure:GPRS:ARRay:RFRX:RBER:CIB? 5 The string returned is: "0.2,0.2,0.1,0.3,0.2".

:MEASure:GPRS:ARRay:RFRX:RBER:CII

Syntax	:MEASure:GPRS:ARRay:RFRX:RBER:CII <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Performs the measurement of the residual bit error ratio of the class II bits a specific number of times (set with the int1 parameter). To read out the entire measurement results array, use the :FETCh:GPRS:RFRX:RBER:CII command. Notes: More details regarding RBER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will perform the measurement the specified number of times (int1 parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain int1 floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	:MEASure:GPRS:ARRay:RFRX:RBER:CII? 5 The string returned is: "1.4,1.4,1.5,1.7,1.3".

:MEASure:GPRS:ARRay:RFRX:RBER:FER

Syntax	:MEASure:GPRS:ARRay:RFRX:RBER:FER <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Performs the measurement of the frame erasure ratio a specific number of times (set with the int1 parameter). To read out the entire measurement results array, use the :FETCh:GPRS:RFRX:RBER:FER command. Notes: More details regarding RBER testing can be found in section BER Live Display. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.

Query	The query form of this command will perform the measurement the specified number of times (`int1` parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain `int1` floating point real numbers, representing the frame erasure ratios. The single measurement results are separated by commas.

Example	`:MEASure:GPRS:ARRay:RFRX:RBER:FER 5`
	`:FETCh:GPRS:RFRX:RBER:FER?`
	The string returned is: `"0.0,0.1,0.0,0.2,0.1"`.

:MEASure:GPRS:ARRay:RFRX:BER:ALL

Syntax	`:MEASure:GPRS:ARRay:RFRX:BER:ALL <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Performs a sequential measurement of the (nonresidual) residual bit error ratios (RBER) a specific number of times (set with the `int1` parameter). To read out the entire measurement results array, use the `:FETCH:GPRS:RFRX:BER:ALL?` command. The RF RX tests performed by this command are: `CIA`, the (nonresidual) bit error ratio of the class Ia bits, `CIB`, the (nonresidual) bit error ratio of the class Ib bits, and `CII`, the (nonresidual) bit error ratio of the class II bits. Notes: More details regarding BER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. Please keep in mind that the start of a new RF RX test will always terminate the preceding one instantly. The number of samples to be used for testing can be set, using the `:CONFigure:GPRS:BLER:COUNt` command. For further details regarding group measurements, please refer to section `:MEASure:...:GROup`. More information regarding `ARRay` measurements can be found in section `MEASure:ARRay`.
Query	The query form of this command will perform the measurements the specified number of times (`int1` parameter). After all measurements have been completed and all measurement results obtained, the query delivers a string, containing (3 * `int1`) measurement result values. The single measurement result values are separated by commas. All measurement result values are floating point real numbers. The order of the measurement result values delivered back is as follows: 1. `CIA`, representing the (nonresidual) bit error ratio of the class Ia bits, 2. `CIB`, representing the (nonresidual) bit error ratio of the class Ib bits, and 3. `CII`, representing the (nonresidual) bit error ratio of the class II bits.

Example	`:MEASure:GPRS:ARRay:RFRX:BER:ALL 2`
	`:FETCh:GPRS:RFRX:BER:ALL?`
	In this case, the sequence of the (nonresidual) bit error measurements will be performed twice. All six measurement result values will be kept in an internal memory until they are read out with the `FETCh` command.
	The string returned is:
	`"0.1,1.5,0.0,0.2,2.7,0.1"`.

:MEASure:GPRS:ARRay:RFRX:BER:CIA

Syntax	:MEASure:GPRS:ARRay:RFRX:BER:CIA <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Performs the measurement of the (nonresidual) bit error ratio on the class Ia bits a specific number of times (set with the int1 parameter). To read out the entire measurement results array, use the :FETCh:GPRS:RFRX:BER:CIA command. Notes: More details regarding BER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will perform the measurement the specified number of times (int1 parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain int1 floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	:MEASure:GPRS:ARRay:RFRX:BER:CIA? 5 The string returned is: "1.4,1.4,1.5,1.7,1.3".

:MEASure:GPRS:ARRay:RFRX:BER:CIB

Syntax	:MEASure:GPRS:ARRay:RFRX:BER:CIB <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Performs the measurement of the (nonresidual) bit error ratio on the class Ib bits a specific number of times (set with the int1 parameter). To read out the entire measurement results array, use the :FETCh:GPRS:RFRX:BER:CIB command. Notes: More details regarding BER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will perform the measurement the specified number of times (int1 parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain int1 floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	:MEASure:GPRS:ARRay:RFRX:BER:CIB? 5 The string returned is: "1.4,1.4,1.5,1.7,1.3".

:MEASure:GPRS:ARRay:RFRX:BER:CII

Syntax	:MEASure:GPRS:ARRay:RFRX:BER:CII <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Performs the measurement of the (nonresidual) bit error ratio on the class II bits a specific number of times (set with the int1 parameter). To read out the entire measurement results array, use the :FETCh:GPRS:RFRX:BER:CII command. Notes: More details regarding BER testing can be found in section BER Live Display. More details regarding bit classes can be found in section Voice Coding. The number of samples to be used for testing can be set, using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will perform the measurement the specified number of times (int1 parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain int1 floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	:MEASure:GPRS:ARRay:RFRX:BER:CII? 5 The string returned is: "1.4,1.4,1.5,1.7,1.3".

:MEASure:GPRS:ARRay:RFRX:BER:CRC

Syntax	:MEASure:GPRS:ARRay:RFRX:BER:CRC <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Performs the measurement of the (non-residual) bit error ratio on the class II bits a specific number of times (set with the int1 parameter). To read out the entire measurement results array, use the :FETCh:GPRS:RFRX:BER:CII command. – The number of samples to be used for testing can be set using the :CONF:GPRS:BER:COUNt command.
Query	The query form of this command will perform the measurement the specified number of times (int1 parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain int1 floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	:MEAS:GPRS:ARR:RFRX:BER:CRC? 5 The string returned in this example is: "1.4,1.4,1.5,1.7,1.3".

:MEASure:GPRS:ARRay:RFRX:FBER

Syntax	`:MEASure:GPRS:ARRay:RFRX:FBER <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Performs the fast bit error ratio (C-loop) test a specific number of times (set with the `int1` parameter). To read out the entire measurement results array, use the `:FETCh:GPRS:RFRX:FBER` command. Notes: More details regarding Fast BER testing can be found in section BER Live Display. The number of samples to be used for testing can be set, using the `:CONF:GPRS:BER:COUNt` command.
Query	The query form of this command will perform the measurement the specified number of times (`int1` parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain `int1` floating point real numbers, representing the bit error ratios. The single measurement results are separated by commas.
Example	`:MEASure:GPRS:ARRay:RFRX:FBER? 5` The string returned is: `"1.4,1.4,1.5,1.7,1.3"`.

:MEASure:GPRS:ARRay:RFRX:RTDelay

Syntax	`:MEASure:GPRS:ARRay:RFRX:RTDelay <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Performs the measurement of the round trip delay (of data during bit error ratio measurements) a specific number of times (set with the `int1` parameter). To read out the entire measurement results array, use the `:FETCh:GPRS:RFRX:RTD` command. Note: More details regarding the round-trip delay can be found in section BER Live Display.
Query	The query form of this command will perform the measurement the specified number of times (`int1` parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered back will contain `int1` integers, representing the single round trip delays. The single measurement results are separated by commas.
Example	`:MEASure:GPRS:ARRay:RFRX:RTDelay? 5` The string returned is: `"8,8,8,8,8"`.

:MEASure:GPRS:ARRay:MULTislot:RFTX:ALL

Syntax	`:MEASure:GPRS:ARRay:MULTislot:RFTX:ALL <int1>`
Parameters	`int1` specifies how many MULT:RFTX:ALL measurements (over multiple slots of a frame) shall be performed. Up to 100 measurements can be specified.

Description	Measures all RFTX parameters for a defined number of times, on all the available uplink slots.
Query	Performs `int1` times an RFTX:ALL measurement on all the available uplink slots and returns a string containing `int1` times the result string from the `:MEASure:GPRS:CONT:MULT:RFTX:ALL` query.

Example	`:CONF:GPRS:MSTA:MSL 2`
	`:MEAS:GPRS:ARR:MULT:RFTX:ALL 10`
	`:FETCh:GPRS:MULT:RFTX:ALL?`
	Delivers a string containing 10*(1+2*19)=390 results, separated by commas.

:MEASure:GPRS:ARRay:MULTislot:RFTX:PPEAk

Syntax	`:MEASure:GPRS:ARRay:MULTislot:RFTX:PPEAk <int1>`
Parameters	`int1` specifies how many MULT:RFTX:PPEAk measurements (over multiple slots of a frame) shall be performed. Up to 100 measurements can be specified.
Description	Measures `int1` times the RFTX parameter peak phase error, on all the available uplink slots.
Query	Performs `int1` times a peak phase error measurement on all the available uplink slots and returns a string containing `int1` times the result string from the `:MEASure:GPRS:CONT:MULT:RFTX:PPEAk` query.

Example	`:CONF:GPRS:MSTA:MSL 2`
	`:MEAS:GPRS:ARR:MULT:RFTX:PPEAk? 3`
	Returns a string containing nine results separated by commas, for example
	`2,8.3,9.6, 2,8.1,8.9, 2,8.2,9.5`

:MEASure:GPRS:ARRay:MULTislot:RFTX:TEMPlate

Syntax	`:MEASure:GPRS:ARRay:MULTislot:RFTX:TEMPlate <int1>`
Parameters	`int1` specifies how many measurements shall be taken. Up to 100 measurements can be specified.
Description	Checks repetitively whether the `int1` TX bursts fit into the respective power/time templates.
Query	The return string contains int1 times the number of the uplink time slots followed by the pass/fail result for each individual slot. A 0 indicates that the burst shape is inside limits, 1 indicates outside limits for the respective part.

Example	`:CONF:GPRS:MSTA:MSL 2`
	`:MEAS:GPRS:ARR:MULT:RFTX:TEMP? 3`
	Returns a string like the following:
	`2,0,0, 2,0,1, 2,0,1`
	In this example, the signal hit the limits during the second slot in the second and third measurement.

:MEASure:GPRS:ARRay:MULTislot:RFRX:BLER

Syntax	`:MEASure:GPRS:ARRay:MULTislot:RFRX:BLER`
Parameters	`int1` specifies how many measurements shall be taken. Up to 100 measurements are supported.
Description	Measures a specified number of times the block error rate (BLER) for all the available slots. The results can be requested with the `:FETCh:GPRS:MULT:RFRX:BLER` command. Note: Two types of BLER are available: BLER-USF and BLER-BCS. The type is selected with the `:CALL:GPRS:MODE` command.
Query	Starts `int1` measurements and returns a string containing `int1` times the number of active slots followed by the overall block error rate (BLER) and the individual BLER values for each of these time slots. The BLER is expressed in % and a floating point real value.

Example	`:CONF:GPRS:MSTA:MSL 2`
	`:CALL:GPRS:MODE USF`
	`:MEAS:GPRS:ARR:MULT:RFRX:BLER? 3`
	Returns a string like
	`2,1.1,0.7,1.4, 2,1.2,0.9,1.5, 2,1.1,0.8,1.3`

EDGE commands

Please note that the accuracy specified for multislot transmitter measurements applies to the time slot with the highest power level. The accuracy of results at levels of more than 10 dB below the highest power level may be significantly lower.

:MEASure:EGPRs[:CONTinuous]:RFTX:STOP

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:STOP
Parameters	There are no parameters.
Description	Stops continuous RF transmitter measurements. Note Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.
Example	:MEAS:EGPR:RFTX:ALL :MEAS:EGPR:RFTX:STOP Starts and stops a measurement.

:MEASure:EGPRs[:CONTinuous]:RFTX:GROup

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:GROup
Parameters	There are no parameters.
Description	Starts a continuous measurement of the GSM RF TX tests, specified with the :CONF:EGPRs:MEAS:GRO:RFTX command. To read out the latest measurement results, use the :FETCh:EGPRs:RFTX:GROup command. Notes: – Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly. – For further details regarding group measurements and their specific advantages, refer to section :MEAS:...:GROup. – For [:CONTinuous] measurements in general, check with section :MEASure:EGPRs[:CONTinuous].
Query	The query form of this command will start the sequence of RF TX measurements as specified with the :CONF:EGPRs:MEAS:GRO:RFTX command. As soon as all measurements of the first sequence have been completed, a string will be delivered back, containing the related measurement result values, separated by commas. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the measurements specified. The order of the measurement result values within the string is as described below for the :MEAS:EGPRs:CONT:RFTX:ALL command.

Example	:CONF:EGPRs:MEAS:GRO:RFTX POW,EVM :MEASure:EGPRs:CONTinuous:RFTX:GROup? In this example, the group of measurements is defined by a power level measurement combined with an error vector magnitude measurement. The string returned in this example is: "4.53,0.05". Because of the internal order (see description of the command below), the first measurement result value delivered back is the RMS phase error, the second one the mobile's RF output power level.

:MEASure:EGPRs[:CONTinuous]:RFTX:ALL

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:ALL
Parameters	There are no parameters.
Description	Starts a continuous measurement of the most important EGPRS RF TX tests. To read out the latest measurement results, use the :FETCh:EGPRs:RFTX:ALL command. The RF TX tests performed by this command are: ERMS, the error vector magnitude rms-averaged over a burst. EVM is a relative value and shown as a percentage. EPEAk, the maximum error vector magnitude within a burst. EVM is indicated in per cent. ENFTh, the error vector magnitude that is not exceeded by 95 % of the symbols of a burst. The 95 % EVM is shown in %. EOFFset, the origin offset indicates the accuracy of the i/Q modulators DC setup; it is usually an undesire leakage produced due to a DC offset in the phones I/Q modulator. It is measured in dBc, FREQuency means the frequency error of the mobile under test. LENGth the length of the burst in microseconds. UTIMe stands for the timing error of the mobile under test in microseconds (taking the ordered timing advance into account). POWer is the mobile's RF output power level in dBm. TEMPlate indicates whether the power-time template has been violated by a burst or not. CORNer gives the RF power level in dBm at eight predefined positions of a burst (see section Corner Points for details). Notes: Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly. For further details regarding group measurements and their specific advantages, refer to section :MEAS:...:GROup. For [:CONTinuous] measurements in general, check with section :MEASure:EGPRs[:CONTinuous]. For a further description of the single measurements, see description of the related commands below.

Query	The query form of this command starts the measurements and - after all measurements have been completed and all measurement results obtained - delivers a string, containing 17 measurement result values, separated with commas. The order and type of these measurement result values delivered back is as follows: 1. ERMS, the error vector magnitude rms-averaged over a burst. EVM is a relative value and shown as a percentage, 2. EPEAk, the maximum error vector magnitude within a burst. EVM is indicated per cent, 3. ENFTh, the error vector magnitude that is not exceeded by 95% of the symbols of a burst. The 95% EVM is shown in %, 4. EOFFset, the origin offset indicates the accuracy of the i/Q modulators DC setup; it is usually an undesire leakage produced due to a DC offset in the phones I/Q modulator. It is measured in dBc, 5. FREQuency, floating point real number representing the mobile's frequency error, 6. LENGth, floating point real number representing the length of the burst in microseconds, 7. UTIMe, floating point real number representing the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), 8. POWer, floating point real number representing the mobile's RF output power level in dBm, 9. TEMPlate boolean number. A 0 indicates that the power-time template (PTT) was not violated by the last burst measured, while a 1 means that the burst did violate the PTT. 10...17. CORNer, eight floating point real numbers, representing the RF power level in dBm at eight predefined positions of a burst.
Example	:MEASure:EGPRs:CONTinuous:RFTX:ALL? In this case, all relevant EGPRS RF TX measurements will be performed in a sequence. As soon as all measurements have been completed and all measurement results obtained, a string will be delivered back containing 17 measurement results: "5.13,11.94,2.43,4.55,-2.22,557.0,0.1,11.22,0,-72.18, -61.91,-20.91,-0.05,-0.04,-17.97,-56.60, -73.95".

:MEASure:EGPRs[:CONTinuous]:RFTX:ERMS

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:ERMS
Parameters	There are no parameters.
Description	Starts a continuous measurement of the error vector magnitude rms-averaged over a burst. EVM is a relative value and shown as a percentage. To read out the measurement results, use the :FETCh:EGPRs:RFTX:ERMS command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of %.
Example	:MEAS:EGPRs:RFTX:ERMS :FETC:EGPRs:RFTX:ERMS? The error vector magnitude rms-averaged measurement will be performed. The measurement result will be stored internally and read by the FETC command. An example of the string returned is: "2.33".

:MEASure:EGPRs[:CONTinuous]:RFTX:EPEAk

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:EPEAk
Parameters	There are no parameters.
Description	Starts a continuous measurement of the maximum error vector magnitude within a burst. EVM is indicated per cent. To read out the measurement results, use the :FETCh:EGPRs:RFTX:EPEAk command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of %.
Example	:MEAS:EGPRs:RFTX:EPEAk? The maximum error vector magnitude measurement will be performed and the result will be returned. Example of the returned string: "6.33".

:MEASure:EGPRs[:CONTinuous]:RFTX:ENFTh

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:ENFTh
Parameters	There are no parameters.
Description	Starts a continuous measurement of the error vector magnitude that is not exceede by 95% of the symbols of a burst. The 95% EVM is shown in %. To read out the measurement results, use the :FETCh:EGPRs:RFTX:ENFTh command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of %.
Example	:MEAS:EGPRs:RFTX:ENFTh :FETC:EGPRs:RFTX:ENFTh? The maximum error vector magnitude measurement will be performed. The measurement result will be stored internally and read by the FETC command. An example of the string returned is: "4.33".

:MEASure:EGPRs[:CONTinuous]:RFTX:EOFFset

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:EOFFset
Parameters	There are no parameters.
Description	Starts a continuous measurement of the origin offset. The origin offset indicates the accuracy of the i/Q modulators DC setup; it is usually an undesire leakage produced due to a DC offset in the phones I/Q modulator. It is measured in dBc. To read out the measurement results, use the :FETCh:EGPRs:RFTX:ENFTh command.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of dBc.

Example	:MEAS:EGPRs:FTX:EOFFset? The maximum error vector magnitude measurement will be performed and the result will be returned, for example: "1.97".

:MEASure:EGPRs[:CONTinuous]:RFTX:FREQuency

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:FREQuency
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's frequency error in GSM mode. To read out the latest measurement result, use the :FETCh:EGPRs:RFTX:FREQuency command. For details regarding this RF TX measurement, refer to section Phase/Frequency Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of Hertz.
Example	:MEASure:EGPRs:CONTinuous:RFTX:FREQuency? The string returned in this example is: "-31.92".

:MEASure:EGPRs[:CONTinuous]:RFTX:LENGth

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:LENGth
Parameters	There are no parameters.
Description	Starts a continuous measurement of the burst length in GSM mode. To read out the latest measurement result, use the :FETCh:EGPRs:RFTX:LENGth command. For details regarding this RF TX measurement, refer to section Burst Test Menu.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of microseconds.
Example	:MEASure:EGPRs:CONTinuous:RFTX:LENGth? The string returned in this example is: "557.0".

:MEASure:EGPRs[:CONTinuous]:RFTX:UTIMe

Syntax	:MEASure:EGPRs[:CONTinuous]:RFTX:UTIMe
Parameters	There are no parameters
Description	Starts a continuous measurement of the GSM uplink timing error. To read out the latest measurement result, use the :FETCh:EGPRs:RFTX:UTIMe command. For details regarding this RF TX measurement, refer to section Burst Results Display.

Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of microseconds.
Example	`:MEASure:EGPRs:CONTinuous:RFTX:UTIMe?` The string returned in this example is: "`0.1`".

:MEASure:EGPRs[:CONTinuous]:RFTX:POWer

Syntax	`:MEASure:EGPRs[:CONTinuous]:RFTX:POWer`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's RF output power level. To read out the latest measurement result, use the `:FETCh:EGPRs:RFTX:POWer` command. For details regarding this RF TX measurement, refer to section Burst Results Display.
Query	The query form of this command will start the measurement and return a measurement result value as soon as the first measurement has been completed. The string delivered back will contain one floating point real number with the physical dimension of dBm.
Example	`:MEASure:EGPRs:CONTinuous:RFTX:POWer?` The string returned in this example is: "`11.22`".

:MEASure:EGPRs[:CONTinuous]:RFTX:TEMPlate

Syntax	`:MEASure:EGPRs[:CONTinuous]:RFTX:TEMPlate`
Parameters	There are no parameters.
Description	Starts a continuous check of the UL burst against the power-time template (PTT). To read out the latest measurement result, use the `:FETCh:EGPRs:RFTX:TEMPlate` command. For details regarding this RF TX measurement, refer to section Burst Test Menu. The power-time template (PTT) is user-definable. For details, please refer to section Power-Time Templates (PTT). Note: The power-time template can also be set using the `:CALC:RFTX:TEMP` commands.
Query	The query form of this command will start the (continuous) check and return a result value as soon as the first check has been completed. The string delivered back will contain one boolean number. A `0` indicates that there was no violation of the PTT, while a 1 means that the last burst measured did violate the PTT.
Example	`:MEASure:EGPRs:CONTinuous:RFTX:TEMPlate` This command will start the continuous check of the burst against the PTT.

:MEASure:EGPRs[:CONTinuous]:BLOCkdata:BURStshape

Syntax	:MEASure:EGPRs[:CONTinuous]:BLOCkdata:BURStshape
Parameters	There are no parameters.
Description	Starts a continuous measurement of the mobile's UL burst shape. To read out the measurement result values of the last burst sampled, use the :FETCh:EGPRs:RFTX:BLOCkdata:BURStshape command. The aim of this measurement is to obtain the pure RF power levels, sampled by the ProLock in order to display the shape of the burst graphically on another computer or to perform some special analysis of the burst shape. For details regarding the burst measurement, also refer to section Burst Test Menu. Further information regarding this kind of measurement can be found in section :MEASure:...:BLOCkdata.
Query	The query form of this command will start the measurement and return an array of measurement result values as soon as the first measurement has been completed. The string delivered back will contain 700 floating point real numbers with the physical dimension of dB (except the first two). The first data position of the array is the absolute position of the middle of the burst (i.e. bit 73) within the burst data supplied. In order to allocate the RF power level obtained for the middle of the burst, add 2 to this first value of the array to find the relative position within this data array (as the first two positions of this array are no data values). The second number is the absolute peak power level of the burst in dBm, obtained at the middle of the burst. All the data values following are relative RF power levels (in dB) with the peak power level (second data value of the array) being the reference. The single measurement result values are separated by commas.
Example	:MEAS:EGPRs:CONT:BLOC:BURStshape? The array returned in this example is: "353.0,10.0,-73.5,-69.6,-70.8, ...-0.1,0.0,0.2,...-68.4". The data have the following meaning: 353.0 on the first position means that the absolute position of the middle of the burst is position 353 of the burst data array. Thus, it can be found on position 355 of the data block returned. The relative power level at the middle of the burst will always be 0.0 as it is the reference point. The peak power of the burst (obtained at the reference point 'middle of the burst') can be found on the second position of the data array and is 10.0 dBm in this example. Then follows the relative RF power levels sampled at the various time positions of the burst (-73.5,-69.6,... dB). This means that the absolute power level at the first position sampled is -63,5 dBm (-73.5+10.0). All the remaining data values are relative RF power levels sampled by the ProLock during the burst period.

:MEASure:EGPRs[:CONTinuous]:MULTislot:RFTX:TEMPlate

Syntax	:MEASure:EGPRs[:CONTinuous]:MULTislot:RFTX:TEMPlate
Parameters	There are no parameters.

Description	Checks repetitively the TX bursts against the power/time template (PTT). To read out the latest measurement result, use the `:FETCh:EGPRs:MULTislot:RFTX:TEMPlate` command. Note: The power/time templates are user-definable and can be set up using the `:CALC:EGPRs:RFTX:TEMP` commands.
Query	The query form of this command starts the check and returns measurement results as soon as the check has been completed. The string delivered back contains an integer number indicating the number of time slots measured, followed by boolean numbers signaling in turn compliance with or violation of the PTT for the each individual slot. A `0` indicates no violation of the PTT, while a 1 means that a burst measured violated the PTT.
Example	`:MEAS:EGPRs:CONT:MULT:RFTX:TEMP?` For two TX bursts measured, an example of the string returned is: "`2,1,0`" indicating a PTT violation in the first slot.

`:MEASure:EGPRs:ARRay:RFTX:GROup`

Syntax	`:MEASure:EGPRs:ARRay:RFTX:GROup <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Performs the RF TX tests, specified with the `:CONF:EGPRs:MEAS:GRO:RFTX` command for a specific number of times (set with the `int1` parameter). To read out the entire measurement results array, use the `:FETCh:EGPRs:RFTX:GROup` command. Note: Please keep in mind that the start of a new RF TX test will always terminate any preceding measurement of the same type instantly.
Query	The query form of this command will start the sequence of RF TX measurements as specified with the `:CONF:MEAS:GRO:RFTX` command for a specific number of times (set with the `int1` parameter). As soon as all measurements have been completed, a string will be delivered back, containing the related measurement result values, separated by commas. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the measurements specified. The order of the measurement result values within the string is as described below for the `:MEAS:EGPRs:CONT:RFTX:ALL` command. Note: Please keep in mind that the number of measurement results delivered back is the number of measurement results of a single execution multiplied with the int1 parameter.

Example

:CONF:EGPRs:MEAS:GRO:RFTX POW,ERMS
:MEASure:EGPRs:ARRay:RFTX:GROup? 3
In this example, the group of measurements is defined by a power level measurement combined with a RMS phase error measurement. This group of measurements will be carried out three times. After all measurements have been completed, a result string will be delivered back, containing six measurement result values.
The string returned in this example is:
"4.53,9.98,4.08,10.02,4.32,9.99".
Because of the internal order (see description of the command below), the first (third and fifth) measured value delivered back is the RMS phase error, while the second (fourth and sixth) measured value is the mobile's RF output power level.

:MEASure:EGPRs:ARRay:RFTX:ALL

Syntax

:MEASure:EGPRs:ARRay:RFTX:ALL <int1>

Parameters

<int1> is an integer.
The minimum value for <int1> is 0, the maximum value is 100. The default value for <int1> is 0.

Description

Performs a sequential measurement of the most important EGPRS RF TX tests for a specific number of times (set with the <int1> parameter). To read out the entire measurement results array, use the :FETCh:EGPRs:RFTX:ALL command.
The RF TX tests performed by this command are:
ERMS, the error vector magnitude rms-averaged over a burst. EVM is a relative value and shown as a percentage,
EPEAk, the maximum error vector magnitude within a burst. EVM is indicated per cent,
ENFTh, the error vector magnitude that is not exceede by 95% of the symbols of a burst. The 95% EVM is shown in %,
EOFFset, the origin offset indicates the accuracy of the i/Q modulators DC setup; it is usually an undesire leakage produced due to a DC offset in the phones I/Q modulator. It is measured in dBc,
FREQuency means the frequency error of the mobile under test,
LENGth, the length of the burst in microseconds,
UTIMe stands for the timing error of the mobile under test in microseconds (taking the ordered timing advance into account),
POWer is the mobile's RF output power level in dBm,
TEMPlate indicates whether the power-time template has been violated by a burst or not,
CORNer gives the RF power level in dBm at eight pre-defined positions of a burst (see section Corner Points for details).
Notes: Please keep in mind that the start of a new RF TX test will always terminate the preceding one instantly. For further details regarding group measurements and their specific advantages, refer to section :MEAS:...:GROup.
For ARRay measurements in general, check with section :MEASure:...:ARRay. For a further description of the single measurements, see description of the related commands below.

Query	The query form of this command performs the measurements and - after all measurements have been completed and all measurement results obtained - delivers a string, containing (17 * <int1>) measurement result values. The single measurement result values are separated by commas. The order and type of these measurement result values delivered back is as follows: 1. ERMS, the error vector magnitude rms-averaged over a burst. EVM is a relative value and shown as a percentage, 2. EPEAk, the maximum error vector magnitude within a burst. EVM is indicated per cent, 3. ENFTh, the error vector magnitude that is not exceede by 95% of the symbols of a burst. The 95% EVM is shown in %, 4. EOFFset, the origin offset indicates the accuracy of the i/Q modulators DC setup; it is usually an undesire leakage produced due to a DC offset in the phones I/Q modulator. It is measured in dBc, 5. FREQuency, floating point real number representing the mobile's frequency error, 6. LENGth, floating point real number representing the length of the burst in microseconds, 7. UTIMe, floating point real number representing the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), 8. POWer, floating point real number representing the mobile's RF output power level in dBm, 9. TEMPlate, boolean number. A 0 indicates that the power-time template (PTT) was not violated by the last burst measured, while a 1 means that the burst did violate the PTT. 10...17. CORNer, eight floating point real numbers, representing the RF power level in dBm at eight predefined positions of a burst.
Example	:MEASure:EGPRs:ARRay:RFTX:ALL 2 :FETCh:EGPRs:RFTX:ALL? In this case, the sequence of the most important EGPRS RF TX measurements will be performed twice. All 34 measurement result values will be kept in an internal memory until they are read out with the FETCh command. After the internal memory has been read out, it will be cleared. Note: A subsequent :FETCh command (without any previous start of a measurement) will therefore try to read non-existing measurement data and thus create a timeout error.

:MEASure:EGPRs:ARRay:RFTX:ERMS

Syntax	:MEASure:EGPRs:ARRay:RFTX:ERMS <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Measures multiple times (set with the int1 parameter) the error vector magnitude rms-averaged over a burst. EVM is a relative value and shown as a percentage. To read out the entire measurement results array, use the :FETCh:EGPRs:RFTX:ERMS command.
Query	The query form of this command returns a string, containing int1 floating point real numbers with the physical dimension of %, representing the measurement results. The single measurement results are separated by commas.

Example	:MEAS:EGPRs:ARR:RFTX:ERMS 5 :FETC:EGPRs:RFTX:ERMS? The error vector magnitude rms-averaged measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "2.33,2.53,1.97,2.41,1.79".

:MEASure:EGPRs:ARRay:RFTX:EPEAk

Syntax	:MEASure:EGPRs:ARRay:RFTX:EPEAk <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Measures multiple times (set with the int1 parameter) the maximum error vector magnitude within a burst. EVM is indicated per cent. To read out the entire measurement results array, use the :FETCh:EGPRs:RFTX:EPEAk command.
Query	The query form of this command returns a string, containing int1 floating point real numbers with the physical dimension of %, representing the measurement results. The single measurement results are separated by commas.
Example	:MEAS:EGPRs:ARR:RFTX:EPEAk 5 :FETC:EGPRs:RFTX:EPEAk? The maximum error vector magnitude measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "6.33,8.53,11.97,9.41,10.79".

:MEASure:EGPRs:ARRay:RFTX:ENFTh

Syntax	:MEASure:EGPRs:ARRay:RFTX:ENFTh <int1>
Parameters	<int1> is an integer. The minimum value for <int1> is 0, the maximum value is 100. The default value for <int1> is 0.
Description	Measures multiple times (set with the <int1> parameter) the error vector magnitude that is not exceeded by 95% of the symbols of a burst. The 95% EVM is shown in %. To read out the entire measurement results array, use the :FETCh:EGPRs:RFTX:ENFTh command.
Query	The query form of this command returns a string, containing <int1> floating point real numbers with the physical dimension of %, representing the measurement results. The single measurement results are separated by commas.
Example	:MEAS:EGPRs:ARR:RFTX:ENFTh 5 :FETC:EGPRs:RFTX:ENFTh? The maximum error vector magnitude measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "4.33,5.53,1.97,3.41,2.79".

:MEASure:EGPRs:ARRay:RFTX:EOFFset

Syntax	:MEASure:EGPRs:ARRay:RFTX:EOFFset <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Measures multiple times (set with the int1 parameter) the Origin Offset. The origin offset indicates the accuracy of the i/Q modulators DC setup; it is usually an undesire leakage produced due to a DC offset in the phones I/Q modulator. It is measured in dBc. To read out the entire measurement results array, use the :FETCh:EGPRs:RFTX:ENFTh command.
Query	The query form of this command returns a string, containing int1 floating point real numbers with the physical dimension of dBc, representing the measurement results. The single measurement results are separated by commas.
Example	:MEAS:EGPRs:ARR:RFTX:EOFFset 5 :FETC:EGPRs:RFTX:EOFFset? The maximum error vector magnitude measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "4.33,5.53,1.97,3.41,2.79".

:MEASure:EGPRs:ARRay:RFTX:FREQuency

Syntax	:MEASure:EGPRs:ARRay:RFTX:FREQuency <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Measures multiple times (set with the int1 parameter) the frequency error. To read out the entire measurement results array, use the :FETCh:EGPRs:RFTX:FREQ command.
Query	The query form of this command returns a string, containing int1 floating point real numbers with the physical dimension of Hz, representing the measurement results. The single measurement results are separated by commas.
Example	:MEAS:EGPRs:ARR:RFTX:FREQ 5 :FETC:EGPRs:RFTX:FREQ? The frequency error measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "22.33,22.53,21.97,22.41,21.79".

:MEASure:EGPRs:ARRay:RFTX:LENGth

Syntax	:MEASure:EGPRs:ARRay:RFTX:LENGth <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.

Description	Measures multiple times (set with the int1 parameter) the burst length. To read out the entire measurement results array, use the `:FETCh:EGPRs:RFTX:LENGth` command.
Query	The query form of this command returns a string, containing int1 floating point real numbers with the physical dimension of microseconds, representing the measurement results. The single measurement results are separated by commas.

Example	`:MEAS:EGPRs:ARR:RFTX:LENG 5`
	`:FETC:EGPRs:RFTX:LENG?`
	The measurement of the burst length will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "`556.4,557.2,558.2,557.8,556.5`".

:MEASure:EGPRs:ARRay:RFTX:UTIMe

Syntax	`:MEASure:EGPRs:ARRay:RFTX:UTIMe <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Measures multiple times (set with the int1 parameter) the uplink timing error. To read out the entire measurement results array, use the `:FETCh:EGPRs:RFTX:UTIMe` command.
Query	The query form of this command returns a string, containing `int1` floating point real numbers with the physical dimension of microseconds, representing the measurement results. The single measurement results are separated by commas.
Example	`:MEAS:EGPRs:ARR:RFTX:UTIM? 5` An example of the string returned is: "`0.0,0.1,0.0,-0.2,0.1`".

:MEASure:EGPRs:ARRay:RFTX:POWer

Syntax	`:MEASure:EGPRs:ARRay:RFTX:POWer <int1>`
Parameters	`int1` is an integer. The minimum value for `int1` is `0`, the maximum value is `100`. The default value for `int1` is `0`.
Description	Measures multiple times (set with the `int1` parameter) the burst peak power. To read out the entire measurement results array, use the `:FETCh:EGPRs:RFTX:POWer` command.
Query	The query form of this command returns a string, containing `int1` floating point real numbers with the physical dimension of dBm, representing the measurement results. The single measurement results are separated by commas.
Example	`:MEAS:EGPRs:ARR:RFTX:POW? 5` An example of the string returned is: "`11.22,11.09,11.21,11.14,10.99`".

:MEAS:EGPRs:ARR:RFTX:TEMP

Syntax	:MEAS:EGPRs:ARR:RFTX:TEMP <int1>
Parameters	int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for int1 is 0.
Description	Checks multiple times (set with the int1 parameter) if TX burst fits into the power/time template. To read out the entire measurement results array, use the :FETCh:EGPRs:RFTX:TEMPlate command. Note: The power/time template is user-definable. It can be set up using the :CALC:EGPRs:RFTX:TEMP commands.
Query	The query form of this command returns a string containing int1 boolean numbers. A 0 indicates no violation of the PTT by the current burst, while a 1 signals PTT violation. The single measurement results are separated by commas.
Example	:MEAS:EGPRs:ARR:RFTX:TEMP 10 :FETC:EGPRs:RFTX:TEMP? The check of the current burst against the PTT will be performed ten times. The check resuls will be stored internally and read out by the FETC command. An example of the string returned is: "0,0,0,0,0,0,1,0,0,0", indicating that the seventh burst checked violated the PTT.

:MEASure:EGPRs:ARRay:MULTislot:RFTX:TEMPlate

Syntax	:MEASure:EGPRs:ARRay:MULTislot:RFTX:TEMPlate <int1>
Parameters	int1 specifies how many measurements shall be taken. Up to 100 measurements can be specified.
Description	Checks repetitively whether the int1 TX bursts fit into the respective power/time templates.
Query	The return string contains int1 times the number of the uplink time slots followed by the pass/fail results for each of the individual slot. A 0 indicates that the burst shape is inside limits, 1 indicates outside limits.
Example	CONF:EGPRs:MSTA:MSL 2 :MEAS:EGPRs:ARR:MULT:RFTX:TEMP? 3 Returns a string like the following: 2,0,0 2,1,0, 2,0,0 In this example, the signal hit the limits in the first slot of the second measurement.

