

# 2025 PXI Product Catalog

Integrating Innovative Technology  
Reduce the Cost of RF Testing



**MVIT TECHNOLOGY**

A Subsidiary of SMTC Corporation

[WWW.MVIT-ELECTRIC.COM](http://WWW.MVIT-ELECTRIC.COM)

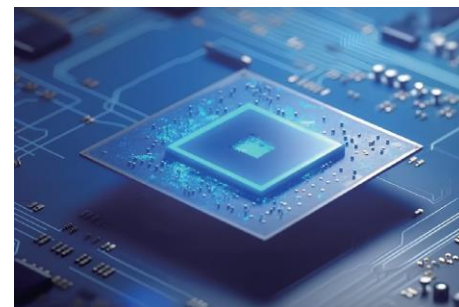
Focus • Innovation



# About MVIT TECH

## Introduction

MVIT TECHNOLOGY is engaged in the research, development, production, and sales of modular test and measurement instruments, microwave solid-state power amplifiers, and specialized test systems. Its current main products are modular instruments based on PXI, broadband power amplifiers, and semiconductor device testing systems. The company specializes in the field of RF chip testing, focusing on core technologies and product development such as RF broadband signal transmission and reception, high-speed, high-precision data acquisition, RF power amplification, and cloud-based testing control platforms. It provides independent and controllable comprehensive backend testing solutions for RF chips, modules, and microsystems in terminal devices.



## Vision

The company adheres to a focused strategic development approach, upholding a business model of "interaction between industrial technology and market, creating long-term customer value" and a market model of "market-driven, technology-driven, product-driven." With technology research and development as its backbone and modern management as its means, it wholeheartedly provides stable and reliable products, first-class solutions, and high-quality services to its customers.

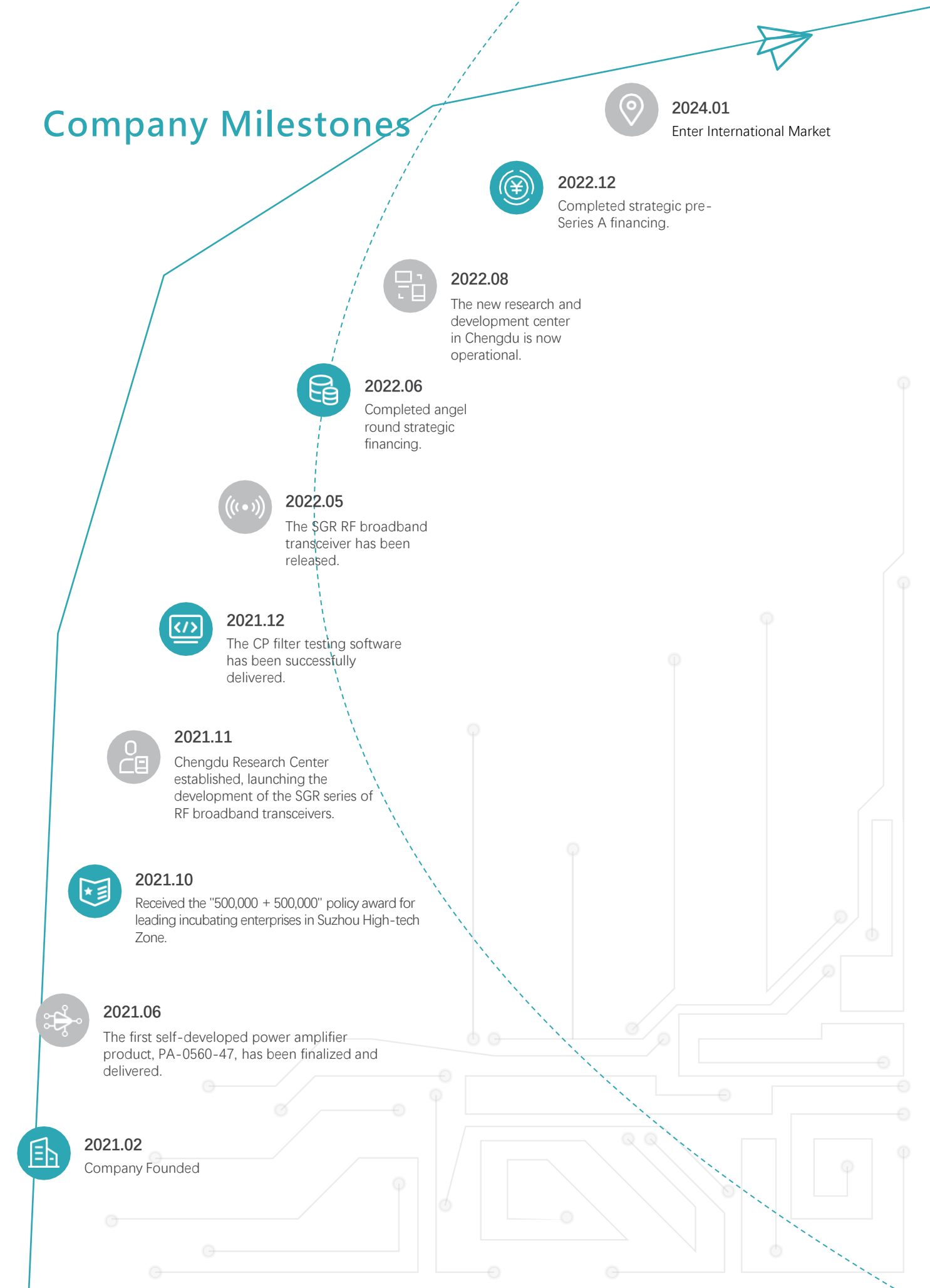


## Awards





# Company Milestones



**2024.01**  
Enter International Market

**2022.12**  
Completed strategic pre-Series A financing.

**2022.08**  
The new research and development center in Chengdu is now operational.

**2022.06**  
Completed angel round strategic financing.

**2022.05**  
The SGR RF broadband transceiver has been released.

**2021.12**  
The CP filter testing software has been successfully delivered.

**2021.11**  
Chengdu Research Center established, launching the development of the SGR series of RF broadband transceivers.

**2021.10**  
Received the "500,000 + 500,000" policy award for leading incubating enterprises in Suzhou High-tech Zone.

**2021.06**  
The first self-developed power amplifier product, PA-0560-47, has been finalized and delivered.

**2021.02**  
Company Founded

## Contents

Introduction..... 01

Milestones..... 03

### Part I PXI Series

VNA..... 06

VST..... 07

RSG..... 13

Up/Down Converter..... 15

High Speed SSD Hard Drive..... 20

Oscilloscope..... 21

DMM..... 23

PPMU..... 26

SMU..... 27

Avionics Communication Module..... 28

PXI Chassis..... 31

PXI Controller..... 32

VNA-CALIBRATOR..... 33

### Part II Solutions

All-in-one Sorting and Testing Machine..... 36

High Speed Cable Testing System..... 38

# SNA3308

## Vector Network Analyzer

### Product Overview

The SNA3308 is a vector network analyzer (VNA) covering a frequency range of 10 MHz to 8.5 GHz. This model integrates 4 ports into a single device, making it suitable for RF performance test of cables, PCBs, filters, and more.

The SNA3308 features a PXIe standard 3U design, compressing the 4-channel VNA into just 2 slots. This design effectively saves space and reduces costs, making it ideal for highly integrated and automated test systems. It enhances test efficiency and simplifies scaling.

This vector network analyzer is designed to meet diverse testing needs, including laboratory measurements, production line testing, and on-site portable testing.



PART I

PXI Series

### Technical Parameters

Vector Network Analyzer		
Model		SNA3308
Bus Interface		PXIe
Size		PXIe 2 slot
Frequency	Frequency Range	10MHz-8.5GHz
	Frequency Resolution	1Hz
	Full Frequency Accuracy	±5 ppm
Power	Power Range	-30 dBm ~ +5dBm
	Power Accuracy	±1.5 dB
	Power Resolution	0.05dB
Harmonic Distortion		-20dBc
Non-harmonic Spurious		-20dBc
Damage Level		> +26dBm
Noise Floor		-125dBm/Hz
Trace Noise Magnitude (If Bandwidth 1 kHz)		0.003 dB rms
Trace Noise Phase (If Bandwidth 1 kHz)		0.05 deg rms
Directivity		45dB
Source Match		40dB
Load Match		45dB

# SGR3006/3008

## Vector Signal Transceiver

### Product Overview

The SGR series PXIe RF vector signal transceiver module integrates the functions of RF wideband vector signal reception and generation. With high integration and flexibility in usage, it supports PXIe system modular reconfigurable configurations.

