



# 3672A/B/C/D/E Vector Network Analyzer

(10MHz~13.5GHz/26.5GHz/43.5GHz  
/50GHz/67GHz)



**Ceyear Technologies Co., Ltd.**

## Product Overview

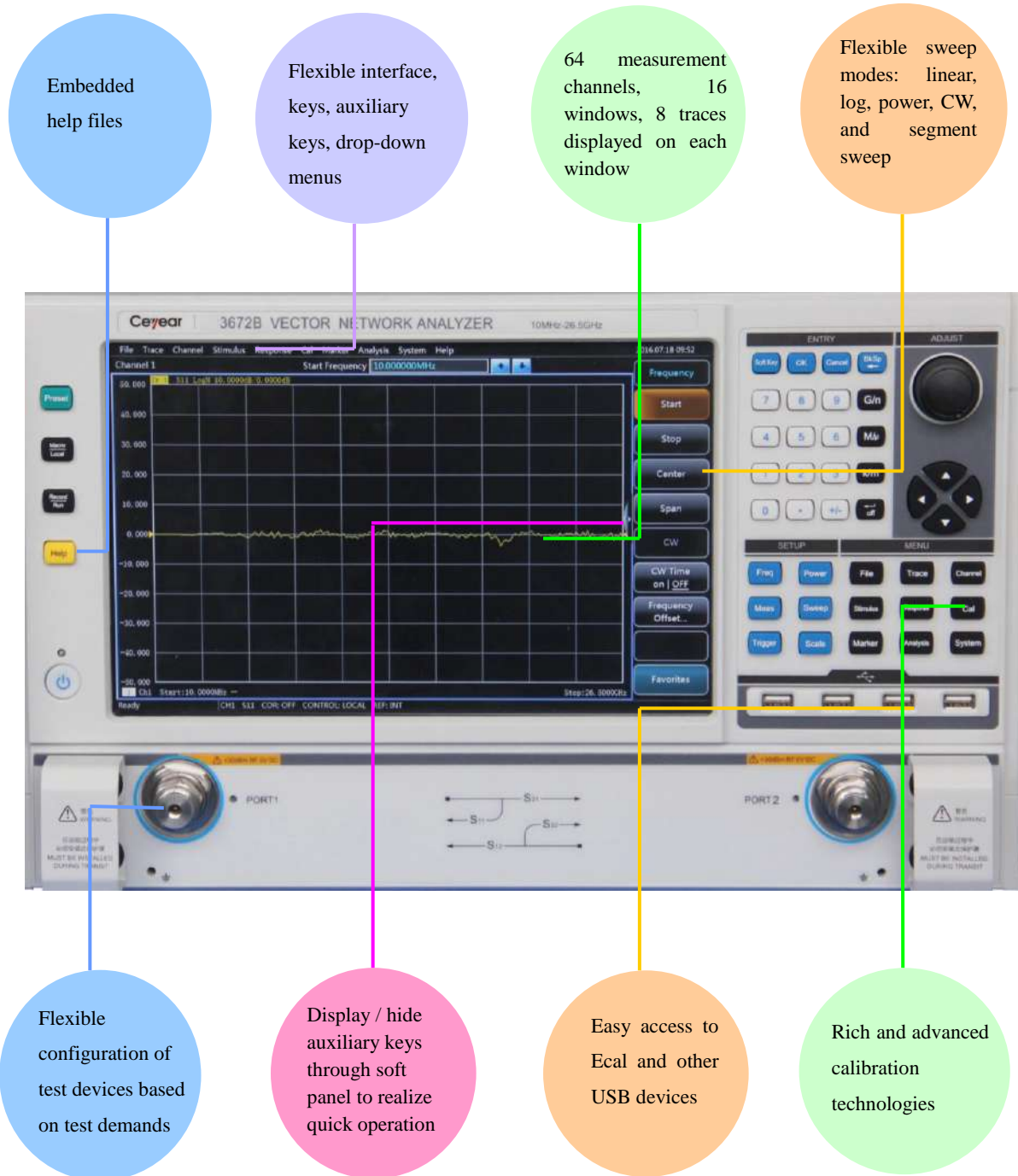
3672 Series Vector Network Analyzers include 3672A (10MHz~13.5GHz), 3672B (10MHz~26.5GHz), 3672C (10MHz~43.5GHz), 3672D (10MHz~50GHz) and 3672E (10MHz~67GHz). In terms of hardware, comparing to last generation, the brand-new design concept and technical proposal have upgraded key performance indexes (KPI) of the complete machine such as sweep speed and dynamic range etc.; in terms of software, the embedded computer system (ECS) with high-performance microprocessor chip and the platform based on Windows operating system has greatly improved interconnectivity and usability of the complete machine. 3672 analyzers provide multiple calibration types including frequency response, single port, response isolation, enhanced response and full dual-port, electronic calibration etc., offer various display formats such as logarithmic amplitude, linear amplitude, standing-wave, phase, group delay, Smith chart and polar coordinates, etc.

They are designed with several standard interfaces: USB, LAN, GPIB and VGA etc. Besides all measurement functions same as traditional vector network analyzer, through configuration of functional options, 3672 analyzers are also capable of multifunctional & comprehensive parameter test of mixer/converter, gain compression two-dimensional sweep and pulse S-parameters, as well as accuracy measurement of amplitude-frequency characteristics, phase-frequency characteristics and group delay used in the field of transmitting/receiving (T/R) module measurement, dielectric material properties measurement, microwave pulse characteristics measurement and optoelectronic properties measurement, which are indispensable instruments for scientific research and manufacturing process of radar, communication, and navigation systems.