WCDMA commands

:MEASure:WCDMa[:CONTinuous]:RFTX:STOP

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFTX:STOP`
Parameters	There are no parameters.
Description	Stops a continuous measurement of the WCDMA RF TX tests. Note: Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.

Example	`:MEAS:WCDM:RFTX:FREQ`
	`:MEAS:WCDM:RFTX:STOP`
	Configures, starts and stops a measurement.

:MEASure:WCDMa[:CONTinuous]:RFTX:FREQuency

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFTX:FREQuency`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the frequency error.
Query	The query form of this command will start the sequence of frequency error measurements.
Example	`:MEAS:WCDM:RFTX:FREQ?` Returns the measured frequency error, e.g. `-7.834`.

:MEASure:WCDMa[:CONTinuous]:RFTX:POWer:MEAN

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFTX:POWer:MEAN`
Parameters	There are no parameters.
Description	This command starts a continuous measurement of the mobile's mean output power. To read out the latest measurement result, use the `FETCh:WCDMa:RFTX:POWer:MEAN` command.
Query	This query command will start the measurement and return a result value as soon as the first measurement has been completed. The result delivered back will contain one floating point number in dBm.
Example	`:MEA:WCDMA:RFTX:POW:MEAN?` Starts an RF power measurement and returns the result (in dBm), e.g. `-45.3`.

:MEASure:WCDMa[:CONTinuous]:RFTX:POWer:PEAK

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFTX:POWer:PEAK`
Parameters	There are no parameters.
Description	This command starts a continuous measurement of the mobile's peak output power. To read out the latest measurement result, use the `FETCh:WCDMa:RFTX:POWer:PEAK` command.
Query	This query command will start the measurement and return a result value as soon as the first measurement has been completed. The result delivered back will contain one floating-point number in dBm.
Example	`:MEAS:WCDM:RFTX:POW:PEAK?` Starts the Peak RF power measurement and returns the result, e.g. `-36.8`.

:MEASure:WCDMa[:CONTinuous]:RFTX:CPOWer

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFTX:CPOWer`
Parameters	There are no parameters.
Description	Starts a continuous measurement of the channel power.
Query	The query form of this command will return the float value for power.
Example	`:MEAS:WCDM:RFTX:CPOWer?` Starts a channel power measurement and returns the result (in dBm), e.g. `-45.3`.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:ALL

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:ALL`
Parameters	There are no parameters.

Description	Starts a continuous measurement of the most important RF TX Modulation Quality tests.
Query	The query form of this command starts the measurements and - after all 10 measurements have been completed and all measurement results obtained - delivers a string, containing 10 measurement result values, separated with commas. The order and type of these measurement result values delivered back is as follows: 1. `EVM RMS,` floating point real number representing the RMS vector error measurement in percent, 2. `EVM Peak`, floating point real number representing the peak vector error measurement in percent, 3. `Magnitude error RMS`, floating point real number representing the RMS magnitude vector error measurement in percent, 4. `Magnitude error Peak`, floating point real number representing the PEAK magnitude vector error measurement in percent, 5. `Phase error RMS`, floating point real number representing the RMS phase vector error measurement in degree, 6. `Phase error Peak`, floating point real number representing the PEAK phase vector error measurement in degree 7. `Frequency error`, floating point real number representing the mobile's frequency error, 8. `RHO`, floating point real number representing the mobile's modulation quality, 9. `I/Q Offset`, a floating point value with the result in dBc, representing the result of the origin offset vector error measurement, 10. `I/Q Imbalance`, floating point real number representing the result of the IQImbalance vector error measurement with the result in dB. Note: For a further description of the single measurements, see description of the related commands below.
Example	`:MEAS:WCDM:RFTX:MODQ:ALL?` In this case, all relevant RFTX measurements will be performed in a sequence, e.g. `21.624,72.8,15.335,72.736,6.738,27.512,-6.378,0.961,-28.251,-43.743`.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:ERMS

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:ERMS`
Parameters	There are no parameters.
Description	Starts a continuous RMS vector error magnitude measurement.
Query	The query form of this command will return a floating point value; the unit is percent.
Example	`:MEAS:WCDM:RFTX:MODQ:ERMS?` Returns the measured EVM RMS vector error, e.g. `21.624`.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:EPEAk

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:EPEAk`
Parameters	There are no parameters.

Description	Starts a continuous peak vector error magnitude measurement.
Query	The query form of this command will return a floating point value in percent.
Example	:MEAS:WCDM:RFTX:MODQ:EPEA? Returns the measured EVM peak vector error, e.g. 72.8.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:MRMS

Syntax	:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:MRMS
Parameters	There are no parameters.
Description	Starts a continuous RMS magnitude measurement.
Query	The query form of this command will return a floating point value; the unit is percent.
Example	:MEAS:WCDM:RFTX:MODQ:MRMS? Returns the measured Magnitude RMS vector error, e.g. 15.335.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:MPEAk

Syntax	:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:MPEAk
Parameters	There are no parameters.
Description	Starts a continuous peak magnitude measurement.
Query	The query form of this command will return a floating point value in percent.
Example	:MEAS:WCDM:RFTX:MODQ:MPEA? Returns the measured Magnitude peak vector error, e.g. 72.736.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:PRMS

Syntax	:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:PRMS
Parameters	There are no parameters.
Description	Starts a continuous RMS phase error measurement.
Query	The query form of this command will return a floating point value; the unit is percent.
Example	:MEAS:WCDM:RFTX:MODQ:PRMS? Returns the measured RMS phase vector error, e.g. 6.738.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:PPEAk

Syntax	:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:PPEAk
Parameters	There are no parameters.

Description	Starts a continuous peak phase error measurement.
Query	The query form of this command will return a floating point value in percent.
Example	:MEAS:WCDM:RFTX:MODQ:PPEA? Returns the measured phase peak vector error, e.g. 27.512.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:RHO

Syntax	:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:RHO
Parameters	There are no parameters.
Description	Starts a continuous closed loop measurement.
Query	The query form of this command will return a floating point value.
Example	:MEAS:WCDM:RFTX:MODQ:RHO? Returns the modulation quality, e.g. 0.9989.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality :IQOFfset

Syntax	:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:IQOFfset
Parameters	There are no parameters.
Description	Starts a continuous IQ origin offset vector error measurement.
Query	The query form of this command will return a floating point value with the result in dBc.
Example	:MEAS:WCDM:RFTX:MODQ:IQOF? Returns the origin offset in dBc, e.g. -28.251.

:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality :IQIMbalance

Syntax	:MEASure:WCDMa[:CONTinuous]:RFTX:MODQuality:IQIMbalance
Parameters	There are no parameters.
Description	Starts a continuous IQ imbalance vector error measurement.
Query	The query form of this command will return a floating point value with the result in dB.
Example	:MEAS:WCDM:RFTX:MODQ:IQIM? Returns the IQ imbalance in dBc, e.g. -43.743.

:MEASure:WCDMa[:CONTinuous]:RFTX:INNErloop

Syntax	:MEASure:WCDMa[:CONTinuous]:RFTX:INNErloop
Parameters	There are no parameters.

Description	It starts a continuous inner loop power measurement.
Query	The query form of this command will start the measurement and return the results values as soon as the first measurement has been completed as well the error values. The result delivered will contain an array of floating point numbers.
Example	:MEASure:WCDMa[:CONTinuous]:RFTX:INNErloop?

:MEASure:WCDMa:RFTX:OPENloop

Syntax	`:MEASure:WCDMa:RFTX:OPENloop`
Parameters	There are no parameters.
Description	It starts a single openloop power measurement.
Query	There is no query form of this command available.
Example	`:MEASure:WCDMa:RFTX:OPENloop` Starts the open loop power measurement, then a loopback or speechcall has to be established to measure the PRACH. `:FETC:WCDM:RFTX:OPEN?` will deliver the measured value for open loop power.

:MEASure:WCDMa[:CONTinuous]:RFSP:STOP

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFSP:STOP`
Parameters	There are no parameters
Description	Stops a continuous measurement of the WCDMA RF SP tests. Note: Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.

Example	`:MEAS:WCDM:RFSP:MSP`
	`:MEAS:WCDM:RFSP:STOP`
	Configures, starts and stops a measurement.

:MEAS:WCDMA[:CONTinuous]:RFSPectrum:ACLR

Syntax	`:MEAS:WCDMA[:CONTinuous]:RFSPectrum:ACLR`
Parameters	There are no parameters.

Description	This command starts the adjacent channel leakage power ratio measurement. To read out the latest measurement result use the `FETC:WCDM:RFSP:ACLR?` command.
Query	The query form of this command starts the measurement and delivers a string, containing 5 measurement result values separated by commas (12 offsets in both directions from the carrier, plus the result at the carrier itself). These measurement result values are floating point real numbers with the physical dimension dBc (dB relative to the carrier, being the transmission frequency of the mobile).
Example	:MEAS:WCDM:RFSP:ACLR?

`:MEASure:WCDMa[:CONTinuous]:RFRX:STOP`

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFRX:STOP`
Parameters	There are no parameters.
Description	Stops a continuous measurement of the WCDMA RF RX tests. Note: Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.

Example	`:MEAS:WCDMa:RFRX:FREQ`
	`:MEAS:WCDMa:RFRX:STOP`
	Configures, starts and stops a measurement.

`:MEASure:WCDMa[:CONTinuous]:RFRX:BER:RATIo`

Syntax	`:MEASure:WCDMa[:CONTinuous]:RFRX:BER:RATIo`
Parameters	There are no parameters.
Description	Starts a continuous BER measurement. Before you can start a RX Measurement you have to synchronise at once the ProLock to the mobile on a normal Output Power Level with the command `CONFigure:WCDMa:MEASure:RFRX:SYNChronise?`. If it is synchronised the Power can be changed to a low Level and the measurement can be started.
Query	The query form of this command will return a string containing the floating point value with the BER result.
Example	`:MEAS:WCDM:RFRX:BER?` Starts the measurement and returns the result, e.g. `3.1`.

:MEASure:WCDMa[:CONTinuous]:RFRX:BLER:RATIo

Syntax	:MEASure:WCDMa[:CONTinuous]:RFRX:BLER:RATIo
Parameters	There are no parameters.
Description	Starts a continuous BLER measurement. Before you can start a RX Measurement you have to synchronise at once the ProLock to the mobile on a normal Output Power Level with the command CONFigure:WCDMa:MEASure:RFRX:SYNChronise?. If it is synchronised the Power can be changed to a low Level and the measurement can be started.
Query	The query form of this command will return a string containing the floating point value with the BLER result.
Example	:MEAS:WCDM:RFRX:BLER? Starts the measurement and returns the result, e.g. 3.1.

:MEASure:WCDMa[:CONTinuous]:UEReport:STOP

Syntax	:MEASure:WCDMa[:CONTinuous]:UEReport:STOP
Parameters	There are no parameters.
Description	Stops a continuous measurement of the WCDMA UE Report. Note: Stopping the test is not required since a test is automatically stopped when you start a new test.
Query	The query form of this command is not available.
Example	:MEAS:WCDM:UER:PLOS :MEAS:WCDM:UER:STOP Configures, starts and stops a measurement.

:MEASure:WCDMa[:CONTinuous]:UEReport:ALL

Syntax	:MEASure:WCDMa[:CONTinuous]:UEReport:ALL
Parameters	There are no parameters.

Description	Starts a continuous measurement of all available UE Report tests.
Query	The query form of this command starts the measurements and - after all 6 measurements have been completed and all measurement results obtained - delivers a string, containing 6 measurement result values, separated with commas. The order and type of these measurement result values delivered back is as follows: 1. `CPICh ECNO`, floating point real number representing UE measured normalized chip energy per noise value of the P-CPICH, 2. `CPICh RSCP`, floating point real number representing UE measured received signal code power of the P-CPICH, 3. `PLOSs`, floating point real number representing the pathloss between Node-B and UE, estimated by the UE, 4. `TXPower`, floating point real number representing the UE transmit power, 5. `RTTDifference`, floating point real number representing UE measured RX-Time-Difference between UL and DL signal, 6. `TRCH BLER`, floating point real number representing the UE estimated BLER value for the Transport Channel defined with `CONFigure:WCDMa:MEASure:UEReport:TRCH`. Note: For a further description of the single measurements, see description of the related commands below.
Example	`:MEAS:WCDM:UER:ALL?` All UE Report measurements will be performed in a sequence, e.g. `23,85,102,97,992,3`.

:MEASure:WCDMa[:CONTinuous]:UEReport:CPICh:ECNO

Syntax	`:MEASure:WCDMa[:CONTinuous]:UEReport:CPICh:ECNO`
Parameters	There are no parameters.
Description	Reports the UE measured normalized chip energy per noise value of the P-CPICH.
Query	The query form of this command will return a string containing the floating point value with the result.
Example	`:MEAS:WCDM:UER:CPICh:ECNO?` Starts the measurement and returns the result, e.g. `31`.

:MEASure:WCDMa[:CONTinuous]:UEReport:CPICh:RSCP

Syntax	`:MEASure:WCDMa[:CONTinuous]:UEReport:CPICh:RSCP`
Parameters	There are no parameters.
Description	Reports the UE measured received signal code power of the P-CPICH.
Query	The query form of this command will return a string containing the floating point value with the result.
Example	`:MEAS:WCDM:UER:CPICh:RSCP?` Starts the measurement and returns the result, e.g. `41`.

:MEASure:WCDMa[:CONTinuous]:UEReport:PLOSs

Syntax	:MEASure:WCDMa[:CONTinuous]:UEReport:PLOSs
Parameters	There are no parameters.
Description	Reports the path loss between Node B and UE, estimated by the UE.
Query	The query form of this command will return a string containing the floating point value with the result.
Example	:MEAS:WCDM:UER:PLOS? Starts the measurement and returns the result, e.g. 61.

:MEASure:WCDMa[:CONTinuous]:UEReport:TXPOwer

Syntax	:MEASure:WCDMa[:CONTinuous]:UEReport:TXPOwer
Parameters	There are no parameters.
Description	Reports the UE transmit power.
Query	The query form of this command will return a string containing the floating point value with the result.
Example	:MEAS:WCDM:UER:TXPO? Starts the measurement and returns the result, e.g. 66.

:MEASure:WCDMa[:CONTinuous]:UEReport:RTTDifference

Syntax	:MEASure:WCDMa[:CONTinuous]:UEReport:RTTDifference
Parameters	There are no parameters.
Description	Reports the UE measured RX-Time-Difference between UL and DL signal.
Query	The query form of this command will return a string containing the floating point value with the result.
Example	:MEAS:WCDM:UER:RTTD? Starts the measurement and returns the result, e.g. 1056.

:MEASure:WCDMa[:CONTinuous]:UEReport:TRCH:BLER

Syntax	:MEASure:WCDMa[:CONTinuous]:UEReport:TRCH:BLER
Parameters	There are no parameters.
Description	Reports the UE estimated BLER value for the Transport Channel defined with CONFigure:WCDMa:MEASure:UEReport:TRCH.
Query	The query form of this command will return a string containing the floating point value with the result.
Example	:MEAS:WCDM:UER:TRCH:BLER? Starts the measurement and returns the result, e.g. 5.

:MEASure:WCDMa:ARRay:RFTX:FREQuency

Syntax	:MEASure:WCDMa:ARRay:RFTX:FREQuency <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs the frequency error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times and return the results.
Example	:MEAS:WCDM:ARR:RFTX:FREQ? 5 Starts five measurements, the results of which are returned. Example: 47.1,91.5,13.6,-4.8,15.3.

:MEASure:WCDMa:ARRay:RFTX:POWer:MEAN

Syntax	:MEASure:WCDMa:ARRay:RFTX:POWer:MEAN <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	This command starts a continuous array measurement of the mobile's output power specified by number of arrays <Int1>. To read out the entire measurement results array use the command FETCh:WCDMa:RFTX:POWer:MEAN.
Query	This query command will perform the measurement the number of times specified by <Int1>. As soon as all measurements have been completed, all result values will be returned. The values delivered will contain Int1 floating-point numbers in dBm.
Example	:MEAS:WCDM:ARR:RFTX:POW:MEAN? 10 Starts ten measurements, the results of which are returned. Example: 47.1,91.5,13.6,-4.8,15.3,37.1,51.5,33.6,-4.4,55.3

:MEASure:WCDMa:ARRay:RFTX:POWer:PEAK

Syntax	:MEASure:WCDMa:ARRay:RFTX:POWer:PEAK <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	This command starts a continuous array measurement of the mobile's peak output power specified by number of arrays <Int1>. To read out the entire measurement results array use the command FETCh:WCDMa:RFTX:POWer:PEAK.
Query	This query command will perform the measurement the specified number of <Int1>. As soon as all measurements have been completed, all result values will be returned. The values delivered back will contain <Int1> floating-point numbers in dBm.
Example	:MEAS:WCDM:ARR:RFTX:POW:PEAK? 10

:MEASure:WCDMa:ARRay:RFTX:CPOWer

Syntax	:MEASure:WCDMa:ARRay:RFTX:CPOWer <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs the measurement of the channel power as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the result (in dBm).
Example	:MEAS:WCDM:ARR:RFTX:CPOW? 10

:MEASure:WCDMa:ARRay:RFTX:MODQuality:ALL

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:ALL <Int1>
Parameters	There are no parameters.
Description	Starts an array measurement of the most important RF TX Modulation Quality tests as many times as specified.
Query	The query form of this command starts the measurements and - after all 10 measurements have been completed and all measurement results obtained - delivers a string, containing 10 measurement result values, separated with commas. The order and type of these measurement result values delivered is as follows: 1. EVM RMS, floating point real number representing the RMS vector error measurement in percent, 2. EVM Peak, floating point real number representing the peak vector error measurement in percent, 3. Magnitude error RMS, floating point real number representing the RMS magnitude vector error measurement in percent, 4. Magnitude error Peak, floating point real number representing the PEAK magnitude vector error measurement in percent, 5. Phase error RMS, floating point real number representing the RMS phase vector error measurement in degree, 6. Phase error Peak, floating point real number representing the PEAK phase vector error measurement in degree, 7. Frequency error, floating point real number representing the mobile's frequency error, 8. RHO, floating point real number representing the mobile's modulation quality, 9. I/Q Offset, a floating point value with the result in dBc, representing the result of the origin offset vector error measurement, 10. I/Q Imbalance, floating point real number representing the result of the IQ Imbalance vector error measurement with the result in dB. Note: For a further description of the single measurements, see description of the related commands below.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:ALL? 5 In this case, all relevant RF TX measurements will be performed in a sequence.

:MEASure:WCDMa:ARRay:RFTX:MODQuality:ERMS

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:ERMS <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs an RMS vector error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:ERMS? 19

:MEASure:WCDMa:ARRay:RFTX:MODQuality:EPEAk

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:EPEAk <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs a peak vector error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:EPEA? 10

:MEASure:WCDMa:ARRay:RFTX:MODQuality:MRMS

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:MRMS <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs an RMS magnitude vector error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:MRMS? 10

:MEASure:WCDMa:ARRay:RFTX:MODQuality:MPEAk

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:MPEAk <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs a peak magnitude vector error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:MPEA? 10

:MEASure:WCDMa:ARRay:RFTX:MODQuality:PHASe:RMS

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:PHASe:RMS <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs an RMS phase vector error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:PRMS? 10

:MEASure:WCDMa:ARRay:RFTX:MODQuality:PPEAk

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:PPEAk <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs a peak phase vector error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:PPEA? 10

:MEASure:WCDMa:ARRay:RFTX:MODQuality:RHO

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:RHO <Int1>
Parameters	Int1 is an integer. The minimum value is 0, the maximum value is 100. The default value is 0.
Description	Starts a continuous closed loop measurement.
Query	The query form of this command will return a floating point value.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:RHO? 5

:MEASure:WCDMa:ARRay:RFTX:MODQuality:IQOFfset

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:IQOFfset <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs an origin offset vector error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:IQOF? 10

:MEASure:WCDMa:ARRay:RFTX:MODQuality:IQIMbalance

Syntax	:MEASure:WCDMa:ARRay:RFTX:MODQuality:IQIMbalance <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs an IQ imbalance vector error measurement as many times as specified.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFTX:MODQ:IQIM? 10

:MEASure:WCDMa:ARRay:RFTX:INNErloop

Syntax	:MEASure:WCDMa:ARRay:RFTX:INNErloop <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	It starts inner loop power control measurements and it returns an array of Int1 measurements values as well as the TPC step error for each step.
Query	The query form of this command will perform the measurement Int1 and return the results values as well the error values. The result delivered will contain an array of floating point numbers.
Example	:MEASure:WCDMa:ARRay:RFTX:INNErloop? 10

:MEASure:WCDMa:ARRay:RFSPectrum:ACLR

Syntax	:MEASure:WCDMa:ARRay:RFSPectrum:ACLR <Int1>
Parameters	Int1 is an integer. The minimum value for int1 is 0, the maximum value is 100. The default value for Int1 is 0.
Description	Performs the measurement of the ACLR modulation spectrum a specific number of times (set with the Int1 parameter).
Query	The query form of this command will perform the measurement the specified number of times (Int1 parameter). As soon as all measurements have been completed, all measurement result values will be returned in a string. The string delivered will contain (25 * Int1) floating point real numbers. The physical dimension is dBc. The single measurement results are separated by commas.
Example	:MEAS:WCDM:ARR:RFSP:ACLR 10 :FETCh:WCDMA:RFSP:ACLR The string returned in this example would contain 50 floating point real numbers, representing the 5 measurement result values of 10 measurement runs.

:MEASure:WCDMa:ARRay:RFRX:BER:RATIo

Syntax	:MEASure:WCDMa:ARRay:RFRX:BER:RATIo <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.
Description	Performs a BER measurement as many times as specified. Before you can start a RX Measurement you have to synchronise at once the ProLock to the mobile on a normal Output Power Level with the command CONFigure:WCDMa:MEASure:RFRX:SYNChronise?. If it is synchronised the Power can be changed to a low Level and the measurement can be started.
Query	The query form of this command will perform the measurement the specified number of times, and return the results.
Example	:MEAS:WCDM:ARR:RFRX:BER? 100

:MEASure:WCDMa:ARRay:UEReport:ALL

Syntax	:MEASure:WCDMa:ARRay:UEReport:ALL
Parameters	There are no parameters.
Description	Starts an array measurement of all available UE Report tests.
Query	The query form of this command starts the measurements and - after all 6 measurements have been completed and all measurement results obtained - delivers a string, containing 6 measurement result values, separated with commas. The order and type of these measurement result values delivered is as follows: 1. CPICh ECNO, floating point real number representing UE measured normalized chip energy per noise value of the P-CPICH, 2. CPICh RSCP, floating point real number representing UE measured received signal code power of the P-CPICH, 3. PLOSs, floating point real number representing the path loss between Node B and UE, estimated by the UE, 4. TXPower, floating point real number representing the UE transmit power, 5. RTTDifference, floating point real number representing UE measured RX-Time-Difference between UL and DL signal, 6. TRCH BLER, floating point real number representing the UE estimated BLER value for the Transport Channel defined with CONFigure:WCDMa:MEASure:UEReport:TRCH. Note: For a further description of the single measurements, see description of the related commands below.
Example	:MEAS:WCDM:ARR:UER:ALL? 2 All UE Report measurements will be performed in a sequence, e.g. 23,85,102,97,992,3,23,85,102,97,992,3.

:MEASure:WCDMa:ARRay:UEReport:CPICh:ECNO

Syntax	:MEASure:WCDMa:ARRay:UEReport:CPICh:ECNO <Int1>
Parameters	Int1 is an integer. The minimum value for Int1 is 0, the maximum value is 100. The default value is 0.

Description	Reports the UE measured normalized chip energy per noise value of the P-CPICH.
Query	The query form of this command will perform the measurement the specified number of times and return the results.
Example	`:MEAS:WCDM:ARR:UER:CPICh:ECNO? 7` Starts the measurement and returns the result, e.g. `31,43,16,5,43,28,31`.

:MEASure:WCDMa:ARRay:UEReport:CPICh:RSCP

Syntax	`:MEASure:WCDMa:ARRay:UEReport:CPICh:RSCP <Int1>`
Parameters	`Int1` is an integer. The minimum value for `Int1` is `0`, the maximum value is `100`. The default value is `0`.
Description	Reports the UE measured received signal code power of the P-CPICH.
Query	The query form of this command will perform the measurement the specified number of times and return the results.
Example	`:MEAS:WCDM:ARR:UER:CPICh:RSCP? 6` Starts the measurement and returns the result, e.g. `31,43,66,75,43,28`.

:MEASure:WCDMa:ARRay:UEReport:PLOSs

Syntax	`:MEASure:WCDMa:ARRay:UEReport:PLOSs <Int1>`
Parameters	`Int1` is an integer. The minimum value for `Int1` is `0`, the maximum value is `100`. The default value is `0`.
Description	Reports the path loss between Node B and UE, estimated by the UE.
Query	The query form of this command will perform the measurement the specified number of times and return the results.
Example	`:MEAS:WCDM:ARR:UER:PLOS? 3` Starts the measurement and returns the result, e.g. `75,46,128`.

:MEASure:WCDMa:ARRay:UEReport:TXPOwer

Syntax	`:MEASure:WCDMa:ARRay:UEReport:TXPOwer <Int1>`
Parameters	`Int1` is an integer. The minimum value for `Int1` is `0`, the maximum value is `100`. The default value is `0`.
Description	Reports the UE transmit power.
Query	The query form of this command will perform the measurement the specified number of times and return the results.
Example	`:MEAS:WCDM:ARR:UER:TXPO? 4` Starts the measurement and returns the result, e.g. `66,75,43,28`.

:MEASure:WCDMa:ARRay:UEReport:RTTDifference

Syntax	`:MEASure:WCDMa:ARRay:UEReport:RTTDifference <Int1>`
Parameters	`Int1` is an integer. The minimum value for `Int1` is `0`, the maximum value is `100`. The default value is `0`.
Description	Reports the UE measured RX-Time-Difference between UL and DL signal.
Query	The query form of this command will perform the measurement the specified number of times and return the results.
Example	`:MEAS:WCDM:ARR:UER:RTTD? 5` Starts the measurement and returns the result, e.g. `854,966,1075,943,1128`.

:MEASure:WCDMa:ARRay:UEReport:TRCH:BLER

Syntax	`:MEASure:WCDMa:ARRay:UEReport:TRCH:BLER <Int1>`
Parameters	`Int1` is an integer. The minimum value for `Int1` is `0`, the maximum value is `100`. The default value is `0`.
Description	Reports the UE estimated BLER value for the Transport Channel defined with `CONFigure:WCDMa:MEASure:UEReport:TRCH`.
Query	The query form of this command will perform the measurement the specified number of times and return the results.
Example	`:MEAS:WCDM:ARR:UER:TRCH:BLER? 2` Starts the measurement and returns the result, e.g. `0,2`.

Fetch Commands

11

This chapter contains an explanation of the Fetch subsystem SCPI commands. The commands are used to read out measurement result values both from continuous and array measurements.The list is structured as follows:

GSM commands

:FETCh:GSM:RFTX:GROup?

Syntax	:FETCh:GSM:RFTX:GROup?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result values of the sequence of RF TX measurements as specified with the :CONF:MEAS:GRO:RFTX command and measured with the :MEAS:GSM[:ARRay]:RFTX:GROup command. The string returned contains the related measurement result values. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the kind of measurements. The order of the measurement result values within the string is as described below for the **:FETCh:GSM:RFTX:ALL** command.
Example	**:CONF:MEAS:GRO:RFTX POW,PRMS** **:MEAS:GSM:RFTX:GRO** **:FETCh:GSM:RFTX:GROup?** In this example, the group of measurements is defined by a power measurement combined with a RMS phase error measurement. The values returned in this example are: **"4.53,9.98"**. Because of the internal order (see description of the command below), the first measurement result value delivered back is the RMS phase error, the second one the mobile's RF output power.

:FETCh:GSM:RFTX:ALL?

Syntax	:FETCh:GSM:RFTX:ALL?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command will return the latest measurement result values of the `:MEAS:GSM[:ARRay]:RFTX:ALL` measurement. The string delivered back will contain 19 measurement result values, separated by commas. The order and type of these measurement result values delivered back is as follows: 1. **PPEAk**, floating point real number, representing the peak phase error measurement, 2. **PRMS**, floating point real number representing the root-mean square value of the phase error, 3. **FREQuency**, floating point real number representing the mobile's frequency error, 4. **LENGth**, floating point real number representing the length of the burst in microseconds, 5. **UTIMe**, floating point real number representing the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), 6. **POWer**, floating point real number representing the mobile's RF output power level in dBm, 7. **TEMPlate** boolean number. A **0** indicates that the power/time template was not violated by a burst while a **1** means that there was a violation of the power/time template. 8...15. **CORNer**, eight floating point real numbers, representing the RF power level in dBm at eight predefined positions of a burst (see section Corner Points for details). 16...19. **FLATness**, four floating point real numbers, representing the absolute minimum and maximum RF power levels of the mobile and their positions during the active part of the burst.
Example	**:MEAS:GSM:RFTX:ALL** **:FETCh:GSM:RFTX:ALL?** This example will return the latest measurement result values for the 19 most important RF TX measurements. The string delivered back is: **"5.13,1.94,-2.22,557.0,0.1,11.22,0,-72.18, -61.91,-20.91,-0.05,-0.04,-17.97,-56.60, -73.95,-0.05,-0.01,0.02,-0.05"**.

:FETCh:GSM:RFTX:PPEAk?

Syntax	`:FETCh:GSM:RFTX:PPEAk?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the `MEAS:GSM[:ARRay]:RFTX:PPEAk` measurement. The string delivered back will contain at least one floating point real number with the physical dimension of degrees.
Example	**:MEAS:GSM:RFTX:PPEAk** **:FETCh:GSM:RFTX:PPEAk?** The value returned is: **"5.13"**.

:FETCh:GSM:RFTX:PRMS?

Syntax	:FETCh:GSM:RFTX:PRMS?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:GSM[:ARRay]:RFTX:PRMS measurement. The string delivered back will contain at least one floating point real number with the physical dimension of degrees.
Example	**:MEAS:GSM:ARR:RFTX:PRMS 5** **:FETCh:GSM:RFTX:PRMS?** The values returned are: **"2.49,2.37,2.51,2.47,2.35"**.

:FETCh:GSM:RFTX:FREQuency?

Syntax	:FETCh:GSM:RFTX:FREQuency?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:GSM[:ARRay]:RFTX:FREQ measurement. The string delivered back will contain at least one floating point real number with the physical dimension of Hertz.
Example	**:MEAS:GSM:ARR:RFTX:FREQ 5** **:FETCh:GSM:RFTX:FREQ?** The values returned are: **"22.49,24.37,21.51,29.47,23.35"**.

:FETCh:GSM:RFTX:LENGth?

Syntax	:FETCh:GSM:RFTX:LENGth?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:GSM[:ARRay]:RFTX:LENGth measurement. The string delivered back will contain at least one floating point real number with the physical dimension of microseconds.
Example	**:MEAS:GSM:RFTX:LENGth** **:FETCh:GSM:RFTX:LENG?** The value returned is: **"557.0"**.

:FETCh:GSM:RFTX:UTIMe?

Syntax	:FETCh:GSM:RFTX:UTIMe?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the `MEAS:GSM[:ARRay]:RFTX:UTIMe` measurement. The string delivered back will contain at least one floating point real number with the physical dimension of microseconds.
Example	**`:MEAS:GSM:ARR:RFTX:UTIMe 5`** **`:FETCh:GSM:RFTX:UTIM?`** The values returned are: **`"1.1,0.8,1.2,0.5,0.2"`**.

`:FETCh:GSM:RFTX:POWer?`

Syntax	`:FETCh:GSM:RFTX:POWer?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the `MEAS:GSM[:ARRay]:RFTX:POWer` measurement. The string delivered back will contain at least one floating point real number with the physical dimension of dBm.
Example	**`:MEAS:GSM:RFTX:POWer`** **`:FETCh:GSM:RFTX:POWer?`** The value returned is: **`"13.05"`**.

`:FETCh:GSM:RFTX:TEMPlate?`

Syntax	`:FETCh:GSM:RFTX:TEMPlate?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest result value(s) of the `:MEAS:GSM[:ARRay]:RFTX:TEMPlate` check. The string delivered back will contain at least one boolean number, representing the result of the check. A **`0`** indicates that the burst measured was within the PTT specified, while a **`1`** means that the burst did violate the PTT. The PTT is user-definable and can be set using the `:CALC:GSM:RFTX:TEMP` commands.
Example	**`:MEAS:GSM:ARR:RFTX:TEMPlate 10`** **`:FETCh:GSM:RFTX:TEMP?`** The values returned are: **`"0,0,0,0,0,0,0,0,0,0"`**. This means that all the ten bursts checked were within the PTT.

`:FETCh:GSM:RFTX:FPOWer?`

Syntax	`:FETCh:GSM:RFTX:FPOWer?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command returns the latest measurement result value(s) of the `:MEAS:GSM[:ARRay]:RFTX:FPOWer` measurement. The string delivered back will contain at least one floating point real number with the physical dimension of dBm.
Example	**`:MEAS:GSM:RFTX:FPOWer`** **`:FETCh:GSM:RFTX:FPOWer?`** The value returned is: **`"13.05"`**.

`:FETCh:GSM:BLOCkdata:BURStshape?`

Syntax	`:FETCh:GSM:BLOCkdata:BURStshape?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest data block describing the burst shape.
Example	**`:MEAS:GSM:BLOC:BURS`** **`:FETC:GSM:BLOC:BURS?`** The **FETC** command will return a data array, containing 700 floating point real numbers.

`:FETCh:GSM:RFRX:RBER:ALL?`

Syntax	`:FETCh:GSM:RFRX:RBER:ALL?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result values of the `:MEAS:GSM[:ARRay]:RFRX:RBER:ALL` measurement. The string returned will contain three floating point real numbers, separated by commas. The order of these numbers and their meaning is as follows: 1. the result of the residual bit error ratio measurement of the class Ib bits, 2. the result of the residual bit error ratio measurement of the class II bits, and 3. the result of the frame erasure ratio measurement.
Example	**`:MEAS:GSM:RFRX:RBER:ALL`** **`:FETCh:GSM:RFRX:RBER:ALL?`** This example will return the latest measurement result values for the three residual bit error measurements. The string delivered back is: **`"0.2,1.7,0.3"`**. This means that the RBER for class Ib bits is **`0.2`**.

`:FETCh:GSM:RFRX:RBER:CIB?`

Syntax	`:FETCh:GSM:RFRX:RBER:CIB?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GSM[:ARRay]:RFRX:RBER:CIB measurement. The string delivered back will contain at least one floating point real number.
Example	**:MEAS:GSM:ARR:RFRX:RBER:CIB 5** **:FETCh:GSM:RFRX:RBER:CIB?** The string delivered back is: **"0.2,0.1,0.2,0.3,0.2"**.

:FETCh:GSM:RFRX:RBER:CII?

Syntax	:FETCh:GSM:RFRX:RBER:CII?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GSM[:ARRay]:RFRX:RBER:CII measurement. The string delivered back will contain at least one floating point real number.
Example	**:MEAS:GSM:ARR:RFRX:RBER:CII 5** **:FETCh:GSM:RFRX:RBER:CII?** The string delivered back is: **"1.5,1.7,2.1,2.3,2.6"**.

:FETCh:GSM:RFRX:RBER:FER?

Syntax	:FETCh:GSM:RFRX:RBER:FER?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GSM[:ARRay]:RFRX:RBER:FER measurement. The string delivered back will contain at least one floating point real number.
Example	**:MEAS:GSM:RFRX:RBER:FER** **:FETCh:GSM:RFRX:RBER:FER?** The string delivered back is: **"1.5"**.

:FETCh:GSM:RFRX:BER:ALL?

Syntax	:FETCh:GSM:RFRX:BER:ALL?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command will return the latest measurement result values of the :MEAS:GSM[:ARRay]:RFRX:BER:ALL measurement. The string returned will contain three floating point real numbers, separated by commas. The order of these numbers and their meaning is as follows: 1. the result of the (nonresidual) bit error ratio measurement of the class Ia bits, 2. the result of the (nonresidual) bit error ratio measurement of the class Ib bits, and 3. the result of the (nonresidual) bit error ratio measurement of the class II bits.
Example	**:MEAS:GSM:ARR:RFRX:BER:ALL 3** **:FETCh:GSM:RFRX:BER:ALL?** This example will deliver back the latest measurement result values for the three residual bit error measurements. The string delivered back is: **"0.2,0.3,1.7,0.2,0.4,1.8,0.1,0.2,0.8"**.