The frequency range covers 300MHz to 8GHz, with a maximum instantaneous signal bandwidth of up to 1GHz. It features versatile general modulation and demodulation capabilities, as well as 3GPP standard communication modulation and demodulation functionalities. Optional hardware modulation and demodulation capabilities are available, providing the required performance to rapidly and efficiently address RF chip testing challenges both now and in the future.



### Product Performance

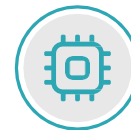
RF Input Performance	
Frequency Range	300MHz~8GHz
Channel Qty	1
Maximum Instantaneous Bandwidth	1GHz
Maximum Input Power	+30dBm
Input Impedance	50Ω
Coupling Method	AC

RF Output Performance	
Frequency Range	300MHz~8GHz
Channel Qty	1
Maximum Instantaneous Bandwidth	1GHz
Maximum Output Power	+25dBm
Output Impedance	50Ω
Coupling Method	AC
Output EVM	≤ -40dB

### Main Function

- Analysis and Generation of Broadband Signals
- Rich User Example Library
- PXI Express interface
- General Modulation and Demodulation Functionality: ASK,PSK,QAM
- API driver, Support for Application development.
- Standard Communication Modulation and Demodulation Functionality: 5G NR, WiFi6e

### Application Field



Semi-Conductor Testing



Radar and Satellite Communication



Instrumentation and Equipment Manufacturing



Automated Testing

### Physical Characteristics

- 2 slots |3U PXIe |Size: 210mm × 40.3mm × 128.65mm
- Weight: <1.0kg
- Working Temperature: 0°C to 50°C

### RF Wideband Signal Analysis Performance

#### Frequency Range

300MHz~8GHz

#### Storage Depth

1GSa (512MSa for I/Q Data)

#### Maximum Analysis Bandwidth

300MHz~350MHz	(Carrier Frequency -300) * 2 MHz
350MHz~760MHz	100MHz
760MHz~900MHz	200MHz
900MHz~8GHz	1000MHz

#### Trigger

Trigger Source	External Trigger, Software Trigger, PXIe Backpanel Trigger
Triggering Modes	Rising Edge, Falling Edge

#### Amplitude Range and Accuracy

Maximum Input Power	+30dBm
---------------------	--------

#### Amplitude Accuracy of Continuous Wave Absolute

	Typical Value
300MHz~8GHz	±1.5dB

#### Display Average Noise Level (DANL)

Center Frequency (Test Conditions: Input terminal connected to a 50Ω load; normalized to a 1Hz bandwidth.)	Reference Level -30dBm
300MHz~8GHz	≤ -145dBm/Hz

### Non-Harmonic Spurious

Input Power 0 dBm  $\leq -60\text{dBc @ 1GHz}$

### LO Leakage Power/Residual Power

1GHz  $\leq -50\text{dBm}$   
 3.5GHz  $\leq -48\text{dBm}$   
 5.9GHz  $\leq -40\text{dBm}$

### Third Order Intermodulation IIP3

500MHz 30dBm (Reference Level -5dBm, Input Power-10dBm)  
 1GHz 30dBm (Reference Level -5dBm, Input Power-10dBm)  
 3.5GHz 30dBm (Reference Level -5dBm, Input Power-10dBm)  
 5.9GHz 30dBm (Reference Level -5dBm, Input Power-10dBm)

### RF Wideband Signal Generation Performance

#### Frequency Range

300MHz~8GHz

#### Maximum Output Bandwidth

300MHz~350MHz	(CF-300) *2 MHz
350MHz~760MHz	100MHz
760MHz~900MHz	200MHz
900MHz~8GHz	1000MHz

#### Output Amplitude

Resolution	0.5dB
Output Amplitude Range	From Noise Floor to +20dBm

#### Accuracy of Absolute Amplitude (Continuous Wave)

Absolute Amplitude Accuracy of Continuous Wave	Typical Value
300MHz~8GHz	$\pm 1.5\text{dB}$

#### Output Harmonics (Second Harmonic)

Output Power 0dBm	$\leq -55\text{dBc}$
Output Power -10dBm	$\leq -60\text{dBc}$

#### Non-Harmonic Spurious

300MHz~8GHz  $\leq -60\text{dBc}$

#### Phase Noise

##### Output Power +15dBm, CF=900MHz

10kHz Offset	$\leq -115\text{dBc/Hz}$
100kHz Offset	$\leq -117\text{dBc/Hz}$
1MHz Offset	$\leq -131\text{dBc/Hz}$

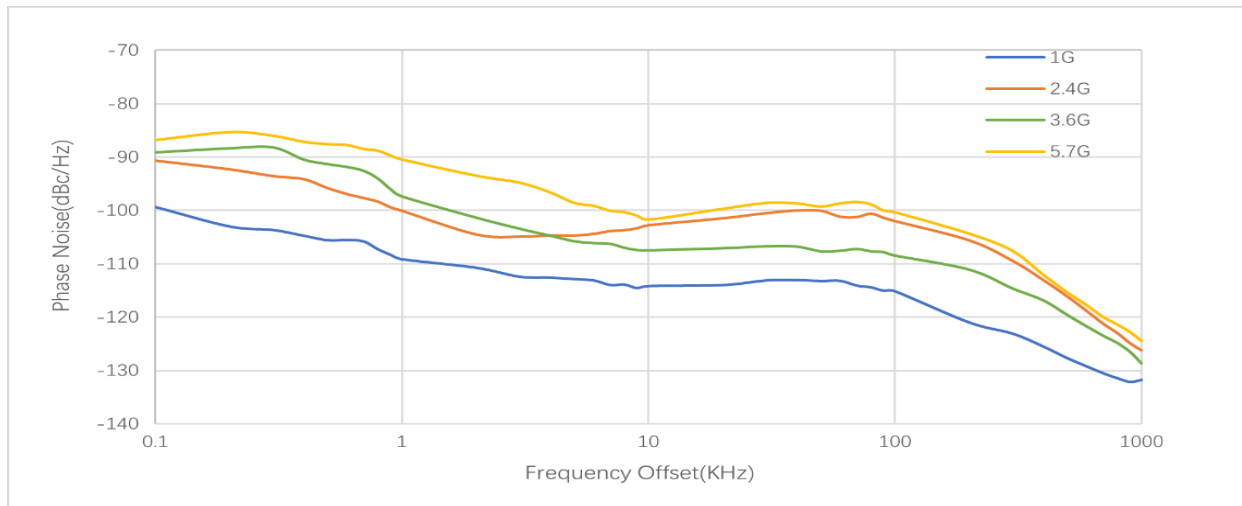
##### Output Power +15dBm, CF=2400MHz

10kHz Offset	$\leq -105\text{dBc/Hz}$
100kHz Offset	$\leq -101\text{dBc/Hz}$
1MHz Offset	$\leq -127\text{dBc/Hz}$

### Phase Noise

Output Power +15dBm, CF=5700MHz

10kHz Offset  $\leq -102$ dBc/Hz  
 100kHz Offset  $\leq -100$ dBc/Hz  
 1MHz Offset  $\leq -125$ dBc/Hz