## Main Characteristics

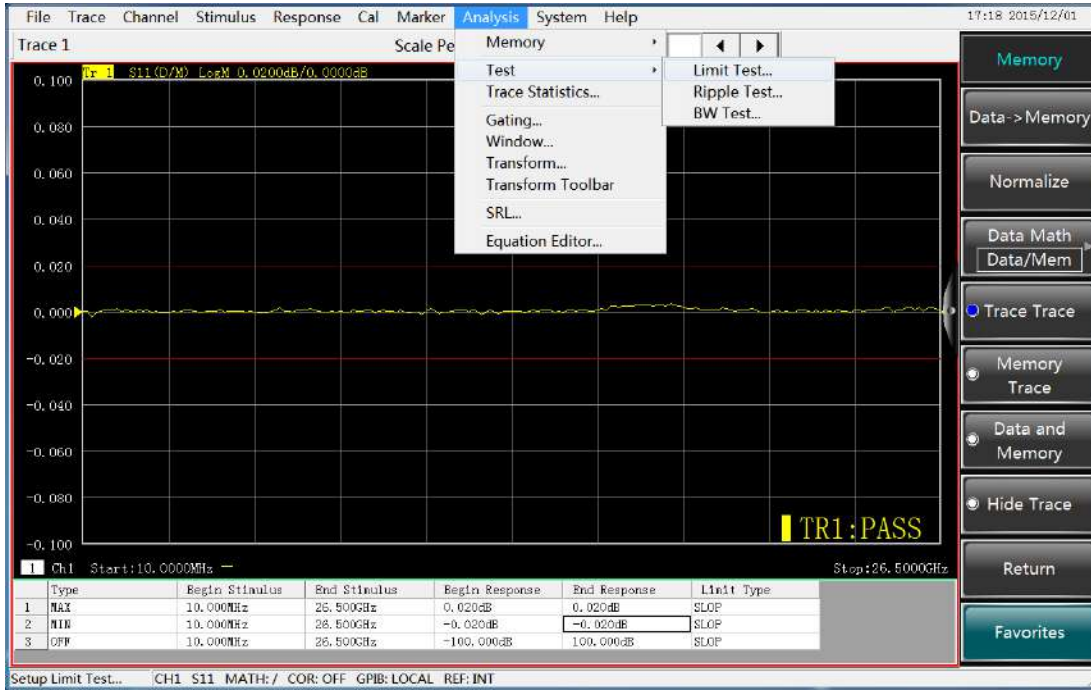
- Flexible and abundant calibration types, compatible with multiple calibration kits
- Support multi-window, multi-channel tests, fast implementation of complex test scheme
- Available in multiple display formats such as logarithmic amplitude, linear amplitude, standing-wave, phase, Smith chart
- With USB, GPIB, LAN and VGA display interface
- 12.1 inch high resolution touch screen
- Record/run, one-click operation greatly simplifies the measurement setting steps and improves the efficiency
- Available in functions as pulse S parameter measurement, time-domain measurement, mixer measurement, gain compression two-dimensional sweep measurement, millimeter-wave frequency extension, antenna & RCS measurement and receiving etc..

**Humanized user interface for easy operation, which can improve the efficiency**

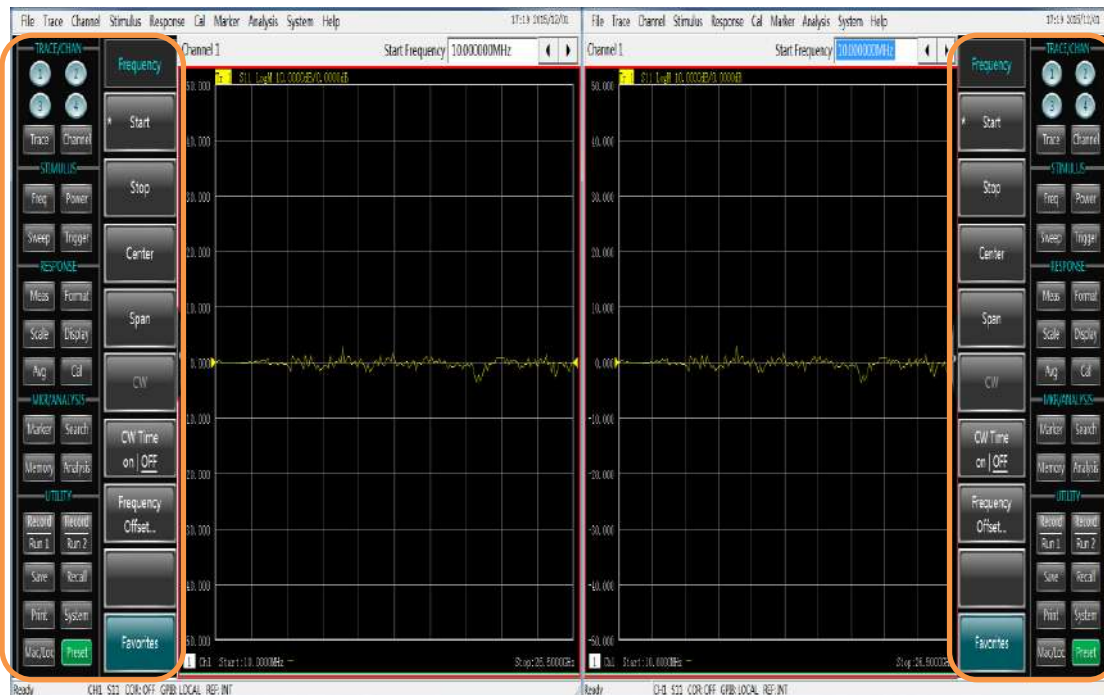


Parameters can be quickly input through activated input toolbar.

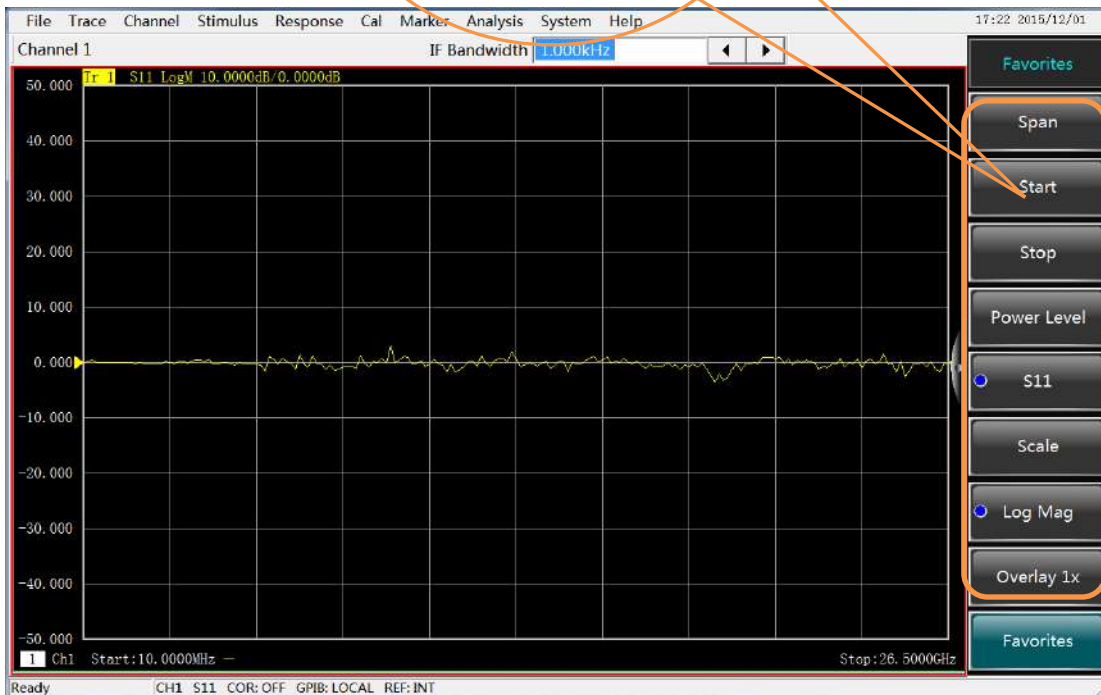
It can improve the test efficiency to setup the limit line and segment sweep value for production line.



The soft panel can be put on left or right side of the screen. Or it can be hidden for operation convenience.