:FETCh:GSM:RFRX:BER:CIA?

Syntax	:FETCh:GSM:RFRX:BER:CIA?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GSM[:ARRay]:RFRX:BER:CIA measurement. The string delivered back will contain at least one floating point real number.
Example	**:MEAS:GSM:RFRX:BER:CIA** **:FETCh:GSM:RFRX:BER:CIA?** The string delivered back is: **"0.1"**.

:FETCh:GSM:RFRX:BER:CIB?

Syntax	:FETCh:GSM:RFRX:BER:CIB?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GSM[:ARRay]:RFRX:BER:CIB measurement. The string delivered back will contain at least one floating point real number.
Example	**:MEAS:GSM:ARR:RFRX:BER:CIB 5** **:FETCh:GSM:RFRX:BER:CIB?** The string delivered back is: **"0.4,0.3,0.7,0.6,0.5"**.

:FETCh:GSM:RFRX:BER:CII?

Syntax	:FETCh:GSM:RFRX:BER:CII?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GSM[:ARRay]:RFRX:BER:CII measurement. The string delivered back will contain at least one floating point real number.
Example	**:MEAS:GSM:RFRX:BER:CII** **:FETCh:GSM:RFRX:BER:CII?** The string delivered back is: **"1.9"**.

:FETCh[:GSM]:RFRX:BER:CRC?

Syntax	:FETCh[:GSM]:RFRX:BER:CRC?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GSM[:ARRay]:RFRX:BER:CII measurement. The string delivered back will contain at least one floating point real number.
Example	:MEAS:RFRX:BER:CRC :FETC:RFRX:BER:CRC? The string delivered back in this example is: "1.9".

:FETCh:GSM:RFRX:FBER?

Syntax	:FETCh:GSM:RFRX:FBER?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GSM[:ARRay]:RFRX:FBER measurement. The string delivered back will contain at least one floating point real number.
Example	**:MEAS:GSM:ARR:RFRX:FBER 5** **:FETCh:GSM:RFRX:FBER?** The string delivered back is: **"0.7,0.9,1.2,1.8,2.0"**.

:FETCh:GSM:RFRX:RTDelay?

Syntax	:FETCh:GSM:RFRX:RTDelay?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEASure:GSM:ARRay:RFRX: measurement. The string delivered back will contain at least one integer.

Example	:MEAS:GSM:RFRX:RTD :FETCh:GSM:RFRX:RTD? The string delivered back is: "8".

GSM/GPRS commands

:FETCh:GPRS:RFTX:GROup?

Syntax	:FETCh:GPRS:RFTX:GROup?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result values of the sequence of RF TX measurements as specified with the :CONF:MEAS:GRO:RFTX command and measured with the :MEAS:GPRS[:ARRay]:RFTX:GROup command. The string returned contains the related measurement result values. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the kind of measurements. The order of the measurement result values within the string is as described below for the :FETCh:GPRS:RFTX:ALL command.
Example	:CONF:MEAS:GRO:RFTX POW,PRMS :MEAS:GPRS:RFTX:GRO :FETCh:GPRS:RFTX:GROup? In this example, the group of measurements is defined by a power measurement combined with a RMS phase error measurement. The values returned in this example are: "4.53,9.98". Because of the internal order (see description of the command below), the first measurement result value delivered back is the RMS phase error, the second one the mobile's RF output power.

:FETCh:GPRS:RFTX:ALL?

Syntax	:FETCh:GPRS:RFTX:ALL?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command will return the latest measurement result values of the `:MEAS:GPRS[:ARRay]:RFTX:ALL` measurement. The string delivered back will contain 19 measurement result values, separated by commas. The order and type of these measurement result values delivered back is as follows: 1. `PPEAk`, floating point real number, representing the peak phase error measurement, 2. `PRMS`, floating point real number representing the root-mean square value of the phase error, 3. `FREQuency`, floating point real number representing the mobile's frequency error, 4. `LENGth`, floating point real number representing the length of the burst in microseconds, 5. `UTIMe`, floating point real number representing the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), 6. `POWer`, floating point real number representing the mobile's RF output power level in dBm, 7. `TEMPlate` boolean number. A `0` indicates that the power/time template was not violated by a burst while a `1` means that there was a violation of the power/time template. 8...15. `CORNer`, eight floating point real numbers, representing the RF power level in dBm at eight predefined positions of a burst (see section Corner Points for details). 16...19. `FLATness`, four floating point real numbers, representing the absolute minimum and maximum RF power levels of the mobile and their positions during the active part of the burst.

Example	`:MEAS:GPRS:RFTX:ALL`
	`:FETCh:GPRS:RFTX:ALL?`
	This example will return the latest measurement result values for the 19 most important RF TX measurements. The string delivered back: is:
	`"5.13,1.94,-2.22,557.0,0.1,11.22,0,-72.18, -61.91,-20.91,-0.05,-0.04,-17.97,-56.60, -73.95,-0.05,-0.01,0.02,-0.05"`.

:FETCh:GPRS:RFTX:PPEAk?

Syntax	`:FETCh:GPRS:RFTX:PPEAk?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the `MEAS:GPRS[:ARRay]:RFTX:PPEAk` measurement. The string delivered back will contain at least one floating point real number with the physical dimension of degrees.

Example	`:MEAS:GPRS:RFTX:PPEAk`
	`:FETCh:GPRS:RFTX:PPEAk?`
	The value returned is: `"5.13"`.

:FETCh:GPRS:RFTX:PRMS?

Syntax	:FETCh:GPRS:RFTX:PRMS?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:GPRS[:ARRay]:RFTX:PRMS measurement. The string delivered back will contain at least one floating point real number with the physical dimension of degrees.
Example	:MEAS:GPRS:ARR:RFTX:PRMS 5 :FETCh:GPRS:RFTX:PRMS? The values returned are: "2.49,2.37,2.51,2.47,2.35".

:FETCh:GPRS:RFTX:FREQuency?

Syntax	:FETCh:GPRS:RFTX:FREQuency?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:GPRS[:ARRay]:RFTX:FREQ measurement. The string delivered back will contain at least one floating point real number with the physical dimension of Hertz.
Example	:MEAS:GPRS:ARR:RFTX:FREQ 5 :FETCh:GPRS:RFTX:FREQ? The values returned are: "22.49,24.37,21.51,29.47,23.35".

:FETCh:GPRS:RFTX:LENGth?

Syntax	:FETCh:GPRS:RFTX:LENGth?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:GPRS[:ARRay]:RFTX:LENGth measurement. The string delivered back will contain at least one floating point real number with the physical dimension of microseconds.
Example	:MEAS:GPRS:RFTX:LENGth :FETCh:GPRS:RFTX:LENG? The value returned is: "557.0".

:FETCh:GPRS:RFTX:UTIMe?

Syntax	:FETCh:GPRS:RFTX:UTIMe?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the `MEAS:GPRS[:ARRay]:RFTX:UTIMe` measurement. The string delivered back will contain at least one floating point real number with the physical dimension of microseconds.

Example	`:MEAS:GPRS:ARR:RFTX:UTIMe 5`
	`:FETCh:GPRS:RFTX:UTIM?`
	The values returned are: `"1.1,0.8,1.2,0.5,0.2"`.

:FETCh:GPRS:RFTX:POWer?

Syntax	`:FETCh:GPRS:RFTX:POWer?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the `MEAS:GPRS[:ARRay]:RFTX:POWer` measurement. The string delivered back will contain at least one floating point real number with the physical dimension of dBm.

Example	`:MEAS:GPRS:RFTX:POWer`
	`:FETCh:GPRS:RFTX:POWer?`
	The value returned is: `"13.05"`.

:FETCh:GPRS:RFTX:TEMPlate?

Syntax	`:FETCh:GPRS:RFTX:TEMPlate?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest result value(s) of the `:MEAS:GPRS[:ARRay]:RFTX:TEMPlate` check. The string delivered back will contain at least one boolean number, representing the result of the check. A `0` indicates that the burst measured was within the PTT specified, while a `1` means that the burst did violate the PTT. The PTT is user-definable and can be set using the `:CALC:GPRS:RFTX:TEMP` commands.

Example	`:MEAS:GPRS:ARR:RFTX:TEMPlate 10`
	`:FETCh:GPRS:RFTX:TEMP?`
	The values returned in this example are: `"0,0,0,0,0,0,0,0,0,0"`. This means that all the ten bursts checked were within the PTT.

:FETCh:GPRS:RFTX:FPOWer?

Syntax	`:FETCh:GPRS:RFTX:FPOWer?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command returns the latest measurement result value(s) of the `:MEAS:GPRS[:ARRay]:RFTX:FPOWer` measurement. The string delivered back will contain at least one floating point real number with the physical dimension of dBm.

Example	`:MEAS:GPRS:RFTX:FPOWer`
	`:FETCh:GPRS:RFTX:FPOWer?`
	The value returned is: `"13.05"`.

:FETCh:GPRS:BLOCkdata:BURStshape?

Syntax	`:FETCh:GPRS:BLOCkdata:BURStshape?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest data block describing the burst shape. For further details regarding this measurement, please refer to the description of the `:MEAS:GPRS:BLOC:BURS` command and the explanations given in section `:MEASure:BLOCkdata`. There, you will also find all information about the number, type and order of the measurement result values returned in the result string.

Example	`:MEAS:GPRS:BLOC:BURS`
	`:FETC:GPRS:BLOC:BURS?`
	The `FETC` command will return a data array, containing 711 floating point real numbers.

:FETCh:GPRS:RFRX:RBER:ALL?

Syntax	`:FETCh:GPRS:RFRX:RBER:ALL?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result values of the `:MEAS:GPRS[:ARRay]:RFRX:RBER:ALL` measurement. The string returned will contain three floating point real numbers, separated by commas. The order of these numbers and their meaning is as follows: 1. the result of the residual bit error ratio measurement of the class Ib bits, 2. the result of the residual bit error ratio measurement of the class II bits, and 3. the result of the frame erasure ratio measurement.

Example	`:MEAS:GPRS:RFRX:RBER:ALL`
	`:FETCh:GPRS:RFRX:RBER:ALL?`
	This example will return the latest measurement result values for the three residual bit error measurements. The string delivered back in this example is: `"0.2,1.7,0.3"`. This means that the RBER for class Ib bits is `0.2`.

:FETCh:GPRS:RFRX:RBER:CIB?

Syntax	`:FETCh:GPRS:RFRX:RBER:CIB?`
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the `:MEAS:GPRS[:ARRay]:RFRX:RBER:CIB` measurement. The string delivered back will contain at least one floating point real number.

Example	`:MEAS:GPRS:ARR:RFRX:RBER:CIB 5`
	`:FETCh:GPRS:RFRX:RBER:CIB?`
	The string delivered back is:
	`"0.2,0.1,0.2,0.3,0.2"`.

:FETCh:GPRS:RFRX:RBER:CII?

Syntax	`:FETCh:GPRS:RFRX:RBER:CII?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the `:MEAS:GPRS[:ARRay]:RFRX:RBER:CII` measurement. The string delivered back will contain at least one floating point real number.

Example	`:MEAS:GPRS:ARR:RFRX:RBER:CII 5`
	`:FETCh:GPRS:RFRX:RBER:CII?`
	The string delivered back is:
	`"1.5,1.7,2.1,2.3,2.6"`.

:FETCh:GPRS:RFRX:RBER:FER?

Syntax	`:FETCh:GPRS:RFRX:RBER:FER?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the `:MEAS:GPRS[:ARRay]:RFRX:RBER:FER` measurement. The string delivered back will contain at least one floating point real number.

Example	`:MEAS:GPRS:RFRX:RBER:FER`
	`:FETCh:GPRS:RFRX:RBER:FER?`
	The string delivered back is:
	`"1.5"`.

:FETCh:GPRS:RFRX:BER:ALL?

Syntax	`:FETCh:GPRS:RFRX:BER:ALL?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command will return the latest measurement result values of the :MEAS:GPRS[:ARRay]:RFRX:BER:ALL measurement. The string returned will contain three floating point real numbers, separated by commas. The order of these numbers and their meaning is as follows: 1. the result of the (nonresidual) bit error ratio measurement of the class Ia bits, 2. the result of the (nonresidual) bit error ratio measurement of the class Ib bits, and 3. the result of the (nonresidual) bit error ratio measurement of the class II bits.
Example	:MEAS:GPRS:ARR:RFRX:BER:ALL 3 :FETCh:GPRS:RFRX:BER:ALL? This example will deliver back the latest measurement result values for the three residual bit error measurements. The string delivered back in this example is: "0.2,0.3,1.7,0.2,0.4,1.8,0.1,0.2,0.8".

:FETCh:GPRS:RFRX:BER:CIA?

Syntax	:FETCh:GPRS:RFRX:BER:CIA?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GPRS[:ARRay]:RFRX:BER:CIA measurement. The string delivered back will contain at least one floating point real number.
Example	:MEAS:GPRS:RFRX:BER:CIA :FETCh:GPRS:RFRX:BER:CIA? The string delivered back is: "0.1".

:FETCh:GPRS:RFRX:BER:CIB?

Syntax	:FETCh:GPRS:RFRX:BER:CIB?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the :MEAS:GPRS[:ARRay]:RFRX:BER:CIB measurement. The string delivered back will contain at least one floating point real number.
Example	:MEAS:GPRS:ARR:RFRX:BER:CIB 5 :FETCh:GPRS:RFRX:BER:CIB? The string delivered back is: "0.4,0.3,0.7,0.6,0.5".

:FETCh:GPRS:RFRX:BER:CII?

Syntax	:FETCh:GPRS:RFRX:BER:CII?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the `:MEAS:GPRS[:ARRay]:RFRX:BER:CII` measurement. The string delivered back will contain at least one floating point real number.

Example	`:MEAS:GPRS:RFRX:BER:CII`
	`:FETCh:GPRS:RFRX:BER:CII?`
	The string delivered back is:
	`"1.9"`.

:FETCh:GPRS:RFRX:BER:CRC?

Syntax	`:FETCh:GPRS:RFRX:BER:CRC?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the `:MEAS:GPRS[:ARRay]:RFRX:BER:CII` measurement. The string delivered back will contain at least one floating point real number.

Example	`:MEAS:GPRS:RFRX:BER:CRC`
	`:FETC:GPRS:RFRX:BER:CRC?`
	The string delivered back in this example is:
	`"1.9"`.

:FETCh:GPRS:RFRX:FBER?

Syntax	`:FETCh:GPRS:RFRX:FBER?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the `:MEAS:GPRS[:ARRay]:RFRX:FBER` measurement. The string delivered back will contain at least one floating point real number.

Example	`:MEAS:GPRS:ARR:RFRX:FBER 5`
	`:FETCh:GPRS:RFRX:FBER?`
	The string delivered back is:
	`"0.7,0.9,1.2,1.8,2.0"`.

:FETCh:GPRS:RFRX:RTDelay?

Syntax	`:FETCh:GPRS:RFRX:RTDelay?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result value(s) of the `:MEAS:GPRS[:ARRay]:RFRX:RTDelay` measurement. The string delivered back will contain at least one integer.

Example	:MEAS:GPRS:RFRX:RTD :FETCh:GPRS:RFRX:RTD? The string delivered back is: "8".

:FETCh:GPRS:MULTislot:RFTX:ALL?

Syntax	:FETCh:GPRS:MULTislot:RFTX:ALL?
Parameters	There are no parameters with this command.
Description	Only the query form of this command is available.
Query	Requires a preceding :MEAS:GPRS:ARR:MULT:RFTX:ALL <int1> command. Returns a string containing int1 times the result string defined for the :FETCh:GPRS:MULT:RFTX:ALL query.
Example	:CONF:GPRS:MSTA:MSL 2 :MEAS:GPRS:ARR:MULT:RFTX:ALL 10 :FETCh:GPRS:MULT:RFTX:ALL? Delivers a string containing 10*(1+2*19)=390 results, separated by commas.

:FETCh:GPRS:MULTIslot:RFTX:PPEAk?

Syntax	:FETCh:GPRS:MULTIslot:RFTX:PPEAk?
Parameters	There are no parameters with this command.
Description	Only the query form of this command is available.
Query	Returns a string containing int1 times the result string from the :MEASure:GPRS:CONT:MULT:RFTX:PPEAk query. int1 is specified with the preceding :MEAS:GPRS:ARR:MULT:RFTX:PPEAk command.
Example	:CONF:GPRS:MSTA:MSL 2 :MEAS:GPRS:ARR:MULT:RFTX:PPEAk 3 :FETCh:GPRS:MULT:RFTX:PPEAk? Returns a string containing nine results separated by commas, for example 2,8.3,9.6, 2,8.1,8.9, 2,8.2,9.5

:FETCh:GPRS:MULTIslot:RFTX:TEMPlate?

Syntax	:FETCh:GPRS:MULTIslot:RFTX:TEMPlate?
Parameters	There are no parameters with this command.
Description	Only the query form of this command is available.
Query	The return string contains int1 times the number of the uplink time slots followed by the pass/fail results for the individual slots, one result for each slot. A 0 indicates that the burst shape is inside limits, 1 indicates outside limits for the respective part. int1 is specified with the preceding :MEAS:GPRS:ARR:MULT:RFTX:TEMP command.

Example	:CONF:GPRS:MSTA:MSL 2 :MEAS:GPRS:ARR:MULT:RFTX:TEMP 3 :FETCh:GPRS:MULT:RFTX:TEMP? Returns a string like the following: 2,0,0, 2,0,1, 2,0,1 In this example, the signal hits the limits in the second slot for the second and third measurement.

:FETCh:GPRS:MULTIslot:RFRX:BLER?

Syntax	:FETCh:GPRS:MULTIslot:RFRX:BLER?
Parameters	There are no parameters with this command.
Description	Only the query form of this command is available.
Query	Returns a string containing an integer number indicating the number of time slots measured, a floating point real number giving the BLER for all slots followed by floating point real numbers giving the BLER for individual slots, separated by commas.
Example	:CONF:GPRS:MSTA:MSL 2 :CALL:GPRS:MODE USF :MEAS:GPRS:ARR:MULT:RFRX:BLER 3 :FETCh:GPRS:MULT:RFRX:BLER? Returns a string like 2,1.1,0.7,1.4, 2,1.2,0.9,1.5, 2,1.1,0.8,1.3

EDGE commands

:FETCh:EGPRs:RFTX:GROup?

Syntax	:FETCh:EGPRs:RFTX:GROup?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command will return the latest measurement result values of the sequence of EGPRS RF TX measurements as specified with the :CONF:EGPRs:MEAS:GRO:RFTX command and measured with the :MEAS:EGPRs[:ARRay]:RFTX:GROup command. As soon as all measurements of the first sequence have been completed, a string will be delivered back, containing the related measurement result values, separated by commas. The type of the measurement result values (i.e. floating point real numbers, integers or boolean numbers) depends on the measurements specified. The order of the measurement result values within the string is as described below for the :FETCh:EGPRs:RFTX:ALL command.
Example	:CONF:EGPR:MEAS:GRO:RFTX POW,ERMS :MEAS:EGPR:RFTX:GRO :FETC:EGPR:RFTX:GRO? In this example, the group of measurements is defined by a power level measurement combined with a EVM RMS phase error measurement. The string returned in this example is: "4.53,9.98". Because of the internal order (see description of the command below), the first measurement result value delivered back is the EVM RMS phase error, the second one the mobile's RF output power level.

:FETCh:EGPRs:RFTX:ALL?

Syntax	:FETCh:EGPRs:RFTX:ALL?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command will return the latest measurement result values of the :MEAS:EGPR[:ARR]:RFTX:ALL measurement. The string delivered back will contain 17 measurement result values, separated with commas. The order and type of these measurement result values delivered back is as follows: 1. ERMS, the error vector magnitude rms-averaged over a burst. EVM is a relative value and shown as a percentage, 2. EPEAk, the maximum error vector magnitude within a burst. EVM is indicated per cent, 3. ENFTh, the error vector magnitude that is not exceeded by 95% of the symbols of a burst. The 95% EVM is shown in %, 4. EOFFset, the origin offset indicates the accuracy of the i/Q modulators DC setup; it is usually an undesire leakage produced due to a DC offset in the phones I/Q modulator. It is measured in dBc, 5. FREQuency, floating point real number representing the mobile's frequency error, 6. LENGth, floating point real number representing the length of the burst in microseconds, 7. UTIMe, floating point real number representing the timing error of the mobile under test in microseconds (taking the ordered timing advance into account), 8. POWer, floating point real number representing the mobile's RF output power level in dBm, 9. TEMPlate boolean number. 0 indicates that the power-time template (PTT) was not violated by the last burst measured, while a 1 means that the burst did violate the PTT. 10...17. CORNer, eight floating point real numbers, representing the RF power level in dBm at eight pre-defined positions of a burst.
Example	:MEAS:EGPR:RFTX:ALL :FETC:EGPR:RFTX:ALL? This example will return the latest measurement result values for the 17 most important EGPRS RF TX measurements. The string delivered back in this example is: "5.13,11.94,3,12,4.54,-2.22,557.0,0.1,11.22,0,-72.18, -61.91,-20.91,-0.05,-0.04,-17.97,-56.60,-73.95".

:FETCh:EGPRs:RFTX:ERMS?

Syntax	:FETCh:EGPRs:RFTX:ERMS?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:EGPR[:ARR]:RFTX:ERMS measurement. The string delivered back will contain at least one floating point real number with the physical dimension of %.
Example	:MEAS:EGPR:ARR:RFTX:ERMS 5 :FETC:EGPR:RFTX:ERMS? The error vector magnitude rms-averaged measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "2.33,2.53,1.97,2.41,1.79".

:FETCh:EGPRs:RFTX:EPEAk?

Syntax	:FETCh:EGPRs:RFTX:EPEAk?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:EGPR[:ARR]:RFTX:EPEA measurement. The string delivered back will contain at least one floating point real number with the physical dimension of %.
Example	:MEAS:EGPR:ARR:RFTX:EPEA 5 :FETC:EGPR:RFTX:EPEA? The maximum error vector magnitude measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "6.33,8.53,11.97,9.41,10.79".

:FETCh:EGPRs:RFTX:ENFTh?

Syntax	:FETCh:EGPRs:RFTX:ENFTh?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:EGPR[:ARR]:RFTX:ENFT measurement. The string delivered back will contain at least one floating point real number with the physical dimension of %.
Example	:MEAS:EGPR:ARR:RFTX:ENFT 5 :FETC:EGPR:RFTX:ENFT? The maximum error vector magnitude measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "4.33,5.53,1.97,3.41,2.79".

:FETCh:EGPRs:RFTX:EOFFset?

Syntax	:FETCh:EGPRs:RFTX:EOFFset?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:EGPR[:ARR]:RFTX:EOFF measurement. The string delivered back will contain at least one floating point real number with the physical dimension of dBc.

Example	:MEAS:EGPR:ARR:RFTX:EOFF 5 :FETC:EGPR:RFTX:EOFF? The maximum error vector magnitude measurement will be performed five times. The measurement results will be stored internally and read by the FETC command. An example of the string returned is: "4.33,5.53,1.97,3.41,2.79".

:FETCh:EGPRs:RFTX:FREQuency?

Syntax	:FETCh:EGPRs:RFTX:FREQuency?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:EGPRs[:ARRay]:RFTX:FREQ measurement. The string delivered back will contain at least one floating point real number with the physical dimension of Hertz.
Example	:MEAS:EGPRs:ARR:RFTX:FREQ 5 :FETCh:EGPRs:RFTX:FREQ? The values returned in this example are: "22.49,24.37,21.51,29.47,23.35".

:FETCh:EGPRs:RFTX:LENGth?

Syntax	:FETCh:EGPRs:RFTX:LENGth?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:EGPRs[:ARRay]:RFTX:LENGth measurement. The string delivered back will contain at least one floating point real number with the physical dimension of microseconds.
Example	:MEAS:EGPRs:RFTX:LENGth :FETCh:EGPRs:RFTX:LENG? The value returned in this example is: "557.0".

:FETCh:EGPRs:RFTX:UTIMe?

Syntax	:FETCh:EGPRs:RFTX:UTIMe?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:EGPRs[:ARRay]:RFTX:UTIMe measurement. The string delivered back will contain at least one floating point real number with the physical dimension of microseconds.

Example	:MEAS:EGPRs:ARR:RFTX:UTIMe 5 :FETCh:EGPRs:RFTX:UTIM? The values returned in this example are: "1.1,0.8,1.2,0.5,0.2".

:FETCh:EGPRs:RFTX:POWer?

Syntax	:FETCh:EGPRs:RFTX:POWer?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest measurement result value(s) of the MEAS:EGPRs[:ARRay]:RFTX:POWer measurement. The string delivered back will contain at least one floating point real number with the physical dimension of dBm.
Example	:MEAS:EGPRs:RFTX:POWer :FETCh:EGPRs:RFTX:POWer? The value returned in this example is: "13.05".

:FETCh:EGPRs:RFTX:TEMPlate?

Syntax	:FETCh:EGPRs:RFTX:TEMPlate?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	The query form of this command returns the latest result value(s) of the :MEAS:EGPRs[:ARRay]:RFTX:TEMPlate check. The string delivered back will contain at least one boolean number, representing the result of the check. A 0 indicates that the burst measured was within the PTT specified, while a 1 means that the burst did violate the PTT. The PTT is user-definable and can be set using the :CALC:EGPRs:RFTX:TEMP commands.
Example	:MEAS:EGPRs:ARR:RFTX:TEMPlate 10 :FETCh:EGPRs:RFTX:TEMP? The values returned in this example are: "0,0,0,0,0,0,0,0,0,0". This means that all the ten bursts checked were within the PTT.

:FETCh:EGPRs:BLOCkdata:BURStshape?

Syntax	:FETCh:EGPRs:BLOCkdata:BURStshape?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	The query form of this command returns the latest data block describing the burst shape. For further details regarding this measurement, please refer to the description of the `:MEAS:EGPRs:BLOC:BURS` command and the explanations given in section `:MEASure:BLOCkdata`. There, you will also find all information about the number, type and order of the measurement result values returned in the result string.

Example	`:MEAS:EGPRs:BLOC:BURS`
	`:FETC:EGPRs:BLOC:BURS?`
	The `FETC` command will return a data array, containing 711 floating point real numbers.

:FETCh:EGPRs:MULTIslot:RFTX:TEMPlate?

Syntax	`:FETCh:EGPRs:MULTIslot:RFTX:TEMPlate?`
Parameters	There are no parameters with this command.
Description	Only the query form of this command is available.
Query	The return string contains `int1` times the number of the uplink time slots followed by the pass/fail results for the individual slots, one result for each slot. A `0` indicates that the burst shape is inside limits, `1` indicates outside limits for the respective part. `int1` is specified with the preceding `:MEAS:EGPRs:ARR:MULT:RFTX:TEMP` command.

Example	`:CONF:EGPRs:MSTA:MSL 2`
	`:MEAS:EGPRs:ARR:MULT:RFTX:TEMP 3`
	`:FETCh:EGPRs:MULT:RFTX:TEMP?`
	Returns a string like the following:
	`2,0,0, 2,0,1, 2,0,1`
	In this example, the signal hit the limits for the second slot in the second and third measurement.

WCDMA commands

:FETCh:WCDMa:RFTX:FREQ:ERRor

Syntax	:FETCh:WCDMa:RFTX:FREQ:ERRor?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the results of the :MEASure:WCDMa:CONT|ARRay:RFTX:FREQ:ERR measurement command.
Example	:FETC:WCDM:RFTX:FREQ? Returns the measured frequency error, e.g. -7.834.

:FETCh:WCDMa:RFTX:POWer:MEAN

Syntax	:FETCh:WCDMa:RFTX:POWer:MEAN?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The query form returns the latest result value of the MEASure:WCDMa:RFTX:POWer:MEAN measurement respectively the latest result values of the MEASure:WCDMa:ARRay:RFTX:POWer:MEAN measurement. The values delivered will contain at least one floating-point number in dBm.
Example	:FETC:WCDM:RFTX:POW:MEAN? Returns an RF power measurement result, e.g. -45.3.

:FETCh:WCDMa:RFTX:POWer:PEAK

Syntax	:FETCh:WCDMa:RFTX:POWer:PEAK?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The query form returns the result of a previous :MEASure:WCDMa:CONT|ARRay:RFTX:POWer:PEAK measurement. The values delivered will contain at least one floating-point number in dBm.
Example	:FETC:WCDM:RFTX:POW:PEAK? Returns the Peak RF power measurement result, e.g. -36.8.

FETCh:WCDMa:RFTX:CPOWer

Syntax	FETCh:WCDMa:RFTX:CPOWer?
Parameters	There are no parameters.

Description	Only the query form is supported.
Query	The command returns the results of the `:MEASure:WCDMa:CONT|ARRay:RFTX:CHPower` measurement command.
Example	`:FETC:WCDM:RFTX:CPOW?`

:FETCh:WCDMa:RFTX:MODQuality:ALL?

Syntax	`:FETCh:WCDMa:RFTX:MODQuality:ALL?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous `:MEASure:WCDMa:CONT|ARR:RFTX:ALL` measurement command. It delivers a string, containing 10 measurement result values, separated by commas. The order and type of these measurement result values delivered back is as follows: 1. `EVM RMS`, floating point real number representing the RMS vector error measurement in percent, 2. `EVM Peak`, floating point real number representing the peak vector error measurement in percent, 3. `Magnitude error RMS`, floating point real number representing the RMS magnitude vector error measurement in percent, 4. `Magnitude error Peak`, floating point real number representing the PEAK magnitude vector error measurement in percent, 5. `Phase error RMS`, floating point real number representing the RMS phase vector error measurement in degrees, 6. `Phase error Peak`, floating point real number representing the PEAK phase vector error measurement in degrees, 7. `Frequency error`, floating point real number representing the mobile's frequency error, 8. `RHO`, floating point real number representing the mobile's modulation quality, 9. `I/Q Offset`, a floating point value with the result in dBc, representing the result of the origin offset vector error measurement, 10. `I/Q Imbalance`, floating point real number representing the result of the IQ Imbalance vector error measurement with the result in dB. Note: For a further description of the single measurements, see description of the related commands below.

Example	`:MEAS:WCDMA:RFTX:MODQ:ALL`
	`:FETC:WCDM:RFTX:MODQ:ALL?`
	In this case, all relevant RF TX measurements will be performed in a sequence, e.g. `21.624,72.8,15.335,72.736,6.738,27.512,-6.378,0.961,-28.251,-43.743`.

:FETCh:WCDMa:RFTX:MODQuality:ERMS?

Syntax	`:FETCh:WCDMa:RFTX:MODQuality:ERMS?`
Parameters	There are no parameters.

Description	Only the query form is supported.
Query	The command returns the result of a previous `:MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:ERMS` measurement command.
Example	`:FETC:WCDM:RFTX:MODQ:ERMS?` Returns the measured EVM RMS vector error, e.g. `21.624`.

:FETCh:WCDMa:RFTX:MODQuality:EPEAk?

Syntax	`:FETCh:WCDMa:RFTX:MODQuality:EPEAk?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous `:MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:EPEAk` measurement command.
Example	`:FETC:WCDM:RFTX:MODQ:EPEAk?` Returns the measured EVM peak vector error, e.g. `72.8`.

:FETCh:WCDMa:RFTX:MODQuality:MRMS?

Syntax	`:FETCh:WCDMa:RFTX:MODQuality:MRMS?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous `:MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:MRMS` measurement command.
Example	`:FETC:WCDM:RFTX:MODQuality:MRMS?` Returns the measured Magnitude RMS vector error, e.g. `15.335`.

:FETCh:WCDMa:RFTX:VERRor:MODQuality:MPEAk?

Syntax	`:FETCh:WCDMa:RFTX:VERRor:MODQuality:MPEAk?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous `:MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:MPEAk` measurement command.
Example	`:FETC:WCDM:RFTX:MODQ:MPEA?` Returns the measured magnitude peak vector error, e.g. `72.736`.

:FETCh:WCDMa:RFTX:MODQuality:PRMS?

Syntax	:FETCh:WCDMa:RFTX:MODQuality:PRMS?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous :MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:PRMS measurement command.
Example	:FETC:WCDM:RFTX:MODQ:PRMS? Returns the measured RMS phase vector error, e.g. 6.738.

:FETCh:WCDMa:RFTX:MODQuality:PPEAk?

Syntax	:FETCh:WCDMa:RFTX:MODQuality:PPEAk?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous :MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:PPEAk measurement command.
Example	:FETC:WCDM:RFTX:MODQ:PPEAk? Returns the measured phase peak vector error, e.g. 27.512.

:FETCh:WCDMa:RFTX:MODQuality:RHO?

Syntax	:FETCh:WCDMa:RFTX:MODQuality:RHO?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous :MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:RHO measurement command.
Example	:FETC:WCDM:RFTX:MODQ:RHO? Returns the modulation quality, e.g. 0.9989.

:FETCh:WCDMa:RFTX:MODQuality:IQOFfset?

Syntax	:FETCh:WCDMa:RFTX:MODQuality:IQOFfset?
Parameters	There are no parameters.

Description	Only the query form is supported.
Query	The command returns the result of a previous `:MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:IQOFfset` measurement command.
Example	`:FETC:WCDM:RFTX:MODQ:IQOF?` Returns the origin offset in dBc, e.g. `-28.251`.

:FETCh:WCDMa:RFTX:MODQuality:IQIMbalance?

Syntax	`:FETCh:WCDMa:RFTX:MODQuality:IQIMbalance?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous `:MEASure:WCDMa:CONT|ARR:RFTX:MODQuality:IQIMbalance` measurement command.
Example	`:FETC:WCDM:RFTX:MODQ:IQIM?` Returns the IQ imbalance in dBc, e.g. `-43.743`.

:FETCh:WCDMa:RFSPectrum:ACLR?

Syntax	`:FETCh:WCDMa:RFSPectrum:ACLR?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The query form of this command returns the latest result value of the `MEAS:WCDM:RFSP:ACLR` measurement. The values delivered will contain at least one array of floating-point numbers in dBm. The results for the adjacent channel leakage power ratio at the following offsets: -10 MHz, -5 MHz, 0 MHz, +5 MHz, +10 MHz.

Example	`:MEAS:WCDMA:ARR:RFSP:ACLR 5`
	`:FETC:WCDM:RFSP:ACLR?`
	The `Fetch` command will return a data array, containing 5 times 5 floating point real numbers.

:FETCh:WCDMa:RFRX:BER:RATIo?

Syntax	`:FETCh:WCDMa:RFRX:BER:RATIo?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous `:MEASure:WCDMa:CONT:RFRX:BER:RATIo` measurement command.
Example	`:FETC:WCDM:RFRX:BER?`

:FETCh:WCDMa:RFRX:BLER:RATIo?

Syntax	:FETCh:WCDMa:RFRX:BLER:RATIo?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The command returns the result of a previous :MEASure:WCDMa:CONT:RFRX:BLER:RATIo measurement command.
Example	:FETC:WCDM:RFRX:BLER?

:FETCh:WCDMa:UEReport:ALL

Syntax	:FETCh:WCDMa:UEReport:ALL
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	The query delivers a string, containing 6 measurement result values, separated by commas started by MEASure:WCDMa[:CONT|ARRay]:UEReport:ALL. The order and type of these measurement result values delivered is as follows: 1. CPICh ECNO, floating point real number representing UE measured normalized chip energy per noise value of the P-CPICH, 2. CPICh RSCP, floating point real number representing UE measured received signal code power of the P-CPICH, 3. PLOSs, floating point real number representing the pathloss between Node B and UE, estimated by the UE, 4. TXPower, floating point real number representing the UE transmit power, 5. RTTDifference, floating point real number representing UE measured RX-Time-Difference between UL and DL signal, 6. TRCH BLER, floating point real number representing the UE estimated BLER value for the Transport Channel defined with CONFigure:WCDMa:MEASure:UEReport:TRCH. Note: For a further description of the single measurements, see description of the related commands below.
Example	:MEAS:WCDM:UER:ALL? :FETC:WCDM:UER:ALL? All UE Report measurements will be performed in a sequence, e.g. 23,85,102,97,992,3.

:FETCh:WCDMa:UEReport:CPICh:ECNO

Syntax	:FETCh:WCDMa:UEReport:CPICh:ECNO?
Parameters	There are no parameters.

Description	Only the query form is supported.
Query	Reports the UE measured normalized chip energy per noise value of the P-CPICH started by `MEASure:WCDMa[:CONT|ARRay]:UEReport:CPICh:ECNO`.
Example	`:FETC:WCDM:UER:CPICh:ECNO?` Starts the measurement and returns the result, e.g. `22`.