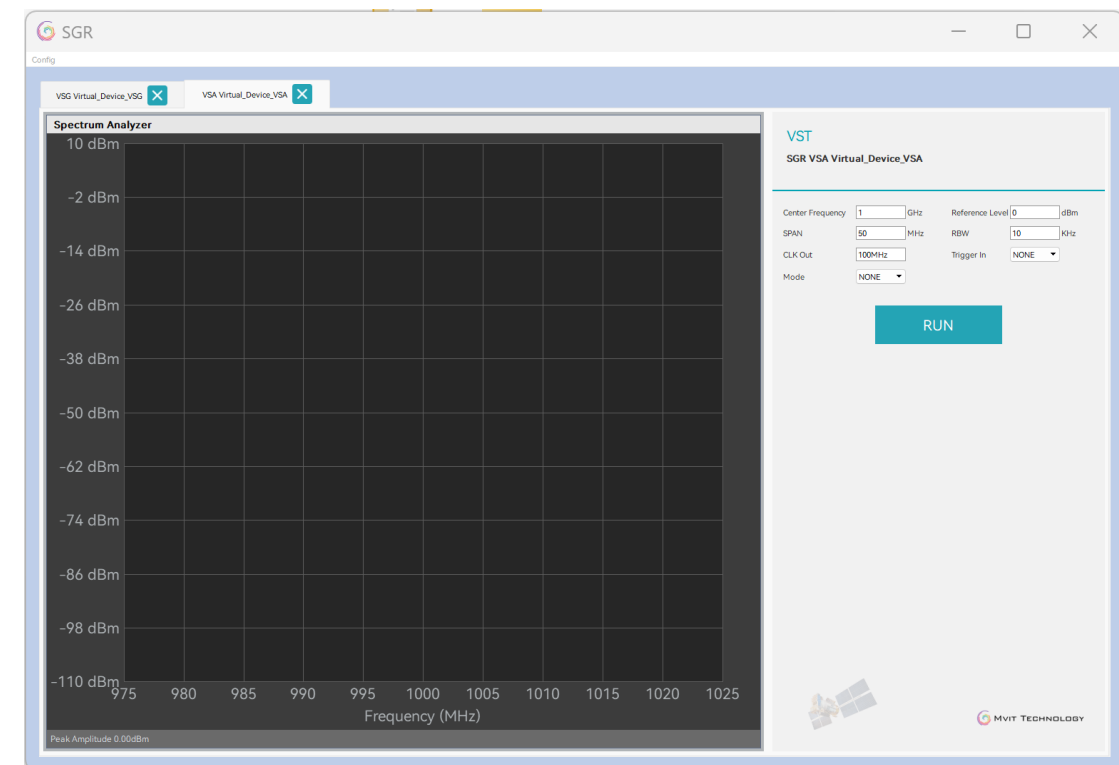
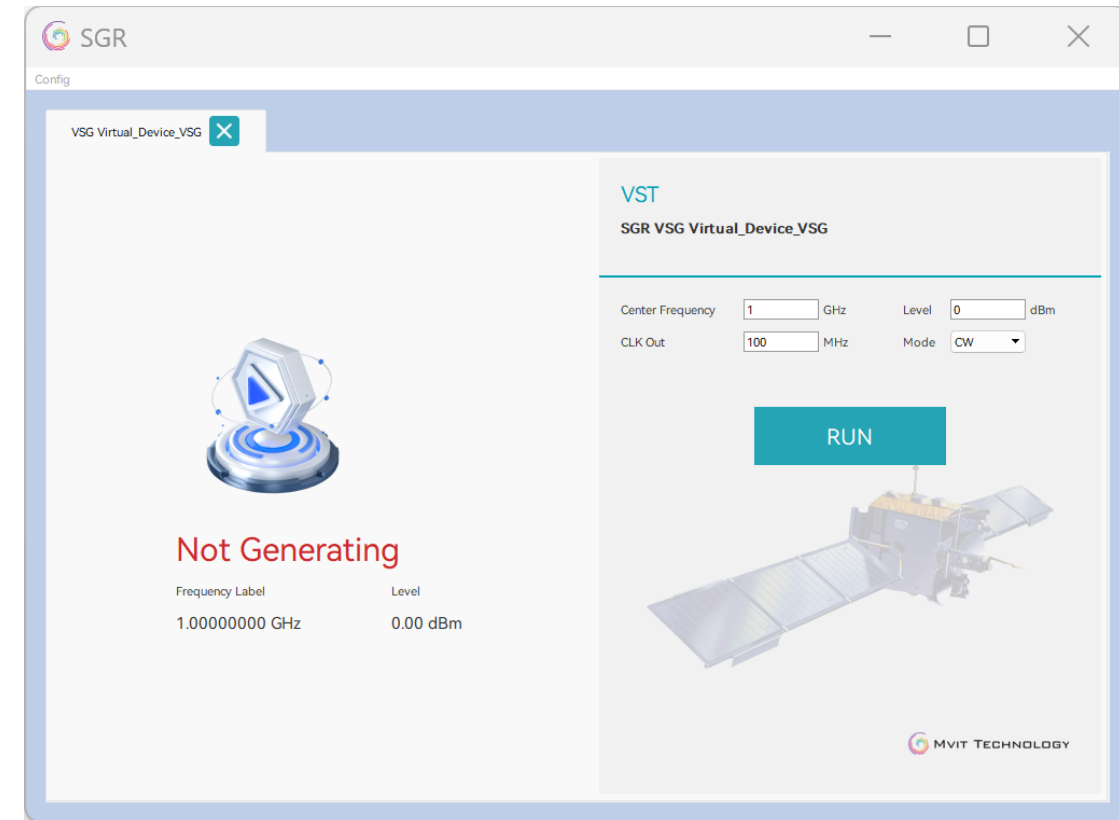
### Error Vector Magnitude

#### EVM

**Center Frequency**  
 (Test conditions: 20MHz bandwidth, 64QAM modulation signal. Shaping filter: Root Raised Cosine, Roll-off factor 0.25. Carrier output power 0dBm.)

300MHz~8GHz  $\leq -40$ dB

### Software Interface



# RSG3745

## RF Signal Generator

### Product Overview

The RSG3745 Analog Signal Generator is a high-performance RF signal source specifically designed for demanding R&D and production testing environments. With a wide frequency range spanning from 9kHz to 45GHz, it delivers exceptional output power, low phase noise, and fine frequency resolution down to 0.01Hz. The instrument features comprehensive analog modulation capabilities including AM, FM, and pulse modulation, supporting modulation depths up to 90% and a high on/off ratio exceeding 70dB. Built on a flexible PXIe modular platform, the RSG3745 is ideal for integration into automated test systems, offering both scalability and reliability for advanced RF testing needs.



### Product Specification

Product Model	RSG3745
<b>Key Parameters</b>	
Output Channels	1
Frequency Range (MHz)	9K-45G
Frequency Step (Hz)	0.01
Max RF Output Power (dBm)	10
Min RF Output Power (dBm)	-100
Power Step (dB)	0.01
Power Accuracy (dB)	≤ ±1 (with ALC on)
External Ref Input Freq (MHz)	10 (sync capable)
External Ref Input Power (dBm)	0~5
Reference Output Freq (MHz)	10/100
Reference Output Power (dBm)	0~5
Harmonic Distortion (dBc)	5±1dBm
Spurious Signals (dBc)	≤ -30 (at 0dBm output)
SSB Phase Noise (dBc/Hz @10k)	≤ -60 (at 0dBm output)
Power Supply	220V (50W)
Operating Temp (°C)	-10 ~ +45
Storage Temp (°C)	-40 ~ +70

### Modulation

Amplitude Modulation (AM)	
Modulation Depth	0%~90%
Modulation Frequency Response	10Hz~20KHz
Frequency Modulation (FM)	
Maximum Frequency Deviation	NX32MHz (nominal)
Modulation Frequency Response	10Hz~200KHz
Pulse Modulation (PM)	
On/Off Ratio	≥ 70dB
Pulse Width	100nS~50S
Pulse Period	100nS~50S

### Interfaces

RF Output	2.92, 50Ω
Reference Input/Output	SMA-K
FM/AM Input Interrace	SMA-K
Program Control	PXIe

### Order Information

Model	Description
RSG3745	RF Signal Generator



# FEU3506/FED3506 6GHz Up/Down Converter

## Product Overview

The FEU3506 up-converter delivers RF output spanning 400 MHz to 6000 MHz, while the FED3506 down-converter accepts RF input from 20 MHz to 6000 MHz. Both PXIe bus-interfaced units adopt a 3U module occupying two slots, enabling up-converter functionality control and debugging via PXIe. The solution provides PXI instrument drivers with C/C++ API support for parameter configuration, functional control, status monitoring, and reference clock configuration, and includes Windows 10 operating system drivers.



## Technical Parameters

Product Model	FEU3506
<b>Up-converter IF Input Specifications</b>	
IF Input Frequency	30MHz ~ 110MHz
IF Bandwidth	80M
Max. IF Input Power	2Vpp
<b>Up-converter RF Output Specifications</b>	
RF Output Frequency	400MHz ~ 6GHz
Output Power	-70dBm ~ 13dBm
Gain Flatness	≤ ±0.75dB
Output P1dB	≥ 15dBm
<b>Up-converter Frequency Conversion Parameters</b>	
Link Gain	-70dB ~ 20dB ((at 15 dBm OP1dB))
Spurs	≤ 60dBc
LO Phase Noise	≤ -100dBc/Hz@10kHz
Programmable Attenuation	0-90dB, Step: 1 dB

Product Model	FED3506
<b>Down-converter IF Output Specifications</b>	
IF Output Frequency	70MHz
IF Bandwidth	80M
Max. IF Output Power	15dBm
Gain Range	25±3 dB (Normal Mode) 40±3 dB (Low-noise Mode)
IF Flatness	≤ 3dB (at 15 dBm OP1dB)
Output P1dB	≥ 15dBm
<b>Down-converter RF Input Specifications</b>	
RF Input Frequency	20MHz ~ 6GHz
Max. Input Power	27dBm
RF Flatness	≤ ±0.75dB
<b>Down-converter Frequency Conversion Parameters</b>	
Input VSWR	< 2.5
Spurious Suppression	≤ 50dB, Typ
Programmable Attenuation	0-60dB, Step: 1 dB
LO Phase Noise	≤ -100dBc/Hz@10kHz

## Order Information

Model	Description
FEU3506	6GHz Up Converter
FED3506	6GHz Down Converter

# FED3526

## 26.5GHz Down Converter

### Product Overview

FED3526 Down-Converter accepts RF input from 6 GHz to 26.5 GHz, featuring a PXIe bus interface in a 3U form factor that occupies a single slot. This unit enables down-converter functionality control and debugging via the PXIe bus, providing PXI instrument drivers with C/C++ APIs for parameter configuration, functional control, status monitoring, and reference clock configuration, along with Windows 10 OS drivers. The converter supports external LO signal injection to accommodate SISO and MIMO application scenarios. Its compact modular design maintains high performance while enhancing adaptability in highly integrated complex systems.