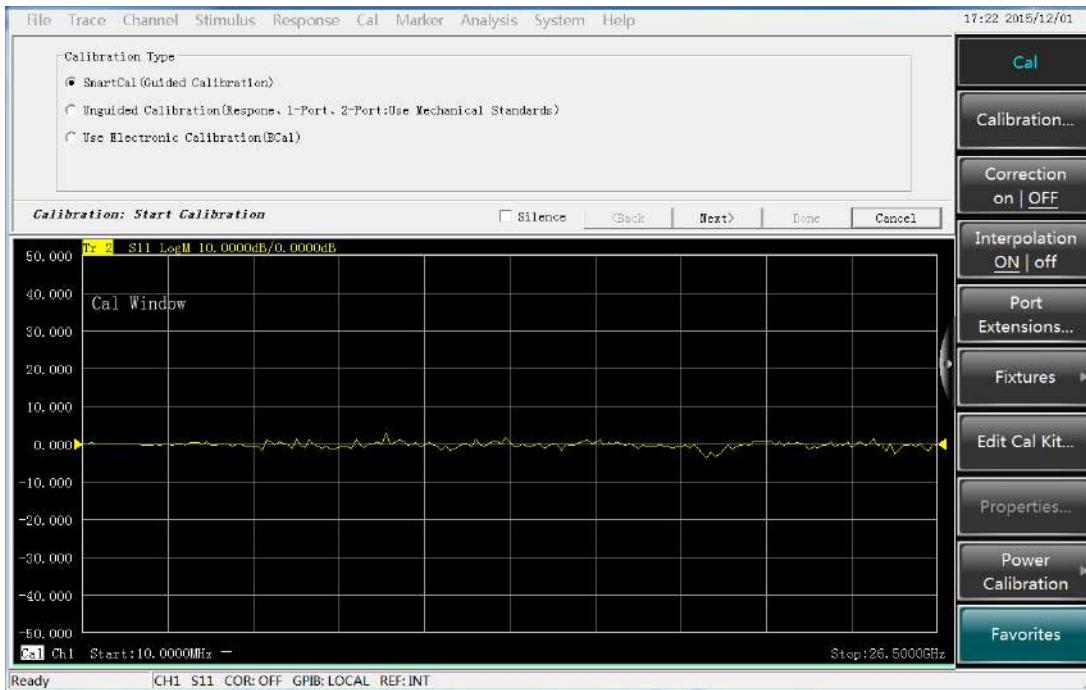


The favorite shortcut soft keys can be put together to simplify the operation for The soft panel can be put on left or right side of the screen. Or it can be hidden for operation convenience.



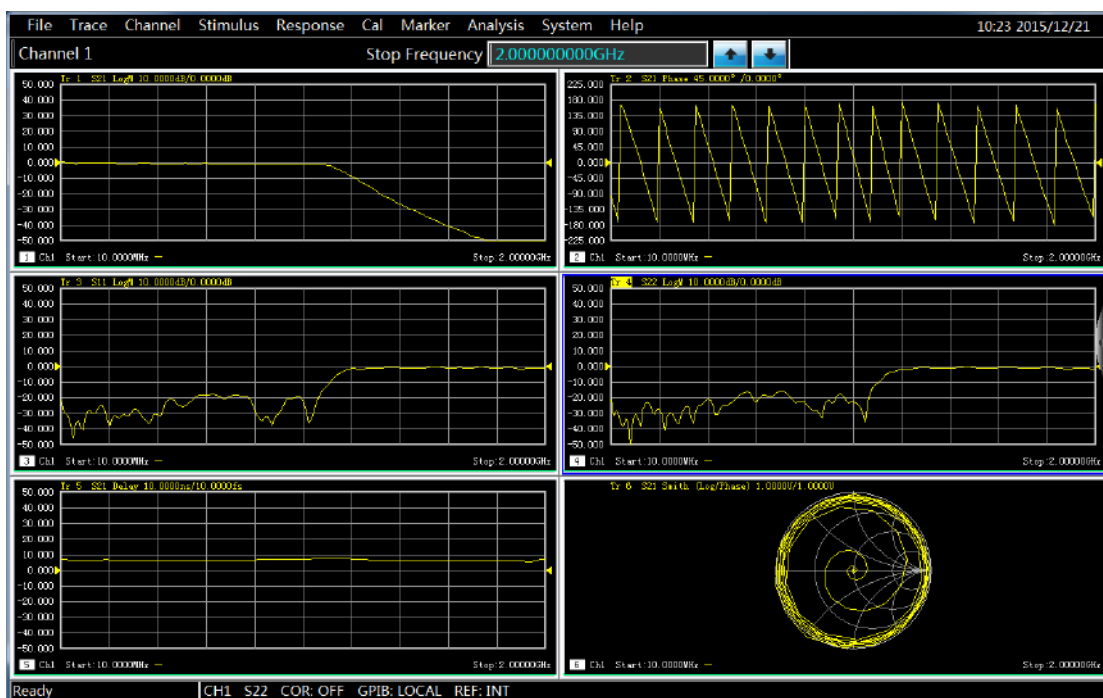
### Flexible and optional calibration types, compatible with multiple calibration kits

3672 Series of Vector Network Analyzers provide multiple calibration types, including guided calibration (automatic calibration), unguided calibration (using mechanical calibration kit to conduct through response calibration, through response & isolation calibration, single port calibration, enhanced response calibration, full two-port SOLT calibration, TRL calibration) and electronic calibration (E-Cal) etc.. Users can select calibration kits, such as coaxial 3.5mm calibration kit and electronic calibration kit based on test requirements, which greatly facilitates testing on devices with different interfaces.



### Multiple windows to display all measuring channels

The analyzers possess functions of multi-channel and multi-window display, support up to 64 channels. Maximum 16 measuring windows can be simultaneously displayed, and each window can simultaneously display up to 8 test traces, which makes the observation results more visible and the operation more convenient.



## 12.1-inch high resolution touch screen

The 12.1-inch touch screen with 1280\*800 resolution has bright and comfortable color, which can make your operation very convenient.

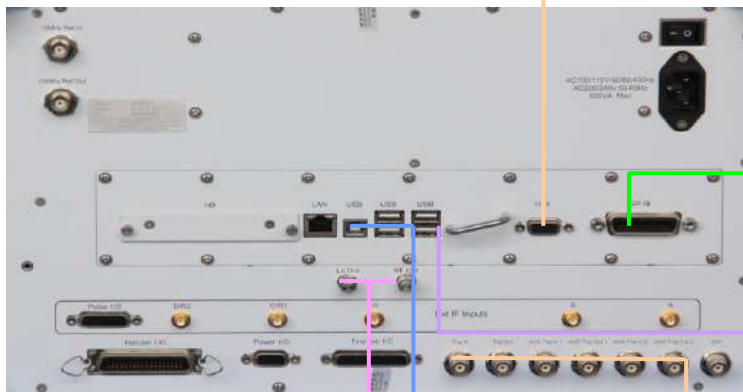
## Large dynamic range

3672 Series of Vector Network Analyzers are designed with the concept of mixer receiving, which effectively extends the dynamic range of the complete machine and meets the test demand for large dynamic range.



## Rich peripheral interfaces, flexible and practical

Adopting the software & hardware platform consisting of embedded computer module compatible with PC and Windows operation system, 3672 Series of Vector Network Analyzers realize the perfect combination of the instrument and PC. Users can use the rich I/O interfaces (including GPIB, USB, and LAN etc.) to complete the optimum selection of data communication.