:FETCh:WCDMa:UEReport:CPICh:RSCP

Syntax	`:FETCh:WCDMa:UEReport:CPICh:RSCP?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	Reports the UE measured received signal code power of the P-CPICH started by `MEASure:WCDMa[:CONT|ARRay]:UEReport:CPICh:RSCP`.
Example	`:FETC:WCDM:UER:CPICh:RSCP?` Starts the measurement and returns the result, e.g. `74`.

:FETCh:WCDMa:UEReport:PLOSs

Syntax	`:FETCh:WCDMa:UEReport:PLOSs?`
Parameters	There are no parameters.
Description	The query form is supported only, started by `MEASure:WCDMa[:CONT|ARRay]:UEReport:PLOSs`.
Query	Reports the path loss between Node B and UE, estimated by the UE.
Example	`:FETC:WCDM:UER:PLOS?` Starts the measurement and returns the result, e.g. `85`.

:FETCh:WCDMa:UEReport:TXPOwer

Syntax	`:FETCh:WCDMa:UEReport:TXPOwer?`
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	Reports the UE transmit power started by `MEASure:WCDMa[:CONT|ARRay]:UEReport:TXPower`.
Example	`:FETC:WCDM:UER:TXPO?` Starts the measurement and returns the result, e.g. `66`.

:FETCh:WCDMa:UEReport:RTTDifference

Syntax	:FETCh:WCDMa:UEReport:RTTDifference?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	Reports the UE measured RX-Time-Difference between UL and DL signal started by MEASure:WCDMa[:CONT|ARRay]:UEReport:RTTDifference.
Example	:FETC:WCDM:UER:RTTD? Starts the measurement and returns the result, e.g. 956.

:FETCh:WCDMa:UEReport:TRCH:BLER

Syntax	:FETCh:WCDMa:UEReport:TRCH:BLER?
Parameters	There are no parameters.
Description	Only the query form is supported.
Query	Reports the UE estimated BLER value for the Transport Channel started by MEASure:WCDMa[:CONT|ARRay]:UEReport:TRCH:BLER.
Example	:FETC:WCDM:UER:TRCH:BLER? Starts the measurement and returns the result, e.g. 0.

Calculation Commands

12

This chapter contains an explanation of the Calculate subsystem SCPI commands. The list is structured as follows:

General commands

:CALCulate:RESet

Syntax	:CALCulate:RESet
Parameters	There are no parameters.
Description	Resets the **CALC** subsystem and brings it into a defined operating state. We kindly recommend to use this command to initialize the **CALC** subsystem when starting a new test run.
Query	There is no query form of this command available.
Example	**:CALCulate:RESet** **:MEAS:GSM:ARR:RFTX:LENG 10** **:CALC:MAVerage?** This example first resets the **CALC** subsystem and then starts the measurement of the frequency error for 10 measurement runs. The average measurement result value of those ten measurement runs will then be calculated and returned by the **:CALC:MAV?** query (see below for details regarding this command).

:CALCulate:LIMit:FAIL[:LAST]?

Syntax	:CALCulate:LIMit:FAIL[:LAST]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Checks whether the result(s) of the last measurement performed did violate the user-defined measurement result limits or not. As long as all single measurement results are within the limits, a **0** will be returned. A **1** indicates that at least one measurement result did violate at least one limit. The limits for the single measurements can be set using the appropriate commands of the **CALC** subsystem (as explained in this section).
Example	**:CALCulate:RESet** **:MEAS:GSM:RFTX:ALL** **:CALC:LIM:FAIL?** This example first resets the **CALC** subsystem and then starts the measurement of all relevant RF TX parameters. If a measurement result of the current sequence violates the corresponding measurement result limits, the query will return a **1**. When all measurement results are within their limits, a **0** will be returned.

:CALCulate:LIMit:FAIL:CUMulative?

Syntax	:CALCulate:LIMit:FAIL:CUMulative?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	Checks whether any result(s) of the measurement started last did violate their corresponding, user-defined measurement result limits. As long as all single measurement results are within their limits, a **0** will be returned. A **1** indicates that at least one measurement result did violate at least one limit. The limits for the single measurements can be set using the appropriate commands of the **CALC** subsystem (as explained in this section). To reset the cumulative check of the measurement results, use the **:CALC:LIM:FAIL:CUM:RES** command as explained below.
Example	**:CALC:LIM:FAIL:CUM:RES** **:MEAS:GSM:RFTX:TEMP** **...(other SCPI commands)... :CALC:LIM:FAIL:CUM?** This example first resets the cumulative process then starts the continuous check of the UL burst against the power/time template (PTT). After that, other SCPI commands are performed. After a while, the **:CALC:LIM:FAIL:CUM** command is used to check whether there has been any violation of the PTT since the start of the **:MEAS:GSM:RFTX:TEMP** measurement.

:CALCulate:LIMit:FAIL:RESet

Syntax	:CALCulate:LIMit:FAIL:RESet
Parameters	There are no parameters.
Description	This command resets the cumulative process as explained above (see description of command **:CALC:LIM:FAIL:CUM** for details).
Query	There is no query form of this command available.
Example	**:CALC:LIM:FAIL:RES** **:MEAS:GSM:RFTX:TEMP** **...(other SCPI commands)... :CALC:LIM:FAIL:CUM?** This example first resets the cumulative process then starts the continuous check of the UL burst against the power/time template (PTT). After that, other SCPI commands are performed. After a while, the **:CALC:LIM:FAIL:CUM** command is used to check whether there has been any violation of the PTT since the start of the **:MEAS:GSM:RFTX:TEMP** measurement.

:CALCulate:MAVerage?

Syntax	:CALCulate:MAVerage?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Calculates and returns the average measurement result value of the measurement started last. The string delivered back will contain as many average values as measurement types performed. The single average values will always have the format of floating point real numbers and will be separated by commas.

Example	**:CONF:MEAS:GRO:RFTX POW,PRMS** **:CALC:RES** **:MEAS:GSM:ARR:RFTX:GROup 20** **:CALCulate:MAVerage?** In this example, first the group of measurements is defined by a power measurement combined with a RMS phase error measurement. This group of measurements is performed 20 times. After that, the single measurement result values will be averaged and returned. The values returned in this example are: **"4.53,9.98"**.

:CALCulate:MMINimum?

Syntax	:CALCulate:MMINimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the minimum measurement result value of the measurement started last. The string delivered back will contain as many minimum values as measurement types performed. The single minimum values will always have the format of floating point real numbers and will be separated by commas.
Example	**:MEAS:AFAN:SIN** **:CALC:RES** **...(other SCPI commands)...** **:CALCulate:MMIN?** In this example, first a continuous SINAD measurement is started. After some time, the **:CALC:MMIN** command is used to read out the minimum SINAD measured. The string returned in this example is **"42.6"**.

:CALCulate:MMAXimum?

Syntax	:CALCulate:MMAXimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the maximum measurement result value of the measurement started last. The string delivered back will contain as many maximum values as measurement types performed. The single maximum values will always have the format of floating point real numbers and will be separated by commas.
Example	**:MEAS:GSM:RFTX:FREQ** **:CALC:RES** **...(other SCPI commands)...** **:CALCulate:MMAX?** In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the **:CALC:MMAX** command is used to read out the maximum frequency error of the mobile. The string returned in this example is **"22.1"**.

:CALCulate:MSIGma?

Syntax	`:CALCulate:MSIGma?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the mean value and the standard deviation of the measurement results since the last measurement start. The string delivered back contains as many pairs of mean and standard deviation values as measurement types performed. The individual values all have the format of floating point real numbers and will be separated by commas.
Example	**`:MEAS:GSM:RFTX:FREQ`** **`:CALC:RES`** **`...(other SCPI commands)...`** **`:CALC:MSIG?`** In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the **`:CALC:MSIG`** command is used to read out the mean frequency error and its standard deviation. The string returned in this example is **`“22.1, 3.4”`**

GSM commands

:CALCulate:GSM:RFTX:MAVerage?

Syntax	:CALCulate:GSM:RFTX:MAVerage?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Calculates and returns the average measurement result value of the TX measurement started last. The string delivered back will contain as many average values as measurement types performed. The single average values will always have the format of floating point real numbers and will be separated by commas.
Example	:CONF:GSM:MEAS:GRO:RFTX POW,PRMS :CALC:RES :MEAS:GSM:ARR:RFTX:GRO 20 :CALC:GSM:RFTX:MAV? In this example, first the group of measurements is defined by a power measurement combined with a RMS phase error measurement. This group of measurements is performed 20 times. After that, the single measurement result values will be averaged and returned. The values returned in this example are: "4.53,9.98".

:CALCulate:GSM:RFTX:MMINimum?

Syntax	:CALCulate:GSM:RFTX:MMINimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the minimum measurement result value of the TX measurement started last. The string delivered back will contain as many minimum values as measurement types performed. The single minimum values will always have the format of floating point real numbers and will be separated by commas.
Example	:CONF:GSM:MEAS:GRO:RFTX POW,PRMS :CALC:RES :MEAS:GSM:ARR:RFTX:GRO 20 :CALC:GSM:RFTX:MMIN? In this example, first the group of measurements is defined by a power measurement combined with a RMS phase error measurement. This group of measurements is performed 20 times. After that, the single measurement result values will be averaged and returned. The values returned in this example are: "4.53,9.98". Because of the internal order (see description of the :MEAS:GSM[:ARR]:RFTX:ALL command, the first measurement result value delivered back is the minimum RMS phase error, the second one the mobile's minimum RF output power.

:CALCulate:GSM:RFTX:MMAXimum?

Syntax	:CALCulate:GSM:RFTX:MMAXimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the maximum measurement result value of the TX measurement started last. The string delivered back will contain as many maximum values as measurement types performed. The single maximum values will always have the format of floating point real numbers and will be separated by commas.
Example	:MEAS:GSM:RFTX:FREQ :CALC:RES ...(other SCPI commands)... :CALC:GSM:RFTX:MMAX? In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the :CALC:GSM:RFTX:MMAX command is used to read out the maximum frequency deviation of the mobile. The string returned in this example is "22.1".

:CALCulate:GSM:RFTX:MSIGma?

Syntax	:CALCulate:GSM:RFTX:MSIGma?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the mean value and the standard deviation of the TX measurement last started. The string delivered back contains as many pairs of mean and standard deviation values as measurement types performed. The individual values all have the format of floating point real numbers and will be separated by commas.
Example	:MEAS:GSM:RFTX:FREQ :CALC:RES ...(other SCPI commands)... :CALC:GSM:RFTX:MSIG? In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the :CALC:GSM:RFTX:MSIG command is used to read out the mean frequency error and its standard deviation. The string returned in this example is "15.7, 3.4".

:CALCulate:GSM:RFTX:ALL:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFTX:ALL:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers 15 boolean numbers in a string, separated by commas. These numbers indicate, whether the single measurement results of the `:MEAS:GSM[:ARRay]:RFTX:ALL` measurement did violate their test limits. The position of the boolean number within the string returned indicates the result of the limit check for the following measurements: 1. peak phase error measurement, 2. root-mean square phase error measurement , 3. measurement of the mobile's frequency error, 4. measurement of the burst lenght, 5. timing error measurement, 6. measurement of the mobile's RF output power level, 7. check of the burst against the PTT, 8...15. measurement of RF power level at the points.
Example	**`:CALC:GSM:RFTX:ALL:LIM?`** String returned: **`"0,0,0,0,0,1,0,0,0,0,0,0,0,0,0"`** The **1** on position 6 indicates that the mobile's RF power level violated its test limits.

:CALCulate:GSM:RFTX:ALL:LIMit:STATe

Syntax	`:CALCulate:GSM:RFTX:ALL:LIMit:STATe <PredefExp>`
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the limit check for the relevant RF TX measurements either on or off (see description of the `:MEASure:GSM:RFTX:ALL` command for reference).
Query	There is no query form of this command available.
Example	**`:CALC:GSM:RFTX:ALL:LIM:STAT OFF`** Switches the limit check for the most relevant RF TX measurements off.

:CALCulate:GSM:RFTX:PPEAk:LIMit[:FAIL]?

Syntax	`:CALCulate:GSM:RFTX:PPEAk:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the peak phase error measurement were violated by a measurement result value or not. A **0** means that all measurement result values were within the limits set, while a **1** indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	**`:MEAS:GSM:ARRay:PPEAK 20`** **`:CALC:GSM:RFTX:PPEAk:LIM?`** String returned:**`"1"`** This result indicates that at least one measurement result value did violate the limits of the peak phase error measurement.

:CALCulate:GSM:RFTX:PPEAk:LIMit:STATe

Syntax	:CALCulate:GSM:RFTX:PPEAk:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFTX:PPEAk measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:PPEAk:LIM:STAT OFF** Switches the limit check for the peak phase error measurement off.

:CALCulate:GSM:RFTX:PPEAk:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM:RFTX:PPEAk:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **90.0**. The minimum resolution possible is **0.1**, the default value is **20.0**.
Description	Sets the upper limit of the peak phase error measurement; the physical dimension of the number stated is degrees.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:PPEA:LIM:UPP 15** Sets the upper limit for the peak phase error to 15 degrees.

:CALCulate:GSM:RFTX:PPEAk:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM:RFTX:PPEAk:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **-90.0**, the maximum is **0.0**. The minimum resolution possible is **0.1**, the default value is **-20.0**.
Description	Sets the lower limit of the peak phase error measurement; the physical dimension of the number stated is degrees.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:PPEA:LIM:LOW -15** Sets the lower limit for the peak phase error measurement to -15 degrees.

:CALCulate:GSM:RFTX:PRMS:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFTX:PRMS:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers one boolean number, indicating whether the user-definable limits of the RMS-valued phase error measurement were violated by a measurement result value or not. A **0** means that all measurement result values were within the limits set, while a **1** indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	**:MEAS:GSM:ARRay:RFTX:PRMS 10** **:CALC:GSM:RFTX:PRMS:LIM?** String returned:**"0"** This string delivered back indicates that there was no violation of the measurement limits.

:CALCulate:GSM:RFTX:PRMS:LIMit:STATe

Syntax	:CALCulate:GSM:RFTX:PRMS:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFTX:PRMS measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:PRMS:LIM:STAT OFF** Switches the limit check for the RMS-valued phase error measurement off.

:CALCulate:GSM:RFTX:PRMS:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM:RFTX:PRMS:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **90.0**. The minimum resolution possible is **0.1**, the default value is **5.0**.
Description	Sets the upper limit of the RMS-valued phase error measurement; the physical dimension of the number stated is degrees.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:PRMS:LIM:UPP 6.2** Sets the upper limit for the RMS-valued phase error measurement to 6.2 degrees.

:CALCulate:GSM:RFTX:PRMS:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM:RFTX:PRMS:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **-90.0**, the maximum is **0.0**. The minimum resolution possible is **0.1**, the default value is **-5.0**.
Description	Sets the lower limit of the RMS-valued phase error measurement; the physical dimension of the number stated is degrees.
Query	There is no query form of this command available.

Example	**:CALC:GSM:RFTX:PRMS:LIM:LOW 0.0** Sets the lower limit for the RMS-valued phase error measurement to 0 degrees.

::CALCulate:GSM:RFTX:FREQuency:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFTX:FREQuency:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the frequency error measurement were violated by a measurement result value or not. A **0** means that all measurement result values were within the limits set, while a **1** indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	**:MEAS:GSM:ARRay:RFTX:FREQ 20** **:CALC:GSM:RFTX:FREQ:LIM?** String returned:**"0"** This string delivered back indicates that there was no violation of the measurement limits.

CALCulate:GSM:RFTX:FREQuency:LIMit:STATe

Syntax	:CALCulate:GSM:RFTX:FREQuency:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFTX:FREQ measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:FREQ:LIM:STAT ON** Switches the limit check for the frequency error measurement on.

:CALCulate:GSM:RFTX:FREQuency:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM:RFTX:FREQuency:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100000.0**. The minimum resolution possible is **1.0**, the default value is **90.0**.
Description	Sets the upper limit of the frequency error for measurements in asynchronous mode (Gen/Ana); the physical dimension of the number stated is Hertz.
Query	Returns the current setting for the upper limit.
Example	**:CALC:GSM:RFTX:FREQ:LIM:UPP 45** Sets the upper limit of the frequency error measurement result to 45 Hz.

:CALCulate:GSM:RFTX:FREQuency:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GSM:RFTX:FREQuency:LIMit:LOWer[:DATA] <real1>`
Parameters	**real1** is a floating point real number. The minimum value is **-100000.0**, the maximum is **0.0**. The minimum resolution possible is **1.0**, the default value is **-90.0**.
Description	Sets the lower limit of the frequency error for measurements in asynchronous mode; the physical dimension of the number stated is Hertz.
Query	Returns the current setting for the lower limit.
Example	**:CALC:GSM:RFTX:FREQ:LIM:LOW -60.8** Sets the lower limit of the frequency error measurement result to -60.8 Hz.

:CALCulate:GSM:RFTX:FREQuency:LIMit:GSM

Syntax	`:CALCulate:GSM:RFTX:FREQuency:LIMit:GSM <real1>`
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100000.0**. The minimum resolution possible is **1.0**, the default value is **90.0**.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM-900 and GSM-850; the physical dimension of the number stated is Hertz.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:FREQ:LIM:GSM 65** Sets the lower limit of the frequency error measurement result on GSM-900 and GSM-850 channels to -65 Hz and the upper limit to +65 Hz.

:CALCulate:GSM:RFTX:FREQuency:LIMit:PCN

Syntax	`:CALCulate:GSM:RFTX:FREQuency:LIMit:PCN <real1>`
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100000.0**. The minimum resolution possible is **1.0**, the default value is **180.0**.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM-1800 (also known as DCS-1800 or PCN); the physical dimension of the number stated is Hertz.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:FREQ:LIM:PCN 120** Sets the lower limit of the frequency error measurement result on GSM-1800 channels to -120 Hz and the upper limit to +120 Hz.

:CALCulate:GSM:RFTX:FREQuency:LIMit:PCS

Syntax	:CALCulate:GSM:RFTX:FREQuency:LIMit:PCS <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100000.0**. The minimum resolution possible is **1.0**, the default value is **180.0**.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM-1900 (also known as PCS); the physical dimension of the number stated is Hertz.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:FREQ:LIM:PCS 120** Sets the lower limit of the frequency error measurement result on GSM-1900 channels to -120 Hz and the upper limit to +120 Hz.

:CALCulate:GSM:RFTX:LENGth:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFTX:LENGth:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the burst length measurement were violated by a measurement result value or not. A **0** means that all measurement result values were within the limits set, while a **1** indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	**:MEAS:GSM:ARRay:RFTX:LENG 10** **:CALC:GSM:RFTX:LENG:LIM?** String returned:**"0"** This string indicates that there was no violation of the measurement limits.

:CALCulate:GSM:RFTX:LENGth:LIMit:STATe

Syntax	:CALCulate:GSM:RFTX:LENGth:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFTX:LENGth measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:LENG:LIM:STAT ON** Switches the limit check for the burst length measurement on.

:CALCulate:GSM:RFTX:LENGth:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM:RFTX:LENGth:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **700.0**. The minimum resolution possible is **0.1**, the default value is **562.8**.
Description	Sets the upper limit of the burst length measurement; the physical dimension of the number stated is microseconds.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:LENG:LIM:UPP 563** Sets the upper limit of the burst length to 563.0 µs.

:CALCulate:GSM:RFTX:LENGth:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM:RFTX:LENGth:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **700.0**. The minimum resolution possible is **0.1**, the default value is **542.8**.
Description	Sets the lower limit of the burst length measurement; the physical dimension of the number stated is microseconds.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:LENG:LIM:LOW 541.9** Sets the lower limit of the burst length to 541.9 µs.

:CALCulate:GSM:RFTX:UTIMe:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFTX:UTIMe:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the UL timing error measurement were violated by a measurement result value or not. A **0** means that all measurement result values were within the limits set, while a **1** indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	**:MEAS:GSM:ARRay:RFTX:UTIM 10** **:CALC:GSM:RFTX:UTIM:LIM?** String returned:**"0"** This string indicates that there was no violation of the measurement limits.

:CALCulate:GSM:RFTX:UTIMe:LIMit:STATe

Syntax	:CALCulate:GSM:RFTX:UTIMe:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFTX:UTIMe measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:UTIM:LIM:STAT ON** Switches the limit check for the UL timing error measurement on.

:CALCulate:GSM:RFTX:UTIMe:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM:RFTX:UTIMe:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **64.0**. The minimum resolution possible is **0.01**, the default value is **3**.
Description	Sets the upper limit of the UL timing error measurement; the physical dimension of the number stated is microseconds. Note: The UL timing error measurement takes the ordered timing advance into account.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:UTIM:LIM:UPP 5** Sets the upper limit of the uplink timing error measurement result to 5.0 µs.

:CALCulate:GSM:RFTX:UTIMe:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM:RFTX:UTIMe:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **-64.0**, the maximum is **0.0**. The minimum resolution possible is **0.01**, the default value is **-3**.
Description	Sets the lower limit of the UL timing error measurement; the physical dimension of the number stated is microseconds. Note: The UL timing error measurement takes the ordered timing advance into account.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:UTIM:LIM:LOW -5** Sets the lower limit of the uplink timing error measurement result to -5.0 µs.

:CALCulate:GSM:RFTX:POWer:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFTX:POWer:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers one boolean number, indicating whether the user-definable limits of the measurement of the mobile's RF output power level were violated by a measurement result value or not. A **0** means that all measurement result values were within the limits set, while a **1** indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	**:MEAS:GSM:ARRay:POW 20** **:CALC:GSM:RFTX:POW:LIM?** String returned:**"0"** This string indicates that there was no violation of the measurement limits.

:CALCulate:GSM:RFTX:POWer:LIMit:STATe

Syntax	:CALCulate:GSM:RFTX:POWer:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFTX:POWer measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:POW:LIM:STAT ON** Switches the limit check for the RF output power level measurement on.

:CALCulate:GSM:RFTX:POWer:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM:RFTX:POWer:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **-120.0**, the maximum is **50.0**. The minimum resolution possible is **0.1**, the default value is **39**.
Description	Sets the upper limit for the analyzer's RF input power level. The physical dimension of the number stated is dBm.
Query	Returns the current setting for the upper limit.
Example	**:CALC:GSM:RFTX:POW:LIM:UPP 13** Sets the upper limit of the peak power measurement to 13 dBm.

:CALCulate:GSM:RFTX:POWer:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM:RFTX:POWer:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **-120.0**, the maximum is **50.0**. The minimum resolution possible is **0.1**, the default value is **-60.0**.
Description	Sets the lower limit for the analyzer's RF input power level. The physical dimension of the number stated is dBm.
Query	Returns the current setting for the lower limit.

Example	**:CALC:GSM:RFTX:POW:LIM:LOW -45** Sets the lower limit of the peak power measurement to -45 dBm.

:CALCulate:GSM:RFTX:POWer:LIMit:GSM

Syntax	:CALCulate:GSM:RFTX:POWer:LIMit:GSM <real1>,<real2>,...,<real18>
Parameters	**real1** through **real18** are floating point real numbers. The minimum value is **0.0**, the maximum is **30.0**. The minimum resolution possible is **0.1**. The default values are: **2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5**.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode on GSM-900 and GSM-850 channels; the physical dimension of the number stated is dB. The first value applies to power control steps 0-2 (39 dBm), the second value applies to power control 3 (37 dBm) and so forth up to the eighteenth value for power control steps 19 through 31 (5 dBm).
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:POW:LIM:GSM 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5** Sets the lower and upper limits of the power measurement result on GSM-900 and GSM-850 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5 dB around the nominal level.

:CALCulate:GSM:RFTX:POWer:LIMit:PCN

Syntax	:CALCulate:GSM:RFTX:POWer:LIMit:PCN <real1>,<real2>,...,<real19>
Parameters	**real1** through **real19** are floating point real numbers. The minimum value is **0.0**, the maximum is **30.0**. The minimum resolution possible is **0.1**. The default values are: **2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5**.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode on GSM-1800 channels; the physical dimension of the number stated is dB. The first value applies to power control step 29 (36 dBm), the second value applies to power control 30 (34 dBm) and so forth up to the nineteenth value for power control steps 15 through 28 (0 dBm).
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:POW:LIM:PCN 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5** Sets the lower and upper limits of the power measurement result on GSM-1800 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5 dB around the nominal level.

:CALCulate:GSM:RFTX:POWer:LIMit:PCS

Syntax	:CALCulate:GSM:RFTX:POWer:LIMit:PCS <real1>,<real2>,...,<real18>
Parameters	**real1** through **real19** are floating point real numbers. The minimum value is **0.0**, the maximum is **30.0**. The minimum resolution possible is **0.1**. The default values are: **2, 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5**.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode on GSM-1900 channels; the physical dimension of the number stated is dB. The first value applies to power control step 30 (34 dBm), the second value applies to power control step 31 (32 dBm), the third value applies to power control step 0 (30 dBm) and so forth up to the eighteenth value for power control steps 15 through 28 (0 dBm).
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:POW:LIM:PCN 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5** Sets the lower and upper limits of the power measurement result on GSM-1800 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5 dB around the nominal level.

:CALCulate:GSM:RFTX:TEMPlate[:NORMal]:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFTX:TEMPlate[:NORMal]:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers 14 boolean numbers, indicating whether the PTT limits for a normal burst were violated or not. A **0** on a position means that there was no violation of the limits while a **1** indicates that at least one measurement result did violate one of the corresponding measurement limits. The 14 boolean numbers correspond to the limits of the PTT as defined on the user interface or with the **:CALC:GSM:RFTX:TEMP** commands as described below. The first eight numbers stand for the eight 'upper' segments of the burst, while the following six numbers stand for the six 'lower' segments of the burst. Refer to section Power/Time Templates (PTT) for further details.
Example	**:MEAS:GSM:RFTX:TEMP** **:CALC:GSM:RFTX:TEMP:LIM?** String returned:**"0,0,0,0,0,0,0,0,0,0,1,0,0,0"** This string indicates that there was a violation of the limits of one of the 'lower' segments of the PTT (in this example during the ramping up phase of the burst).

:CALCulate:GSM:RFTX:TEMPlate[:NORMal]:LIMit:AUTO

Syntax	:CALCulate:GSM:RFTX:TEMPlate[:NORMal]:LIMit:AUTO <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.

Description	This command selects the power/time template to check normal bursts against. Auto mode (parameter **ON**) means that the ProLock will use the appropriate PTT as defined in the GSM/ETSI standards. Those PTTs vary with the frequency range and the RF power level used by the mobile. Manual mode (parameter **OFF**) means that the GSM/ETSI specifications will be ignored and that the ProLock will use the manually set limits instead (see description of the **:CALC:GSM:RFTX:TEMP:LIM:UPP** and **:CALC:GSM:RFTX:TEMP:LIM:LOW** commands for further details).
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:TEMP:LIM:AUTO ON** Switches the limit check for the burst shape to use the standard PTTs as defined by ETSI standards.

:CALCulate:GSM:RFTX:TEMPlate[:NORMal]:LIMit:STATe

Syntax	:CALCulate:GSM:RFTX:TEMPlate[:NORMal]:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFTX:TEMPlate measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:TEMP:LIM:STAT ON** Switches on the limit check of the burst shape against the PTT for normal bursts.

:CALCulate:GSM :RFTX:TEMPlate[:NORMal]:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFTX:TEMPlate[:NORMal]:LIMit:UPPer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>,<real7t>,<real7p>, <real8t>,<real8p>
Parameters	**realxt** and **realxp** are floating point real numbers. The minimum value for all **realxt** is **-41.0**, the maximum value **580.0**. The minimum resolution possible for all **realxt** is **0.1**. The default values are: for **real0t**: **-41.0**, for **real1t**: **-28.0**, for **real2t**: **-18.0**, for **real3t**: **-10.0** for **real4t**: **0.0**, for **real5t**: **553.0** for **real6t**: **561.0**, for **real7t**: **571.0** for **real8t**: **580.0**. The minimum value for all **realxp** is **-150.0**, the maximum value **5.0**. The minimum resolution possible for all **realxp** is **0.1**. The default values are: for **real0p**: **-59.0**, for **real1p**: **-59.0**, for **real2p**: **-30.0**, for **real3p**: **-6.0** for **real4p**: **4.0**, for **real5p**: **1.0** for **real6p**: **-6.0**, for **real7p**: **-30.0** for **real8p**: **-59.0**.
Description	Sets the upper limits for the user-definable PTT (for normal bursts). The upper limits of the user-defined PTT are made up by nine pairs of position (in micro-seconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power/Time Templates (PTT).
Query	The query form of this command is not available.
Example	:CALC:GSM:RFTX:TEMP:LIM:UPP -41,-47,-28,-47,-18,-28,-10,-4,0 ,4,553,1,561,-4,571,-28,580,-47

:CALCulate:GSM :RFTX:TEMPlate[:NORMal]:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFTX:TEMPlate[:NORMal]:LIMit:LOWer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>
Parameters	**realxt** and **realxp** are floating point real numbers. The minimum value for all **realxt** is **-41.0**, the maximum value **580.0**. The minimum resolution possible for all **realxt** is **0.1**. The default values are: for **real0t**: **-41.0**, for **real1t**: **0.0**, for **real2t**: **0.0**, for **real3t**: **20.0** for **real4t**: **270.0**, for **real5t**: **543.0** for **real6t**: **543.0**. The minimum value for all **realxp** is **-150.0**, the maximum value **5.0**. The minimum resolution possible for all **realxp** is **0.1**. The default values are: for **real0p**: **-150.0**, for **real1p**: **-150.0**, for **real2p**: **-40.0**, for **real3p**: **-1.0** for **real4p**: **-1.0**, for **real5p**: **-1.0** for **real6p**: **-150.0**.
Description	Sets the lower limits for the user-definable PTT (for normal bursts). The lower limits of the user-defined PTT are made up by seven pairs of position (in micro-seconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power/Time Templates (PTT).
Query	The query form of this command is not available.
Example	:CALC:GSM:RFTX:TEMP:LIM:LOW -41,-150,0,-150,0,-40,20, -1,270,-1,543,-1,543,-150

:CALCulate:GSM :RFTX:TEMPlate:RACH:LIMit[:FAIL]?

Syntax	:CALCulate:GSM :RFTX:TEMPlate:RACH:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers 14 boolean numbers, indicating whether the PTT limits for a random access burst were violated or not. A **0** on a position means that there was no violation of the limits while a **1** indicates that at least one measurement result did violate one of the corresponding measurement limits. The 14 boolean numbers correspond to the limits of the PTT as defined on the user interface or with the **:CALC:GSM:RFTX:TEMP:RACH:LIM** commands as described below. The first eight numbers stand for the eight 'upper' segments of the burst, while the following six numbers stand for the six 'lower' segments of the burst. Rrefer to section Power/Time Templates (PTT) for further details.
Example	**:CALC:GSM:RFTX:TEMP:RACH:LIM?** String returned:**"0,0,0,0,0,0,0,0,0,0,1,0,0,0"** This string indicates that there was a violation of the limits of one of the 'lower' segments of the PTT (in this example during the ramping up phase of the burst).

:CALCulate:GSM:RFTX:TEMPlate:RACH:LIMit:AUTO

Syntax	:CALCulate:GSM:RFTX:TEMPlate:RACH:LIMit:AUTO <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command selects the power/time template to check a random access burst against. Auto mode (parameter **ON**) means that the ProLock will use the appropriate PTT as defined in the GSM/ETSI standards. Those PTTs vary with the frequency range and the RF power level used by the mobile. Manual mode (parameter **OFF**) means that the GSM/ETSI specifications will be ignored and that the ProLock will use the manually set limits instead (see description of the **:CALC:GSM:RFTX:TEMP:RACH:LIM:UPP** and **:CALC:GSM:RFTX:TEMP:RACH:LIM:LOW** commands for further details).
Query	There is on query form to this commmand.
Example	**:CALC:GSM:RFTX:TEMP:RACH:LIM:AUTO ON** Switches the limit check for the shape of random access bursts to use the standard PTTs as defined by GSM/ETSI.

:CALCulate:GSM:RFTX:TEMPlate:RACH:LIMit:STATe

Syntax	:CALCulate:GSM:RFTX:TEMPlate:RACH:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the limit check of the burst shape against the PTT (of random access bursts) either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFTX:TEMP:RACH:LIM:STAT ON** Switches on the limit check of the shape of random access bursts against the PTT.

:CALCulate:GSM :RFTX:TEMPlate:RACH:LIMit:UPPer[:DATA]

Syntax	:CALC:GSM :RFTX:TEMPlate:RACH:LIMit:UPPer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>,<real7t>,<real7p>, <real8t>,<real8p>
Parameters	**realxt** and **realxp** are floating point real numbers. The minimum value for all **realxt** is **-41.0**, the maximum value **580.0**. The minimum resolution possible for all **realxt** is **0.1**. The default values are: for **real0t**: **-41.0**, for **real1t**: **-28.0**, for **real2t**: **-18.0**, for **real3t**: **-10.0** for **real4t**: **0.0**, for **real5t**: **331.0** for **real6t**: **339.0**, for **real7t**: **349.0** for **real8t**: **349.0**. The minimum value for all **realxp** is **-150.0**, the maximum value **5.0**. The minimum resolution possible for all **realxp** is **0.1**. The default values are: for **real0p**: **-59.0**, for **real1p**: **-59.0**, for **real2p**: **-30.0**, for **real3p**: **-6.0** for **real4p**: **4.0**, for **real5p**: **1.0** for **real6p**: **-6.0**, for **real7p**: **-30.0** for **real8p**: **-59.0**.
Description	Sets the upper limits for the user-definable PTT for random access bursts. The upper limits of the user-defined PTT are made up by nine pairs of position (in microseconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power/Time Templates (PTT).
Query	The query form of this command is not supported.
Example	:CALC:GSM:RFTX:TEMP:RACH:LIM:UPP -41,-59,-28,-59,-18,-30,-10,-6,0, 4,331,1,339,-6,349,-30,349,-59

:CALCulate:GSM :RFTX:TEMPlate:RACH:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFTX:TEMPlate:RACH:LIMit:LOWer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>
Parameters	**realxt** and **realxp** are floating point real numbers. The minimum value for all **realxt** is **-41.0**, the maximum value **580.0**. The minimum resolution possible for all **realxt** is **0.1**. The default values are: for **real0t**: **-41.0**, for **real1t**: **0.0**, for **real2t**: **0.0**, for **real3t**: **20.0** for **real4t**: **270.0**, for **real5t**: **321.0** for **real6t**: **321.0**. The minimum value for all **realxp** is **-150.0**, the maximum value **5.0**. The minimum resolution possible for all **realxp** is **0.1**. The default values are: for **real0p**: **-150.0**, for **real1p**: **-150.0**, for **real2p**: **-40.0**, for **real3p**: **-1.0** for **real4p**: **-1.0**, for **real5p**: **-1.0** for **real6p**: **-150.0**.
Description	Sets the lower limits for the user-definable PTT for random access bursts. The lower limits of the user-defined PTT are made up by seven pairs of position (in microseconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power/Time Templates (PTT).
Query	The query form of this command is not supported.
Example	:CALC:GSM:RFTX:TEMP:RACH:LIM:LOW -41,-150,0,-150,0,-40,20, -1,270,-1,321,-1,321,-150

:CALCulate:GSM :RFTX:CORNer:RACH:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFTX:CORNer:RACH:LIMit:UPPer[:DATA] <real1>,<real2>,<real3>,<real4>, <real5>,<real6>,<real7>,<real8>
Parameters	**realx** are floating point real numbers. The minimum value for all **realx** is **-150.0**, the maximum is **10.0**. The minimum resolution possible for all **realx** is **0.01**. The default value is **4.0** for all **realx**.
Description	Sets the upper limits at the eight user-definable points for random access bursts. The single data values are dB relative to the power level during the active part of the burst.

Query	There is no query form to this command.
Example	`:CALC:GSM:RFTX:CORNer:NORMal:LIM:UPP:DATA 4,4,4,4,4,4,4,4`

:CALCulate:GSM :RFTX:CORNer:RACH:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GSM :RFTX:CORNer:RACH:LIMit:LOWer[:DATA] <real1>,<real2>,<real3>,<real4>, <real5>,<real6>,<real7>,<real8>`
Parameters	**realx** are floating point real numbers. The minimum value for all **realx** is **-150.0**, the maximum is **10.0**. The minimum resolution possible for all **realx** is **0.01**. The default value is **-150.0** for all **realx**.
Description	Sets the lower limits at the eight user-definable points for random access bursts. The single data values are dB relative to the power level during the active part of the burst.
Query	There is no query form to this command.
Example	`:CALC:GSM:RFTX:CORN:RACH:LIM:LOW -150,-150,-150,-150,-150,-150,-150,-150`

:CALCulate:GSM:RFRX:MAVerage?

Syntax	`:CALCulate:GSM:RFRX:MAVerage?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Calculates and returns the average measurement result value of the RX measurement started last. The string delivered back will contain as many average values as measurement types performed. The single average values will always have the format of floating point real numbers and will be separated by commas.
Example	:CALC:RES :MEAS:GSM:ARR:RFRX:RBER:ALL :CALC:GSM:RFRX:MAV?