### Technical Parameters

Product Model	FED3526
<b>Down-converter IF Input Specifications</b>	
IF Input Frequency	50MHz ~ 3GHz
IF Bandwidth	1500MHz
Max. IF Input Power	1500MHz
IF Flatness	≤3dB
<b>Down-converter RF Input Specifications</b>	
RF Input Frequency	-70dBm ~ 13dBm
Max. Input Power	≤±0.75dB
<b>Down-converter Frequency Conversion Parameters</b>	
Input VSWR	< 2.2
Programmable Attenuation	0-30dB, Step: 1 dB
Gain	-40 dB to 40 dB (with Preamp Gain 20 dB)
Spurious Suppression	≤55dB, Typ
Noise Figure	+18dB
LO Phase Noise	≤ -100dBc/Hz@10kHz
Converter Power Consumption	≤25W

### Order Information

Model	Description
FED3526	26.5GHz Down Converter

# FEU3543/FED3543

## 9KHz ~ 43GHz Up/Down Converter

### Product Overview

The FEU3543 and FED3543 upconverters and downconverters support transmission and reception over a frequency range of 9 kHz to 43 GHz. They can be integrated with the SGR RF transceiver to build wideband signal generation and analysis systems covering an even broader frequency range. Additionally, the upconverters and downconverters support external LO signal input, making them suitable for applications requiring high phase synchronization, such as MIMO.

The converters feature a compact modular design that ensures high performance while providing better adaptability for highly integrated and complex applications.



### Technical Parameters

Product Model	FED3543
<b>Downconverter IF Output Signal</b>	
IF Output Frequency	1875±500MHz
IF Output Power	0dBm
Gain Range	-35dB~25dB (Normal Mode) -15dB~45dB (Low Noise Mode)
Gain Flatness	0±1.5dB
Conversion Spurious	≤ -60dBc
Image Rejection	≥60dB
<b>Downconverter Input Signal Requirements</b>	
Input Signal Frequency	9K~43000MHz
Input Signal Power	15dBm;(MAX)
<b>Local Oscillator (LO)</b>	
LO Phase Noise	≤ -104dBc/Hz@10KHz
LO Step Size	10MHz
<b>Reference Clock</b>	
Reference Clock Frequency	10MHz
Output Power	9±1dBm
Frequency Stability	0.05ppm
Conversion Module Power Consumption	42W



Product Model	FEU3543
<b>Upconverter IF Input Signal</b>	
IF Input Frequency	1875±500MHZ
IF Input Power	-5dBm
<b>Upconverter Output Signal</b>	
Output Signal Frequency	9K~43000MHz
Output Signal Power	15dBm;(MAX)
Gain Range	-10dB~20dB
Gain Flatness	0±2.5dB
Conversion Spurious	≤ -60dBc
Image Rejection	≥ 60dB
<b>Conversion Local Oscillator (LO)</b>	
LO Phase Noise	≤ -104dBc/Hz@10KHz
LO Step Size	10MHz
<b>Reference Clock</b>	
Reference Clock Frequency	10MHz
Output Power	9±1dBm
Frequency Stability	0.05ppm
Conversion Module Power Consumption	42W

### Order Information

Model	Description
FED3543	9KHz ~ 43GHz Down Converter
FEU3543	9KHz ~ 43GHz Up Converter

## SDA Series High Speed Data Storage Module

### Product Overview

The SDA high-speed data storage module provides large-capacity, high-throughput storage in a single PXIe slot. It integrates four M.2 solid-state drives (SSDs), making it ideal for data streaming applications that require reliable, sustained data throughput, such as high-speed signal intelligence, RF signal recording and playback, and multi-sensor fusion data acquisition systems.

The SDA series is based on software RAID, offering high-speed, large-capacity data storage at a lower cost within a compact PXIe chassis. It's ideal for PXIe systems requiring high-speed read/write capabilities, high-speed data recording, transferring data between multiple test setups, or expanding the storage capacity of PXIe system controllers. This module supports software-based striping, simple, or spanned RAID arrays, allowing the combination of multiple storage devices into several logical units.



### Key Feature

- Standard PXIe single-slot card structure, supporting up to PCIe 3.0x8 bus with a maximum data throughput rate of >5GB/s.
- Available in 4TB, 8TB, and 16TB capacities (equipped with four NVMe M.2 SSDs).
- Compatible with PCIe 3.0/2.0/1.0, but installing it in a lower-speed PXIe slot will reduce the maximum read/write rate.
- Supports Windows 7/8/10 operating systems with full-speed power consumption of less than 30W, and operating temperature range of 0~55°C.

### Order Information

Model	Description
SDA8304	4TB High Speed Data Storage Module
SDA8308	8TB High Speed Data Storage Module
SDA8316	16TB High Speed Data Storage Module

# SDS4025

## High Speed Oscilloscope/Digitizer

### Product Overview

The SDS4025 is used for high-speed acquisition of waveform data for broadband signals. It features dual-channel signal acquisition and storage, multiple acquisition and triggering modes, complex signal calculation and processing, time-domain analysis of signal waveforms, cursor measurement, onboard instrument setting storage, automatic calibration and tracking, plug-and-play functionality, and compliance with IIVI driver standards.



### Technical Parameters

Product Model	SDS4025
Signal Input Channels	2
Real-time Sampling Rate	2.5GSa/s per channel
Vertical Resolution	10bit
Maximum Input Voltage	5Vpp@50Ω, 42Vpp@1MΩ
Onboard Memory	2GB
Bandwidth (-3dB)	500MHz@50Ω, 300MHz@1MΩ
Rise Time	750ps@50Ω, 1.4ns@1MΩ
Range	50Ω: 50mVpp~5Vpp; 1MΩ: 50mVpp~42Vpp
DC Gain Accuracy	$\leq \pm[2\% \times  \text{reading} - \text{offset}  + 1.4\% \times  \text{offset}  + 0.6\% \text{ full scale}] + 600 \mu\text{V}$ (calibration temperature $\pm 3^\circ\text{C}$ )
Input Impedance	1MΩ $\pm 0.75\%$   15pF $\pm 2.5\%$ pF, 50Ω $\pm 1.5\%$
Coupling Mode	DC/AC
Channel Isolation	50Ω: -60dB@ (DC~100MHz) , -45dB@ (100MHz~500MHz) 1MΩ (0.05V~10V full scale) : -55dB@ (DC~100MHz) , -45dB@ (100MHz~300MHz)
Connector	BNC
Trigger Source	CH0, CH1, external trigger, software
Trigger Type	Edge, Pulse Width
Trigger Holdoff	0 ~ 10s
Time Measurement Resolution	4ps
Trigger Accuracy	6%FS $\leq 10\text{MHz}$
Trigger Source	CH0, CH1, external trigger
Bus Connection	PXIe
Structural Form	3U, PXIe single slot
Width × Height × Depth	20 mm × 131 mm × 214mm
Weight	$\leq 800\text{g}$
Maximum Power Consumption	$\leq 40\text{W}$
Environmental Adaptability	Operating temperature: 10~40°C; Operating relative humidity: $\leq 60\%$ RH; Storage temperature: -30~50°C; Storage relative humidity: $\leq 60\%$ RH; Altitude: 2 km

### Software Interface

- The accompanying oscilloscope software provides functions for data acquisition, capture, display, and measurement. It offers standard IIVI driver functions, supporting secondary development applications.