**LO, RF output interface**  
Offers output signals for millimeter-wave frequency extension and

**LAN interface**  
Realizes network connection and remote control of the instrument

**Ex trigger interface**  
To input and output external trigger signals

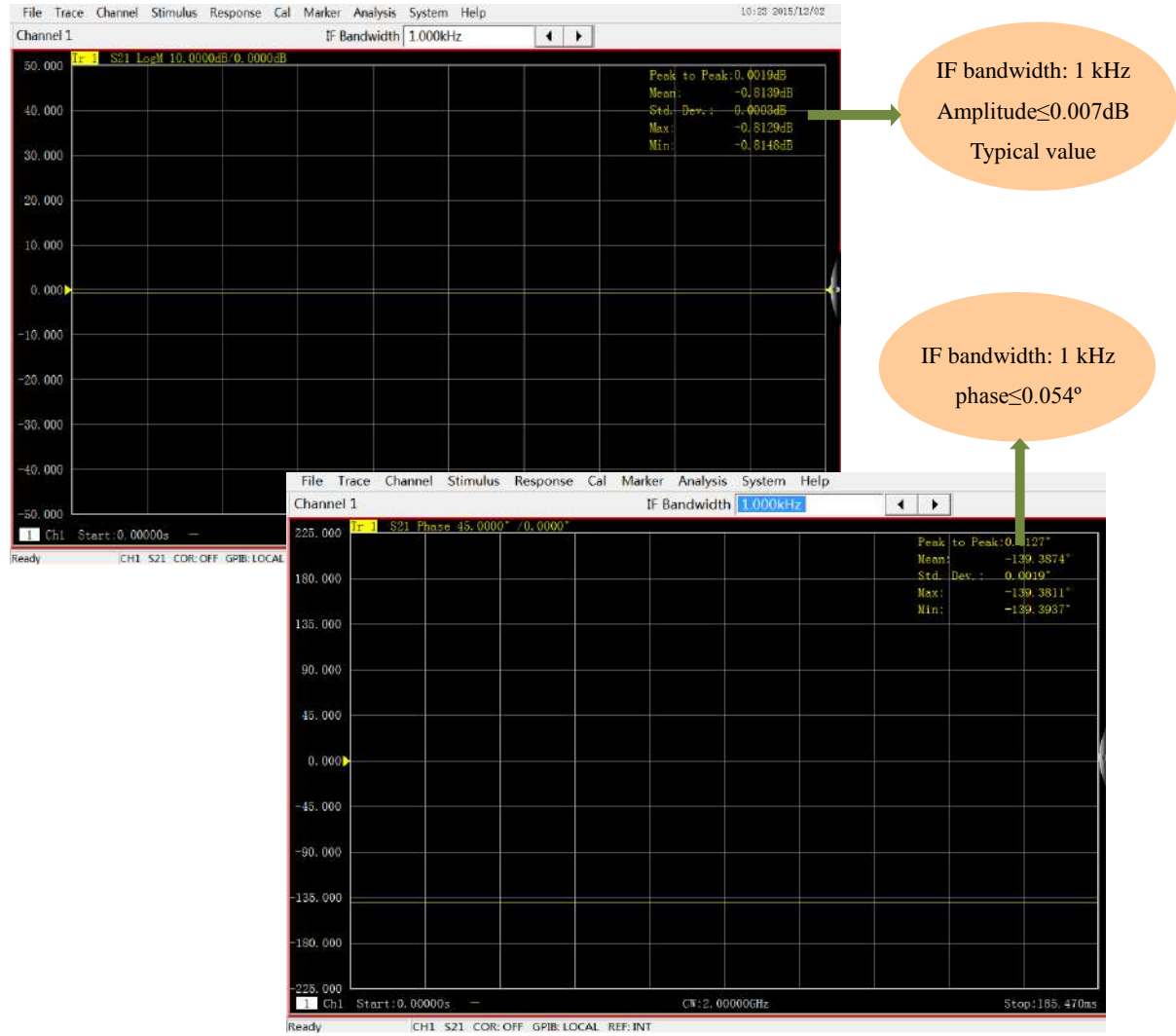
**VGA interface**  
Gives a convenient connection to external display

**GPIB interface**  
To send and receive GPIB/SCPI orders

**USB interface** gives a convenient connection between the USB interface and peripheral devices

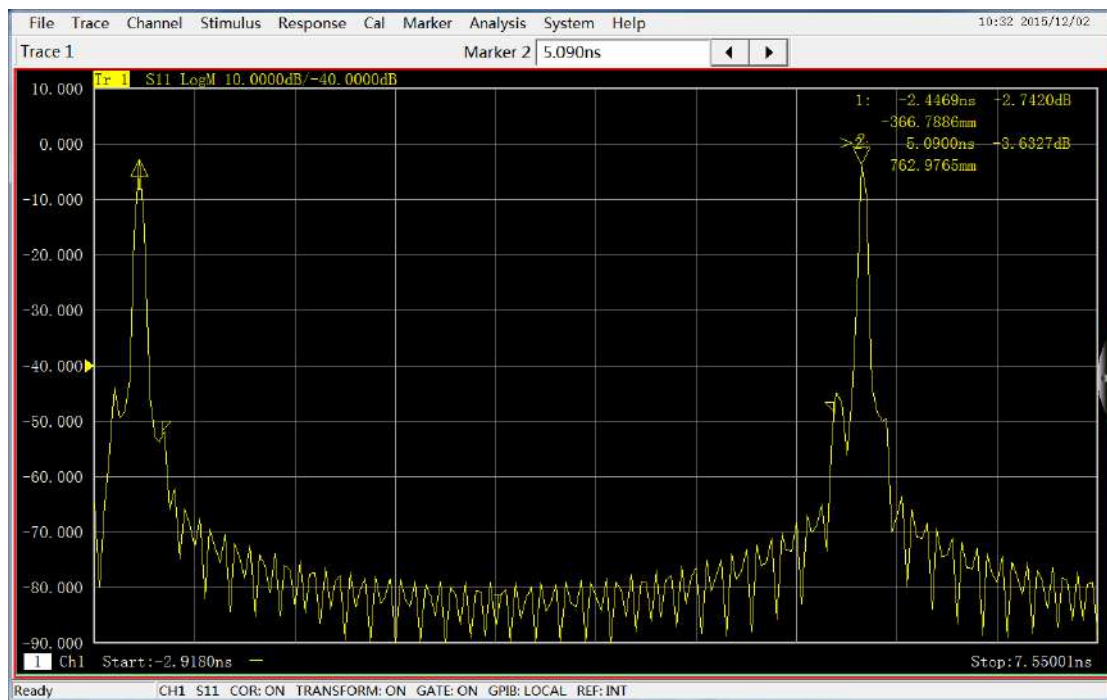
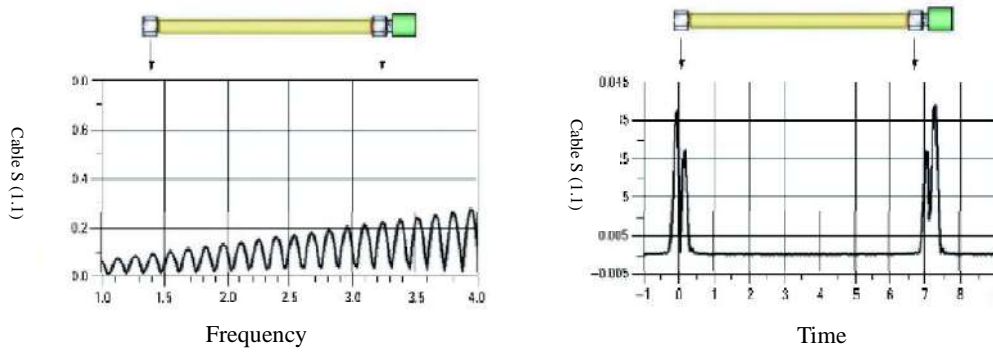
## Low trace noise, high test accuracy