:CALCulate:GSM:RFRX:MMINimum?

Syntax	`:CALCulate:GSM:RFRX:MMINimum?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	Returns the minimum measurement result value of the RX measurement started last. The string delivered back will contain as many minimum values as measurement types performed. The single minimum values will always have the format of floating point real numbers and will be separated by commas.
Example	:CALC:RES :MEAS:GSM:ARR:RFRX:RBER:ALL :CALC:GSM:RFRX:MMIN?

:CALCulate:GSM:RFRX:MMAXimum?

Syntax	:CALCulate:GSM:RFRX:MMAXimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the maximum measurement result value of the RX measurement started last. The string delivered back will contain as many maximum values as measurement types performed. The single maximum values will always have the format of floating point real numbers and will be separated by commas.
Example	:CALC:RES :MEAS:GSM:ARR:RFRX:RBER:ALL :CALC:GSM:RFRX:MMAX?

:CALCulate:GSM:RFRX:MSIGma?

Syntax	:CALCulate:GSM:RFRX:MSIGma?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the mean value and the standard deviation of the RX measurement last started. The string delivered back contains as many pairs of mean and standard deviation values as measurement types performed. The individual values all have the format of floating point real numbers and will be separated by commas.
Example	**:CALC:RES** **:MEAS:GSM:RFRX:RBER:MSIG** **...(other SCPI commands)...** **:CALC:GSM:RFRX:MSIG?** In this example, first a continuous measurement of the residual bit error rate (RBER) on class II bits is started. After some time, the **:CALC:GSM:RFRX:MSIG** command is used to read out the mean RBER and its standard deviation. The string returned in this example is "**5.3, 3.1**".

:CALCulate:GSM :RFRX:RBER:ALL:LIMit[:FAIL]?

Syntax	:CALCulate:GSM :RFRX:RBER:ALL:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers 3 boolean numbers in a string, separated by commas. These numbers indicate, whether one of the residual bit error ratio measurements did violate the corresponding test limits. While a **0** delivered back on any position means that the related test was passed without exceeding the limits, a **1** indicates that at least one of the limits was violated by the measurement result value. The position of the boolean number within the string returned indicates the result of the check for the following measurments: 1. the bit error ratio measurement of the class 1b bits, 2. the bit error ratio measurement of the class II bits and, 3. the frame erasure ratio measurement. Notes – For further details regarding bit classes, please refer to section voice coding. – For details regarding the three measurement types, see the description of the :MEAS:GSM:RFRX:RBER:ALL command.
Example	**:MEAS:GSM:RFRX:RBER:ALL** **:CALC:GSM:RFRX:RBER:ALL:LIM?** String returned:**"0,0,1"** The **1** on position 3 indicates that there was a violation of at least one limit of the frame erasure measurement.

:CALCulate:GSM:RFRX:RBER:ALL:LIMit:STATe

Syntax	:CALCulate:GSM:RFRX:RBER:ALL:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:RBER:ALL measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFRX:RBER:ALL:LIM:STAT OFF** Switches the limit check of all residual bit error ratio measurements off.

:CALCulate:GSM :RFRX:RBER:ALL:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFRX:RBER:ALL:LIMit:UPPer[:DATA] <real1>,<real2>,<real3>

Parameters	**realx** are three floating point real numbers. The minimum value for all **realx** is **0.0**, the maximum is **100.0**. The minimum resolution possible for all **realx** is **0.1**. The default value for all **realx** is **2.5**.
Description	Sets the upper limits for three residual bit error ratio measurements with one command. The order of the floating point real numbers defines their meaning: **real1** represents the upper limit of the bit error ratio measurement for the class 1b bits, **real2** represents the upper limit of the bit error ratio measurement of the class II bits, while **real3** represents the upper limit of the frame erasure ratio measurement. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not available.
Example	**:CALC:GSM:RFRX:RBER:ALL:LIM:UPP 1,2,1** Sets the upper limits as follows: – RBER class Ia: 1.0% – RBER class II: 2.0% – FER: 1.0%

:CALCulate:GSM :RFRX:RBER:ALL:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFRX:RBER:ALL:LIMit:LOWer[:DATA] <real1>,<real2>,<real3>
Parameters	**realx** are three floating point real numbers. The minimum value for all **realx** is **0.0**, the maximum is **100.0**. The minimum resolution possible for all **realx** is **0.1**. The default value for all **realx** is **0.0**.
Description	Sets the lower limits for three residual bit error ratio measurements with one command. The order of the floating point real numbers defines their meaning: **real1** represents the lower limit of the bit error ratio measurement for the class 1b bits, **real2** represents the lower limit of the bit error ratio measurement of the class II bits, while **real3** represents the lower limit of the frame erasure ratio measurement.
Query	The query form of this command is not available.
Example	**:CALC:GSM:RFRX:RBER:ALL:LIM:LOW 0,0,0,** Sets the lower limits for RBER class Ia bits, RBER class II bits and FER to 0.0%.

:CALCulate:GSM :RFRX:RBER:CIB:LIMit[:FAIL]?

Syntax	:CALCulate:GSM :RFRX:RBER:CIB:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers one boolean number, indicating, whether the result value of the residual bit error ratio measurement of the class Ib bits did violate the user-definable test limits. While a **0** delivered back means that the related test was passed without exceeding the limits, a **1** indicates that at least one limit was violated by the measurement result value.
Example	**:MEAS:GSM:RFRX:RBER:CIB** **:CALC:GSM:RFRX:RBER:CIB:LIM?** String returned:**"0"** This means that the bit error ratio measured was within the limits set with the commands explained in this section.

:CALCulate:GSM:RFRX:RBER:CIB:LIMit:STATe

Syntax	:CALCulate:GSM:RFRX:RBER:CIB:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:RBER:CIB measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFRX:RBER:CIB:LIM:STAT OFF** Switches the limit check of the residual bit error ratio measurement for the class 1b bits off.

:CALCulate:GSM :RFRX:RBER:CIB:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFRX:RBER:CIB:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **2.5**.
Description	Sets the upper limit for the residual bit error ratio measurement of the class Ib bits.
Query	The query form of this command is not available.
Example	**:CALC:GSM:RFRX:RBER:CIB:LIM:UPP 5** Sets the upper limit for the class I bit error rate results to 5.0.

:CALCulate:GSM :RFRX:RBER:CIB:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFRX:RBER:CIB:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **0.0**.

Description	Sets the lower limit for the residual bit error ratio measurement of the class Ib bits.
Query	The query form of this command is not available.
Example	**:CALC:GSM:RFRX:RBER:CIB:LIM:LOW 0.0** Sets the lower limit for the class I bit error rate results to 0.

:CALCulate:GSM :RFRX:RBER:CII:LIMit[:FAIL]?

Syntax	:CALCulate:GSM :RFRX:RBER:CII:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the residual bit error ratio measurement of the class II bits did violate the user-definable test limits. While a **0** delivered back means that the related test was passed without exceeding the limits, a **1** indicates that at least one limit was violated by the measurement result value.
Example	**:MEAS:GSM:RFRX:RBER:CII** **:CALC:GSM:RFRX:RBER:CII:LIM?** String returned:**"1"** This means that the bit error ratio measured was outside the limits set with the commands explained in this section.

:CALCulate:GSM:RFRX:RBER:CII:LIMit:STATe

Syntax	:CALCulate:GSM:RFRX:RBER:CII:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:RBER:CII measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFRX:RBER:CII:LIM:STAT ON** Switches the limit check of the residual bit error ratio measurement for the class II bits on.

:CALCulate:GSM :RFRX:RBER:CII:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFRX:RBER:CII:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **2.5**.

Description	Sets the upper limit for the residual bit error ratio measurement of the class II bits.
Query	The query form of this command is not available.
Example	**:CALC:GSM:RFRX:RBER:CII:LIM:UPP 5** Sets the upper limit of the class II RBER measurement to 5%.

:CALCulate:GSM :RFRX:RBER:CII:LIMit:LOWer[:DATA]

Syntax	:CALC:GSM :RFRX:RBER:CII:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **0.0**.
Description	Sets the lower limit for the residual bit error ratio measurement of the class II bits.
Query	The query form of this command is not available.
Example	**:CALC:GSM:RFRX:RBER:CII:LIM:LOW 0.0** Sets the lower limit of the class II RBER measurement to 0%.

:CALCulate:GSM:RFRX:RBER:FER:LIM[:FAIL]?

Syntax	:CALCulate:GSM:RFRX:RBER:FER:LIM[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the frame erasure ratio measurement did violate the user-definable test limits. While a **0** delivered back means that the related test was passed without exceeding the limits, a **1** indicates that at least one limit was violated by the measurement result value. Note: For further details regarding the frame error ratio, please refer to section RBER live display.
Example	**:MEAS:GSM:RFRX:RBER:FER** **:CALC:GSM:RFRX:RBER:FER:LIM?** String returned:**"0"** This means that the frame erasure ratio was within the limits set with the commands explained in this section.

:CALCulate:GSM:RFRX:RBER:FER:LIMit:STATe

Syntax	:CALC:GSM:RFRX:RBER:FER:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.

Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:RBER:FER measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFRX:RBER:FER:LIM:STAT ON** Switches the limit check of the frame erasure ratio measurement on.

:CALCulate:GSM :RFRX:RBER:FER:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFRX:RBER:FER:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **2.5**.
Description	Sets the upper limit for the frame erasure ratio measurement. Note: For further details regarding the FER, please refer to section RBER live display.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:RBER:FER:LIM:UPP 4.5** Sets the upper limit for the FER measurement results to 4.5%.

:CALCulate:GSM :RFRX:RBER:FER:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFRX:RBER:FER:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**. The default value is **0.0**.
Description	Sets the lower limit for the frame erasure ratio measurement.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:RBER:FER:LIM:LOW 0** Sets the lower limit for the FER measurement results to 0%.

:CALCulate:GSM:RFRX:BER:ALL:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFRX:BER:ALL:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers 3 boolean numbers in a string, separated by commas. These numbers indicate, which one of the (nonresidual) bit error ratio measurements did violate the corresponding test limits. While a **0** delivered back on any position means that the related test was passed without exceeding the limits, a **1** indicates that at least one of the limits was violated by the measurement result value. The position of the boolean number within the string returned indicates the result of the check for the following measurements: 1. the bit error ratio measurement of the class Ia bits, 2. the bit error ratio measurement of the class Ib bits and, 3. the bit error ratio measurement of the class II bits. Notes – For further details regarding bit classes, please refer to section voice coding. – For a description of the measurements performed, refer to the description of the `:MEAS:GSM:RFRX:BER:ALL` command.
Example	**`:MEAS:GSM:RFRX:BER:ALL 3`** **`:CALC:GSM:RFRX:BER:ALL:LIM?`** String returned:**`"0,0,1"`** The **1** on position 3 indicates that there was a violation of at least one limit of the bit error ratio measurement of the class II bits.

`:CALCulate:GSM:RFRX:BER:ALL:LIMit:STATe`

Syntax	`:CALCulate:GSM:RFRX:BER:ALL:LIMit:STATe <PredefExp>`
Parameters	**`PredefExp`** is one of the following predefined expressions: **`ON|OFF`**. Default is **`ON`**.
Description	This command switches the check of the measurement result values of the `MEAS:GSM:RFRX:BER:ALL` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**`:CALC:GSM:RFRX:BER:ALL:LIM:STAT OFF`** Switches the limit check of all (nonresidual) bit error ratio measurements off.

`:CALCulate:GSM :RFRX:BER:ALL:LIMit:UPPer[:DATA]`

Syntax	`:CALCulate:GSM`
	`:RFRX:BER:ALL:LIMit:UPPer[:DATA]`
	`<real1>,<real2>,<real3>`

Parameters	**`realx`** are three floating point real numbers. The minimum value for all **`realx`** is **`0.0`**, the maximum value **`100.0`**. The minimum resolution possible for all **`realx`** is **`0.1`**. The default value for all **`realx`** is **`2.5`**.

Description	Sets the upper limits for the three (nonresidual) bit error ratio measurements with one command. The order of the floating point real numbers defines their meaning: **real1** represents the upper limit of the bit error ratio measurement for the class Ia bits, **real2** represents the upper limit of the bit error ratio measurement for the class Ib bits and, **real3** represents the upper limit of the bit error ratio measurement for the class II bits.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:BER:ALL:LIM:UPP 1,2,2.8** Sets the upper limit of the BER measurements to 1.0% for class Ia bits, 2.0% for class Ib bits and 2.8% for class II bits.

:CALCulate:GSM :RFRX:BER:ALL:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:ALL:LIMit:LOWer[:DATA] <real1>,<real2>,<real3>
Parameters	**realx** are three floating point real numbers. The minimum value for all **realx** is **0.0**, the maximum value **100.0**. The minimum resolution possible for all **realx** is **0.1**. The default value for all **realx** is **0.0**.
Description	Sets the lower limits for the three (nonresidual) bit error ratio measurements with one command. The order of the floating point real numbers defines their meaning: **real1** represents the lower limit of the bit error ratio measurement for the class Ia bits, **real2** represents the lower limit of the bit error ratio measurement for the class Ib bits and, **real3** represents the lower limit of the bit error ratio measurement for the class II bits.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:BER:ALL:LIM:LOW** Sets the lower limit for all three BER measurements (class Ia, class Ib and class II) to 0%.

:CALCulate:GSM:RFRX:BER:CIA:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFRX:BER:CIA:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the (nonresidual) bit error ratio measurement of the class Ia bits did violate the user-definable test limits. While a **0** delivered back means that the related test was passed without exceeding the limits, a **1** indicates that at least one limit was violated by the measurement result value.

Example	**:MEAS:GSM:ARRay:RFRX:BER:CIA 5** **:CALC:GSM:RFRX:BER:CIA:LIM?** String returned:**"1"** This means that the bit error ratio measured for the class Ia bits was outside the limits set with the commands explained in this section.

:CALCulate:GSM:RFRX:BER:CIA:LIMit:STATe

Syntax	:CALCulate:GSM:RFRX:BER:CIA:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:BER:CIA measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFRX:BER:CIA:LIM:STAT ON** Switches the limit check of the (nonresidual) bit error ratio measurement for the class Ia bits on.

:CALCulate:GSM :RFRX:BER:CIA:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:CIA:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **2.5**.
Description	Sets the upper limit for the (nonresidual) bit error ratio measurement of the class Ia bits.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:BER:CIA:LIM:UPP 2** Sets the upper limit for bit error rate measurements on class Ia bits to 2.0%.

:CALCulate:GSM :RFRX:BER:CIA:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:CIA:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **0.0**.
Description	Sets the lower limit for the (nonresidual) bit error ratio measurement of the class Ia bits.
Query	The query form of this command is not supported.

Example	**:CALC:GSM:RFRX:BER:CIA:LIM:LOW 0.0** Sets the lower limit for BER measurements on class Ia bits to 0.

:CALCulate:GSM:RFRX:BER:CIB:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFRX:BER:CIB:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the (nonresidual) bit error ratio measurement of the class Ib bits did violate the user-definable test limits. While a **0** delivered back means that the related test was passed without exceeding the limits, a **1** indicates that at least one limit was violated by the measurement result value.
Example	**:MEAS:GSM:RFRX:BER:CIB** **:CALC:GSM:RFRX:BER:CIB:LIM?** String returned:**"1"** This means that the bit error ratio measured for the class Ib bits was outside the limits set with the commands explained in this section.

:CALCulate:GSM:RFRX:BER:CIB:LIMit:STATe

Syntax	:CALCulate:GSM:RFRX:BER:CIB:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:BER:CIB measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFRX:BER:CIB:LIM:STAT ON** Switches the limit check of the (nonresidual) bit error ratio measurement for the class Ib bits on.

:CALCulate:GSM :RFRX:BER:CIB:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:CIB:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **2.5**.
Description	Sets the upper limit for the (nonresidual) bit error ratio measurement of the class Ib bits.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:BER:CIB:LIM:UPP 2.0** Sets the upper limit for class Ib bits to 2%.

:CALCulate:GSM :RFRX:BER:CIB:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:CIB:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **0.0**.
Description	Sets the lower limit for the (nonresidual) bit error ratio measurement of the class Ib bits.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:BER:CIB:LIM:LOW 0** Sets the lower limit for class Ib bits to 0%.

:CALCulate:GSM:RFRX:BER:CII:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFRX:BER:CII:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the (nonresidual) bit error ratio measurement of the class II bits did violate the user-definable test limits. While a **0** delivered back means that the related test was passed without exceeding the limits, a **1** indicates that at least one limit was violated by the measurement result value.
Example	**:MEAS:GSM:ARRay:RFRX:BER:CII 3** **:CALC:GSM:RFRX:BER:CII:LIM?** String returned:**"1"** This means that the bit error ratio measured for the class II bits was outside the limits set with the commands explained in this section.

:CALCulate:GSM:RFRX:BER:CII:LIMit:STATe

Syntax	:CALCulate:GSM:RFRX:BER:CII:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:BER:CII measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFRX:BER:CII:LIM:STAT ON** Switches the limit check of the (nonresidual) bit error ratio measurement for the class II bits on.

:CALCulate:GSM :RFRX:BER:CII:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:CII:LIMit:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **2.5**.
Description	Sets the upper limit for the (nonresidual) bit error ratio measurement of the class II bits.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:BER:CII:LIM:UPP 7.5** Sets the upper limit of the class II BER measurements to 7.5%.

:CALCulate:GSM :RFRX:BER:CII:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:CII:LIMit:LOWer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **0.0**.
Description	Sets the lower limit for the (nonresidual) bit error ratio measurement of the class II bits.
Query	The query form of this command is not supported.
Example	**:CALC:SGM:RFRX:BER:CII:LIM:LOW 0** Sets the lower limit of the class II BER measurements to 0%.

:CALCulate:GSM:RFRX:BER:CRC:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFRX:BER:CRC:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers back one boolean number, indicating, whether the result value of the (non-residual) bit error ratio measurement of the class II bits did violate the user-definable test limits. While a 0 delivered back means that the related test was passed without exceeding the limits, a 1 indicates that at least one limit was violated by the measurement result value. Note: For further details regarding bit classes, please refer to section voice coding.
Example	:MEAS:GSM:ARRay:RFRX:BER:CRC 3 :CALC:GSM:RFRX:BER:CII:LIM? String returned in this example:"1" This means that the bit error ratio measured for the class II bits was outside the limits set with the commands explained in this section.

:CALCulate:GSM:RFRX:BER:CRC:LIMit:STATe

Syntax	:CALCulate:GSM:RFRX:BER:CRC:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:BER:CII measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:GSM:RFRX:BER:CRC:LIM:STAT ON Switches the limit check of the (non-residual) bit error ratio measurement for the class II bits on.

:CALCulate:GSM :RFRX:BER:CRC:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:CRC:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 2.5.
Description	Sets the upper limit for the (non-residual) bit error ratio measurement of the class II bits. Note For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	:CALC:GSM:RFRX:BER:CRC:LIM:UPP 7.5 Sets the upper limit of the class II BER measurements to 7.5%.

:CALCulate:GSM :RFRX:BER:CRC:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GSM :RFRX:BER:CRC:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 0.0.
Description	Sets the lower limit for the (non-residual) bit error ratio measurement of the class II bits. Note For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	:CALC:SGM:RFRX:BER:CRC:LIM:LOW 0 Sets the lower limit of the class II BER measurements to 0%.

:CALCulate:GSM:RFRX:FBER:LIMit[:FAIL]?

Syntax	:CALCulate:GSM:RFRX:FBER:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the fast bit error ratio measurement (C-type loop) did violate the user-definable test limits. While a **0** delivered back means that the related test was passed without exceeding the limits, a **1** indicates that at least one limit was violated by the measurement result value. Note: For further details regarding the fast BER measurement, please refer to section FBER live display.
Example	**:MEAS:GSM:RFRX:FBER** **:CALC:GSM:RFRX:FBER:LIM?** String returned:**"1"** This means that the fast bit error ratio measured was outside the limits set with the commands explained in this section.

:CALCulate:GSM:RFRX:FBER:LIMit:STATe

Syntax	:CALCulate:GSM:RFRX:FBER:LIMit:STATe <PredefExp>
Parameters	**PredefExp** is one of the following predefined expressions: **ON|OFF**. Default is **ON**.
Description	This command switches the check of the measurement result values of the MEAS:GSM:RFRX:FBER measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	**:CALC:GSM:RFRX:FBER:LIM:STAT ON** Switches the limit check of the fast bit error ratio measurement on.

:CALCulate:GSM:RFRX:FBER:LIMit:UPPer[:DATA]

Syntax	:CALC:GSM:RFRX:FBER:LIM:UPPer[:DATA] <real1>
Parameters	**real1** is a floating point real number. The minimum value is **0.0**, the maximum is **100.0**. The minimum resolution possible is **0.1**, the default value is **2.5**.
Description	Sets the upper limit for the fast bit error ratio measurement result value.
Query	The query form of this command is not supported.
Example	**:CALC:GSM:RFRX:FBER:LIM:UPP 7.5** Sets the upper limit of the FER measurement results to 7.5%.

:CALCulate:GSM:RFRX:FBER:LIMit:LOWer[:DATA]

Syntax	`:CALC:GSM:RFRX:FBER:LIM:LOWer[:DATA] <real1>`
Parameters	**`real1`** is a floating point real number. The minimum value is **`0.0`**, the maximum is **`100.0`**. The minimum resolution possible is **`0.1`**, the default value is **`0.0`**.
Description	Sets the lower limit for the fast bit error ratio measurement result value. Note: For further details regarding the fast BER measurement, please refer to section FBER live display.
Query	The query form of this command is not supported.
Example	**`:CALC:GSM:RFRX:FBER:LIM:LOW 0.0`** Sets the lower limit of the FER measurement results to 0%.

GSM/GPRS commands

:CALCulate:GPRS:RFTX:MAVerage?

Syntax	:CALCulate:GPRS:RFTX:MAVerage?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Calculates and returns the average measurement result value of the TX measurement started last. The string delivered back will contain as many average values as measurement types performed. The single average values will always have the format of floating point real numbers and will be separated by commas.
Example	:CONF:MEAS:GRO:RFTX POW,PRMS :CALC:RES :MEAS:GPRS:ARR:RFTX:GRO 20 :CALC:GPRS:RFTX:MAV? In this example, first the group of measurements is defined by a power measurement combined with a RMS phase error measurement. This group of measurements is performed 20 times. After that, the single measurement result values will be averaged and returned. The values returned in this example are: "4.53,9.98". Because of the internal order (see description of the :MEASure:GPRS[:ARRay]:RFTX:ALL command), the first measurement result value delivered back is the average RMS phase error, the second one the mobile's average RF output power.

:CALCulate:GPRS:RFTX:MMINimum?

Syntax	:CALCulate:GPRS:RFTX:MMINimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the minimum measurement result value of the TX measurement started last. The string delivered back will contain as many minimum values as measurement types performed. The single minimum values will always have the format of floating point real numbers and will be separated by commas.
Example	:CONF:MEAS:GRO:RFTX POW,PRMS :CALC:RES :MEAS:GPRS:ARR:RFTX:GROup 20 :CALCulate:GPRS:RFTX:MMIN? In this example, first the group of measurements is defined by a power measurement combined with a RMS phase error measurement. This group of measurements is performed 20 times. After that, the single measurement result values will be averaged and returned. The values returned in this example are: "4.53,9.98". Because of the internal order (see description of the :MEASure:GSM[:ARRay]:RFTX:ALL command, the first measurement result value delivered back is the minimum RMS phase error, the second one the mobile's minimum RF output power.

:CALCulate:GPRS:RFTX:MMAXimum?

Syntax	:CALCulate:GPRS:RFTX:MMAXimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the maximum measurement result value of the TX measurement started last. The string delivered back will contain as many maximum values as measurement types performed. The single maximum values will always have the format of floating point real numbers and will be separated by commas.
Example	:MEAS:GPRS:RFTX:FREQ :CALC:RES ...(other SCPI commands)... :CALC:GPRS:RFTX:MMAX? In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the :CALC:MMAX command is used to read out the maximum frequency deviation of the mobile. The string returned in this example is "22.1".

:CALCulate:GPRS:RFTX:MSIGma?

Syntax	:CALCulate:GPRS:RFTX:MSIGma?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the mean value and the standard deviation of the TX measurement last started. The string delivered back contains as many pairs of mean and standard deviation values as measurement types performed. The individual values all have the format of floating point real numbers and are separated by commas.
Example	:MEAS:GPRS:RFTX:FREQ :CALC:RES ...(other SCPI commands)... :CALC:GPRS:RFTX:MSIG? In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the :CALC:GPRS:RFTX:MSIG command is used to read out the mean frequency error and its standard deviation. The string returned in this example is "15.7, 3.4".

:CALCulate:GPRS:RFTX:ALL:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFTX:ALL:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers 19 boolean numbers in a string, separated by commas. These numbers indicate whether the single measurement results of the `:MEAS:GPRS[:ARRay]:RFTX:ALL` measurement did violate their test limits. The position of the boolean number within the string returned indicates the result of the limit check for the following measurements: 1. peak phase error measurement, 2. root-mean square phase error measurement , 3. measurement of the mobile's frequency error, 4. measurement of the burst lenght, 5. timing error measurement, 6. measurement of the mobile's RF output power level, 7. check of the burst against the PTT, 8...15. measurement of RF power level at the points.

Example	`:CALC:GPRS:RFTX:ALL:LIM?`
	String returned:
	`"0,0,0,0,0,1,0,0,0,0,0,0,0,0,0"`
	The `1` on position 6 indicates that the mobile's RF power level violated its test limits.

:CALCulate:GPRS:RFTX:ALL:LIMit:STATe

Syntax	`:CALCulate:GPRS:RFTX:ALL:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the limit check for the relevant RF TX measurements either on or off (see description of the `:MEASure:GPRS:RFTX:ALL` command for reference).
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:ALL:LIM:STAT OFF` Switches the limit check for the most relevant RF TX measurements off.

:CALC:GPRS:RFTX:PPEAk:LIMit[:FAIL]?

Syntax	`:CALC:GPRS:RFTX:PPEAk:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the peak phase error measurement were violated by a measurement result value or not. A `0` means that all measurement result values were within the limits set, while a `1` indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.

Example	:MEAS:GPRS:ARR:RFTX:PPEA 20 :CALC:GPRS:RFTX:PPEA:LIM? String returned:"1" This result indicates that at least one measurement result value did violate the limits of the peak phase error measurement.

:CALCulate:GPRS:RFTX:PPEAk:LIMit:STATe

Syntax	:CALCulate:GPRS:RFTX:PPEAk:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFTX:PPEA measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:PPEAk:LIM:STAT OFF Switches the limit check for the peak phase error measurement off.

:CALCulate:GPRS:RFTX:PPEAk:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS:RFTX:PPEAk:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 90.0. The minimum resolution possible is 0.1, the default value is 20.0.
Description	Sets the upper limit of the peak phase error measurement; the physical dimension of the number stated is degrees.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:PPEA:LIM:UPP 15 Sets the upper limit for the peak phase error to 15 degrees.

:CALCulate:GPRS:RFTX:PPEAk:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS:RFTX:PPEAk:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is -90.0, the maximum is 0.0. The minimum resolution possible is 0.1, the default value is -20.0.
Description	Sets the lower limit of the peak phase error measurement; the physical dimension of the number stated is degrees.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:PPEA:LIM:LOW -15 Sets the lower limit for the peak phase error measurement to -15 degrees.

:CALCulate:GPRS:RFTX:PRMS:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFTX:PRMS:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the RMS-valued phase error measurement were violated by a measurement result value or not. A `0` means that all measurement result values were within the limits set, while a `1` indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.

Example	`:MEAS:GPRS:ARR:RFTX:PRMS 10`
	`:CALC:GPRS:RFTX:PRMS:LIM?`
	String returned:`"0"`
	This string delivered back indicates that there was no violation of the measurement limits.

:CALCulate:GPRS:RFTX:PRMS:LIMit:STATe

Syntax	:CALCulate:GPRS:RFTX:PRMS:LIMit:STATe <PredefExp>
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:GPRS:RFTX:PRMS` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:PRMS:LIM:STAT OFF` Switches the limit check for the RMS-valued phase error measurement off.

:CALCulate:GPRS:RFTX:PRMS:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS:RFTX:PRMS:LIMit:UPPer[:DATA] <real1>
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `90.0`. The minimum resolution possible is `0.1`, the default value is `5.0`.
Description	Sets the upper limit of the RMS-valued phase error measurement; the physical dimension of the number stated is degrees.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:PRMS:LIM:UPP 6.2` Sets the upper limit for the RMS-valued phase error measurement to 6.2 degrees.

:CALCulate:GPRS:RFTX:PRMS:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS:RFTX:PRMS:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is -90.0, the maximum is 0.0. The minimum resolution possible is 0.1, the default value is -5.0.
Description	Sets the lower limit of the RMS-valued phase error measurement; the physical dimension of the number stated is degrees.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:PRMS:LIM:LOW 0.0 Sets the lower limit for the RMS-valued phase error measurement to 0 degrees.

:CALCulate:GPRS:RFTX:FREQuency:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFTX:FREQuency:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the frequency error measurement were violated by a measurement result value or not. A 0 means that all measurement result values were within the limits set, while a 1 indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	:MEAS:GPRS:ARRay:RFTX:FREQ 20 :CALC:GPRS:RFTX:FREQ:LIM? String returned:"0" This string delivered back indicates that there was no violation of the measurement limits.

:CALCulate:GPRS:RFTX:FREQuency:LIMit:STATe

Syntax	:CALCulate:GPRS:RFTX:FREQuency:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFTX:FREQ measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:FREQ:LIM:STAT ON Switches the limit check for the frequency error measurement on.

:CALCulate:GPRS:RFTX:FREQuency:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS:RFTX:FREQuency:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100000.0. The minimum resolution possible is 1.0, the default value is 90.0.
Description	Sets the upper limit of the frequency error measurement; the physical dimension of the number stated is Hertz.
Query	The query form of this command delivers the current setting of the command. The string returned will contain one floating point real number.
Example	:CALC:GPRS:RFTX:FREQ:LIM:UPP 45 Sets the upper limit of the frequency error measurement result to 45 Hz.

:CALCulate:GPRS:RFTX:FREQuency:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS:RFTX:FREQuency:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is -100000.0, the maximum is 0.0. The minimum resolution possible is 1.0, the default value is -90.0.
Description	Sets the lower limit of the frequency error measurement; the physical dimension of the number stated is Hertz.
Query	The query form of this command delivers back the current setting of the command. The string returned will contain one floating point real number.
Example	:CALC:GPRS:RFTX:FREQ:LIM:LOW -60.8 Sets the lower limit of the frequency error measurement result to –60.8 Hz.

:CALCulate:GPRS:RFTX:FREQuency:LIMit:GSM

Syntax	:CALCulate:GPRS:RFTX:FREQuency:LIMit:GSM <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100000.0. The minimum resolution possible is 1.0, the default value is 90.0.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM-900 and GSM-850; the physical dimension of the number stated is Hertz.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:FREQ:LIM:GSM 65 Sets the lower limit of the frequency error measurement result on GSM-900 and GSM-850 channels to -65 Hz and the upper limit to +65 Hz.

:CALCulate:GPRS:RFTX:FREQuency:LIMit:PCN

Syntax	:CALCulate:GPRS:RFTX:FREQuency:LIMit:PCN <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100000.0. The minimum resolution possible is 1.0, the default value is 180.0.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM-1800 (also known as DCS-1800 or PCN); the physical dimension of the number stated is Hertz.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:FREQ:LIM:PCN 120 Sets the lower limit of the frequency error measurement result on GSM-1800 channels to -120 Hz and the upper limit to +120 Hz.

:CALCulate:GPRS:RFTX:FREQuency:LIMit:PCS

Syntax	:CALCulate:GPRS:RFTX:FREQuency:LIMit:PCS <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100000.0. The minimum resolution possible is 1.0, the default value is 180.0.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM-1900 (also known as PCS); the physical dimension of the number stated is Hertz.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:FREQ:LIM:PCS 120 Sets the lower limit of the frequency error measurement result on GSM-1900 channels to -120 Hz and the upper limit to +120 Hz.

:CALCulate:GPRS:RFTX:LENGth:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFTX:LENGth:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the burst length measurement were violated by a measurement result value or not. A 0 means that all measurement result values were within the limits set, while a 1 indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	:MEAS:GPRS:ARR:RFTX:LENG 10 :CALC:GPRS:RFTX:LENG:LIM? String returned:"0" This string indicates that there was no violation of the measurement limits.

:CALCulate:GPRS:RFTX:LENGth:LIMit:STATe

Syntax	:CALCulate:GPRS:RFTX:LENGth:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFTX:LENGth measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:LENG:LIM:STAT ON Switches the limit check for the burst length measurement on.

:CALCulate:GPRS:RFTX:LENGth:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS:RFTX:LENGth:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 700.0. The minimum resolution possible is 0.1, the default value is 562.8.
Description	Sets the upper limit of the burst length measurement; the physical dimension of the number stated is microseconds.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:LENG:LIM:UPP 563 Sets the upper limit of the burst length to 563.0 µs.

:CALCulate:GPRS:RFTX:LENGth:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS:RFTX:LENGth:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 700.0. The minimum resolution possible is 0.1, the default value is 542.8.
Description	Sets the lower limit of the burst length measurement; the physical dimension of the number stated is microseconds.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:LENG:LIM:LOW 541.9 Sets the lower limit of the burst length to 541.9 µs.

:CALCulate:GPRS:RFTX:UTIMe:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFTX:UTIMe:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers one boolean number, indicating whether the user-definable limits of the UL timing error measurement were violated by a measurement result value or not. A `0` means that all measurement result values were within the limits set, while a `1` indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.

Example	`:MEAS:GPRS:ARR:RFTX:UTIM 10`
	`:CALC:GPRS:RFTX:UTIM:LIM?`
	String returned:`"0"`
	This string indicates that there was no violation of the measurement limits.

:CALCulate:GPRS:RFTX:UTIMe:LIMit:STATe

Syntax	`:CALCulate:GPRS:RFTX:UTIMe:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:GPRS:RFTX:UTIMe` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:UTIM:LIM:STAT ON` Switches the limit check for the UL timing error measurement on.

:CALCulate:GPRS:RFTX:UTIMe:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:GPRS:RFTX:UTIMe:LIMit:UPPer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `64.0`. The minimum resolution possible is `0.01`, the default value is `3`.
Description	Sets the upper limit of the UL timing error measurement; the physical dimension of the number stated is microseconds. Note: The UL timing error measurement takes the ordered timing advance into account.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:UTIM:LIM:UPP 5` Sets the upper limit of the uplink timing error measurement result to 5.0 µs.

:CALCulate:GPRS:RFTX:UTIMe:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS:RFTX:UTIMe:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `-64.0`, the maximum is `0.0`. The minimum resolution possible is `0.01`, the default value is `-3`.
Description	Sets the lower limit of the UL timing error measurement; the physical dimension of the number stated is microseconds. Note: The UL timing error measurement takes the ordered timing advance into account.

Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:UTIM:LIM:LOW -5` Sets the lower limit of the uplink timing error measurement result to –5.0 µs.

:CALCulate:GPRS:RFTX:POWer:LIMit[:FAIL]?

Syntax	`:CALCulate:GPRS:RFTX:POWer:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the measurement of the mobile's RF output power level were violated by a measurement result value or not. A `0` means that all measurement result values were within the limits set, while a `1` indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.

Example	`:MEAS:GPRS:ARRay:POW 20`
	`:CALC:GPRS:RFTX:POW:LIM?`
	String returned:`"0"`
	This string indicates that there was no violation of the measurement limits.

:CALCulate:GPRS:RFTX:POWer:LIMit:STATe

Syntax	`:CALCulate:GPRS:RFTX:POWer:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:GPRS:RFTX:POWer` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:POW:LIM:STAT ON` Switches the limit check for the RF output power level measurement on.

:CALCulate:GPRS:RFTX:POWer:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:GPRS:RFTX:POWer:LIMit:UPPer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `99.0`. The minimum resolution possible is `0.01`, the default value is `2`.
Description	Sets the upper limit for the mobile's RF output power level. The physical dimension of the number stated is dBm.
Query	Returns the upper limit currently set.
Example	`:CALC:GPRS:RFTX:POW:LIM:UPP 13` Sets the upper limit of the peak power measurement to 13 dBm.

:CALCulate:GPRS:RFTX:POWer:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS:RFTX:POWer:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `-99.0`, the maximum is `0.0`. The minimum resolution possible is `0.01`, the default value is `-2`.
Description	Sets the lower limit for the mobile's RF output power level. The physical dimension of the number stated is dBm.
Query	Returns the lower limit currently set.
Example	`:CALC:GPRS:RFTX:POW:LIM:LOW -45` Sets the lower limit of the peak power measurement to -45 dBm.