### Order Information

Model	Description
SDS4025	High Speed Oscilloscope/Digitizer



# DMM4365

## Digital Multi-Meter



### Product Overview

The DMM4365 is a 6½-digit digital multimeter module based on the PXI bus. It can perform measurements of AC/DC voltage, AC/DC current, 2-wire resistance, 4-wire resistance, frequency, and other signal types. It features automatic range selection and overload protection. When paired with matrix modules (2-wire, 4-wire) or multiplexer modules, a single DMM4365 can measure signals such as current, resistance, and frequency across multiple channels.

### Technical Parameters

#### Main Function

- AC/DC voltage measurement
- AC/DC current measurement
- 2-wire/4-wire resistance measurement
- Frequency measurement
- Automatic range selection
- Overload protection
- Low temperature coefficient and high long-term stability

Product Model	DMM4365
Resolution	6½-bit
Measurement Mode	DC/AC voltage, DC/AC current, 2-wire resistance, 4-wire resistance, frequency, period
Voltage Measurement Range	DC -300V~300V AC 300V RMS
AC/DC Voltage Range	200mV, 2V, 20V, 200V, 300V, Auto
Current Measurement Range	DC -3A~3A AC 3A RMS
DC Current Range	2mA, 20mA, 200mA, 2A, 3A
AC Current Range	20mA, 200mA, 2A, 3A
Resistance Measurement Range	≤100MΩ
Frequency Measurement Range	3Hz~1.5MHz
Trigger Method	Auto trigger (software trigger), upgradable to bus trigger
Maximum Non-Destructive Voltage	350VRMS

### Accuracy

#### ● DC Measurements

Function	Level	24 Hour	90 Days	1 Year
DC Voltage	100mv	0.100+0.041	0.104+0.046	0.107+0.046
	1V	0.031+0.001	0.035+0.006	0.038+0.006
	10V	0.036+0.013	0.040+0.018	0.043+0.018
	100V	0.035+0.001	0.039+0.006	0.042+0.006
	300V	0.002+0.033	0.006+0.038	0.009+0.038
Resistance	100Ω	0.080+0.022	0.084+0.027	0.087+0.027
	1KΩ	0.011+0.009	0.015+0.014	0.018+0.014
	10KΩ	0.021+0.004	0.025+0.009	0.028+0.009
	100KΩ	0.002+0.001	0.006+0.006	0.009+0.006
	1MΩ	0.020+0.001	0.024+0.006	0.027+0.006
DC Current	10MΩ	0.040+0.004	0.044+0.009	0.047+0.009
	100MΩ	0.400+0.100	0.404+0.105	0.407+0.105
	1mA	0.080+0.148	0.084+0.153	0.087+0.153
	10mA	0.050+0.018	0.054+0.023	0.057+0.023
	100mA	0.080+0.045	0.084+0.050	0.087+0.050
	1A	0.030+0.025	0.034+0.030	0.037+0.030
	3A	0.040+0.051	0.044+0.056	0.047+0.056

Accuracy specification: ±(% of reading + % of range)

#### ● AC Measurements

Function	Frequency	Level	24 Hours	90 Days	1 Year
AC Voltage	30Hz	100mV	0.040+0.390	0.044+0.395	0.047+0.395
		1V	0.260+0.197	0.261+0.197	0.263+0.197
		10V	0.150+0.740	0.154+0.745	0.157+0.745
	400Hz	100V	0.010+0.209	0.014+0.214	0.017+0.214
		100mV	0.240+0.032	0.244+0.037	0.247+0.037
		1V	0.040+0.167	0.044+0.172	0.047+0.172
AC Current	400Hz	10V	0.020+0.186	0.024+0.191	0.027+0.191
		100V	0.010+0.200	0.014+0.205	0.017+0.205
		300V	0.050+0.027	0.054+0.032	0.057+0.032
	400Hz	10mA	0.080+0.150	0.084+0.155	0.087+0.155
		100mA	0.150+0.120	0.154+0.125	0.157+0.125
		1A	0.060+0.007	0.064+0.012	0.067+0.012
		3A	0.070+0.054	0.074+0.059	0.077+0.059

Accuracy specification: ±(% of reading + % of range)

### Physical Characteristics

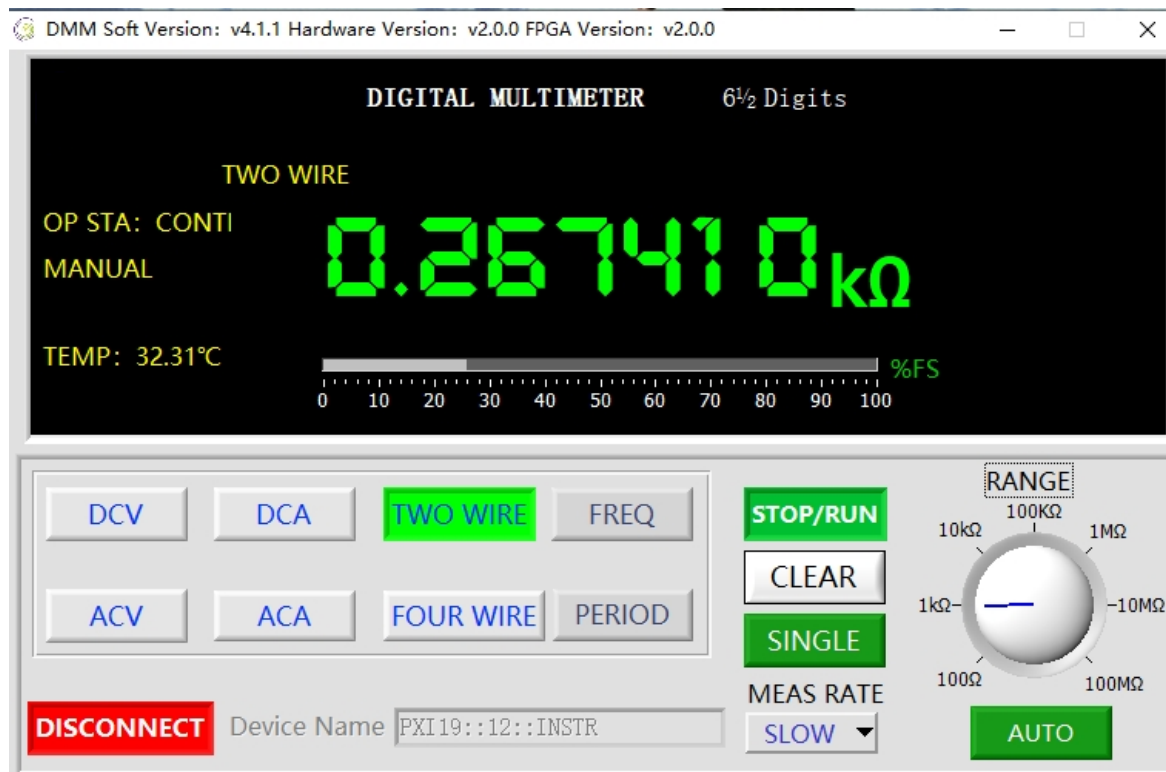
- 4mm banana socket connectors x 4
- Multimeter probe jacks x 4
- Trigger socket x 1
- Operating temperature: -10°C to 50°C
- Dimensions: 3U single-slot
- Storage temperature: -40°C to 70°C
- Humidity: 10% to 90% (non-condensing)

### PCI Interface Characteristics

- Compliant with PICMG 2.0, R3.0
- 32-bit, 33MHz PCI interface
- Compatible with 3.3V/5V PCI I/O levels

### Software Interface

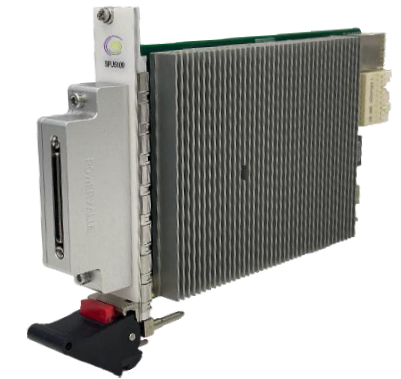
The DMM4365 offers an interactive software panel enabling fast measurements and meeting various application requirements.



## SPU Series Precision Parametric Measurement Unit

### Product Overview

The SPU Series High-Performance Digital Channel Instrument is a single-slot PXI digital pattern instrument supporting up to 64M vectors per second. It features a vector-based digital channel board for pin mapping, specifications, voltage levels, and pattern control. Each digital channel's output voltage can be flexibly adjusted between -1.5V and +6.5V, providing versatile testing capabilities for various types of IC chips. Each system can support up to 8 SPU5100 boards, offering a maximum of 256 channels to meet the requirements of most complex digital signal tests. The instrument supports data rates up to 200 Mbit/s, clock frequencies over 100 MHz, and test cycle times under 10 ns.