The excellent performance of 3672 Series of Vector Network Analyzers in trace noise highly improves the test accuracy so as to meet users' demand for accurate measurement, and it is especially helpful for the accurate measurement of devices with low insertion loss. (3672B is taken as an example below.)



### Time-domain analysis can comprehensively characterize the design

With time-domain options, 3672 Series of Vector Network Analyzers can realize the switching of measurement results between frequency-domain and time-domain, which can be used to identify the discontinuous points of devices, fixtures or cables to realize accurate fault location.



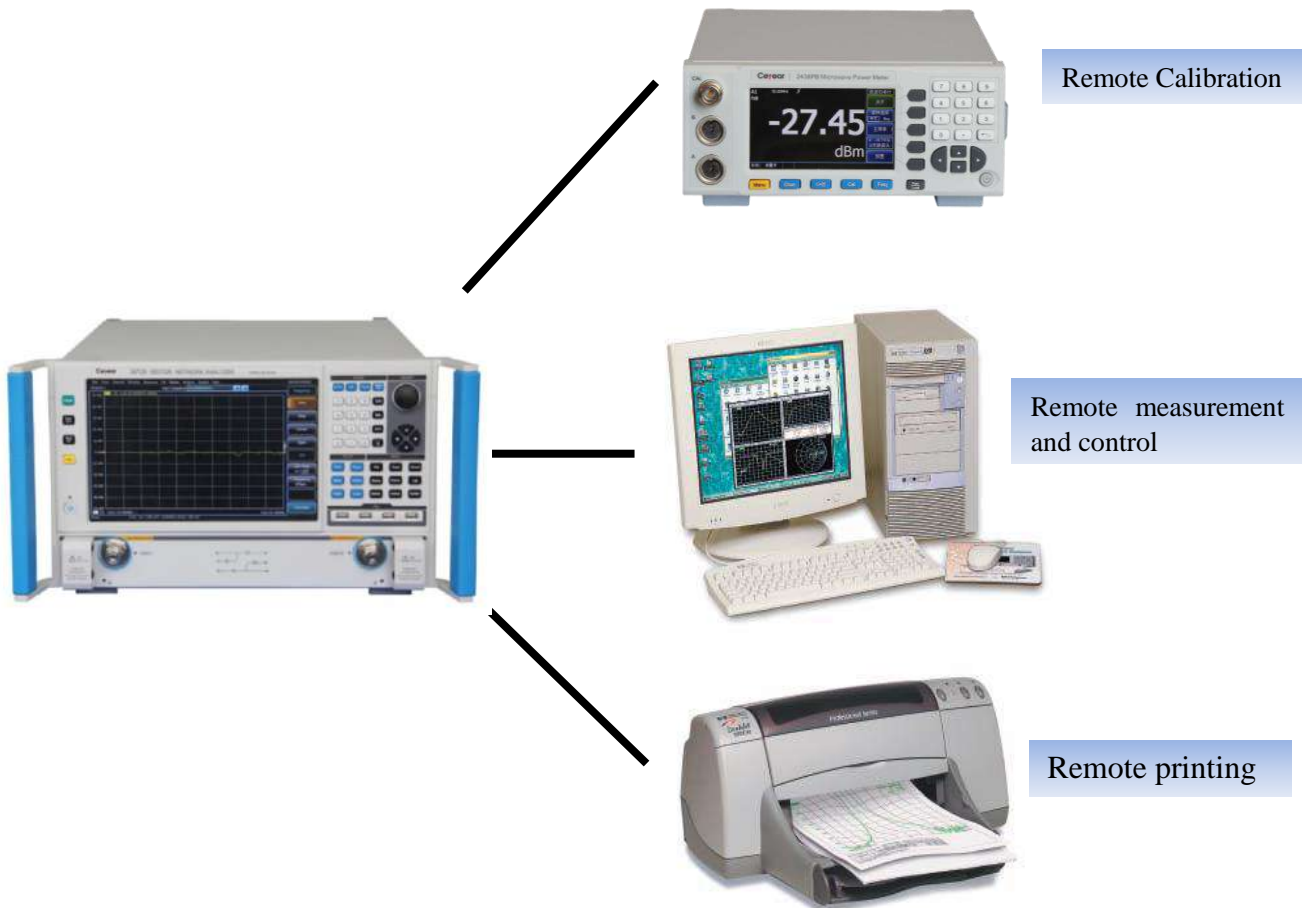
### Automatic test

Calibration is complicated: short-circuiter, open-circuiter, load, through – SO PROFESSIONAL !

Set up the same parameters over and over again – VERY BORING!

Products need to be tested under harsh conditions – BUT CUSTOMER NEEDN'T!

Setting changing and data recording need to be done at set intervals – UNFORTUNATELY, I AM NOT A TIMER!



3672 Series of Vector Network Analyzers can provide you integrated automatic test solutions including automatic calibration, automatic measurement, automatic reading and automatic printing.

Flexible and multiple control modes are provided through GPIB, LAN, and USB interfaces. All you need to do is to finish the interconnection of equipment and send the command.

### What benefits does automatic test bring for you?

- Simple control method: one LAN line, one GPIB card
- Effectively lower the test cost, liberate limited human resources
- Finish more tests in effective time, greatly shorten the development period
- Finish the task impossible for manpower, such as accurate timing, tests under complex environment etc.