:CALCulate:GPRS:RFTX:POWer:LIMit:GSM

Syntax	`:CALCulate:GPRS:RFTX:POWer:LIMit:GSM <real1>,<real2>,...,<real18>`
Parameters	`real1` through `real18` are floating point real numbers. The minimum value is `0.0`, the maximum is `30.0`. The minimum resolution possible is `0.1`. The default values are: `2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5`.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode on GSM-900 and GSM-850 channels; the physical dimension of the number stated is dB. The first value applies to power control steps 0-2 (39 dBm), the second value applies to power control 3 (37 dBm) and so forth up to the eighteenth value for power control steps 19 through 31 (5 dBm).
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:POW:LIM:GSM 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5` Sets the lower and upper limits of the power measurement result on GSM-900 and GSM-850 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5 dB around the nominal level.

:CALCulate:GPRS:RFTX:POWer:LIMit:PCN

Syntax	`:CALCulate:GPRS:RFTX:POWer:LIMit:PCN <real1>,<real2>,...,<real19>`
Parameters	`real1` through `real19` are floating point real numbers. The minimum value is `0.0`, the maximum is `30.0`. The minimum resolution possible is `0.1`. The default values are: `2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5`.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode on GSM-1800 channels; the physical dimension of the number stated is dB. The first value applies to power control step 29 (36 dBm), the second value applies to power control 30 (34 dBm) and so forth up to the nineteenth value for power control steps 15 through 28 (0 dBm).
Query	There is no query form of this command available.

Example	`:CALC:GPRS:RFTX:POW:LIM:PCN 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5` Sets the lower and upper limits of the power measurement result on GSM-1800 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5 dB around the nominal level.

:CALCulate:GPRS:RFTX:POWer:LIMit:PCS

Syntax	`:CALCulate:GPRS:RFTX:POWer:LIMit:PCS <real1>,<real2>,...,<real18>`
Parameters	`real1` through `real19` are floating point real numbers. The minimum value is `0.0`, the maximum is `30.0`. The minimum resolution possible is `0.1`. The default values are: `2, 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5`.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode on GSM-1900 channels; the physical dimension of the number stated is dB. The first value applies to power control step 30 (34 dBm), the second value applies to power control step 31 (32 dBm), the third value applies to power control step 0 (30 dBm) and so forth up to the eighteenth value for power control steps 15 through 28 (0 dBm).
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:POW:LIM:PCN 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5` Sets the lower and upper limits of the power measurement result on GSM-1800 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5 dB around the nominal level.

:CALCulate:GPRS:RFTX:TEMPlate[:NORMal]:LIMit[:FAIL]?

Syntax	`:CALCulate:GPRS:RFTX:TEMPlate[:NORMal]:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers 14 boolean numbers, indicating whether the PTT limits for a normal burst were violated or not. A `0` on a position means that there was no violation of the limits while a `1` indicates that at least one measurement result did violate one of the corresponding measurement limits. The 14 boolean numbers correspond to the limits of the PTT as defined on the user interface or with the `:CALC:GPRS:RFTX:TEMP` commands as described below. The first eight numbers stand for the eight 'upper' segments of the burst, while the following six numbers stand for the six 'lower' segments of the burst. Refer to section Power/Time Templates (PTT) for further details.

Example	`:MEAS:GPRS:RFTX:TEMP`
	`:CALC:GPRS:RFTX:TEMP:LIM?`
	String returned:`"0,0,0,0,0,0,0,0,0,0,1,0,0,0"`
	This string indicates that there was a violation of the limits of one of the 'lower' segments of the PTT (in this example during the ramping up phase of the burst).

:CALCulate:GPRS:RFTX:TEMPlate[:NORMal]:LIMit:AUTO

Syntax	:CALCulate:GPRS:RFTX:TEMPlate[:NORMal]:LIMit:AUTO <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command selects the power/time template to check normal bursts against. Auto mode (parameter ON) means that the ProLock will use the appropriate PTT as defined in the GSM/ETSI standards. Those PTTs vary with the frequency range and the RF power level used by the mobile. Manual mode (parameter OFF) means that the GSM/ETSI specifications will be ignored and that the ProLock will use the manually set limits instead (see description of the :CALC:GPRS:RFTX:TEMP:LIM:UPP and :CALC:GPRS:RFTX:TEMP:LIM:LOW commands for further details).
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:TEMP:LIM:AUTO ON Switches the limit check for the burst shape to use the standard PTTs as defined by ETSI standards.

:CALCulate:GPRS:RFTX:TEMPlate[:NORMal]:LIMit:STAT

Syntax	:CALCulate:GPRS:RFTX:TEMPlate[:NORMal]:LIMit:STAT <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFTX:TEMPlate measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFTX:TEMP:LIM:STAT ON Switches on the limit check of the burst shape against the PTT for normal bursts.

:CALCulate:GPRS :RFTX:TEMPlate[:NORMal]:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS :RFTX:TEMPlate[:NORMal]:LIMit:UPPer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>,<real7t>,<real7p>, <real8t>,<real8p>
Parameters	realxt and realxp are floating point real numbers. The minimum value for all realxt is -41.0, the maximum value 580.0. The minimum resolution possible for all realxt is 0.1. The default values are: for real0t: -41.0, for real1t: -28.0, for real2t: -18.0, for real3t: -10.0 for real4t: 0.0, for real5t: 553.0 for real6t: 561.0, for real7t: 571.0 for real8t: 580.0. The minimum value for all realxp is -150.0, the maximum value 5.0. The minimum resolution possible for all realxp is 0.1. The default values are: for real0p: -59.0, for real1p: -59.0, for real2p: -30.0, for real3p: -6.0 for real4p: 4.0, for real5p: 1.0 for real6p: -6.0, for real7p: -30.0 for real8p: -59.0.
Description	Sets the upper limits for the user-definable PTT (for normal bursts). The upper limits of the user-defined PTT are made up by nine pairs of position (in micro-seconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power/Time Templates (PTT).
Query	The query form of this command is not available.
Example	:CALC:GPRS:RFTX:TEMP:LIM:UPP -41,-47,-28,-47,-18,-28,-10,-4,0 ,4,553,1,561,-4,571,-28,580,-47

:CALCulate:GPRS :RFTX:TEMPlate[:NORMal]:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS :RFTX:TEMPlate[:NORMal]:LIMit:LOWer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>
Parameters	realxt and realxp are floating point real numbers. The minimum value for all realxt is -41.0, the maximum value 580.0. The minimum resolution possible for all realxt is 0.1. The default values are: for real0t: -41.0, for real1t: 0.0, for real2t: 0.0, for real3t: 20.0 for real4t: 270.0, for real5t: 543.0 for real6t: 543.0. The minimum value for all realxp is -150.0, the maximum value 5.0. The minimum resolution possible for all realxp is 0.1. The default values are: for real0p: -150.0, for real1p: -150.0, for real2p: -40.0, for real3p: -1.0 for real4p: -1.0, for real5p: -1.0 for real6p: -150.0.
Description	Sets the lower limits for the user-definable PTT (for normal bursts). The lower limits of the user-defined PTT are made up by seven pairs of position (in micro-seconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power/Time Templates (PTT).
Query	The query form of this command is not available.
Example	:CALC:GPRS:RFTX:TEMP:LIM:LOW -41,-150,0,-150,0,-40,20, -1,270,-1,543,-1,543,-150

:CALCulate:GPRS:RFTX:TEMPlate:RACH:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS :RFTX:TEMPlate:RACH:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers 14 boolean numbers, indicating whether the PTT limits for a random access burst were violated or not. A `0` on a position means that there was no violation of the limits while a `1` indicates that at least one measurement result did violate one of the corresponding measurement limits. The 14 boolean numbers correspond to the limits of the PTT as defined on the user interface or with the `:CALC:GPRS:RFTX:TEMP:RACH:LIM` commands as described below. The first eight numbers stand for the eight 'upper' segments of the burst, while the following six numbers stand for the six 'lower' segments of the burst. Rrefer to section Power/Time Templates (PTT) for further details.
Example	`:CALC:GPRS:RFTX:TEMP:RACH:LIM?` String returned:`"0,0,0,0,0,0,0,0,0,0,1,0,0,0"` This string indicates that there was a violation of the limits of one of the 'lower' segments of the PTT (in this example during the ramping up phase of the burst).

:CALCulate:GPRS:RFTX:TEMPlate:RACH:LIMit:AUTO

Syntax	`:CALCulate:GPRS:RFTX:TEMPlate:RACH:LIMit:AUTO <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command selects the power/time template to check a random access burst against. Auto mode (parameter `ON`) means that the ProLock will use the appropriate PTT as defined in the GSM/ETSI standards. Those PTTs vary with the frequency range and the RF power level used by the mobile. Manual mode (parameter `OFF`) means that the GSM/ETSI specifications will be ignored and that the ProLock will use the manually set limits instead (see description of the `:CALC:GPRS:RFTX:TEMP:RACH:LIM:UPP` and `:CALC:GPRS:RFTX:TEMP:RACH:LIM:LOW` commands for further details).
Query	There is on query form to this commmand.
Example	`:CALC:GPRS:RFTX:TEMP:RACH:LIM:AUTO ON` Switches the limit check for the shape of random access bursts to use the standard PTTs as defined by GSM/ETSI.

:CALCulate:GPRS:RFTX:TEMPlate:RACH:LIMit:STATe

Syntax	`:CALCulate:GPRS:RFTX:TEMPlate:RACH:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the limit check of the burst shape against the PTT (of random access bursts) either on or off.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFTX:TEMP:RACH:LIM:STAT ON` Switches on the limit check of the shape of random access bursts against the PTT.

:CALCulate:GPRS :RFTX:TEMPlate:RACH:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS :RFTX:TEMPlate:RACH:LIMit:UPPer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>,<real7t>,<real7p>, <real8t>,<real8p>
Parameters	realxt and realxp are floating point real numbers. The minimum value for all realxt is -41.0, the maximum value 580.0. The minimum resolution possible for all realxt is 0.1. The default values are: for real0t: -41.0, for real1t: -28.0, for real2t: -18.0, for real3t: -10.0 for real4t: 0.0, for real5t: 331.0 for real6t: 339.0, for real7t: 349.0 for real8t: 349.0. The minimum value for all realxp is -150.0, the maximum value 5.0. The minimum resolution possible for all realxp is 0.1. The default values are: for real0p: -59.0, for real1p: -59.0, for real2p: -30.0, for real3p: -6.0 for real4p: 4.0, for real5p: 1.0 for real6p: -6.0, for real7p: -30.0 for real8p: -59.0.
Description	Sets the upper limits for the user-definable PTT for random access bursts. The upper limits of the user-defined PTT are made up by nine pairs of position (in microseconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power/Time Templates (PTT).
Query	The query form of this command is not available.
Example	:CALC:GPRS:RFTX:TEMP:RACH:LIM:UPP -41,-59,-28,-59,-18,-30,-10,-6,0, 4,331,1,339,-6,349, -30,349,-59

:CALCulate:GPRS :RFTX:TEMPlate:RACH:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS :RFTX:TEMPlate:RACH:LIMit:LOWer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>
Parameters	realxt and realxp are floating point real numbers. The minimum value for all realxt is -41.0, the maximum value 580.0. The minimum resolution possible for all realxt is 0.1. The default values are: for real0t: -41.0, for real1t: 0.0, for real2t: 0.0, for real3t: 20.0 for real4t: 270.0, for real5t: 321.0 for real6t: 321.0. The minimum value for all realxp is -150.0, the maximum value 5.0. The minimum resolution possible for all realxp is 0.1. The default values are: for real0p: -150.0, for real1p: -150.0, for real2p: -40.0, for real3p: -1.0 for real4p: -1.0, for real5p: -1.0 for real6p: -150.0.
Description	Sets the lower limits for the user-definable PTT for random access bursts. The lower limits of the user-defined PTT are made up by seven pairs of position (in microseconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power/Time Templates (PTT).
Query	The query form of this command is not available.
Example	:CALC:GSM:RFTX:TEMP:RACH:LIM:LOW -41,-150,0,-150,0,-40,20, -1,270,-1,321,-1,321,-150

:CALCulate:GPRS:RFRX:MAVerage?

Syntax	:CALCulate:GPRS:RFRX:MAVerage?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Calculates and returns the average measurement result value of the RX measurement started last. The string delivered back will contain as many average values as measurement types performed. The single average values will always have the format of floating point real numbers and will be separated by commas.
Example	:CALC:RES :MEAS:GPRS:ARR:RFRX:RBER:ALL :CALC:GPRS:RFRX:MAV?

:CALCulate:GPRS:RFRX:MMINimum?

Syntax	:CALCulate:GPRS:RFRX:MMINimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the minimum measurement result value of the RX measurement started last. The string delivered back will contain as many minimum values as measurement types performed. The single minimum values will always have the format of floating point real numbers and will be separated by commas.
Example	:CALC:RES :MEAS:GPRS:ARR:RFRX:RBER:ALL :CALC:GPRS:RFRX:MMIN?

:CALCulate:GPRS:RFRX:MMAXimum?

Syntax	:CALCulate:GPRS:RFRX:MMAXimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the maximum measurement result value of the RX measurement started last. The string delivered back will contain as many maximum values as measurement types performed. The single maximum values will always have the format of floating point real numbers and will be separated by commas.
Example	:CALC:RES :MEAS:GPRS:ARR:RFRX:RBER:ALL :CALC:GPRS:RFRX:MMAX?

:CALCulate:GPRS:RFRX:MSIGma?

Syntax	:CALCulate:GPRS:RFRX:MSIGma?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the mean value and the standard deviation of the RX measurement last started. The string delivered back contains as many pairs of mean and standard deviation values as measurement types performed. The individual values all have the format of floating point real numbers and will be separated by commas.
Example	:CALC:RES :MEAS:GPRS:RFRX:RBER:CII ...(other SCPI commands)... :CALC:GPRS:RFRX:MSIG? In this example, first a continuous measurement of the residual bit error rate (RBER) on class II bits is started. After some time, the :CALC:GPRS:RFRX:MSIG command is used to read out the mean RBER and its standard deviation. The string returned in this example is "5.3, 3.1".

:CALCulate:GPRS:RFRX:RBER:ALL:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS :RFRX:RBER:ALL:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers 3 boolean numbers in a string, separated by commas. These numbers indicate, whether one of the residual bit error ratio measurements did violate the corresponding test limits. While a 0 delivered back on any position means that the related test was passed without exceeding the limits, a 1 indicates that at least one of the limits was violated by the measurement result value. The position of the boolean number within the string returned indicates the result of the check for the following measurments: 1. the bit error ratio measurement of the class 1b bits, 2. the bit error ratio measurement of the class II bits and, 3. the frame erasure ratio measurement. Notes: For further details regarding bit classes, please refer to section voice coding. For details regarding the three measurement types, see the description of the :MEAS:GPRS:RFRX:RBER:ALL command.
Example	:MEAS:GPRS:RFRX:RBER:ALL :CALC:GPRS:RFRX:RBER:ALL:LIM?v String returned:"0,0,1" The 1 on position 3 indicates that there was a violation of at least one limit of the frame erasure measurement.

:CALCulate:GPRS:RFRX:RBER:ALL:LIMit:STATe

Syntax	:CALCulate:GPRS:RFRX:RBER:ALL:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFRX:RBER:ALL measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFRX:RBER:ALL:LIM:STAT OFF Switches the limit check of all residual bit error ratio measurements off.

:CALCulate:GPRS:RFRX:RBER:ALL:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:RBER:ALL:LIMit:UPPer[:DATA] <real1>,<real2>,<real3>
Parameters	realx are three floating point real numbers. The minimum value for all realx is 0.0, the maximum is 100.0. The minimum resolution possible for all realx is 0.1. The default value for all realx is 2.5.

Description	Sets the upper limits for three residual bit error ratio measurements with one command. The order of the floating point real numbers defines their meaning: `real1` represents the upper limit of the bit error ratio measurement for the class 1b bits, `real2` represents the upper limit of the bit error ratio measurement of the class II bits, while `real3` represents the upper limit of the frame erasure ratio measurement. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not available.
Example	`:CALC:GPRS:RFRX:RBER:ALL:LIM:UPP 1,2,1` Sets the upper limits as follows: – RBER class Ia: 1.0% – RBER class II: 2.0% – FER: 1.0%

:CALCulate:GPRS:RFRX:RBER:ALL:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS`
	`:RFRX:RBER:ALL:LIMit:LOWer[:DATA]`
	`<real1>,<real2>,<real3>`

Parameters	`realx` are three floating point real numbers. The minimum value for all `realx` is `0.0`, the maximum is `100.0`. The minimum resolution possible for all `realx` is `0.1`. The default value for all `realx` is `0.0`.
Description	Sets the lower limits for three residual bit error ratio measurements with one command. The order of the floating point real numbers defines their meaning: `real1` represents the lower limit of the bit error ratio measurement for the class 1b bits, `real2` represents the lower limit of the bit error ratio measurement of the class II bits, while `real3` represents the lower limit of the frame erasure ratio measurement. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not available.
Example	`:CALC:GPRS:RFRX:RBER:ALL:LIM:LOW 0,0,0,` Sets the lower limits for RBER class Ia bits, RBER class II bits and FER to 0.0%.

:CALCulate:GPRS:RFRX:RBER:CIB:LIMit[:FAIL]?

Syntax	`:CALCulate:GPRS` `:RFRX:RBER:CIB:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers one boolean number, indicating, whether the result value of the residual bit error ratio measurement of the class Ib bits did violate the user-definable test limits. While a `0` delivered back means that the related test was passed without exceeding the limits, a `1` indicates that at least one limit was violated by the measurement result value. Note: For further details regarding bit classes, refer to section voice coding.

Example	`:MEAS:GPRS:RFRX:RBER:CIB`
	`:CALC:GPRS:RFRX:RBER:CIB:LIM?`
	String returned:`"0"`
	This means that the bit error ratio measured was within the limits set with the commands explained in this section.

:CALCulate:GPRS:RFRX:RBER:CIB:LIMit:STATe

Syntax	`:CALCulate:GPRS:RFRX:RBER:CIB:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:GPRS:RFRX:RBER:CIB` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFRX:RBER:CIB:LIM:STAT OFF` Switches the limit check of the residual bit error ratio measurement for the class 1b bits off.

:CALCulate:GPRS:RFRX:RBER:CIB:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:GPRS` `:RFRX:RBER:CIB:LIMit:UPPer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `2.5`.
Description	Sets the upper limit for the residual bit error ratio measurement of the class Ib bits. Note: For further details regarding bit classes, refer to section voice coding.
Query	The query form of this command is not available.
Example	`:CALC:GPRS:RFRX:RBER:CIB:LIM:UPP 5` Sets the upper limit for the class I bit error rate results to 5.0.

:CALCulate:GPRS:RFRX:RBER:CIB:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS` `:RFRX:RBER:CIB:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `0.0`.

Description	Sets the lower limit for the residual bit error ratio measurement of the class Ib bits. Note: For further details regarding bit classes, refer to section voice coding.
Query	The query form of this command is not available.
Example	`:CALC:GPRS:RFRX:RBER:CIB:LIM:LOW 0.0` Sets the lower limit for the class I bit error rate results to 0.

:CALCulate:GPRS:RFRX:RBER:CII:LIMit[:FAIL]?

Syntax	`:CALCulate:GPRS` `:RFRX:RBER:CII:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the residual bit error ratio measurement of the class II bits did violate the user-definable test limits. While a `0` delivered back means that the related test was passed without exceeding the limits, a `1` indicates that at least one limit was violated by the measurement result value. Note: For further details regarding bit classes, please refer to section voice coding.

Example	`:MEAS:GPRS:RFRX:RBER:CII`
	`:CALC:GPRS:RFRX:RBER:CII:LIM?`
	String returned:`"1"`
	This means that the bit error ratio measured was outside the limits set with the commands explained in this section.

:CALCulate:GPRS:RFRX:RBER:CII:LIMit:STATe

Syntax	`:CALCulate:GPRS:RFRX:RBER:CII:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:GPRS:RFRX:RBER:CII` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFRX:RBER:CII:LIM:STAT ON` Switches the limit check of the residual bit error ratio measurement for the class II bits on.

:CALCulate:GPRS:RFRX:RBER:CII:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:GPRS` `:RFRX:RBER:CII:LIMit:UPPer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `2.5`.

Description	Sets the upper limit for the residual bit error ratio measurement of the class II bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not available.
Example	`:CALC:GPRS:RFRX:RBER:CII:LIM:UPP 5` Sets the upper limit of the class II RBER measurement to 5%.

:CALCulate:GPRS:RFRX:RBER:CII:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS` `:RFRX:RBER:CII:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `0.0`.
Description	Sets the lower limit for the residual bit error ratio measurement of the class II bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not available.
Example	`:CALC:GPRS:RFRX:RBER:CII:LIM:LOW 0.0` Sets the lower limit of the class II RBER measurement to 0%.

:CALCulate:GPRS
:RFRX:RBER:FER:LIMit[:FAIL]?

Syntax	`:CALCulate:GPRS:RFRX:RBER:FER:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the frame erasure ratio measurement did violate the user-definable test limits. While a `0` delivered back means that the related test was passed without exceeding the limits, a `1` indicates that at least one limit was violated by the measurement result value. Note: For further details regarding the frame error ratio, please refer to section RBER live display.

Example	`:MEAS:GPRS:RFRX:RBER:FER`
	`:CALC:GPRS:RFRX:RBER:FER:LIM?`
	String returned:`"0"`
	This means that the frame erasure ratio was within the limits set with the commands explained in this section.

:CALCulate:GPRS:RFRX:RBER:FER:LIMit:STATe

Syntax	:CALCulate:GPRS:RFRX:RBER:FER:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFRX:RBER:FER measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFRX:RBER:FER:LIM:STAT ON Switches the limit check of the frame erasure ratio measurement on.

:CALCulate:GPRS:RFRX:RBER:FER:LIMit:UPPer[:DATA]

Syntax	:CALC:GPRS :RFRX:RBER:FER:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 2.5.
Description	Sets the upper limit for the frame erasure ratio measurement. Note: For further details regarding the FER, please refer to section RBER live display.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:RBER:FER:LIM:UPP 4.5 Sets the upper limit for the FER measurement results to 4.5%.

:CALCulate:GPRS:RFRX:RBER:FER:LIMit:LOWer[:DATA]

Syntax	:CALC:GPRS :RFRX:RBER:FER:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1. The default value is 0.0.
Description	Sets the lower limit for the frame erasure ratio measurement. Note: for further details regarding the FER, please refer to section RBER live display.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:RBER:FER:LIM:LOW 0 Sets the lower limit for the FER measurement results to 0%.

:CALCulate:GPRS:RFRX:BER:ALL:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFRX:BER:ALL:LIMit[:FAIL]?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	This command delivers 3 boolean numbers in a string, separated by commas. These numbers indicate, which one of the (nonresidual) bit error ratio measurements did violate the corresponding test limits. While a `0` delivered back on any position means that the related test was passed without exceeding the limits, a `1` indicates that at least one of the limits was violated by the measurement result value. The position of the boolean number within the string returned indicates the result of the check for the following measurements: 1. the bit error ratio measurement of the class Ia bits, 2. the bit error ratio measurement of the class Ib bits and, 3. the bit error ratio measurement of the class II bits. Notes: For further details regarding bit classes, please refer to section voice coding. For a description of the measurements performed, refer to the description of the `:MEAS:GPRS:RFRX:BER:ALL` command.

Example	`:MEAS:GPRS:RFRX:BER:ALL 3`
	`:CALC:GPRS:RFRX:BER:ALL:LIM?`
	String returned:`"0,0,1"`
	The `1` on position 3 indicates that there was a violation of at least one limit of the bit error ratio measurement of the class II bits.

:CALCulate:GPRS:RFRX:BER:ALL:LIMit:STATe

Syntax	`:CALCulate:GPRS:RFRX:BER:ALL:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:GPRS:RFRX:BER:ALL` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFRX:BER:ALL:LIM:STAT OFF` Switches the limit check of all (nonresidual) bit error ratio measurements off.

:CALCulate:GPRS:RFRX:BER:ALL:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:GPRS`
	`:RFRX:BER:ALL:LIMit:UPPer[:DATA]`
	`<real1>,<real2>,<real3>`

Parameters	`realx` are three floating point real numbers. The minimum value for all `realx` is `0.0`, the maximum value `100.0`. The minimum resolution possible for all `realx` is `0.1`. The default value for all `realx` is `2.5`.

Description	Sets the upper limits for the three (nonresidual) bit error ratio measurements with one command. The order of the floating point real numbers defines their meaning: `real1` represents the upper limit of the bit error ratio measurement for the class Ia bits, `real2` represents the upper limit of the bit error ratio measurement for the class Ib bits and, `real3` represents the upper limit of the bit error ratio measurement for the class II bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	`:CALC:GPRS:RFRX:BER:ALL:LIM:UPP 1,2,2.8` Sets the upper limit of the BER measurements to 1.0% for class Ia bits, 2.0% for class Ib bits and 2.8% for class II bits.

:CALCulate:GPRS:RFRX:BER:ALL:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS`
	`:RFRX:BER:ALL:LIMit:LOWer[:DATA]`
	`<real1>,<real2>,<real3>`

Parameters	`realx` are three floating point real numbers given as a percentage. The minimum value for all `realx` is `0.0`, the maximum value `100.0`. The minimum resolution possible for all `realx` is `0.1`. The default value for all `realx` is `0.0`.
Description	Sets the lower limits for the three (nonresidual) bit error ratio measurements with one command. The order of the floating point real numbers defines their meaning: `real1` represents the lower limit of the bit error ratio measurement for the class Ia bits, `real2` represents the lower limit of the bit error ratio measurement for the class Ib bits and, `real3` represents the lower limit of the bit error ratio measurement for the class II bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	`:CALC:GPRS:RFRX:BER:ALL:LIM:LOW 0.0,0.0,0.0` Sets the lower limit for all three BER measurements (class Ia, class Ib and class II) to 0%.

:CALCulate:GPRS:RFRX:BER:CIA:LIMit[:FAIL]?

Syntax	`:CALCulate:GPRS:RFRX:BER:CIA:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers one boolean number, indicating, whether the result value of the (nonresidual) bit error ratio measurement of the class Ia bits did violate the user-definable test limits. While a `0` delivered back means that the related test was passed without exceeding the limits, a `1` indicates that at least one limit was violated by the measurement result value. Note: For further details regarding bit classes, please refer to section voice coding.

Example	`:MEAS:GPRS:ARRay:RFRX:BER:CIA 5`
	`:CALC:GPRS:RFRX:BER:CIA:LIM?`
	String returned:`"1"`
	This means that the bit error ratio measured for the class Ia bits was outside the limits set with the commands explained in this section.

:CALCulate:GPRS:RFRX:BER:CIA:LIMit:STATe

Syntax `:CALCulate:GPRS:RFRX:BER:CIA:LIMit:STATe <PredefExp>`

Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:GPRS:RFRX:BER:CIA` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFRX:BER:CIA:LIM:STAT ON` Switches the limit check of the (nonresidual) bit error ratio measurement for the class Ia bits on.

:CALCulate:GPRS:RFRX:BER:CIA:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:GPRS` `:RFRX:BER:CIA:LIMit:UPPer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `2.5`.
Description	Sets the upper limit for the (nonresidual) bit error ratio measurement of the class Ia bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	`:CALC:GPRS:RFRX:BER:CIA:LIM:UPP 2` Sets the upper limit for bit error rate measurements on class Ia bits to 2.0%.

:CALCulate:GPRS:RFRX:BER:CIA:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BER:CIA:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 0.0.
Description	Sets the lower limit for the (nonresidual) bit error ratio measurement of the class Ia bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:BER:CIA:LIM:LOW 0.0 Sets the lower limit for BER measurements on class Ia bits to 0.

:CALCulate:GPRS:RFRX:BER:CIB:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFRX:BER:CIB:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the (nonresidual) bit error ratio measurement of the class Ib bits did violate the user-definable test limits. While a 0 delivered back means that the related test was passed without exceeding the limits, a 1 indicates that at least one limit was violated by the measurement result value. Note: For further details regarding bit classes, please refer to section voice coding.
Example	:MEAS:GPRS:RFRX:BER:CIB :CALC:GPRS:RFRX:BER:CIB:LIM? String returned:"1" This means that the bit error ratio measured for the class Ib bits was outside the limits set with the commands explained in this section.

:CALCulate:GPRS:RFRX:BER:CIB:LIMit:STATe

Syntax	:CALCulate:GPRS:RFRX:BER:CIB:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFRX:BER:CIB measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFRX:BER:CIB:LIM:STAT ON Switches the limit check of the (nonresidual) bit error ratio measurement for the class Ib bits on.

:CALCulate:GPRS:RFRX:BER:CIB:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BER:CIB:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 2.5.
Description	Sets the upper limit for the (nonresidual) bit error ratio measurement of the class Ib bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:BER:CIB:LIM:UPP 2.0 Sets the upper limit for class Ib bits to 2%.

:CALCulate:GPRS:RFRX:BER:CIB:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BER:CIB:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 0.0.
Description	Sets the lower limit for the (nonresidual) bit error ratio measurement of the class Ib bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:BER:CIB:LIM:LOW 0 Sets the lower limit for class Ib bits to 0%.

:CALCulate:GPRS:RFRX:BER:CII:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFRX:BER:CII:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the (nonresidual) bit error ratio measurement of the class II bits did violate the user-definable test limits. While a 0 delivered back means that the related test was passed without exceeding the limits, a 1 indicates that at least one limit was violated by the measurement result value. Note: For further details regarding bit classes, please refer to section voice coding.

Example	:MEAS:GPRS:ARRay:RFRX:BER:CII 3 :CALC:GPRS:RFRX:BER:CII:LIM? String returned:"1" This means that the bit error ratio measured for the class II bits was outside the limits set with the commands explained in this section.

:CALCulate:GPRS:RFRX:BER:CII:LIMit:STATe

Syntax	:CALCulate:GPRS:RFRX:BER:CII:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFRX:BER:CII measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFRX:BER:CII:LIM:STAT ON Switches the limit check of the (nonresidual) bit error ratio measurement for the class II bits on.

:CALCulate:GPRS:RFRX:BER:CII:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BER:CII:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 2.5.
Description	Sets the upper limit for the (nonresidual) bit error ratio measurement of the class II bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:BER:CII:LIM:UPP 7.5 Sets the upper limit of the class II BER measurements to 7.5%.

:CALCulate:GPRS:RFRX:BER:CII:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BER:CII:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 0.0.
Description	Sets the lower limit for the (nonresidual) bit error ratio measurement of the class II bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.

Example	:CALC:GPRS:RFRX:BER:CII:LIM:LOW 0 Sets the lower limit of the class II BER measurements to 0%.

:CALCulate:GPRS:RFRX:BER:CRC:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFRX:BER:CRC:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers back one boolean number, indicating, whether the result value of the (non-residual) bit error ratio measurement of the class II bits did violate the user-definable test limits. While a 0 delivered back means that the related test was passed without exceeding the limits, a 1 indicates that at least one limit was violated by the measurement result value. Note: For further details regarding bit classes, please refer to section voice coding.
Example	:MEAS:GPRS:ARRay:RFRX:BER:CRC 3 :CALC:GPRS:RFRX:BER:CII:LIM? String returned in this example:"1" This means that the bit error ratio measured for the class II bits was outside the limits set with the commands explained in this section.

:CALCulate:GPRS:RFRX:BER:CRC:LIMit:STATe

Syntax	:CALCulate:GPRS:RFRX:BER:CRC:LIMit:STATe
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS:RFRX:BER:CII measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFRX:BER:CRC:LIM:STAT ON Switches the limit check of the (non-residual) bit error ratio measurement for the class II bits on.

:CALCulate:GPRS :RFRX:BER:CRC:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BER:CRC:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 2.5.
Description	Sets the upper limit for the (non-residual) bit error ratio measurement of the class II bits. Note: For further details regarding bit classes, please refer to section voice coding.

Query	The query form of this command is not supported.
Example	`:CALC:GPRS:RFRX:BER:CRC:LIM:UPP 7.5` Sets the upper limit of the class II BER measurements to 7.5%.

:CALCulate:GPRS :RFRX:BER:CRC:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS :RFRX:BER:CRC:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `0.0`.
Description	Sets the lower limit for the (non-residual) bit error ratio measurement of the class II bits. Note: For further details regarding bit classes, please refer to section voice coding.
Query	The query form of this command is not supported.
Example	`:CALC:GPRS:RFRX:BER:CRC:LIM:LOW 0` Sets the lower limit of the class II BER measurements to 0%.

:CALCulate:GPRS:RFRX:FBER:LIMit[:FAIL]?

Syntax	`:CALCulate:GPRS:RFRX:FBER:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating, whether the result value of the fast bit error ratio measurement (C-type loop) did violate the user-definable test limits. While a `0` delivered back means that the related test was passed without exceeding the limits, a `1` indicates that at least one limit was violated by the measurement result value. Note: For further details regarding the fast BER measurement, please refer to section FBER live display.

Example	`:MEAS:GPRS:RFRX:FBER`
	`:CALC:GPRS:RFRX:FBER:LIM?`
	String returned:`"1"`
	This means that the fast bit error ratio measured was outside the limits set with the commands explained in this section.

:CALCulate:GPRS:RFRX:FBER:LIMit:STATe

Syntax	`:CALCulate:GPRS:RFRX:FBER:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:GPRS:RFRX:FBER` measurement against their user-definable limits either on or off.

Query	There is no query form of this command available.
Example	`:CALC:GPRS:RFRX:FBER:LIM:STAT ON` Switches the limit check of the fast bit error ratio measurement on.

:CALCulate:GPRS:RFRX:FBER:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:GPRS:RFRX:FBER:LIMit:UPPer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `2.5`.
Description	Sets the upper limit for the fast bit error ratio measurement result value. Note: For further details regarding the fast BER measurement, please refer to section FBER live display.
Query	The query form of this command is not supported.
Example	`:CALC:GPRS:RFRX:FBER:LIM:UPP 7.5` Sets the upper limit of the FER measurement results to 7.5%.

:CALCulate:GPRS:RFRX:FBER:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS:RFRX:FBER:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `0.0`.
Description	Sets the lower limit for the fast bit error ratio measurement result value. Note: For further details regarding the fast BER measurement, please refer to section FBER live display.
Query	The query form of this command is not supported.
Example	`:CALC:GPRS:RFRX:FBER:LIM:LOW 0.0` Sets the lower limit of the FER measurement results to 0%.

:CALCulate:GPRS:RFRX:BLER:BCS:LIMit[:FAIL]?

Syntax	`:CALCulate:GPRS:RFRX:BLER:BCS:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the result value of the block error rate measurement based on the block check sequence (BLER-BCS) did violate the user-definable test limits. While a `0` delivered back means that the related test was passed without exceeding the limits, a `1` indicates that at least one limit was violated by the measurement result value.

Example	:MEAS:GPRS:ARRay:MULT:RFRX:BLER 3 :CALC:GPRS:RFRX:BLER:BCS:LIM? String returned:"1" This means that the block error rate based on the block check sequence was outside the limits.

:CALCulate:GPRS:RFRX:BLER:BCS:LIMit:STATe

Syntax	:CALCulate:GPRS:RFRX:BLER:BCS:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS(:MULT):RFRX:BLER measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFRX:BLER:BCS:LIM:STAT ON Switches the limit check for the BCS-based block error rate measurement on.

:CALCulate:GPRS:RFRX:BLER:BCS:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BLER:BCS:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The resolution is 0.1, the default value is 2.5.
Description	Sets the upper limit for the BCS-based block error rate measurement.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:BLER:BCS:LIM:UPP 2 Sets the upper limit for BCS-based block error rate measurements to 2.0%.

:CALCulate:GPRS:RFRX:BLER:BCS:LIMit:LOWer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BLER:BCS:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The minimum resolution possible is 0.1, the default value is 0.0.
Description	Sets the lower limit for the BCS-based block error rate measurement.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:BLER:BCS:LIM:LOW 0.0 Sets the lower limit for BCS-based BLER measurements to 0%.

:CALCulate:GPRS:RFRX:BLER:USF:LIMit[:FAIL]?

Syntax	:CALCulate:GPRS:RFRX:BLER:USF:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the result value of the block error rate measurement based on the uplink state flag (BLER-USF) did violate the user-definable test limits. While a 0 delivered back means that the related test was passed without exceeding the limits, a 1 indicates that at least one limit was violated by the measurement result value.
Example	:MEAS:GPRS:ARRay:RFRX:BLER 3 :CALC:GPRS:RFRX:BLER:USF:LIM? String returned:"1" This means that the block error rate based on the block check sequence was outside the limits.