### Product Performance

Product Model	SPU6151
<b>Channel Performance per Instrument</b>	
Number of Channels	32
System Channel Count	256
Channel Voltage Range	-1.5V to 6.5V
<b>Timing Specifications</b>	
Vector Memory Depth	64M
Maximum Data Transfer Rate	200Mbps
Maximum Clock Rate	200MHz
Embedded Protocols	MIPI, SPI, UART, IIC
<b>Format</b>	
Data Format	NRZ, RZ, RO /NR
Data Edges	ON, DATA, RETURN, OFF, STROBEA, STROBEB
<b>Driver/Comparator/Load Voltage Clamping</b>	
Channel High Clamp Range	-1V to 7V
Channel Low Clamp Range	-2V to 6V

### Order Information

Model	Description
SPU6151	High-Performance Digital Channel Instrument, supporting 32 channels with a maximum data rate of 200 Mb/s.



# SMU Series Source Measure Unit

## Product Overview

The PXI Precision Source Measurement Unit (SMU) can simultaneously output and measure voltage and current. It supports traditional SMU SCPI commands, making the migration of test code quick and easy. The device is compatible with PXIe chassis from major manufacturers and supports multi-card synchronization for high-channel-density testing. It is easy to integrate into production test systems, improving testing efficiency and reducing costs.



## Technical Parameters

Item	SMU4221	SMU4211	SMU4212	SMU4213	SMU4216	SMU4234
Number of Channels	4	1	1	1	1	12
Voltage Range	±30V	±60V	±200V	±200V	±200V	±4.5V
Voltage Sensitivity	500uV	100nV	100nV	100nV	100nV	1uV
Current Range	±500mA	±3A	±1A	±1A	±1A	±10mA
Current Sensitivity	100pA	100fA	10fA	100fA	1fA	10pA
Pulse	±500mA	±10A	±3A	±3A	±3A	±10mA
Maximum Absorbed Power	3W/CH 6W – 4CHs	12W	12W	12W	12W	NA
Maximum DC Supply Power	3W/CH 6W – 4CHs	20W	20W	20W	20W	NA
Maximum Sampling Rate	500KS/s	1MS/s	1MS/s	1MS/s	1MS/s	1MS/s

## Order Information

Model	Description
SMU4221	4-Channel PXIe Precision Source Measure Unit
SMU4211	Single-Channel PXIe Precision Source Measure Unit, Pulse Source
SMU4212	Single-Channel PXIe Precision Source Measure Unit, Pulse Source
SMU4213	Single-Channel PXIe Precision Source Measure Unit, Pulse Source
SMU4234	12-Channel PXIe Precision Source Measure Unit
SMU4216	Single-Channel PXIe Precision Source Measure Unit

# ARINC429 Bus Transceiver Module

## Product Overview

The ARINC429 bus transceiver module adopts a standard PXI 3U modular design and provides ARINC429 bus data transmission and reception capabilities, fully compliant with ARINC429 bus protocol standards. Its flexible design allows for configurations of 1, 4, 8, or 16 channels to meet the needs of various application scenarios. Additionally, the module bridges multiple bus transceiver modules from the host computer via an optical-to-serial interface, enabling expansion of multiple bus interfaces with additional discrete signal acquisition. It supports serial communication rates from 10 kbps to 30 Mbps, with adjustable rates to accommodate diverse communication requirements, and is widely used in avionics systems.



## Product Features

- Number of transmit/receive channels: 1/4/8/16
- Independent buffering
- Each channel's baud rate, parity, and other parameters are individually configurable
- Supported data formats: 32-bit, 25-bit
- Configurable transmit/receive baud rates: 10 kbps, 12.5 kbps, 50 kbps, 100 kbps
- Parity options: odd, even, or none
- Built-in self-loopback test function

## Product Specifications

Product Model	ARINC429
Interfaces	Communication interface: J30J-15KWJ-J
	System communication interface: 3U PXIe (XJ3 and XJ4, PCIe 2.0 X1/X4)
Operating Temperature	-40°C to +75°C (industrial grade)
Storage Temperature	-50 °C to +80 °C
Humidity	5% to 95%
Power Consumption	≤6W
Weight	≤0.5Kg

# MIL-1394B Bus Communication Card

## Product Overview

The MIL-1394B communication card is a 3U PXIe board compliant with the MIL-1394B (AS5643) protocol specification. At the physical layer, it supports the IEEE-1394b standard, offering selectable data rates of 100 Mbps, 200 Mbps, and 400 Mbps. The card supports 1–2 nodes, with each node providing three independent ports. It accommodates both periodic and event-driven messages and features CC (Cycle Controller) and RN (Redundant Node) modes, meeting communication requirements for various scenarios. Designed primarily for simulation and testing of MIL-1394B (AS5643) bus protocols, the card also provides Windows-based host software and API driver functions to facilitate further development and application.



## Product Features

- Supports periodic and event-driven messages
- Configurable fault injection for CRC errors, undersized frames, oversized frames, and other error simulations
- Equipped with transmit and receive buffers, hardware buffer capacity:  $\geq 256$  MB
- Supports time-stamping with resolution better than 1  $\mu$ s
- Supports dual operation modes: CC (Cycle Controller) and RN (Redundant Node)
- Supports real-time modification of STOF packets and messages
- Programmable STOF offset, supporting fine message offset adjustments

## Product Specifications

Product Model	MIL-1394B
Bus Interfaces	System communication interface: 3U PXIe (XJ3 and XJ4, PCIe 2.0 X1/X4) MIL-1394B interface: HJ30J-36ZKW-J (2 nodes, each with 3 ports)
Physical Dimensions	160 mm $\times$ 100 mm $\times$ 4 HP, equipped with 3U ejector handle
Operating Temperature	-40 °C to +75 °C (industrial grade)
Storage Temperature	-50°C to + 80 °C
Humidity	5% ~ 95%
Power Consumption	$\leq 6$ W
Weight	$\leq 0.5$ Kg

# MIL-STD-1553B Bus Communication Card

## Product Overview

The MIL-STD-1553B communication card is a standard 3U PXIe board designed in compliance with the MIL-STD-1553B protocol and GJB289A-97 bus standards. It features a 4-channel dual-redundant design, with each channel configurable as BC (Bus Controller), RT (Remote Terminal), or RT&BM (Remote Terminal and Bus Monitor). The output utilizes transformer coupling, and the bus communication rate supports up to 1 Mbps. Additionally, the card provides Windows-based host software and API driver functions, offering strong support for related communication tasks and meeting diverse user requirements.



## Product Features

- Number of channels: 4, each channel with dual-redundant A and B sub-channels
- Supports both periodic and event-driven messages
- Supports multiple communication types: BC $\rightarrow$ RT, RT $\rightarrow$ BC, RT $\rightarrow$ RT
- Equipped with transmit and receive buffers, hardware buffer capacity:  $\geq 256$  MB
- Supports time-stamping with resolution better than 1  $\mu$ s
- Supports Bus Controller (BC), Remote Terminal (RT), and Bus Monitor (BM) modes
- Configurable frame and message intervals
- Supports error injection

## Product Specifications

Product Model	MIL-STD-1553B
Bus Interfaces	System communication interface: 3U PXIe (XJ3 and XJ4, PCIe 2.0 X1/X4) 1553B interface: J30J-25ZKW-J (4 channels, each with dual-redundant A and B sub-channels)
Physical Dimensions	160 mm $\times$ 100 mm $\times$ 4 HP, equipped with 3U ejector handle
Operating Temperature	-40 °C to +75 °C (industrial grade)
Storage Temperature	-50°C to + 80 °C
Humidity	5% ~ 95%
Power Consumption	$\leq 6$ W
Weight	$\leq 0.5$ Kg



# High Performance PXI Chassis Series



## Product Features

- Multi-slot configurations: 4/6/9/18/21 slot options
- Exceptional bandwidth: Up to 24 GB/s system bandwidth with 8 GB/s per slot
- Hybrid slot architecture: Backward-compatible with PXI, PXI Express, Compact PCI, and Compact PCI Express modules
- Point-to-point streaming capability: Enables direct module-to-module data transfer
- 10 MHz system reference clock, PXI Trigger Bus, Star Trigger and Low-jitter 100 MHz internal reference clock
- Optimized thermal management: 102 W per-slot cooling capacity

