



## Anritsu Wireless and RF/Microwave Solutions Guide

Your guide to the most comprehensive testing solutions for signal generation and signal analysis based on all the major global wireless standards, including 2.5G and 3G. Whether it is in a lab, on the manufacturing floor, or in the field, Anritsu provides the testing solution to meet your needs.



## > Site Master™

### Site Master™ S331C and the S332C Cable and Antenna Analyzers (25 MHz to 4.0 GHz)



This site management tool is designed to accurately locate and identify RF cable feed-line and antenna system faults.

- Measurement Capability Includes: Return Loss, VSWR, Cable Loss and Long Range, High Resolution Distance-to-Fault
- Industry leading immunity to RF interference
- Pop-up cable menus containing over 70 cable types
- Multilingual User Interface; English, French, Chinese, Japanese, Spanish, German
- Intuitive and easy to use with On-Screen Test Set-Ups
- Built-in spectrum analysis capability (100 kHz to 3.0 GHz, S332C only)

### Site Master S113C and S114C Cable and Antenna Analyzers (5 MHz to 1.6 GHz)



This site management tool is designed to accurately locate and identify RF cable feed-line and antenna system faults.

- Measurement Capability Includes: Return Loss, VSWR, Cable Loss and Long Range, High Resolution Distance-to-Fault
- Industry leading immunity to RF interference
- Pop-up cable menus containing over 70 cable types
- Multilingual User Interface; English, French, Chinese, Japanese, Spanish, German
- Intuitive and easy to use with On-Screen Test Set-Ups
- Built-in spectrum analysis capability (100 kHz to 1.6 GHz, S114C only)

### Site Master S251C Cable and Antenna Analyzer (625 MHz to 2.5 GHz)



This site management tool is designed to accurately locate and identify cable and antenna system faults and conduct tower mounted amplifier gain measurements. This model is ideally suited for users working in cellular, PCS/GSM and ISM applications.

- Accurately Tests Tower Mounted Amplifiers
- Built-in Bias Tee (Option 10A)
- Measurement Capability Includes: TMA Gain/Isolation, Return Loss, VSWR, Cable Loss and Long Range, High Resolution Distance-to-Fault
- Industry leading immunity to RF interference
- Pop-up cable menus containing over 70 cable types
- Multilingual User Interface; English, French, Chinese, Japanese, Spanish, German
- Intuitive and easy to use with On-Screen Test Set-Ups

### Site Master S820A Microwave Cable/Waveguide and Antenna Analyzer (3.3 GHz to 20 GHz)



This site management tool is designed to accurately locate and identify cable/waveguide and antenna system faults. This model is ideally suited for users working in point-to-point, point-to-multipoint radio systems ranging from 3.3 GHz to 20 GHz.

- Test Both Waveguide and Coaxial Cable Systems
- Industry leading immunity to On-Channel Interference for Testing at Co-Located Antenna Sites
- Measurement Capability Includes Return Loss, VSWR, Cable Loss, and Distance-to-Fault

## › *Spectrum Analyzers & Power Meters*

### **MS2711B Handheld Spectrum Analyzer (100 kHz to 3.0 GHz)**



This handheld, battery-operated spectrum analyzer is ideal for field environments and applications that require mobility. Featuring exceptional performance combined with ease-of-use and broad functionality, the MS2711B simplifies the task of solving RF system related problems like coverage and interference – **anywhere, anytime**.

- Optional, built-in preamplifier extends instrument sensitivity to -115 dBm
- Optional, built-in tracking generator
- Wide Dynamic Range
- Synthesized Based Performance delivers repeatable, accurate results
- Dedicated one-button measurements (channel power, ACPR, OBW, and field strength)
- Field proven ruggedness
- Lightweight at 4.9 Lbs.

### **MS2668C Spectrum Analyzer (9 kHz to 40.0 GHz)**



Economically priced, portable, and lightweight spectrum analyzer has excellent noise level performance, is ideal for applications requiring wide dynamic range in evaluating RF, microwave/millimeter wave devices and systems.

- Compact and lightweight -15 kg (6.8 lbs.) in standard configuration
- High C/N and superior distortion characteristics
- Easy-to-use, simple operation

### **MS2681A/2683A Spectrum Analyzer (9 kHz to 3.0/7.8 GHz)**



These high performance portable spectrum analyzers are designed to evaluate next generation radio communication systems and devices.

- Wide resolution bandwidth (20 MHz)
- Wide dynamic range of 156 dB (typ.)
- High-speed sweep (20/times refresh rate)
- Built-in 2 dB step attenuator

### **MS2663C Spectrum Analyzer (9 kHz to 8.1 GHz)**



This portable spectrum analyzer allows measurement of spurious frequencies of up to three times greater than the frequency bands used worldwide for mobile communications.