## Technical Specifications

### 3672A/B Technical Specifications

Frequency Characteristic		
Frequency Range	10MHz~13.5/26.5GHz	
Frequency Resolution	1Hz	
Frequency Accuracy	$\pm 1 \times 10^{-7}$ (23°C $\pm 3$ °C)	
Port Harmonic Suppression		Typical Value
Harmonic Suppression on Port 1 And 3	-48dBc (0.01~4GHz)	-51dBc (0.01~4GHz)
	-57dBc (4~13.5GHz)	-60dBc (4~13.5GHz)
	-57dBc (13.5~26.5GHz)	-60dBc (13.5~26.5GHz)
Harmonic Suppression On Port 2 And 4	-13dBc (0.01~4GHz)	-13dBc (0.01~4GHz)
	-18dBc (4~13.5GHz)	-21dBc (4~13.5GHz)
	-18dBc (13.5~26.5GHz)	-21dBc (13.5~26.5GHz)
Port Power Characteristic		Typical Value
Power Range	Sweep	
	33dB (10~500MHz)	42dB (10~500MHz)
	30dB (0.5~4GHz)	37dB (0.5~4GHz)
	34dB (4~7GHz)	42dB (4~7GHz)
	31dB (7~13.5GHz)	41dB (7~13.5GHz)
	29dB (13.5~20GHz)	38dB (13.5~20GHz)
25dB (20~26.5GHz)	35dB (20~26.5GHz)	
Max. Output Power (Standard Configuration, Option 400)	Port 1, 3	0dBm (0.01~4GHz) (Filter Mode) +9dBm (10~50MHz) (High Power Mode) +6dBm (0.05~4GHz) (High Power Mode) +12dBm (4~7GHz) +8dBm (7~13.5GHz) +6dBm (13.5~20GHz) +4dBm (20~26.5GHz)
	Port 2, 4	+16dBm (10~50MHz) (High Power Mode) +11dBm (0.05~4GHz) (High Power Mode) +16dBm (4~7GHz) +14dBm (7~13.5GHz) +11dBm (13.5~20GHz) +9dBm (20~26.5GHz)
Max. Output Power (Option 201, 401, 402)	Port 1, 3	+13dBm (10~50MHz) +13dBm (0.05~4GHz) +10dBm (4~7GHz) +9dBm (7~13.5GHz) +6dBm (13.5~20GHz) +2dBm (20~26.5GHz)
	Port 2, 4	+16dBm (10~50MHz) +16dBm (0.05~4GHz) +16dBm (4~7GHz) +15dBm (7~13.5GHz) +13dBm (13.5~20GHz) +8dBm (20~26.5GHz)
Max. Output Power (Option 201, 401, 402)	Port 1, 3	-1dBm (0.01~4GHz) (Filter Mode) +8dBm (10~50MHz) (High Power Mode) +5dBm (0.05~4GHz) (High Power Mode) +10dBm (4~7GHz) +6dBm (7~13.5GHz) +4dBm (13.5~20GHz) +2dBm (20~26.5GHz)
	Port 2, 4	+15dBm (10~50MHz) (High Power Mode) +10dBm (0.05~4GHz) (High Power Mode) +15dBm (4~7GHz) +13dBm (7~13.5GHz) +10dBm (13.5~20GHz) +8dBm (20~26.5GHz)
	Port 2, 4	+12dBm (10~50MHz) +12dBm (0.05~4GHz)
		+15dBm (10~50MHz) +15dBm (0.05~4GHz)

		+9dBm (4~7GHz) +8dBm (7~13.5GHz) +5dBm (13.5~20GHz) 0dBm (20~26.5GHz)	+15dBm (4~7GHz) +14dBm (7~13.5GHz) +12dBm (13.5~20GHz) +7dBm (20~26.5GHz)
1dB Compression Level	/		+13dBm
Pulse Characteristic		Typical Value	
Pulse Width Setting Range	33ns~60s	20ns~60s	
Pulse Transition Time (10%-90%)	30ns	20ns	
Pulse On/Off Ratio	64dB (0.01~4GHz) 80dB (4~26.5GHz)		
Network Parameter Characteristic		Typical Value	
System Dynamic Range	90dB (0.01~1GHz) 120dB (1~4GHz) 127dB (4~10GHz) 120dB (10~20GHz) 115dB (20~24GHz) 110dB (24~26.5GHz)	100dB (0.01~1GHz) 128dB (1~4GHz) 135dB (4~10GHz) 132dB (10~20GHz) 129dB (20~24GHz) 125dB (24~26.5GHz)	
Effective Directivity	48dB (0.01~2GHz) 44dB (2~26.5GHz)	60dB (0.01~2GHz) 53dB (2~26.5GHz)	
Effective Source Match	40dB (0.01~2GHz) 30dB (2~26.5GHz)	46dB (0.01~2GHz) 36dB (2~26.5GHz)	
Effective Load Match	48dB (0.01~2GHz) 44dB (2~26.5GHz)	60dB (0.01~2GHz) 51dB (2~26.5GHz)	
Reflection Tracking	±0.04dB (0.01~2GHz) ±0.05dB (2~26.5GHz)	±0.004dB (0.01~2GHz) ±0.010dB (2~26.5GHz)	
Transmission Tracking	±0.10dB (0.01~2GHz) ±0.12dB (2~26.5GHz)	±0.005dB (0.01~2GHz) ±0.015dB (2~26.5GHz)	
Others		Typical Value	
Amplitude Trace Noise dB rms (1kHz If Bandwidth)	0.0500 (10~50MHz) 0.0070 (50~500MHz) 0.0020 (0.5~13.5GHz) 0.0030 (13.5~20GHz) 0.0050 (20~26.5GHz)	0.0020 (10~50MHz) 0.0008 (50~500MHz) 0.0009 (0.05~13.5GHz) 0.0008 (13.5~20GHz) 0.0010 (20~26.5GHz)	
Phase Trace Noise deg rms (1kHz IF Bandwidth)	0.200 (10~50MHz) 0.051 (50~500MHz) 0.042 (0.5~13.5GHz) 0.054 (13.5~20GHz) 0.054 (20~26.5GHz)	0.020 (10~50MHz) 0.006 (50~500MHz) 0.006 (0.05~13.5GHz) 0.006 (13.5~20GHz) 0.012 (20~26.5GHz)	
IF Bandwidth	1Hz~15MHz		
Amplitude Display Resolution	0.001dB/div		
Phase Display Resolution	0.01 %div		
Setting Requirement of Reference Level	-500~+500dB		

Amplitude	
Setting Requirement of Reference Level Phase	-500~+500 °
General Characteristic	
Port Connectors	3.5mm (Male), 50 ohm system impedance
Number of Measuring Ports	3672A/B Standard configuration:2 Ports; 3672A/B-400 Option:4 Ports
Peripheral Interface	USB, GPIB, VGA, LAN
Operating System	Windows 7
Display	12.1-Inch High Resolution Touch Screen
Size	W×H×D=426mm×266mm×550mm (excluding support and handle) W×H×D=516mm×280mm×640mm (including handle, support and back foot)
Max. Power Consumption	400w
Max. Weight	42kg