## Product Specifications

Type	Model	Bus Type	Total Slots	Hybrid Slots	Max. System Bandwidth	Timing Slot	Per-slot Cooling Capacity
High-performance	PXC1191	PXle Gen3	18	6	24GB/s	√	50W/82W
	PXC1194	PXle Gen3	21	8	24GB/s	√	102W
	PXC1182	PXle Gen2	18	10	8GB/s	√	38W
	PXC1192T	Thunderbolt™3 PXI Express	4	4	40Gb/s Thunderbolt™ 3	—	58W/38W
Compact	PXC1180	PXle Gen2	9	7	8GB/s	√	30W
	PXC1181	PXle Gen2	6	5	8GB/s	√	38W

# Embedded Technology PXI Controller Series



## Product Features

- High-performance Intel processors
- Maximized system bandwidth: 16 GB/s aggregate throughput
- Multi-OS support: Windows 11, Windows 10, and Linux
- Flexible I/O peripheral interfaces facilitating external instrument control

## Product Specifications

Product Model	Bus Type	Processor	Max. System Bandwidth	Hard Drive	Display Port	I/O Type		
						Ethernet	USB	GPIO
PXC2291	PXle Gen3	11th Gen Intel Xeon® W-11865MRE (2.6/4.7GHz)	16GB/s	512GB SSD	2	2	4 – USB2.0 2 – USB3.0	1
PXC2297	PXle Gen3	11th Gen Intel Core™ i7-11850HE (2.6/4.7GHz)	16GB/s	512GB SSD	2	2	4 – USB2.0 2 – USB3.0	1
PXC2295	PXle Gen3	11th Gen Intel Core™ i5-11500HE (2.6/4.5GHz)	16GB/s	512GB SSD	2	2	4 – USB2.0 2 – USB3.0	1
PXC2293	PXle Gen3	11th Gen Intel Core™ i3-11100HE (2.4/4.4GHz)	16GB/s	512GB SSD	2	2	4 – USB2.0 2 – USB3.0	1
PXC2190	PXle Gen3	7th Gen Intel Core™ i7-7820EQ 3.0GHz (Turbo 3.7GHz)	16GB/s	240GB HDD/500GB SSD	2	2	4 – USB2.0 2 – USB3.0	1

# SNAEP108

## VNA Calibration Module

### Product Overview

The SNAEP108 high-precision electronic calibration module delivers rapid, efficient, and accurate performance. It interfaces with vector network analyzers via a universal USB Type-C cable, automatically configuring with the instrument software for one-button SOLT calibration. Compatibility with Keysight and Rohde & Schwarz network analyzer series is achieved using dedicated utilities.



### Product Specifications

Parameter	Specification
Max. Input Power Level	15dBm
Max. DC Voltage	6 V
Operating Temperature Range	-10°C~+45°C
Dimensions	60mm×75mm×15mm
Weight	Approx. 150 g
Connector Type	SMA

### Specification

4-Port SMA Connector Specification	
Frequency Range	10MHz~8500MHz
Directionality	44
Source Match	40
Load Match	44
Transmission Tracking	0.1
Reflection Tracking	0.05

All above test results were measured under an ambient temperature of 26°C, with the Vector Network Analyzer (VNA) ports set to -10 dBm output power after a 1-hour warm-up period. The VNA Calibration Module has a maximum power handling capability of 15 dBm.

### Order Information

Model	Description
SNAEP108	VNA Calibration Module



# PART II

## Solutions

### All-in-one Sorting and Testing Machine

#### Product Overview

This solution is mainly used in the backend production of semiconductor chips. It can fully automate various functions such as chip appearance and size inspection, electrical parameter testing, laser marking, mark inspection, classification, sorting and storage, and final taping and packaging output. With the help of independently developed host computer software, it offers industry-leading testing speed and precision.



#### System Overview

##### System features

- Industry-leading UPH
- Save floor space
- Flexible compatibility and scalability
- Fast equipment deployment and high cos performance
- Suitable for RF microwave devices such as SAW, LTCC, Switch

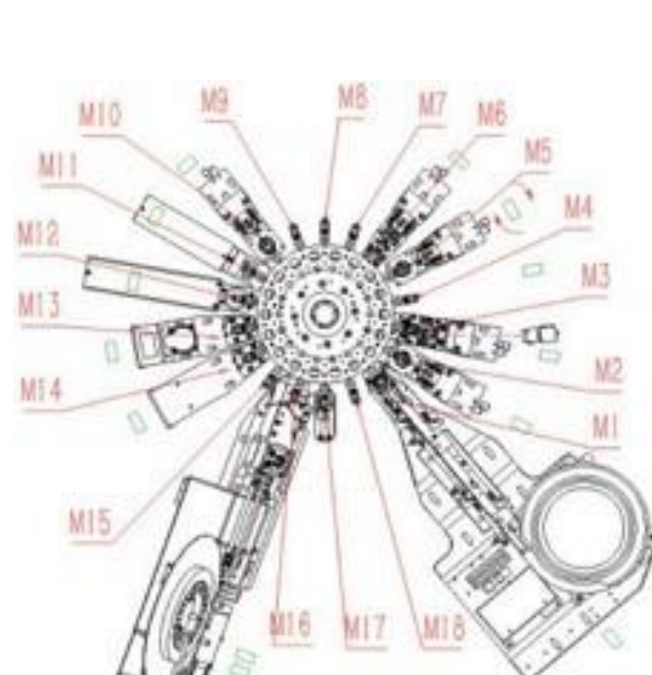
##### System configuration

- Testing Cabinet Mvit STP8000
- VNA Mvit/Keysight/Rohde & Schwarz/3<sup>rd</sup> party
- Sorter HT sorter/3<sup>rd</sup> party sorter
- Customization Supported

#### Technical Specifications

Sorting Machine	
CSP Type	DFN/QFN/SOT/SOD
Chip Size	0.4*0.4mm→1*1mm
UPH Max	≥45K/H
Test Station QTY	2~4
Package Sealing	Heat-Sealing Packaging
Taping Reel size	7~13"
Power supply	220VAc 50Hz
Compressed air source	0.45~0.8Mpa&-40~-80Kpa
Sealing temperature	70°C ~ 250°C
Sealing time	20ms~500ms

Sorting Machine	
Sealing pressure	0.2~0.5Mpa
Precise positioning	<5arcsec
MTBA	≥1H
MTBF	≥168H
Feeding method	Vibratory Feeder
Discharging method	Taping
PolarityTesting	Vision test station
Rotation/Steering	Positioning error≤10arcsec
Sub-Tray	Positioning accuracy≤5arcsec
Vision1	Orientation
Vision2	Print/Mark
Vision3	Pins
Vision4	Taping
Test method	Press testing
Sorting device	Bin bucket or bin tube
Human-machine Interface	Touch screen/keyboard-mouse
MTTA	≤3 minutes



**Main Turret Operation Flow**

- M1 Product Feeding Mechanism
- M2 Positioning and Alignment
- M3 Sub-Turret Vision Inspection
- M4 NC
- M5 Rotary Positioning #1
- M6 Testing
- M7 NC
- M8 NC
- M9 NC
- M10 Rotary Positioning #2
- M11 2-Second Side Vision Inspection
- M12 Bottom Vision Inspection
- M13 Classification (1:8)
- M14 Good Product Conveyor
- M15 NC
- M16 Tape and Reel Packaging Mechanism
- M17 Purge Bin
- M18 NC

**Main Turret:** Driven by an imported DD motor and drive unit, equipped with 18 suction cups. (Can be upgraded to 4/36 suction cups)

# STP8000L High Speed Cable Testing System

**Product Overview**

The STP8000L is a high-speed cable test system. It supports mainstream high-speed digital standard protocols, including PCIe Gen4/Gen5 1X-16X, Mini SAS HD / Slimline SAS, SFP / SFP+ / SFP28 / SFP56, QSFP+ / QSFP28 / QSFP56 / QSFP-DD / OSFP, USB3.0 / USB4.0 / TBT3.0 / TBT4.0 / HDMI / DP, and high-speed differential pairs.

This system can be used for rapid detection in production lines. With hardware and software options, the system can also help to identify problems in R&D stage, such as issues caused by adapters, structural, cables, and other factors.