- High C/N and superior distortion characteristics
- Frequency counter, C/N, ACP, OBW, burst average power, and template decision function
- Two-screen display and FM demodulation waveform display
- Option support wide range of applications

### MS2651B, MS2661B/C Spectrum Analyzer (9 kHz to 3.0 GHz)



This portable spectrum analyzer is for use in signal analysis of radio and other equipment related to improving frequency usage efficiency, higher modulation, and digitalization. The MS2651B is tailored for field maintenance applications and MS2661B/C are best suited for manufacturing applications.

- Automatic Measurement function for common device and system parameters
- Zone markers and multimarkers, and zone sweep and multi-zone sweep function
- FM demodulated waveform display function
- Multi-screen display

### ML2407A/2408A Power Meter (10 MHz to 6.0/18.0 GHz)



The combination of ML2407A/08A (single/dual channel) power meter and MA2468A/69A fast diode sensor (10 MHz to 6.0/18.0 GHz) is an ideal solution for accurate N-CDMA and narrow pulse power measurements.

- Crest factor, peak power and average power measurements
- 80 dB dynamic range (+20 dBm to -60 dBm)
- Pulse down to 1  $\mu$ s can be captured with sensor rise time of 0.6  $\mu$ s
- 6-hour battery operation

## › Communication Testers

### MS8608A/8609A Digital Mobile Radio Transmitter Tester (9 kHz to 7.8/13.2 MHz)



Has excellent performance for evaluating W-CDMA modulation signals which makes it ideal for the development and manufacture of W-CDMA radio transmitters (base station and mobile).

- Broadband signal support (up to IMT-2000 2 Mbit/s)
- GSM/EDGE measurements are also supported

### MT8801C Radio Communication Analyzer (300 kHz to 3.0 GHz)



Designed to evaluate AMPS/PCS1900, CDMA 2000, GSM 400/900/1800/1900, GPRS, HSCSD, DECT, IS95, IS-136A, PDC, and PHS communication systems in a single unit.

- Performs all basic transmission and reception measurements (including loopback)
- Call processing test e.g., call set-up, hand-off (dual band mode)
- High-speed Batch "measurement all" items with "pass/fail" judgment (<2sec)
- Analog measurement, spectrum analyzer available by option

### MT8802A Radio Communication Analyzer (300 kHz to 3.0 GHz)



Supports the test needs of the manufacturing, R&D, and maintenance markets in multiformat testing including IS-95, GSM, DCS 1800/PCS 1900, IS-136A, AMPS/NAMPS, PDC, and PHS.

- Integrated tester for measurement of IS-95 cellular phones
- Performs all basic transmission and reception measurements (including loopback)
- Call processing tests e.g., call set-up, hand-off (dual band mode)
- Eight test instruments integrated into a single package

### MT8820A Radio Communication Analyzer (30 MHz to 2.7 GHz)



A single instrument design for both R&D and manufacturing in evaluating 3G W-CDMA UE connection test and transmit/receive characteristics.

- Advance high-speed measurement method and "one-touch" batch measurement operating mode
- 3GPP call processing: Registration, Origination, Termination, etc.
- 12 Transmitter measurement items including Modulation analysis; ACPR and Peak code domain error according to 3GPP TS34.121
- Bit Error Rate (BER) and Block Error Rate (BLER) receiver measurement using 3GPP loopback method

### MD8480B W-CDMA Signaling Tester (Tx -2110 MHz to 2170 MHz, Rx -1920 MHz to 1980 MHz)



Ideal instrument designed specifically for the developing and testing 3GPP W-CDMA mobile telephones (UE) and application software.

- Modulation/demodulation tests for W-CDMA mobile phones
- Configurable for up to 3 Base stations for Hand-over testing etc.
- Protocol sequence tests for W-CDMA mobile phone e.g., Call set-up, registration etc.

## › Signal Generators

### MG3681A Digital Signal Generator (250 kHz to 3.0 GHz)



A high-performance digital modulation signal generator that incorporates a broadband vector modulator.

- Excellent adjacent channel power characteristics (-68 dBc/Ch at 5 MHz and -75 Bc/Ch at 10 MHz)
- Superior AM and FM analog modulation functions for testing conventional analog communications systems
- High-resolution output level setting of 0.01 dB
- Options to support for various digital modulation types including 3GPP, GSM, cdmaOne

### MG3671A/3672A Digital Modulation Signal Generator (300 kHz to 2.75 GHz)



Digital modulation signal generators equipped with a high-performance quadrature modulator. They output the signals needed to develop, test, and evaluate digital mobile communications equipment and related devices with expansion units.