:CALCulate:GPRS:RFRX:BLER:USF:LIMit:STATe

Syntax	:CALCulate:GPRS:RFRX:BLER:USF:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:GPRS(:MULT):RFRX:BLER measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:GPRS:RFRX:BLER:USF:LIM:STAT ON Switches the limit check for the USF-based block error rate measurement on.

:CALCulate:GPRS:RFRX:BLER:USF:LIMit:UPPer[:DATA]

Syntax	:CALCulate:GPRS :RFRX:BLER:USF:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value is 0.0, the maximum is 100.0. The resolution is 0.1, the default value is 2.5.
Description	Sets the upper limit for the USF-based block error rate measurement.
Query	The query form of this command is not supported.
Example	:CALC:GPRS:RFRX:BLER:USF:LIM:UPP 2 Sets the upper limit for USF-based block error rate measurements to 2.0%.

:CALCulate:GPRS:RFRX:BLER:USF:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:GPRS :RFRX:BLER:USF:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value is `0.0`, the maximum is `100.0`. The minimum resolution possible is `0.1`, the default value is `0.0`.
Description	Sets the lower limit for the USF-based block error rate measurement.
Query	The query form of this command is not supported.
Example	`:CALC:GPRS:RFRX:BLER:USF:LIM:LOW 0.0` Sets the lower limit for USF-based BLER measurements to 0%.

EGPRS commands

:CALCulate:EGPRS:RFTX:MAVerage

Syntax	:CALCulate:EGPRs:RFTX:MAVerage?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Calculates and returns the average measurement result value of the TX measurement started last. The string delivered back will contain as many average values as measurement types performed. The single average values will always have the format of floating point real numbers and will be separated by commas.
Example	:CONF:EGPR:MEAS:GRO:RFTX POW,ERMS :CALC:RES :MEAS:EGPR:ARR:RFTX:GRO 20 :CALC:EGPR:RFTX:MAV? In this example, first the group of measurements is defined by a power measurement combined with a EVM RMS phase error measurement. This group of measurements is performed 20 times. After that, the single measurement result values will be averaged and returned. The values returned in this example are: "4.53,5.98".

:CALCulate:EGPRs:RFTX:MMINimum

Syntax	:CALCulate:EGPRs:RFTX:MMINimum?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the minimum measurement result value of the TX measurement started last. The string delivered back will contain as many minimum values as measurement types performed. The single minimum values will always have the format of floating point real numbers and will be separated by commas.
Example	:CONF:EGPR:MEAS:GRO:RFTX POW,ERMS :CALC:RES :MEAS:EGPR:ARR:RFTX:GRO 20 :CALC:EGPR:RFTX:MMIN? In this example, first the group of measurements is defined by a power measurement combined with a EVM RMS phase error measurement. This group of measurements is performed 20 times. After that, the single measurement result values will be averaged and returned. The values returned in this example are: "3.53,2.98".

:CALCulate:EGPRs:RFTX:MMAXimum

Syntax	:CALCulate:EGPRs:RFTX:MMAXimum?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	Returns the maximum measurement result value of the TX measurement started last. The string delivered back will contain as many maximum values as measurement types performed. The single maximum values will always have the format of floating point real numbers and will be separated by commas.

Example	`:CONF:EGPR:MEAS:GRO:RFTX POW,ERMS`
	`:CALC:RES`
	`:MEAS:EGPR:ARR:RFTX:GRO 20`
	`:CALC:EGPR:RFTX:MMAX?`
	In this example, first the group of measurements is defined by a power measurement combined with a EVM RMS phase error measurement. This group of measurements is performed 20 times. After that, the single measurement result values will be averaged and returned. The values returned in this example are: "`6.53,15.98`".

:CALCulate:EGPRs:RFTX:MSIGma

Syntax	`:CALCulate:EGPRs:RFTX:MSIGma?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the mean value and the standard deviation of the TX measurement last started. The string delivered back contains as many pairs of mean and standard deviation values as measurement types performed. The individual values all have the format of floating point real numbers and are separated by commas.

Example	`:MEAS:EGPRs:RFTX:FREQ`
	`:CALC:RES`
	`...(other SCPI commands)...`
	`:CALC:EGPR:RFTX:MSIG?`
	In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the :CALC:EGPR:RFTX:MSIG command is used to read out the mean frequency error and its standard deviation. The string returned in this example is "`15.7, 3.4`".

:CALCulate:EGPRs:RFTX:ALL:LIMit[:FAIL]?

Syntax	`:CALCulate:EGPRs:RFTX:ALL:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.

Query	This command delivers 8 boolean numbers in a string, separated by commas. These numbers indicate, whether the single measurement results of the :MEAS:EGPRs[:ARRay]:RFTX:ALL measurement did violate their test limits. The position of the boolean number within the string returned indicates the result of the limit check for the following measurements: 1. error vector magnitude rms-averaged measurement, 2. maximum error vector magnitude measurement, 3. error vector magnitude that is not exceede by 95% of the symbols of a burst measurement, 4. error vector magnitude origin offset measurement, 5. measurement of the mobile's frequency error, 6. measurement of the burst lenght, 7. timing error measurement, 8. measurement of the mobile's RF output power level.

Example	`:MEAS:EGPR:RFTX:ALL`
	`:CALC:EGPR:RFTX:ALL:LIM?`
	String returned in this example:"`0,0,0,0,0,0,0,1`"
	1 on position 8 indicates that the mobile's RF power level violated its test limits.

:CALCulate:EGPRs:RFTX:ALL:LIMit:STATe

Syntax	`:CALCulate:EGPRs:RFTX:ALL:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the limit check of the relevant `EGPRS RF TX` measurement result values of the `MEAS:EGPRs:RFTX:ALL` measurement against their user-definable limits either `ON` or `OFF`.
Query	There is no query form of this command available.
Example	`:CALC:EGPR:RFTX:ALL:LIM:STAT OFF` Switches the limit check for the most relevant EGPRS RF TX measurements off.

:CALCulate:EGPRs:RFTX:ERMS:LIMit[:FAIL]

Syntax	`:CALCulate:EGPRs:RFTX:ERMS:LIMit[:FAIL]?`
Parameters	There are no parameters with this command.
Description	There is solely a query form of this command available.
Query	Returns a boolean value indicating whether the RMS EVM measurement result has failed the limits.
Example	`:CALC:EGPR:ERMS:LIM:FAIL?` Returns **`"0"`** after an RMS EVM measurement failing the set limits.

:CALCulate:EGPRs:RFTX:ERMS:LIMit:STATe

Syntax	:CALCulate:EGPRs:RFTX:ERMS:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:EGPRs:RFTX:ERMS measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:ERMS:LIM:STAT ON Switches the limit check for the error vector magnitude rms-averaged measurement on.

:CALCulate:EGPRs:RFTX:ERMS:LIMit:UPPer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:ERMS:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 500. The resolution is 0.1 and the default value is 9.
Description	Sets the upper limit for the RMS EVM measurement (in %).
Query	There is only a command form available.
Example	:CALC:EGPR:RFTX:ERMS:LIM:UPP 45 This command will sets the upper limit to 45%.

:CALCulate:EGPRs:RFTX:ERMS:LIMit:LOWer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:ERMS:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 500. The resolution is 0.1 and the default value is 0.
Description	Sets the lower limit for the RMS EVM measurement (in %).
Query	There is only a command form available.
Example	:CALC:EGPR:RFTX:ERMS:LIM:LOW 0.8 Sets the lower limit of the error vector magnitude rms-averaged measurement result to 0.8 %.

:CALCulate:EGPRs:RFTX:EPEAk:LIMit[:FAIL]

Syntax	:CALCulate:EGPRs:RFTX:EPEAk:LIMit[:FAIL]?
Parameters	There are no parameters with this command.
Description	There is solely a query form of this command available.
Query	Returns a boolean value indicating whether the peak EVM measurement result has failed the limits.

Example	:MEAS:EGPR:ARR:RFTX:EPEA 20 :CALC:EGPR:RFTX:EPEA:LIM? String returned in this example:"0" This string delivered back indicates that there was no violation of the measurement limits.

:CALCulate:EGPRs:RFTX:EPEAk:LIMit:STATe

Syntax	:CALCulate:EGPRs:RFTX:EPEAk:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:EGPRs:RFTX:EPEA measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:EPEA:LIM:STAT ON Switches the limit check for the maximum error vector magnitude measurement on.

:CALCulate:EGPRS:RFTX:EPEAk:LIMit:UPPer[:DATA]

Syntax	:CALCulate:EGPRS:RFTX:EPEAk:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 500. The resolution is 0.1 and the default value is 30.
Description	Sets the upper limit for the peak EVM measurement (in %).
Query	There is only a command form available.
Example	:CALC:EGPR:RFTX:EPEA:LIM:UPP 25.0 This command will sets the upper limit to 25%.

:CALCulate:EGPRS:RFTX:EPEAk:LIMit:LOWer[:DATA]

Syntax	:CALCulate:EGPRS:RFTX:EPEAk:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 500. The resolution is 0.1 and the default value is 0.
Description	Sets the lower limit for the peak EVM measurement (in %).
Query	There is only a command form available.
Example	:CALC:EGPR:RFTX:EPEAk:LIM:LOW 0 This command will sets the lower limit to 0%.

:CALCulate:EGPRs:RFTX:ENFTh:LIMit[:FAIL]?

Syntax	:CALCulate:EGPRs:RFTX:ENFTh:LIMit[:FAIL]?
Parameters	There are no parameters with this command.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the error vector magnitude that is not exceede by 95% of the symbols of a burst were violated by a measurement result value or not. A 0 means that all measurement result values were within the limits set, while a 1 indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	:MEAS:EGPR:ARR:RFTX:ENFT 20 :CALC:EGPR:RFTX:ENFT:LIM? String returned in this example: "0" This string delivered back indicates that there was no violation of the measurement limits.

:CALCulate:EGPRs:RFTX:ENFTh:LIMit:STATe

Syntax	:CALCulate:EGPRs:RFTX:ENFTh:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:EGPRs:RFTX:ENFTh measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:ENFT:LIM:STAT ON Switches the limit check for the error vector magnitude that is not exceede by 95% of the symbols of a burst measurement on.

:CALCulate:EGPRs:RFTX:ENFTh:LIMit:UPPer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:ENFTh:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 500. The resolution is 0.1 and the default value is 15.
Description	Sets the upper limit of the error vector magnitude that is not exceeded by 95% of the symbols of a burst measurement; the physical dimension of the number stated is %.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:ENFT:LIMi:UPP 75 Sets the upper limit of the error vector magnitude that is not exceeded by 95% of the symbols of a burst measurement result to 75 %.

:CALCulate:EGPRs:RFTX:ENFTh:LIMit:LOWer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:ENFTh:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 500. The resolution is 0.1 and the default value is 0.
Description	Sets the lower limit of the error vector magnitude that is not exceeded by 95% of the symbols of a burst measurement; the physical dimension of the number stated is %.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:ENFT:LIM:LOW 1.1 Sets the lower limit of the error vector magnitude that is not exceede by 95% of the symbols of a burst measurement result to 1.1 %.

:CALCulate:EGPRs:RFTX:EOFFset:LIMit[:FAIL]?

Syntax	:CALCulate:EGPRs:RFTX:EOFFset:LIMit[:FAIL]?
Parameters	There are no parameters with this command.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the error vector magnitude origin offset were violated by a measurement result value or not. A 0 means that all measurement result values were within the limits set, while a 1 indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	:MEAS:EGPR:ARR:RFTX:EOFF 20 :CALC:EGPR:RFTX:EOFF:LIM? String returned in this example: "0" This string delivered back indicates that there was no violation of the measurement limits.

:CALC:EGPRs:RFTX:EOFFset:LIMit:STATe

Syntax	:CALC:EGPRs:RFTX:EOFFset:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:EGPR:RFTX:EOFF measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:EOFF:LIM:STAT ON Switches the limit check for the error vector magnitude origin offset measurement on.

:CALCulate:EGPRs:RFTX:EOFFset:LIMit:UPPer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:EOFFset:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is -120, the maximum is 0. The resolution is 0.1 and the default value is -30.
Description	Sets the upper limit of the error vector magnitude origin offset measurement; the physical dimension of the number stated is dBc.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:EOFF:LIM:UPP -10 Sets the upper limit of the error vector magnitude origin offset measurement result to -10 dBc.

:CALCulate:EGPRs:RFTX:EOFFset:LIMit:LOWer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:EOFFset:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is -120, the maximum is 0. The resolution is 0.1 and the default value is -120.
Description	Sets the lower limit of the error vector magnitude origin offset measurement; the physical dimension of the number stated is dBc.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:EOFF:LIM:LOW -100 Sets the lower limit of the error vector magnitude origin offset measurement result to -100 dBc.

:CALCulate:EGPRs:RFTX:FREQuency:LIMit[:FAIL]?

Syntax	:CALCulate:EGPRs:RFTX:FREQuency:LIMit[:FAIL]?
Parameters	There are no parameters with this command.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the frequency error measurement were violated by a measurement result value or not. A 0 means that all measurement result values were within the limits set, while a 1 indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.
Example	:MEAS:EGPR:ARR:RFTX:FREQ 20 :CALC:EGPR:RFTX:FREQ:LIM? String returned in this example:"0" This string delivered back indicates that there was no violation of the measurement limits.

:CALCulate:EGPRs:RFTX:FREQuency:LIMit:STATe

Syntax	:CALCulate:EGPRs:RFTX:FREQuency:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:EGPRs:RFTX:FREQuency measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:FREQuency:LIM:STAT ON Switches the limit check on frequency measurements on.

:CALCulate:EGPRs:RFTX:FREQuency:LIMit:UPPer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:FREQuency:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 100000. The resolution is 1 and the default value is 90.
Description	Sets the upper limit for the frequency error measurement (in Hertz).
Query	Returns the upper limit currently set.
Example	:CALC:EGPR:RFTX:FREQ:LIM:UPP 45 Sets the upper limit of the frequency error measurement result to 45 Hz.

:CALCulate:EGPRs:RFTX:FREQuency:LIMit:LOWer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:FREQuency:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is -100000, the maximum is 0. The resolution is 1 and the default value is -90.
Description	Sets the lower limit for the frequency error measurement (in Hertz).
Query	Returns the lower limit currently set.
Example	:CALC:EGPR:RFTX:FREQ:LIM:LOW -60.8 Sets the lower limit of the frequency error measurement result to -60.8 Hz.

:CALCulate:EGPRs:RFTX:FREQuency:LIMit:GSM

Syntax	:CALCulate:EGPRs:RFTX:FREQuency:LIMit:GSM <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 100000. The resolution is 1 and the default value is 90.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM 900 and GSM 850; the physical dimension of the number stated is Hertz.

Query	There is no query form of this command available.
Example	`:CALC:EGPR:RFTX:FREQ:LIM:GSM 65` Sets the lower limit of the frequency error measurement result on GSM 900 and GSM 850 channels to -65 Hz and the upper limit to +65 Hz.

:CALCulate:EGPRs:RFTX:FREQuency:LIMit:PCN

Syntax	`:CALCulate:EGPRs:RFTX:FREQuency:LIMit:PCN <real1>`
Parameters	`real1` is a floating point real number. The minimum value for each is `0`, the maximum is `100000`. The resolution is `1` and the default value is `180`.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM 1800 (also known as DCS-1800 or PCN); the physical dimension of the number stated is Hertz.
Query	There is only a command form available.
Example	`:CALC:EGPR:RFTX:FREQ:LIM:PCN 120` Sets the lower limit of the frequency error measurement result on GSM 1800 channels to -120 Hz and the upper limit to +120 Hz.

:CALCulate:EGPRs:RFTX:FREQuency:LIMit:PCS

Syntax	`:CALCulate:EGPRs:RFTX:FREQuency:LIMit:PCS <real1>`
Parameters	`real1` is a floating point real number. The minimum value for each is `0`, the maximum is `100000`. The resolution is `1` and the default value is `180`.
Description	Sets the symmetrical limits of the frequency error for measurements in synchronous (call) mode for GSM 1900 (also known as PCS); the physical dimension of the number stated is Hertz.
Query	There is only a command form available.
Example	`:CALC:EGPR:RFTX:FREQ:LIM:PCS 120` Sets the lower limit of the frequency error measurement result on GSM 1900 channels to -120 Hz and the upper limit to +120 Hz.

:CALCulate:EGPRS:RFTX:LENGth:LIMit[:FAIL]

Syntax	`:CALCulate:EGPRS:RFTX:LENGth:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the burst length measurement were violated by a measurement result value or not. A `0` means that all measurement result values were within the limits set, while a `1` indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.

Example	:MEAS:EGPR:ARR:RFTX:LENG 10 :CALC:EGPR:RFTX:LENG:LIM? String returned in this example: "0" This string indicates that there was no violation of the measurement limits.

:CALCulate:EGPRs:RFTX:LENGth:LIMit:STATe

Syntax	:CALCulate:EGPRs:RFTX:LENGth:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:EGPRs:RFTX:LENGth measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:LENG:LIM:STAT ON Switches the limit check on frequency measurements on.

:CALCulate:EGPRs:RFTX:LENGth:LIMit:UPPer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:LENGth:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 700. The resolution is 0.1 and the default value is 562.8.
Description	Sets the upper limit for the burst length measurement; the physical dimension of the number stated is microseconds.
Query	There is only a command form available.
Example	:CALC:EGPR:RFTX:LENG:LIM:UPP 563 This command will sets the upper limit of the burst length to 563 µs.

:CALCulate:EGPRs:RFTX:LENGth:LIMit:LOWer[:DATA]

Syntax	:CALCulate:EGPRs:RFTX:LENGth:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a floating point real number. The minimum value for each is 0, the maximum is 700. The resolution is 0.1 and the default value is 542.8.
Description	Sets the lower limit for the burst length measurement; the physical dimension of the number stated is microseconds.
Query	There is only a command form available.
Example	:CALC:EGPR:RFTX:LENG:LIM:LOW 541.9 This command will sets the lower limit of the burst length to 541.9 µs.

:CALCulate:EGPRS:RFTX:UTIMe:LIMit[:FAIL]

Syntax	:CALCulate:EGPRS:RFTX:UTIMe:LIMit[:FAIL]?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the UL timing error measurement were violated by a measurement result value or not. A `0` means that all measurement result values were within the limits set, while a `1` indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.

Example	`:MEAS:EGPR:ARR:RFTX:UTIM 10`
	`:CALC:EGPR:RFTX:UTIM:LIM?`
	String returned in this example: `"0"`
	This string indicates that there was no violation of the measurement limits.

:CALCulate:EGPRs:RFTX:UTIMe:LIMit:STATe

Syntax	`:CALCulate:EGPRs:RFTX:UTIMe:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:EGPRs:RFTX:UTIMe` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:EGPR:RFTX:UTIM:LIM:STAT ON` Switches the limit check for the uplink timing error measurement on.

:CALCulate:EGPRs:RFTX:UTIMe:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:EGPRs:RFTX:UTIMe:LIMit:UPPer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value for each is `0`, the maximum is `64`. The resolution is `0.01` and the default value is `3`.
Description	Sets the upper limit for the uplink timing error measurement; the physical dimension of the number stated is microseconds. Note: The UL timing error measurement takes the ordered timing advance into account.
Query	There is only a command form available.
Example	`:CALC:EGPR:RFTX:UTIM:LIM:UPP 5` Sets the upper limit of the uplink timing error measurement result to `5` µs.

:CALCulate:EGPRs:RFTX:UTIMe:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:EGPRs:RFTX:UTIMe:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value for each is `-64`, the maximum is `0`. The resolution is `0.01` and the default value is `-3`.
Description	Sets the lower limit for the uplink timing error measurement; the physical dimension of the number stated is microseconds.

Query	There is only a command form available.
Example	`:CALC:EGPR:RFTX:UTIM:LIM:LOW -5` Sets the lower limit of the uplink error timing measurement to –5 µs.

:CALCulate:EGPRS:RFTX:POWer:LIMit[:FAIL]

Syntax	`:CALCulate:EGPRS:RFTX:POWer:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers one boolean number, indicating whether the user-definable limits of the measurement of the mobile's RF output power level were violated by a measurement result value or not. A `0` means that all measurement result values were within the limits set, while a `1` indicates that at least one measurement result value did violate at least one of the limits. The limits can be set using the commands described below.

Example	`:MEAS:EGPR:ARR:POW 20`
	`:CALC:EGPR:RFTX:POW:LIM?`
	String returned in this example: `"0"`
	This string indicates that there was no violation of the measurement limits.

:CALCulate:EGPRs:RFTX:POWer:LIMit:STATe

Syntax	`:CALCulate:EGPRs:RFTX:POWer:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the `MEAS:EGPRs:RFTX:POWer` measurement against their user-definable limits either on or off.
Query	There is no query form of this command available.
Example	`:CALC:EGPR:RFTX:POWer:LIM:STAT ON` Switches the limit check for the RF output power level measurement on.

:CALCulate:EGPRs:RFTX:POWer:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:EGPRs:RFTX:POWer:LIMit:UPPer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value for each is `-120`, the maximum is `+50`. The resolution is `0.1` and the default value is `39`.
Description	Sets the upper limit for the mobile's RF output power level; the physical dimension of the number stated is dBm.
Query	Returns the upper limit currently set.
Example	`:CALC:EGPR:RFTX:POW:LIM:UPP 13` Sets the upper limit of the peak power measurement to 13 dBm.

:CALCulate:EGPRs:RFTX:POWer:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:EGPRs:RFTX:POWer:LIMit:LOWer[:DATA] <real1>`
Parameters	`real1` is a floating point real number. The minimum value for each is `-120`, the maximum is `50`. The resolution is `0.1` and the default value is `-60`.
Description	Sets the lower limit for the mobile's RF output power level; the physical dimension of the number stated is dBm.
Query	Returns the lower limit currently set.
Example	`:CALC:EGPR:RFTX:POW:LIM:LOW -45` Sets the lower limit of the peak power measurement to –45 dBm.

:CALCulate:EGPRs:RFTX:POWer:LIMit:GSM

Syntax	`:CALCulate:EGPRs:RFTX:POWer:LIMit:GSM <real1>,<real2>,...,<real18>`
Parameters	`real1` thru `real18` are floating point real numbers. The minimum value for each is `0`, the maximum is `30` and the resolution is `0.1`. The default values are `2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5`, respectively.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode for GSM 900 and GSM 850; the physical dimension of the number stated is dB. The first value applies to power control steps 0 to 2 (39 dBm), the second value applies to power control level 3 (37 dBm) and so forth up to the eighteenth value for power control steps 19 thru 31 (5 dBm).
Query	There is no query form of this command available.
Example	`:CALC:EGPR:RFTX:POW:LIM:GSM 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5` Sets the lower and upper limits of the power measurement result on GSM 900 and GSM 850 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 5, 5, 5, 5 dB around the nominal level.

:CALCulate:EGPRs:RFTX:POWer:LIMit:PCN

Syntax	`:CALCulate:EGPRs:RFTX:POWer:LIMit:PCN <real1>,<real2>,...,<real19>`
Parameters	`real1` thru `real19` are floating point real numbers. The minimum value for each is `0`, the maximum is `30` and the resolution is `0.1`. The default values are `2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5`, respectively.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode for GSM 1800 (also known as DCS-1800 or PCN); the physical dimension of the number stated is dB. The first value applies to power control step 29 (36 dBm), the second value applies to power control 30 (34 dBm) and so forth up to the nineteenth value for power control steps 15 through 28 (0 dBm).
Query	There is only a command form available.

Example	:CALC:EGPR:RFTX:POW:LIM:PCN 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5 Sets the lower and upper limits of the power level measurement result on GSM 1800 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5 dB around the nominal level.

:CALCulate:EGPRs:RFTX:POWer:LIMit:PCS

Syntax	:CALCulate:EGPRs:RFTX:POWer:LIMit:PCS <real1>,<real2>,...,<real18>
Parameters	real1 through real18 are floating point real numbers. The minimum value for each is 0, the maximum is 30 and the resolution is 0.1. The default values are 2, 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5, respectively.
Description	Sets the symmetrical limits of the peak power for measurements in synchronous (call) mode for GSM 1900 (also known as PCS); the physical dimension of the number stated is dB. The first value applies to power control step 30 (34 dBm), the second value applies to power control 31 (32 dBm), the third value applies to power control step 0 (30 dBm) and so forth up to the eighteenth value for power control steps 15 thru 28 (0 dBm).
Query	There is only a command form available.
Example	:CALC:EGPR:RFTX:POW:LIM:PCS 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5 Sets the lower limit of the power measurement result on GSM 1900 channels to 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5 dB around the nominal level.

:CALCulate:EGPRs:RFTX:TEMPlate[:NORMal]:LIMit[:FAIL]?

Syntax	:CALCulate:EGPRs:RFTX:TEMPlate[:NORMal]:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command returns 18 boolean numbers, indicating whether the PTT limits for a normal burst were violated or not. A 0 on a position means that there was no violation of the limits while a 1 indicates that at least one measurement result did violate one of the corresponding measurement limits. The 18 boolean numbers correspond to the limits of the PTT as defined on the user interface or with the :CALC:EGPRs:RFTX:TEMP commands as described below. The first eleven numbers stand for the eleven 'upper' segments of the burst, while the following seven numbers stand for the seven 'lower' segments of the burst. Refer to section Power-Time Templates (PTT) for further details.
Example	:MEAS:EGPR:RFTX:TEMP :CALC:EGPR:RFTX:TEMP:LIM? String returned in this example: "0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0" This string indicates that there was a violation of the limits of one of the 'lower' segments of the PTT (in this example during the ramping up phase of the burst).

:CALCulate:EGPRs:RFTX:TEMPlate[:NORMal]:LIMit:AUTO

Syntax	:CALCulate:EGPRs:RFTX:TEMPlate[:NORMal]:LIMit:AUTO <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command selects the power-time template to check normal bursts against. Auto mode (parameter ON) means that the ProLock will use the appropriate PTT as defined in the GSM/ETSI standards. Those PTTs vary with the frequency range and the RF power level used by the mobile. Manual mode (parameter OFF) means that the GSM/ETSI specifications will be ignored and that the ProLock will use the manually set limits instead (see description of the :CALC:EGPRs:RFTX:TEMP:LIM:UPP and :CALC:EGPRs:RFTX:TEMP:LIM:LOW commands for further details).
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:TEMP:LIM:AUTO ON Switches the limit check for the burst shape to use the standard PTTs as defined by ETSI standards.

:CALCulate:EGPRs:RFTX:TEMPlate[:NORMal]:LIMit:STAT

Syntax	:CALCulate:EGPRs:RFTX:TEMPlate[:NORMal]:LIMit:STAT <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the MEAS:EGPRs:RFTX:TEMPlate measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:EGPR:RFTX:TEMP:LIM:STAT ON Switches on the limit check of the burst shape against the PTT for normal bursts.

:CALCulate:EGPRs :RFTX:TEMPlate[:NORMal]:LIMit:UPPer[:DATA]

Syntax	:CALCulate:EGPRs :RFTX:TEMPlate[:NORMal]:LIMit:UPPer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>,<real7t>,<real7p>, <real8t>,<real8p>, <real9t>,<real9p>, <real10t>,<real10p>, <real11t>,<real11p>

Parameters	`realxt` and `realxp` are floating point real numbers. The minimum value for all `realxt` is `-41.0`, the maximum value `580.0`. The minimum resolution possible for all `realxt` is `0.1`. The default values are: for `real0t: -41.0`, for `real1t: -28.0`, for `real2t: -18.0`, for `real3t: -10.0`, for `real4t: 0.0`, for `real5t: 4`, for `real6t: 539.0`, for `real7t: 543.0`, `for real8t: 553.0`, for `real9t: 561.0`, for `real10t: 571.0`, for `real11t: 580.0.` The minimum value for `realxp` is `-150.0`, the maximum value `5.0`. The minimum resolution possible for `realxp` is `0.1`. The default values are: for `real0p: -59.0`, for `real1p: -59.0`, for `real2p: -30.0`, for `real3p: -6.0`, for `real4p: 4.0`, for `real5p: 2.4`, for `real6p: 4.0`, for `real7p: 2.4`, for `real8p: 4.0`, for `real9p: -6.0`, for `real10p: -30.0`, for `real11p: -59.0`.
Description	Sets the upper limits for the user-definable PTT (for normal bursts). The upper limits of the user-defined PTT are made up by twelve pairs of position (in microseconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power-Time Templates (PTT).
Query	The query form of this command is not available.
Example	`:CALC:EGPR:RFTX:TEMP:LIM:UPP -41,-59,-28,-59,-18,-30,-10,-6,0,4,4,2.4,539,4,543,2.4,553,4,561,-6,571,-30,580,-59`

:CALCulate:EGPRs :RFTX:TEMPlate[:NORMal]:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:EGPRs :RFTX:TEMPlate[:NORMal]:LIMit:LOWer[:DATA] <real0t>,<real0p>,<real1t>,<real1p>, <real2t>,<real2p>,<real3t>,<real3p>, <real4t>,<real4p>,<real5t>,<real5p>, <real6t>,<real6p>, <real7t>,<real7p>`

Parameters	`realxt` and `realxp` are floating point real numbers. The minimum value for `realxt` is `-41.0`, the maximum value `580.0`. The minimum resolution possible for `realxt` is `0.1`. The default values are: for `real0t: -41.0`, for `real1t: 0.0`, for `real2t: 2.0`, for `real3t: 4.0`, for `real4t: 539.0`, for `real5t: 541.0`, for `real6t: 543.0`, for `real7t: 580.0`. The minimum value for `realxp` is `-150.0`, the maximum value `5.0`. The minimum resolution possible for all `realxp` is `0.1`. The default values are: for `real0p: -150.0`, for `real1p: -150.0`, for `real2p: -2.0`, for `real3p: 0.0`, for `real4p: -20.0`, for `real5p: -0.0`, for `real6p: -2.0`, for `real7p: -150.0`.
Description	Sets the lower limits for the user-definable PTT (for normal bursts). The lower limits of the user-defined PTT are made up by eight pairs of position (in microseconds relative to the beginning of the burst) and the related RF power level (in dB relative to the power level during the active part of the burst). For further details regarding the user-definable PTT, refer to section Power-Time Templates (PTT).
Query	The query form of this command is not available.
Example	`:CALC:EGPR:RFTX:TEMP:LIM:LOW` `-41,-150,0,-150,0,-40,20, -1,270,-1,543,-1,543,-150`

WCDMA commands

:CALCulate:WCDMa:RFTX:MAVerage?

Syntax	`:CALCulate:WCDMa:RFTX:MAVerage?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	There is a query form which returns the stored settings.

Example	`:MEAS:WCDM:RFTX:FREQ`
	`:CALC:RES`
	`...(other SCPI commands)...`
	`:CALC:WCDM:RFTX:MAV?`
	In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the `:CALC:WCDM:RFTX:MAV` command is used to read out the average frequency deviation of the mobile. The string returned in this example is `"12.9"`.

:CALCulate:WCDMa:RFTX:MMINimum?

Syntax	`:CALCulate:WCDMa:RFTX:MMINimum?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the minimum measurement result value of the TX measurement started last. The string delivered will contain as many minimum values as measurement types performed. The single minimum values will always have the format of floating point real numbers and will be separated by commas.

Example	`:MEAS:WCDM:RFTX:FREQ`
	`:CALC:RES`
	`...(other SCPI commands)...`
	`:CALC:WCDM:RFTX:MMIN?`
	In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the `:CALC:WCDM:RFTX:MMAX` command is used to read out the minimum frequency deviation of the mobile. The string returned in this example is `"10.2"`.

:CALCulate:WCDMa:RFTX:MMAXimum?

Syntax	`:CALCulate:WCDMa:RFTX:MMAXimum?`
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	Returns the maximum measurement result value of the TX measurement started last. The string delivered will contain as many maximum values as measurement types performed. The single maximum values will always have the format of floating point real numbers and will be separated by commas.

Example	`:MEAS:WCDM:RFTX:FREQ`
	`:CALC:RES`
	`...(other SCPI commands)...`
	`:CALC:WCDM:RFTX:MMAX?`
	In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the `:CALC:WCDM:RFTX:MMAX` command is used to read out the maximum frequency deviation of the mobile. The string returned in this example is `"22.1"`.

:CALCulate:WCDMa:RFTX:MSIGma?

Syntax	`:CALCulate:WCDMa:RFTX:MSIGma?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	Returns the mean value and the standard deviation of the TX measurement last started. The string delivered contains as many pairs of mean and standard deviation values as measurement types performed. The individual values all have the format of floating point real numbers and will be separated by commas.

Example	`:MEAS:WCDM:RFTX:FREQ`
	`:CALC:RES`
	`...(other SCPI commands)...`
	`:CALCulate:WCDM:RFTX:MSIG?`
	In this example, first a continuous measurement of the mobile's frequency error is started. After some time, the `:CALC:WCDM:RFTX:MSIG` command is used to read out the mean frequency error and its standard deviation. The string returned in this example is `"15.7,3.4"`.

:CALCulate:WCDMa:RFTX:FREQ:LIMit[:FAIL]

Syntax	`:CALCulate:WCDMa:RFTX:FREQ:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers boolean number in a string which indicates if the `:MEAS:WCDMA:ARR:RFTX:FREQ` measurement violated its limits.

Example	`:MEAS:WCDMA:ARR:RFTX:FREQ 20`
	`:CALC:WCDM:RFTX:FREQ:LIM?`
	The `MEASurement` command starts 20 frequency measurements. The query returns `1` if any of the measurement results was out of limits, or `0` if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:FREQuency:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:FREQuency:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. The default is ON.
Description	This command switches the check of the measurement result values of the measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:FREQ:LIM:STAT ON Switches the limit check for the frequency error measurement on.

:CALCulate:WCDMa:RFTX:FREQuency:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:FREQuency:LIMit:UPPer[:DATA] <real1>
Parameters	real1 is a real number. The minimum value for real1 is 0, the maximum is 10000, the resolution is 0.1 and the default is 200.
Description	This command sets the upper limit of the frequency error measurement by band. The physical dimension of the number stated is Hz.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:FREQ:LIM:UPP 310 :CALC:WCDM:RFTX:FREQ:LIM:UPP? The query returns the previously set limit of 310 (hertz).

:CALCulate:WCDMa:RFTX:FREQuency:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:FREQuency:LIMit:LOWer[:DATA] <real1>
Parameters	real1 is a real number. The minimum value for real1 is -10000, the maximum is 0, the resolution is 0.1 and the default is -200.
Description	This command sets the lower limit of the frequency error measurement by band. The physical dimension of the number stated is Hz.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:FREQ:LIM:LOW -310 :CALC:WCDM:RFTX:FREQ:LIM:LOW? The query returns the previously set limit of -310 (hertz).

:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit[:FAIL]?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the `:MEAS:WCDMA:ARR:RFTX:POW:MEAN` measurement violated the defined limits.

Example	`:MEAS:WCDMA:ARR:RFTX:POW:MEAN 20`
	`:CALC:WCDM:RFTX:POW:MEAN:LIM?`
	The query returns `1` if any of the 20 measurement results was out of limits, or `0` if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:STATe

Syntax	`:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` can take on one of the following values: `ON|OFF`. The default is `ON`.
Description	This command switches the check of the measurement result values of the mean power measurement against their user-definable limits either `ON` or `OFF`.
Query	There is a query form which returns the stored settings.
Example	`:CALC:WCDM:RFTX:POW:MEAN:LIM:STAT ON` Switches the limit check for the frequency error measurement on.

:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:UPPer[:DATA] <real>`
Parameters	`real` is a floating point real number. Its minimum value is `-120.0`, the maximum is `50.0`, the resolution is `0.1` and the default is `34.0`.
Description	Sets the upper limit for the mobile's RF output mean power. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:POW:MEAN:LIM:UPP 12.5`
	`:CALC:WCDM:RFTX:POW:MEAN:LIM:UPP?`
	Returns `12.5`.

:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:LOWer[:DATA] <real>`
Parameters	`real` is a floating point real number. Its minimum value is `-120.0`, the maximum is `50.0`, the resolution is `0.1` and the default is `-60.0`.

Description	Sets the lower limit for the mobile's RF output mean power. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:POW:MEAN:LIM:LOW -32.5`
	`:CALC:WCDM:RFTX:POW:MEAN:LIM:LOW?`
	Returns `-32.5`.

:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:MAXimum:UPPer:[DATA]

Syntax	`:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:MAXimum:UPPer[:DATA] <Real1>,<Real2>,<Real3>,<Real4>`
Parameters	`realx` are floating point real numbers. The minimum value of `<Real1>` is `10.0`, the maximum is `44.0` and the default is `34.0`. The minimum value of `<Real2>` is `4.0`, the maximum is `38.0` and the default is `28.0`. The minimum value of `<Real3>` is `1.0`, the maximum is `35.0` and the default is `25.0`. The minimum value of `<Real4>` is `-1.0`, the maximum is `33.0` and the default is `23.0`. The resolution of all values is `0.1`.
Description	Sets the upper limits for the mobile's RF output mean maximum power for the power classes 1, 2, 3 and 4. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:POW:MEAN:LIM:MAX:UPP 35,29,26,24`
	`:CALC:WCDM:RFTX:POW:MEAN:MAX:LIM:UPP?`
	Returns `35.0,29.0,26.0,24.0`.

:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:MAXimum:LOWer:[DATA]

Syntax	`:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:MAXimum:LOWer[:DATA] <Real1>,<Real2>,<Real3>,<Real4>`
Parameters	`realx` are floating point real numbers. The minimum value of `<Real1>` is `10.0`, the maximum is `44.0` and the default is `30.0`. The minimum value of `<Real2>` is `4.0`, the maximum is `38.0` and the default is `24.0`. The minimum value of `<Real3>` is `1.0`, the maximum is `35.0` and the default is `21.0`. The minimum value of `<Real4>` is `-1.0`, the maximum is `33.0` and the default is `19.0`. The resolution of all values is `0.1`.
Description	Sets the lower limits for the mobile's RF output mean maximum power for the power classes 1, 2, 3 and 4. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:POW:MEAN:LIM:MAX:LOW 29,23,20,18`
	`:CALC:WCDM:RFTX:POW:MEAN:MAX:LIM:LOW?`
	Returns `29.0,23.0,20.0,18.0`.

:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:MINimum:UPPer[:DATA]

Syntax	`CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:MINimum:UPPer:[DATA] <real>`
Parameters	`real` is a floating point real number. Its minimum value is `-120.0`, the maximum is `0.0`, the resolution is `0.1` and the default is `-50.0`.
Description	Sets the upper limit for the mobile's RF mean minimum power. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:POW:MEAN:LIM:MIN:UPP -40.5`
	`:CALC:WCDM:RFTX:POW:MEAN:LIM:MIN:UPP?`
	Returns `-40.5`.

:CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:MINimum:LOWer:[DATA]

Syntax	`CALCulate:WCDMa:RFTX:POWer:MEAN:LIMit:MINimum:LOWer:[DATA] <real>`
Parameters	`real` is a floating point real number. Its minimum value is `-120.0`, the maximum is `0.0`, the resolution is `0.1` and the default is `-120.0`.
Description	Sets the lower limit for the mobile's RF mean minimum power. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:POW:MEAN:LIM:MIN:LOW -60.5`
	`:CALC:WCDM:RFTX:POW:MEAN:LIM:MIN:LOW?`
	Returns `-60.5`.

CALCulate:WCDMa:RFTX:POWer:PEAK:LIMit[:FAIL]

Syntax	`:CALCulate:WCDMa:RFTX:POWer:PEAK:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the `:MEAS:WCDMA:ARR:RFTX:POW:PEAK` measurement violated the defined limits.

Example	`:MEAS:WCDMA:ARR:RFTX:PEAK:POW 20`
	`:CALC:WCDM:RFTX:POW:PEAK:LIM?`
	Returns `0` if any of the 20 power measurements was out of limits, and `1` if all results were within limits.

:CALCulate:WCDMa:RFTX:POWer:PEAK:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:POWer:PEAK:LIMit:STATe <PredefExp>
Parameters	PredefExp can take on one of the following values: ON|OFF. The default is ON.
Description	This command switches the check of the measurement result values of the peak power measurement against their user-definable limits either ON or OFF.
Query	There is a query form whicht returns the sotred settings.
Example	:CALC:WCDM:RFTX:POWer:PEAK:LIM:STAT ON Switches the limit check for the frequency error measurement on

:CALCulate:WCDMa:RFTX:POWer:PEAK:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:POWer:PEAK:LIMit:UPPer[:DATA] <real>
Parameters	real is a floating point real number. Its minimum value is -120.0, the maximum is 50.0, the resolution is 0.1 and the default is 34.0.
Description	Sets the upper limit for the mobile's RF output peak power. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:POW:PEAK:LIM:UPP 2.5 :CALC:WCDM:RFTX:POW:PEAK:LIM:UPP? Returns 2.5.

:CALCulate:WCDMa:RFTX:POWer:PEAK:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:POWer:PEAK:LIMit:LOWer[:DATA] <real>
Parameters	real is a floating point real number. Its minimum value is -120.0, the maximum is 50.0, the resolution is 0.1 and the default is -60.0.
Description	Sets the lower limit for the mobile's RF output peak power. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:POW:PEAK:LIM:LOW -2.5 :CALC:WCDM:RFTX:POW:PEAK:LIM:LOW? Returns -2.5.

:CALCulate:WCDMa:RFTX:CPOWer:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:CPOWer:LIMit[:FAIL]?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the `:MEAS:WCDMA:ARR:RFTX:CPOW` measurement violated the defined limits.

Example	`:MEAS:WCDMA:ARR:RFTX:CPOW 20`
	`:CALC:WCDM:RFTX:CPOW:LIM?`
	Returns `1` if any of the 20 power measurements was out of limits, and `0` if all results were inside limits.

:CALCulate:WCDMa:RFTX:CPOWer:LIMit:STATe

Syntax	`:CALCulate:WCDMa:RFTX:CPOWer:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` can take on one of the following values: `ON|OFF`. The default is `ON`.
Description	This command switches the check of the measurement result values of the channel power measurement against their user-definable limits either `ON` or `OFF`.
Query	There is a query form which returns the stored settings.
Example	`:CALC:WCDM:RFTX:CPOW:LIM:STAT ON` Switches the limit check for the frequency error measurement on.

:CALCulate:WCDMa:RFTX:CPOWer:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:WCDMa:RFTX:CPOWer:LIMit:UPPer[:DATA] <real>`
Parameters	`real` is a floating point real number. Its minimum value is `-120.0`, the maximum is `50.0`, the resolution is `0.1` and the default is `34.0`.
Description	Sets the upper limit for the mobile's RF output channel power. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:CPOW:LIM:UPP 2.5`
	`:CALC:WCDM:RFTX:CPOW:LIM:UPP?`
	Returns `2.5`.

:CALCulate:WCDMa:RFTX:CPOWer:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:WCDMa:RFTX:CPOWer:LIMit:LOWer[:DATA] <real>`
Parameters	`real` is a floating point real number. Its minimum value is `-120.0`, the maximum is `50.0`, the resolution is `0.1` and the default is `-60.0`.
Description	Sets the lower limit for the mobile's RF output channel power. The physical dimension of the number stated is dBm.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:CPOW:LIM:LOW -2.5`
	`:CALC:WCDM:RFTX:CPOW:LIM:LOW?`
	Returns `-2.5`.

:CALCulate:WCDMa:RFTX:MODQuality:ALL:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:ALL:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the :MEAS:WCDMA:ARR:RFTX:MODQ:ALL measurement violated its limits.
Example	:MEAS:WCDMA:ARR:RFTX:MODQ:ALL 20 :CALC:WCDM:RFTX:MODQ:ALL:LIM? The query returns 1 if any of the measurement results was out of limits, or 0 if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:MODQuality:ALL:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:ALL:LIMit:STATe <PredefExp>
Parameters	PredefExp may take on one of the following predefined expressions: ON|OFF. The default is ON.
Description	This command switches the check of the measurement result values of all modulation quality measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:ALL:LIM:STAT ON Switches the limit check for all modulation quality measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:ERMS:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:ERMS:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the :MEAS:WCDMA:ARR:RFTX:MODQ:ERMS measurement violated its limits.
Example	:MEAS:WCDMA:ARR:RFTX:MODQ:ERMS 20 :CALC:WCDM:RFTX:MODQ:ERMS:LIM? Returns 1 if any of the EVM RMS vector error measurement results was out of limits, or 0 if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:MODQuality:ERMS:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:ERMS:LIMit:STATe <PredefExp>
Parameters	PredefExp may take on one of the following predefined expressions: ON|OFF. The default is ON.
Description	This command switches the check of the measurement result values of the EVM RMS vector error measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:ERMS:LIM:STAT ON Switches the limit check for the EVM RMS-averaged vector error measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:ERMS:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:ERMS:LIMit:UPPer [:DATA] <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is 0.0, the maximum is 200.0, the resolution is 0.1, the default is value is 17.5.
Description	Sets the upper limit for the EVM RMS average vector error. The physical dimension of the number stated is percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:ERMS:LIM:UPP 200 :CALC:WCDM:RFTX:MODQ:ERMS:LIM:UPP? The query returns the previously set value 200.0.

:CALCulate:WCDMa:RFTX:MODQuality:ERMS:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:ERMS:LIMit:LOWer: [DATA] <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is 0.0, the maximum is 200.0, the resolution is 0.1, the default is value is 0.0.
Description	Sets the lower limit for the EVM RMS average vector error. The physical dimension of the number stated is percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:ERMS:LIM:LOW 200 :CALC:WCDM:RFTX:MODQ:ERMS:LIM:LOW? The query returns the previously set value 200.0.

:CALCulate:WCDMa:RFTX:MODQuality:EPEAk:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:EPEAk:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the :MEAS:WCDMA:ARR:RFTX:MODQ:EPEA measurement violated its limits.
Example	:MEAS:WCDMA:ARR:RFTX:MODQ:EPEA 20 :CALC:WCDM:RFTX:MODQ:EPEA:LIM? Returns 0 if all 20 results are within limits, or 1 if any result is outside the limits.

:CALCulate:WCDMa:RFTX:MODQuality:EPEAk:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:EPEAk:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:EPEA:LIM:STAT ON Switches the limit check for the EVM peak vector error measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:EPEAk:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:EPEAk:LIMit:UPPer:[DATA] <Real1>
Parameters	Real1 is a floating point real number. Its minimum value is 0.0, the maximum is 200.0, the resolution is 0.1 and the default is value is 50.0.
Description	Sets the upper limit for the EVM peak vector error measurement. The physical dimension of the number is stated as a percentage.
Query	There is query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:EPEA:LIM:UPP 200 :CALC:WCDM:RFTX:MODQ:EPEA:LIM:UPP? Returns 200.

:CALCulate:WCDMa:RFTX:MODQuality:EPEAk:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:EPEAk:LIMit:LOWer:[DATA] <Real1>
Parameters	Real1 is a floating point real number. Its minimum value is 0.0, the maximum is 200.0, the resolution is 0.1, the default is value is 0.0.

Description	Sets the lower limit for the EVM peak vector error measurement. The physical dimension of the number is stated as a percentage.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:MODQ:EPEA:LIM:LOW 0`
	`:CALC:WCDM:RFTX:MODQ:EPEA:LIM:LOW?`
	Returns `0` in this example.

:CALCulate:WCDMa:RFTX:MODQuality:MRMS:LIMit[:FAIL]

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:MRMS:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the `:MEAS:WCDMA:ARR:RFTX:MODQ:MRMS` measurement violated its limits.

Example	`:MEAS:WCDMA:ARR:RFTX:MODQ:MRMS 20`
	`:CALC:WCDM:RFTX:MODQ:MRMS:LIM?`
	The query returns `1` if any of the measurement results was out of limits, or `0` if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:MODQuality:MRMS:LIMit:STATe

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:MRMS:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` may take on one of the following predefined expressions: `ON|OFF`. The default is `ON`.
Description	This command switches the check of the measurement result values of the magnitude RMS vector error measurement against their user-definable limits either `ON` or `OFF`.
Query	There is a query form which returns the stored settings.
Example	`:CALC:WCDM:RFTX:MODQ:MRMS:LIM:STAT ON` Switches the limit check for the magnitude RMS-averaged vector error measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:MRMS:LIMit:UPPer[:DATA]

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:MRMS:LIMit:UPPer:[DATA] <Real1>`
Parameters	`Real1` is a floating point real number. The minimum value for parameter is `0.0`, the maximum is `200.0`, the resolution is `0.1`, the default is value is `17.5`.

Description	Sets the upper limit for the magnitude RMS average vector error. The physical dimension of the number stated is percentage.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:MODQ:MRMS:LIM:UPP 200`
	`:CALC:WCDM:RFTX:MODQ:MRMS:LIM:UPP?`
	The query returns the previously set value `200.0`.

:CALCulate:WCDMa:RFTX:MODQuality:MRMS:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:MRMS:LIMit:LOWer:[DATA] <Real1>`
Parameters	`Real1` is a floating point real number. The minimum value for parameter is `0.0`, the maximum is `200.0`, the resolution is `0.1`, the default is value is `0.0`.
Description	Sets the lower limit for the magnitude RMS average vector error. The physical dimension of the number stated is percentage.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:MODQ:MRMS:LIM:LOW 200`
	`:CALC:WCDM:RFTX:MODQ:MRMS:LIM:LOW?`
	The query returns the previously set value `200.0`.

:CALCulate:WCDMa:RFTX:MODQuality:MPEAk:LIMit[:FAIL]

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:MPEAk:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the `:MEAS:WCDMA:ARR:RFTX:MODQ:MPEA` measurement violated its limits.

Example	`:MEAS:WCDMA:ARR:RFTX:MODQ:MPEA 20`
	`:CALC:WCDM:RFTX:MODQ:MPEA:LIM?`
	Returns `0` if all 20 results are within limits, or `1` if any result is outside the limits.

:CALCulate:WCDMa:RFTX:MODQuality:MPEAk:LIMit:STATe

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:MPEAk:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the measurement against their user-definable limits either `ON` or `OFF`.
Query	There is a query form which returns the stored settings.
Example	`:CALC:WCDM:RFTX:MODQ:MPEA:LIM:STAT ON` Switches the limit check for the magnitude peak vector error measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:MPEAk:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:MPEAk:LIMit:UPPer:[DATA] <Real1>
Parameters	Real1 is a floating point real number. Its minimum value is 0.0, the maximum is 200.0, the resolution is 0.1, and the default is value is 50.0.
Description	Sets the upper limit for the magnitude peak vector error measurement. The physical dimension of the number is stated as a percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:MPEA:LIM:UPP 200 :CALC:WCDM:RFTX:MODQ:MPEA:LIM:UPP? Returns 200.

:CALCulate:WCDMa:RFTX:MODQuality:MPEAk:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:MPEAk:LIMit:LOWer:[DATA] <Real1>
Parameters	Real1 is a floating point real number. Its minimum value is 0.0, the maximum is 200.0, the resolution is 0.1, the default is value is 0.0.
Description	Sets the lower limit for the magnitude peak vector error measurement. The physical dimension of the number is stated as a percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:MPEA:LIM:LOW 0 :CALC:WCDM:RFTX:MODQ:MPEA:LIM:LOW? Returns 0 in this example.

:CALCulate:WCDMa:RFTX:MODQuality:PRMS:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:PRMS:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the :MEAS:WCDMA:ARR:RFTX:MODQ:PRMS measurement violated its limits.
Example	:MEAS:WCDMA:ARR:RFTX:MODQ:PRMS 20 :CALC:WCDM:RFTX:MODQ:PRMS:LIM? The query returns 1 if any of the measurement results was out of limits, or 0 if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:MODQuality:PRMS:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:PRMS:LIMit:STATe <PredefExp>
Parameters	PredefExp may take on one of the following predefined expressions: ON|OFF. The default is ON.
Description	This command switches the check of the measurement result values of the Phase RMS vector error measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:PRMS:LIM:STAT ON Switches the limit check for the Phase RMS-averaged vector error measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:PRMS:LIMit:UPPer:[DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:PRMS:LIMit:UPPer:[DATA] <Real1>
Parameters	Real1 is a floating point real number. The minimum value for parameter is 0.0, the maximum is 180.0, the resolution is 0.1, the default is value is 10.0.
Description	Sets the upper limit for the Phase RMS average vector error. The physical dimension of the number stated is percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:PRMS:LIM:UPP 200 :CALC:WCDM:RFTX:MODQ:PRMS:LIM:UPP? The query returns the previously set value 200.0.

:CALCulate:WCDMa:RFTX:MODQuality:PRMS:LIMit:LOWer:[DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:PRMS:LIMit:LOWer:[DATA] <Real1>
Parameters	Real1 is a floating point real number. The minimum value for parameter is 0.0, the maximum is 180.0, the resolution is 0.1, the default is value is 0.0.
Description	Sets the lower limit for the Phase RMS average vector error. The physical dimension of the number stated is percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:PRMS:LIM:LOW 200 :CALC:WCDM:RFTX:MODQ:PRMS:LIM:LOW? The query returns the previously set value 200.0.

:CALCulate:WCDMa:RFTX:MODQuality:PPEAk:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:PPEAk:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the :MEAS:WCDMA:ARR:RFTX:MODQ:PPEA measurement violated its limits.
Example	:MEAS:WCDMA:ARR:RFTX:MODQ:PPEA 20 :CALC:WCDM:RFTX:MODQ:PPEA:LIM? Returns 0 if all 20 results are within limits, or 1 if any result is outside the limits.

:CALCulate:WCDMa:RFTX:MODQuality:PPEAk:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:PPEAk:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:PPEA:LIM:STAT ON Switches the limit check for the phase peak vector error measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:PPEAk:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:PPEAk:LIMit:UPPer:[DATA] <Real1>
Parameters	Real1 is a floating point real number. Its minimum value is 0.0, the maximum is 180.0, the resolution is 0.1, and the default is value is 45.0.
Description	Sets the upper limit for the phase peak vector error measurement. The physical dimension of the number is stated as a percentage.
Query	There is query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:PPEA:LIM:UPP 200 :CALC:WCDM:RFTX:MODQ:PPEA:LIM:UPP? Returns 200.

:CALCulate:WCDMa:RFTX:MODQuality:PPEAk:LIMit:LOWer[:DATA]

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:PPEAk:LIMit:LOWer:[DATA] <Real1>`
Parameters	`Real1` is a floating point real number. Its minimum value is `0.0`, the maximum is `180.0`, the resolution is `0.1`, the default is value is `0.0`.
Description	Sets the lower limit for the Phase peak vector error measurement. The physical dimension of the number is stated as a percentage.
Query	There is a query form which returns the stored settings.

Example	`:CALC:WCDM:RFTX:MODQ:PPEA:LIM:LOW 0`
	`:CALC:WCDM:RFTX:MODQ:PPEA:LIM:LOW?`
	Returns `0` in this example.

:CALCulate:WCDMa:RFTX:MODQuality:RHO:LIMit[:FAIL]

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:RHO:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the waveform quality measurement exceeds the limits.

Example	`:MEAS:WCDMA:ARR:RFTX:MODQ:RHO? 1`
	`:CALC:WCDM:RFTX:MODQ:RHO:LIM?`
	The query returns `1` if any of the measurement results was out of limits, or `0` if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:MODQuality:RHO:LIMit:STATe

Syntax	`:CALCulate:WCDMa:RFTX:MODQuality:RHO:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` is one of the following predefined expressions: `ON|OFF`. Default is `ON`.
Description	This command switches the check of the measurement result values of the waveform quality measurement against their user-definable limits either `ON` or `OFF`.
Query	There is no query form of this command available.
Example	`:CALC:WCDM:RFTX:MODQ:RHO:LIM:STAT ON` Switches the limit check for the waveform quality measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:RHO:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:RHO:LIMit:UPPer[:DATA] <Real1>
Parameters	Real1 is a floating point real number. The minimum value for this parameter is 0.0, the maximum is 1.0, the resolution is 0.0001, the default is value is 1.0.
Description	Sets the upper limit for the waveform quality measurement.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:RHO:LIM:UPP 1.0 :CALC:WCDM:RFTX:MODQ:RHO:LIM:UPP? Returns 1.0.

:CALCulate:WCDMa:RFTX:MODQuality:RHO:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:RHO:LIMit:LOWer[:DATA] <Real1>
Parameters	Real1 is a floating point real number. The minimum value for this parameter is 0.0, the maximum is 1.0, the resolution is 0.0001, the default is value is 0.944.
Description	Sets the lower limit for the waveform quality measurement.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:RHO:LIM:LOW 0.944 :CALC:WCDM:RFTX:MODQ:RHO:LIM:LOW? Returns 0.944.

:CALCulate:WCDMa:RFTX:MODQuality:IQOFfset:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:IQOFfset:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the origin offset measurement exceeds the limits.
Example	:MEAS:WCDMA:ARR:RFTX:MODQ:IQOF? 20 :CALC:WCDM:RFTX:MODQ:IQOF:LIM? The query returns 1 if any of the measurement results was out of limits, or 0 if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:MODQuality:IQOFfset:LIMit :STATe

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:IQOFfset:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. The default is ON.
Description	This command switches the check of the measurement result values of the origin offset measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:WCDM:RFTX:MODQ:IQOF:LIM:STAT ON Switches the limit check for the origin offset measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:IQOFfset:LIMit :UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:IQOFfset:LIMit:UPPer[:DATA] <Real1>
Parameters	Real1 is a floating point real number. The minimum value for parameter is -120.0, the minimum is 0.0, the resolution is 0.1, the default is value is -15.0.
Description	Sets the upper limit for the origin offset measurement. The physical dimension of the number stated is dBc.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:IQOF:LIM:UPP 0 :CALC:WCDM:RFTX:MODQ:IQOF:LIM:UPP? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:MODQuality:IQOFfset:LIMit :LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:IQOFfset:LIMit:LOWer[:DATA] <Real1>
Parameters	Real1 is a floating point real number. Its minimum value is -120.0, the maximum is 0.0, the resolution is 0.1, the default is value is -120.0.
Description	Sets the lower limit for the origin offset measurement. The physical dimension of the number stated is dBc.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:IQOF:LIM:LOW -60.0 :CALC:WCDM:RFTX:MODQ:IQOF:LIM:LOW? Returns -60.0.

:CALCulate:WCDMa:RFTX:MODQuality:IQIMbalance:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:IQIMbalance:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the IQ imbalance measurement exceeds the limits.
Example	:MEAS:WCDMA:ARR:RFTX:MODQ:IQIM? 20 :CALC:WCDM:RFTX:MODQ:IQIM:LIM? The query returns 1 if any of the measurement results was out of limits, or 0 if none of the results was out of limits.

:CALCulate:WCDMa:RFTX:MODQuality:IQIMbalance:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:IQIMbalance:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the IQ imbalance measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:WCDM:RFTX:MODQ:IQIM:LIM:STAT ON Switches the limit check for the IQ imbalance measurement on.

:CALCulate:WCDMa:RFTX:MODQuality:IQIMbalance:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:IQIMbalance:LIMit:UPPer[:DATA] <Real1>
Parameters	Real1 is a floating point real number. The minimum value for parameter is -120.0, the maximum is 0.0, the resolution is 0.1, the default is value is -25.0.
Description	This command sets the upper limit for the IQ imbalance measurement. The physical dimension of the number stated is dB.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:IQIM:LIM:UPP 0 :CALC:WCDM:RFTX:MODQ:IQIM:LIM:UPP? Returns 0.

:CALCulate:WCDMa:RFTX:MODQuality:IQIMbalance:LIMit :LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:MODQuality:IQIMbalance:LIMit :LOWer[:DATA] <PredefExp>
Parameters	PredefExp is a floating point real number. The minimum value is -120.0, the maximum is 0.0, the resolution is 0.1, the default is value is -120.0.
Description	This command sets the lower limit for the IQ imbalance measurement. The physical dimension of the number stated is dB.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:MODQ:IQIM:LIM:LOW -99.0 :CALC:WCDM:RFTX:MODQ:IQIM:LIM:LOW? Returns -99.0.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFTX:INNErloop:LIMit[:FAIL]
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a string of as many boolean numbers as slots should be evaluated. They indicate if the inner loop power control measurement do exceed their limits in the respective slot.
Example	:MEAS:WCDM:ARR:RFTX:INNE? 10 :CALC:WCDM:RFTX:INNE:LIM? The query returns a boolean number for every evaluated slot. The numbers are seperated with commas. The number is 1, if the measurement result in this slot was out of limits, or 0 if the result was within the limits.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFTX:INNErloop:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the inner loop Power Control measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:WCDM:RFTX:INNE:LIM:STAT ON Switches the limit check for the inner loop power control ratio measurement on.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCUp :UPPer

Syntax	:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCUp:UPPer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is 0.0, the maximum is 3.0, the resolution is 0.1, the default is value is 1.5.
Description	Sets the upper limit for TPC_cmd +1 for the 1 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCU:UPP 0 CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCU:UPP? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCUp :LOWer

Syntax	CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCUp:LOWer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is 0.0, the maximum is 3.0, the resolution is 0.1, the default is value is 0.5.
Description	Sets the lower limit for TPC_cmd +1 for the 1 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCU:LOW 0 CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCU:LOW? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCDown :UPPer

Syntax	:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCDown :UPPer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is -3.0, the maximum is 0.0, the resolution is 0.1, the default is value is -0.5.
Description	Sets the upper limit for TPC_cmd -1 for the 1 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCD:UPP 0 CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCD:UPP? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCDown :LOWer

Syntax	:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCDown :LOWer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is -3.0, the maximum is 0.0, the resolution is 0.1, the default is value is -1.5.
Description	Sets the lower limit for TPC_cmd -1 for the 1 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCD:LOW 0 CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCDU:LOW? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCZero :UPPer

Syntax	:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCZero: UPPer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is -1.0, the maximum is 1.0, the resolution is 0.1, the default is value is 0.5.
Description	Sets the upper limit for TPC_cmd 0 for the 1 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCZero:UPP 0 CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCZero:UPP? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCZero :LOWer

Syntax	CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBONe:TPCZero :LOWer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is -1.0, the maximum is 1.0, the resolution is 0.1, the default is value is -0.5.
Description	Sets the lower limit for TPC_cmd 0 for the 1 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCZero:LOW 0 CALCul:WCDM:RFTX:INNE:LIM:DBON:TPCZero:LOW? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBTWo:TPCUp :UPPer

Syntax	:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBTWo:TPCUp:UPPer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is 0.0, the maximum is 6.0, the resolution is 0.1, the default is value is 3.0.
Description	Sets the upper limit for TPC_cmd +1 for the 2 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBTW:TPCU:UPP 0 CALCul:WCDM:RFTX:INNE:LIM:DBTW:TPCU:UPP? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBTWo:TPCUp :LOWer

Syntax	CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBTWo:TPCUp:LOWer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is 0.0, the maximum is 6.0, the resolution is 0.1, the default is value is 1.0.
Description	Sets the lower limit for TPC_cmd +1 for the 2 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBTW:TPCU:LOW 0 CALCul:WCDM:RFTX:INNE:LIM:DBTW:TPCU:LOW? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBTWo:TPCDown :UPPer

Syntax	:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBTWo:TPCDown: UPPer <Real1>
Parameters	Real1 is a floating point real number. The minimum value for the parameter is -6.0, the maximum is 0.0, the resolution is 0.1, the default is value is -1.0.
Description	Sets the upper limit for TPC_cmd -1 for the 2 dB step.
Query	There is a query form which returns the stored settings.
Example	CALCul:WCDM:RFTX:INNE:LIM:DBTW:TPCD:UPP 0 CALCul:WCDM:RFTX:INNE:LIM:DBTW:TPCD:UPP? Returns 0 in this case.

:CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBTWo:TPCDown:LOWer

Syntax	`CALCulate:WCDMa:RFTX:INNErloop:LIMit:DBTWo:TPCDown:LOWer <Real1>`
Parameters	`Real1` is a floating point real number. The minimum value for the parameter is `-6.0`, the maximum is `0.0`, the resolution is `0.1`, the default is value is `-3.0`.
Description	Sets the lower limit for TPC_cmd -1 for the 2 dB step.
Query	There is a query form which returns the stored settings.

Example	`CALCul:WCDM:RFTX:INNE:LIM:DBTW:TPCD:LOW 0`
	`CALCul:WCDM:RFTX:INNE:LIM:DBTW:TPCDU:LOW?`
	Returns `0` in this case.

:CALCulate:WCDMa:RFTX:OPEN:LIMit[:FAIL]

Syntax	`:CALCulate:WCDMa:RFTX:OPEN:LIMit[:FAIL]?`
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the :MEAS:WCDMA:RFTX:OPEN measurement violated the defined limits.

Example	`:MEAS:WCDMA:RFTX:OPEN`
	`:CALC:WCDM:RFTX:OPEN:LIM?`
	The query returns `1` if the measurement result was out of limits, or a `0` if the result was not out of limits.

:CALCulate:WCDMa:RFTX:OPEN:LIMit:STATe

Syntax	`CALCulate:WCDMa:RFTX:OPEN:LIMit:STATe <PredefExp>`
Parameters	`PredefExp` can take on one of the following values: `ON|OFF`. The default is `ON`.
Description	This command switches the check of the measurement result values of the open loop power measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	`:CALC:WCDM:RFTX:OPEN:LIM:STAT ON` Switches the limit check for the open loop power measurement on.

:CALCulate:WCDMa:RFTX:OPEN:LIMit:RELative[:DATA]

Syntax	:CALCulate:WCDMa:RFTX:OPEN:LIMit:RELative[:DATA] <real>
Parameters	real is a floating point real number. Its minimum value is 0.0, the maximum is 15.0, the resolution is 0.1 and the default is 9.0.
Description	Sets the lower and upper limit for the mobile's open loop power. The physical dimension of the number is stated as dB relative to the estimated Preamble Initial Power. If the value is set to 9.0 the lower limit is set to -9.0dB and the upper is set to +9dB relative to estimated preamble initial power.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFTX:OPEN:LIM:REL 9.0 :CALC:WCDM:RFTX:OPEN:LIM:REL? Returns 9.0.

:CALCulate:WCDMa:RFSPectrum:ACLR:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFSPectrum:ACLR:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the adjacent channel leakage power ratio measurement exceeds the limits.
Example	:MEAS:WCDMA:ARR:RFSP:ACLR? 20 :CALC:WCDM:RFSP:ACLR:LIM? The query returns 1 if any of the measurement results was out of limits, or 0 if none of the results was out of limits.

:CALCulate:WCDMa:RFSPectrum:ACLR:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFSPectrum:ACLR:LIMit:STATe <PredefExp>
Parameters	PredefExp is one of the following predefined expressions: ON|OFF. Default is ON.
Description	This command switches the check of the measurement result values of the adjacent channel leakage power ratio measurement against their user-definable limits either ON or OFF.
Query	There is no query form of this command available.
Example	:CALC:WCDM:RFSP:MSP:ACLR:STAT ON Switches the limit check for the adjacent channel leakage power ratio measurement on.

:CALCulate:WCDMa:RFSPectrum:ACLR:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFSPectrum:ACLR:LIMit:UPPer[:DATA] <Real1>,<Real2>,<Real3>
Parameters	Realx are floating point real numbers. The minimum value for the parameters is -120.0, the maximum is 0.0, the resolution is 0.1, the default value is for Real1 -33.0, for Real2 -43.0 and for Real3 -50.0.
Description	This command sets the upper limits for the adjacent channel leakage power ratio measurement. Real1 represents the 5 MHz lines in dBc and Real2 represents the 10 MHz lines also in dBc. Real3 represents the minimum power of the center frequency in dBm where this upper limits are valid.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFSP:ACLR:LIM:UPP -20.0,-25.0,-70.0 :CALC:WCDM:RFSP:ACLR:LIM:UPP? Returns -20.0,-25.0,-70.0.

:CALCulate:WCDMa:RFSPectrum:ACLR:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFSPectrum:ACLR:LIMit:LOWer[:DATA] <Real1>,<Real2>
Parameters	Realx are floating point real numbers. The minimum value for the parameters is -120.0, the maximum is 0.0, the resolution is 0.1, the default value is for both values -120.0.
Description	This command sets the lower limits for the adjacent channel leakage power ratio measurement. The physical dimension of the number stated is dBc. Real1 represents the 5 MHz lines and Real2 represents the 10 MHz lines.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFSP:ACLR:LIM:LOW -60.0,-65.0 :CALC:WCDM:RFSP:ACLR:LIM:LOW? Returns -60.0,-65.0.

:CALCulate:WCDMa:RFRX:BER:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFRX:BER:LIMit[:FAIL]?
Parameters	There are no parameters.
Description	There is only a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the :MEAS:WCDMA:ARR:RFRX:BER measurement violated the defined limits.
Example	:MEAS:WCDMA:ARR:RFRX:BER 20 :CALC:WCDM:RFRX:BER:LIM? The query returns 1 if any of the 20 measurement results was out of limits, or 0 if none of the results was out of limits.

:CALCulate:WCDMa:RFRX:BER:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFRX:BER:LIMit:STATe <PredefExp>
Parameters	PredefExp can take on one of the following values: ON|OFF. The default is ON.
Description	This command switches the check of the measurement result values of the BER measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFRX:BER:LIM:STAT ON Switches the limit check for the BER measurement on.

:CALCulate:WCDMa:RFRX:BER:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFRX:BER:LIMit:UPPer[:DATA] <real>
Parameters	real is a floating point real number. Its minimum value is 0.0, the maximum is 50.0, the resolution is 0.1 and the default is 0.1.
Description	Sets the upper limit for the mobile's Bit Error Rate. The physical dimension of the number is stated as a percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFRX:BER:LIM:UPP 2.5 :CALC:WCDM:RFRX:BER:LIM:UPP? Returns 2.5.

:CALCulate:WCDMa:RFRX:BER:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFRX:BER:LIMit:LOWer[:DATA] <real>
Parameters	real is a floating point real number. Its minimum value is 0.0, the maximum is 1.0, the resolution is 0.1 and the default is 0.0.
Description	Sets the lower limit for the mobile's Bit Error Rate. The physical dimension of the number is stated as a percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFRX:BER:LIM:LOW 0.0 :CALC:WCDM:RFRX:BER:LIM:LOW? Returns 0.0.

:CALCulate:WCDMa:RFRX:BLER:LIMit[:FAIL]

Syntax	:CALCulate:WCDMa:RFRX:BLER:LIMit[:FAIL]?
Parameters	There are no parameters.

Description	There is solely a query form of this command available.
Query	This command delivers a boolean number in a string which indicates if the :MEAS:WCDMA:ARR:RFRX:BLER measurement violated the defined limits.
Example	:MEAS:WCDMA:ARR:RFRX:BLER 20 :CALC:WCDM:RFRX:BLER:LIM? The query returns 1 if any of the 20 measurement results was out of limits, or 0 if none of the results was out of limits.

:CALCulate:WCDMa:RFRX:BLER:LIMit:STATe

Syntax	:CALCulate:WCDMa:RFRX:BLER:LIMit:STATe <PredefExp>
Parameters	PredefExp can take on one of the following values: ON|OFF. The default is ON.
Description	This command switches the check of the measurement result values of the Bler measurement against their user-definable limits either ON or OFF.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFRX:BLER:LIM:STAT ON Switches the limit check for the Bler measurement on.

:CALCulate:WCDMa:RFRX:BLER:LIMit:UPPer[:DATA]

Syntax	:CALCulate:WCDMa:RFRX:BLER:LIMit:UPPer[:DATA] <real>
Parameters	real is a floating point real number. Its minimum value is 0.0, the maximum is 100.0, the resolution is 0.1 and the default is 0.1.
Description	Sets the upper limit for the mobile's Block Error Rate. The physical dimension of the number is stated as a percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFRX:BLER:LIM:UPP 2.5 :CALC:WCDM:RFRX:BLER:LIM:UPP? Returns 2.5.

:CALCulate:WCDMa:RFRX:BLER:LIMit:LOWer[:DATA]

Syntax	:CALCulate:WCDMa:RFRX:BLER:LIMit:LOWer[:DATA] <real>
Parameters	real is a floating point real number. Its minimum value is 0.0, the maximum is 1.0, the resolution is 0.1 and the default is 0.0.
Description	Sets the lower limit for the mobile's Block Error Rate. The physical dimension of the number is stated as a percentage.
Query	There is a query form which returns the stored settings.
Example	:CALC:WCDM:RFRX:BLER:LIM:LOW 0.0 :CALC:WCDM:RFRX:BLER:LIM:LOW? Returns 0.0.

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Wireless Telecom Group Sales Offices

Willtek Communications GmbH
Ismaning
Germany
Tel: +49 (0)89 99641-0
Fax:+49 (0)89 99641-440
info@willtek.com

Cheadle Hulme, Chesire
United Kingdom
Tel: +44 (0)161 486 3353
Fax:+44 (0)161 486 3354

Roissy
France
Tel: +33 (0)1 72 02 30 30
Fax:+33 (0)1 49 38 01 06

Parsippany, NJ
USA
Tel: +1 973 386 9696
Fax:+1 973 386 9191

Singapore
Asia Pacific
Tel: +65 6827 9670
Fax:+65 6827 9601

Shanghai
China
Tel: +86 21 5835 8039
Fax:+86 21 5835 5238

Manual ident: M 293 003
Manual version: 0906-110-A

Wireless Telecom Group
Boonton Microlab Noisecom Willtek