**System Components**

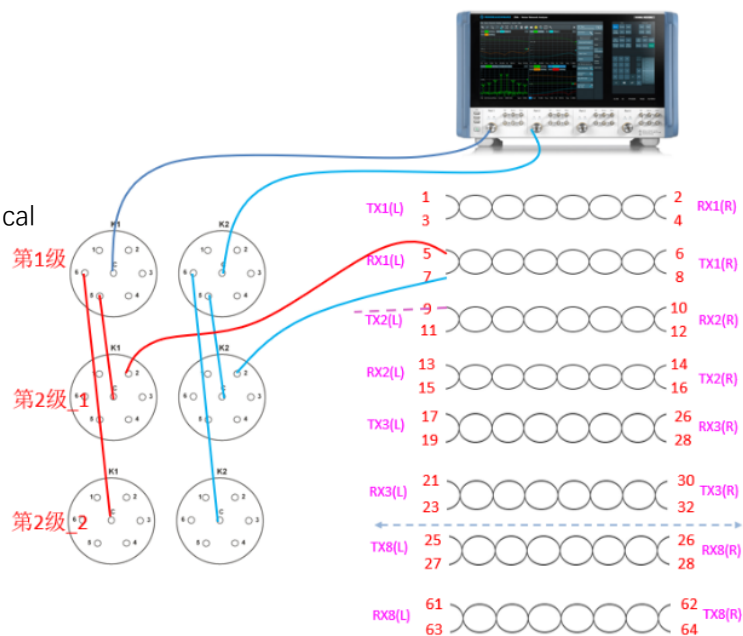
The STP8000L is a high-speed cable test system. It supports mainstream high-speed digital standard protocols, including PCIe Gen4/Gen5 1X-16X, Mini SAS HD / Slimline SAS, SFP / SFP+ / SFP28 / SFP56, QSFP+ / QSFP28 / QSFP56 / QSFP-DD / OSFP, USB3.0 / USB4.0 / TBT3.0 / TBT4.0 / HDMI / DP, and high-speed differential pairs.

This system can be used for rapid detection in production lines. With hardware and software options, the system can also help to identify problems in R&D stage, such as issues caused by adapters, structural, cables, and other factors.



### Switch Matrix Feature

- Up to 64 ports measurement
- Up to 96/128/144 channels expansion
- Frequency range: DC~40GHz
- Life span: Over 2 million cycles
- Supports electronic calibration kits/mechanical calibration kits
- Remote control: RS485, USB



### Testing Capabilities

Product Model	STP8000L
	Insertion Loss SDD21/ILV
	Return Loss SDD11   SDD22
	Common-Differential Return Loss SDC11   SDC22   SCD11   SCD22
Frequency-domain Test	Common-Common Return Loss SCC11   SCC22
	Common-Differential Insertion Loss SCD21   SDC21
	SNR SCD21-SDD21
	Crosstalk: FEXT   NEXT / MDFEXT/MDNEXT/PSFEXT/PSNEXT
	Differential Impedance TDD11   TDD22
Time-domain Test	Intra-pair Skew and Differential Signal Pairs Skew
	Differential Delay
Others	ICR/ICN...

### Fully Automated Calibration, Testing, and Result Display

The screenshot shows the software interface for calibration and testing. It includes a 'Calibration Configuration' window with various settings like 'Connector Type' and 'Calibration Kit'. A 'Test Results' window displays a graph of test results. A 'Remote Calibration' window shows a diagram of a device with ports 1, 2, and 3.

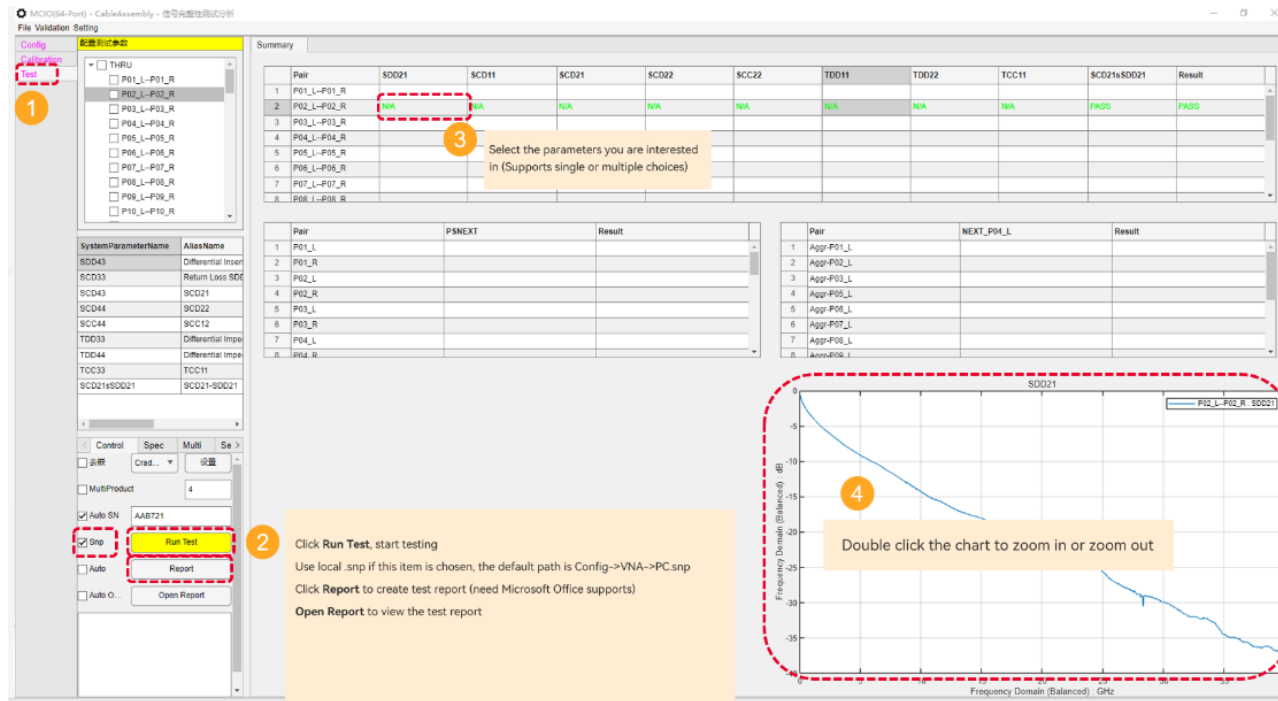
### Calibration

The screenshot shows the software interface for testing. It includes a 'Summary' window with a table of test results. A 'Frequency Domain' window displays a graph of Frequency Domain (dB/m) vs Frequency Domain (Balanced) GHz.

Pair	SDD21	SCD11	SCD21	SCD22	SCC22	TDD11	TDD22	TCC11	Skew	Delay	SCD21+SDD21	Result
1 P01_L-P01_R	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
2 P02_L-P02_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
3 P03_L-P03_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
4 P04_L-P04_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
5 P05_L-P05_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
6 P06_L-P06_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
7 P07_L-P07_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
8 P08_L-P08_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
9 P09_L-P09_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
10 P10_L-P10_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
11 P11_L-P11_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FAIL	PASS	N/A	FAIL
12 P12_L-P12_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
13 P13_L-P13_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
14 P14_L-P14_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
15 P15_L-P15_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS
16 P16_L-P16_R	PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	PASS	N/A	PASS

### Testing





## Test Results

### Advanced Calibration Technology

- Calibration Method: Electronic Calibration Kit/Mechanical Calibration Kit
- Straight-through Test Calibration: Calibrate corresponding straight-through, calibrate according to the number of channels
- Crosstalk Calibration: Calibrate straight-through and use de-embedding or other methods for de-embedding
- Calibration Accuracy: When testing straight-through parts within 40GHz, insertion loss deviation is less than  $\pm 0.2\text{dB}$ , and return loss is less than  $-27\text{dB}$
- Supports AFR de-embedding: Requires integration of AFR de-embedding function in the test software, supports batch testing of straight-through de-embedding.
- Supports independent de-embedding for each channel
- Selectable de-embedding options include insertion loss de-embedding, crosstalk de-embedding, no de-embedding for return loss, and no de-embedding for impedance.

### Order Information

Number	Item	Quantity	Description
1	Mvit_Switch_platform Switch Matrix	1	Loaded switch matrix with 64 channels, expandable to 96/128/144 channels.
2	STP8000L Testing Software	1	Testing software -PCIe Gen4/Gen5 1X / 2X / 4X / 8X -Mini SAS HD / Slimline SAS -SFP / SFP+ / SFP28 / SFP56 -QSFP+/QSFP28/QSFP56/QSFP-DD/uQSFP/ OSFP Test
3	Cables	Several	Stable amplitude and phase testing cables, connecting switches and products under test
4	Barcode Scanner	1	Automatically load product information and configuration for testing
5	Computer and Label Printer	1	Reference configuration: Intel i5 11400F processor, 16G memory, 256G hard disk, multiple USB3.0 interfaces, dual network cards. The printer can print labels of various sizes and different colors and fonts.