- Compatible with Japan, North America, and Europe communication system measurement signals
- High modulation accuracy (1.8% rms vector error)
- Outputs modulation signals suited to each communication system
- Internal pattern generator with data-editing and scrambling functions

### MG3633A Synthesized Signal Generator (10 kHz to 2.7 GHz)



Excellent frequency resolution, frequency switching speed, signal purity, and a high output level, in addition to amplitude, frequency, and phase modulation functions.

- Low Phase Noise -140 dBc/Hz (CW, 1.1 GHz, offset 20 kHz)
- High accuracy and high-output level
- Power output range -143 to +23 dBm (Resolution: 0.1 dB)
- Modulation characteristics (AM, FM, ØM, and a combination of all three modulation functions)

### MG3641A/3642A Synthesized Signal Generator (125 kHz to 1040/2080 MHz)



With high signal purity, these signal generators are ideal for radio receivers interference testing, as sources for various local and reference signals.

- 0.01 Hz, 0.01 dB setting resolution
- High signal purity (-100 dBc spurious)
- SSB phase noise of better than -130 dBc/Hz (1 GHz, 20 kHz offset)
- Power output range -143 to +17 dBm (settable range: -143 to +23 dBm)
- AM and FM modulation, Pulse Modulation is available as an option

## › Component Testers

### ME7840A Power Amplifier Test Systems (800 MHz to 2.4 GHz)



With power handling capabilities up to 100 Watts, this turn-key system dramatically simplifies the test complexity of both base station and handset power amplifiers between 800 and 2400 MHz.

- Improved accuracy, throughput, and ease-of-use using an innovative single connection approach
- Reveal true power amplifier performance with automated power sweep measurements
- Flexibility to also measure Adjacent Channel Power Ratio (ACPR) for CDMA and W-CDMA protocols

### Scorpion® MS4623D Vector Network Measurement System (10 MHz to 6.0 GHz)



Accurately characterize wireless components with versatile upgrades that provide noise figure, harmonics, and intermodulation distortion (IMD) measurements. Using the Scorpion® reduces test cost because it is like having five instruments in one.

- Integrated simulator allows measurements of balanced devices like SAW filters and integrated circuits
- Two integrated synthesizers simplify amplifier and mixer characterizations
- Satisfy 2.5G, 3G, and 802.11a requirements with noise figure capabilities to 6 GHz

### MT8850A Bluetooth Test Set (2.4 GHz to 2.5 GHz)



The leading test instrument for Bluetooth radio layer measurements, the MT8850A continues to offer customers the best solution for testing Bluetooth radios.

- Single key testing using the "Run" hard-key
- Automated scripted testing
- Full compliance to the RF test specifications
- Full dirty transmitter implementation

### ME7865A Bluetooth Pre-Qualification Test System



Offering the most cost-effective, compact integrated solution (test instruments and test case software) in characterizing Bluetooth radios.

- Addresses all 16 test cases as defined in Bluetooth RF test specification and frequencies up to 3 GHz. Higher frequency capability is provided by options
- Test management software provides fully automated creation and execution of test cases
- Automatic path calibration to assure measurement accuracy

## › Additional Test Equipment

### MP1201C Error Test Rate (40 Hz to 1.2 MHz)

MP1201C is a compact and easy-to-use Error Rate Tester operates at a clock frequency of 40 Hz to 1.2 MHz, an ideal instrument for R&D, Manufacturing and Maintenance of Digital Systems.



- Bit Error Rate and error pulse count measurement
- Pseudo-random (PN9, PN15) and fixed (1010 - -) pattern measurement
- Error insertion
- Auto sync ON/OFF
- Printer output

### ML8720B W-CDMA Area Tester (2110 MHz to 2200 MHz)



For W-CDMA Base Station Area Optimization.

- Handy size and battery-operated
- High-speed and high-accuracy area analysis
- Correlation with GPS positioning data
- RSCP, Ec/No, and SIR measurement

### MF2412B/13B/14B Microwave Frequency Counter (10 Hz to 20.0/27.0/40.0 GHz)



Ideal for evaluating mobile radio communications devices and circuits, with the ability to measure the carrier frequency and pulse width of burst signals.

- Measures carrier frequency and pulse width of burst signals
- Analog frequency display
- Pass/fail evaluation of specified frequency range using template function
- Measurement of any burst section using gating function



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May 2002  
Printed in USA