### 3672C/D Technical Specifications

Frequency Characteristic			
Frequency Range	10MHz~43.5/50GHz		
Frequency Resolution	1Hz		
Frequency Accuracy	$\pm 1 \times 10^{-7}$ (23°C $\pm 3$ °C)		
Port Harmonic Suppression		Typical Value	
Harmonic Suppression on Port 1 And 3	-48dBc (0.01~4GHz)	-51dBc (0.01~4GHz)	
	-57dBc (4~13.5GHz)	-60dBc (4~13.5GHz)	
	-57dBc (13.5~50GHz)	-60dBc (13.5~50GHz)	
Harmonic Suppression on Port 2 And 4	-13dBc (0.01~4GHz)	-13dBc (0.01~4GHz)	
	-18dBc (4~13.5GHz)	-21dBc (4~13.5GHz)	
	-57dBc (13.5~50GHz)	-60dBc (13.5~50GHz)	
Port Power Characteristic		Typical Value	
Power Range	Sweep	32dB (10~50MHz)	41dB (10~500MHz)
		29dB (0.05~4GHz)	40dB (0.5~4GHz)
		28dB (4~13.5GHz)	36dB (4~13.5GHz)
		30dB (13.5~40GHz)	38dB (13.5~40GHz)
		27dB (40~47GHz)	36dB (40~47GHz)
		15dB (47~50GHz)	23dB (47~50GHz)
Max. Output Power (Standard Configuration, Option 400)	Port 1, 3	-1dBm (10~50MHz) (Filter Mode)	+13dBm (10~50MHz) (High Power Mode)
		0dBm (0.05~4GHz) (Filter Mode)	
		+8dBm (10~50MHz) (High Power Mode)	
		+5dBm(0.05~4GHz) (High Power Mode)	
		+5dBm (4~13.5GHz)	
		+7dBm (13.5~40GHz)	
	Port 2, 4	+5dBm (40~47GHz)	+9dBm (0.05~4GHz) (High Power Mode)
		-7dBm (47~50GHz)	
		+11dBm (10~50MHz)	
		+9dBm (0.05~4GHz)	
		+6dBm (4~13.5GHz)	
		+7dBm (13.5~40GHz)	
Max. Output Power (Option 201, 401, 402)	Port 1, 3	+5dBm (40~47GHz)	+10dBm (4~13.5GHz)
		-7dBm (47~50GHz)	
		+13dBm (13.5~40GHz)	
		+10dBm (40~47GHz)	
		0dBm (47~50GHz)	
		+16dBm (10~50MHz)	
	Port 2, 4	+15dBm (0.05~4GHz)	+15dBm (10~50MHz) (High Power Mode)
		+13dBm (4~13.5GHz)	
		+12dBm (13.5~40GHz)	
		+9dBm (40~47GHz)	
		+9dBm (4~13.5GHz)	
		+12dBm (13.5~40GHz)	
Port 1, 3	+9dBm (40~47GHz)	+8dBm (0.05~4GHz) (High Power Mode)	
	-1dBm (47~50GHz)		
	-2dBm (10~50MHz) (Filter Mode)		
	-1dBm (0.05~4GHz) (Filter Mode)		
	+7dBm (10~50MHz) (High Power Mode)		
	+4dBm (0.05~4GHz) (High Power Mode)		
Port 2, 4	+3dBm (4~13.5GHz)	+9dBm (4~13.5GHz)	
	+5dBm (13.5~40GHz)		
	+2dBm (40~47GHz)		
Port 1, 3	+10dBm (40~47GHz)	+12dBm (13.5~40GHz)	
	-10dBm (47~50GHz)		
	+10dBm (10~50MHz)		
Port 2, 4	+8dBm (0.05~4GHz)	+15dBm (10~50MHz)	
	+4dBm (4~13.5GHz)		
	+14dBm (0.05~4GHz)		
Port 1, 3	+15dBm (10~50MHz)	+12dBm (4~13.5GHz)	
	+8dBm (0.05~4GHz)		
	+4dBm (4~13.5GHz)		

		+5dBm (13.5~40GHz) +2dBm (40~47GHz) -10dBm (47~50GHz)	+11dBm (13.5~40GHz) +8dBm (40~47GHz) -2dBm (47~50GHz)
1dB Compression Level	/		+10dBm
Pulse Characteristic		Typical Value	
Pulse Width Setting Range	33ns~60s	20ns~60s	
Pulse Transition Time (10%-90%)	30ns	20ns	
Pulse On/Off Ratio	64dB (0.01~4GHz) 80dB (4~40GHz) 80dB (40~50GHz)		
Network Parameter Characteristics		Typical Value	
System Dynamic Range	74dB (0.01~1GHz) 119dB (1~13.5GHz) 115dB (13.5~26.5GHz) 110dB (26.5~35GHz) 105dB (35~47GHz) 90dB (47~50GHz)	105dB (0.01~1GHz) 133dB (1~13.5GHz) 126dB (13.5~26.5GHz) 120dB (26.5~35GHz) 116dB (35~47GHz) 103dB (47~50GHz)	
Effective Directivity	42dB (0.01~13.5GHz) 38dB (13.5~40GHz) 36dB (40~50GHz)	50dB (0.01~13.5GHz) 45dB (13.5~40GHz) 42dB (40~50GHz)	
Effective Source Match	36dB (0.01~2GHz) 31dB (2~13.5GHz) 28dB (13.5~40GHz) 27dB (40~50GHz)	43dB (0.01~2GHz) 34dB (2~13.5GHz) 33dB (13.5~40GHz) 33dB (40~50GHz)	
Effective Load Match	42dB (0.01~13.5GHz) 37dB (13.5~40GHz) 35dB (40~50GHz)	60dB (0.01~13.5GHz) 56dB (13.5~40GHz) 51dB (40~50GHz)	
Reflection Tracking	±0.04dB (0.01~13.5GHz) ±0.03dB (13.5~40GHz) ±0.04dB (40~50GHz)	±0.010dB (0.01~13.5GHz) ±0.010dB (13.5~40GHz) ±0.020dB (40~50GHz)	
Transmission Tracking	±0.1dB (0.01~13.5GHz) ±0.16dB (13.5~40GHz) ±0.20dB (40~50GHz)	±0.012dB (0.01~13.5GHz) ±0.015dB (13.5~40GHz) ±0.020dB (40~50GHz)	
Others		Typical Value	
Amplitude Trace Noise dB rms (1kHz IF Bandwidth)	0.050 (10~50MHz) 0.020 (50~500MHz) 0.005 (0.5~13.5GHz) 0.004 (13.5~26.5GHz) 0.008 (26.5~50GHz)	0.0060 (10~50MHz) 0.0020 (50~500MHz) 0.0010 (0.5~13.5GHz) 0.0009 (13.5~26.5GHz) 0.0040 (26.5~50GHz)	
Phase Trace Noise deg rms (1kHz IF Bandwidth)	0.900 (10~50MHz) 0.700 (50~500MHz) 0.040 (0.5~13.5GHz) 0.050 (13.5~26.5GHz) 0.060 (26.5~50GHz)	0.040 (10~50MHz) 0.010 (50~500MHz) 0.005 (0.5~13.5GHz) 0.020 (13.5~26.5GHz) 0.030 (26.5~50GHz)	
IF Bandwidth	1Hz~15MHz		
Amplitude Display	0.001dB/div		

Resolution	
Phase Display Resolution	0.01 %div
Setting Requirement of Reference Level Amplitude	-500~+500dB
Setting Requirement of Reference Level Phase	-500~+500°
General Characteristic	
Port Connectors	2.4mm (Male), 50 ohm system impedance
Number of Measuring Ports	3672C/D Standard configuration:2 ports, 3672C/D-400 Option: 4 ports
Peripheral Interface	USB, GPIB, VGA, LAN
Operating System	Windows 7
Display	12.1-Inch High Resolution Touch Screen
Size	W×H×D=426mm×266mm×600mm (excluding support and handle) W×H×D=516mm×280mm×690mm (including handle, support and back foot)
Max. Power Consumption	500w
Max. Weight	47kg

### 3672E Technical Specifications

Frequency Characteristics		
Frequency Range	10MHz~67GHz	
Frequency Resolution	1Hz	
Frequency Accuracy	$\pm 1 \times 10^{-7}$ (23°C $\pm 3^\circ\text{C}$ )	
Port Harmonic Suppression		Typical Value
Harmonic Suppression on Port 1 and 3	-48dBc (0.01~4GHz) -57dBc (4~67GHz)	-51dBc (0.01~4GHz) -60dBc (4~67GHz)
Harmonic Suppression on Port 2 and 4	-13dBc (0.01~4GHz) -18dBc (4~13.5GHz) -57dBc (13.5~67GHz)	-13dBc (0.01~4GHz) -21dBc (4~13.5GHz) -60dBc (13.5~67GHz)
Port Power Characteristics		Typical Value
Power Range Sweep	32dB (10~50MHz)	42dB (10~500MHz)
	29dB (0.05~4GHz)	38dB (0.5~4GHz)
	28dB (4~26.5GHz)	36dB (4~26.5GHz)
	29dB (26.5~35GHz)	35dB (26.5~35GHz)
	26dB (35~40GHz)	34dB (35~40GHz)
	25dB (40~67GHz)	32dB (40~67GHz)
Max. Output Power (standard configuration, option 400)	Port 1, 3	-1dBm (10~50MHz) (Filter mode) 0dBm (0.05~4GHz) (Filter mode) +8dBm (10~50MHz) (High power mode) +5dBm(0.05~4GHz) (High power mode) +1dBm (4~13.5GHz) +5dBm (13.5~26.5GHz) +3dBm (26.5~40GHz) +5dBm (40~67GHz)
	Port 2, 4	+16dBm (10~50MHz) (High power mode) +10dBm (0.05~4GHz) (High power mode) +9dBm (4~13.5GHz) +11dBm (13.5~26.5GHz) +10dBm (26.5~40GHz) +9dBm (40~67GHz)
Max. Output Power (option 201, 401, 402)	Port 1, 3	+8dBm (10~50MHz) +5dBm (0.05~4GHz) +1dBm (4~13.5GHz) +5dBm (13.5~26.5GHz) +3dBm (26.5~40GHz) +5dBm (40~67GHz)
	Port 2, 4	+16dBm (10~50MHz) +15dBm (0.05~4GHz) +10dBm (4~13.5GHz) +11dBm (13.5~26.5GHz) +9dBm (26.5~40GHz) +8dBm (40~67GHz)
Max. Output Power (option 201, 401, 402)	Port 1, 3	-2dBm (10~50MHz) (Filter Mode) -1dBm (0.05~4GHz) (Filter Mode) +7dBm (10~50MHz) (High Power Mode) +4dBm (0.05~4GHz) (High Power Mode) -2dBm (4~13.5GHz) +3dBm (13.5~26.5GHz) 0dBm (26.5~67GHz)
	Port 2, 4	+15dBm (10~50MHz) (High Power Mode) +9dBm (0.05~4GHz) (High Power Mode) +6dBm (4~13.5GHz) +7dBm (13.5~26.5GHz) +4dBm (26.5~67GHz)
Max. Output Power (option 201, 401, 402)	Port 1, 3	+7dBm (10~50MHz) +4dBm (0.05~4GHz) -2dBm (4~13.5GHz) +3dBm (13.5~26.5GHz) 0dBm (26.5~67GHz)
	Port 2, 4	+15dBm (10~50MHz) +14dBm (0.05~4GHz) +9dBm (4~13.5GHz) +10dBm (13.5~26.5GHz) +5dBm (26.5~67GHz)

1dB Compression Level	/	+10dBm
Pulse Characteristics		Typical Value
Pulse Width Setting Range	33ns~60s	20ns~60s
Pulse Transition Time (10%-90%)	30ns	20ns
Pulse on/off Ratio	64dB (0.01~4GHz) 80dB (4~67GHz)	
Network Parameter Characteristic		Typical Value
System Dynamic Range	74dB (0.01~1GHz)	100dB (0.01~1GHz)
	100dB (1~4GHz)	125dB (1~4GHz)
	120dB (4~10GHz)	125dB (4~10GHz)
	112dB (10~26.5GHz)	120dB (10~26.5GHz)
	108dB (26.5~35GHz)	115dB (26.5~35GHz)
	105dB (35~50GHz)	112dB (35~50GHz)
	100dB (50~67GHz)	105dB (50~67GHz)
Effective Directivity	35dB (0.01~2GHz)	50dB (0.01~2GHz)
	41dB (2~13.5GHz)	50dB (2~13.5GHz)
	34dB (13.5~40GHz)	50dB (13.5~40GHz)
	32dB (40~67GHz)	42dB (40~67GHz)
Effective Load Match	35dB (0.01~2GHz)	60dB (0.01~2GHz)
	41dB (2~13.5GHz)	50dB (2~13.5GHz)
	33dB (13.5~40GHz)	50dB (13.5~40GHz)
	30dB (40~67GHz)	45dB (40~67GHz)
Reflection Tracking	±0.05dB (0.01~2GHz)	±0.005dB (0.01~2GHz)
	±0.06dB (2~13.5GHz)	±0.005dB (2~13.5GHz)
	±0.08dB (13.5~40GHz)	±0.008dB (13.5~40GHz)
	±0.10dB (40~67GHz)	±0.010dB (40~67GHz)
Transmission Tracking	±0.10dB (0.01~2GHz)	±0.005dB (0.01~2GHz)
	±0.11dB (2~13.5GHz)	±0.006dB (2~13.5GHz)
	±0.16dB (13.5~40GHz)	±0.015dB (13.5~40GHz)
	±0.20dB (40~67GHz)	±0.020dB (40~67GHz)
Others		Typical Value
Amplitude Trace Noise dB rms (1kHz IF bandwidth)	0.050 (10~50MHz)	0.0090 (10~50MHz)
	0.020 (50~500MHz)	0.0020 (50~500MHz)
	0.005 (0.5~13.5GHz)	0.0008 (0.5~13.5GHz)
	0.004 (13.5~26.5GHz)	0.0008 (13.5~26.5GHz)
	0.020 (26.5~67GHz)	0.0050 (26.5~67GHz)
Phase Trace Noise deg rms (1kHz IF bandwidth)	0.90 (10~50MHz)	0.010 (10~50MHz)
	0.70 (50~500MHz)	0.010 (50~500MHz)
	0.04 (0.5~13.5GHz)	0.006 (0.5~13.5GHz)
	0.05 (13.5~26.5GHz)	0.007 (13.5~26.5GHz)
	0.10 (26.5~67GHz)	0.030 (26.5~67GHz)
IF Bandwidth	1Hz~15MHz	
Amplitude Display Resolution	0.001dB/div	
Phase Display Resolution	0.01 %div	
Setting	-500~+500dB	

Requirement of Reference Level Amplitude	
Setting Requirement of Reference Level Phase	-500~+500 °
General Characteristics	
Port Connectors	1.85mm (Male), 50 ohm system impedance
Number of measuring Ports	3672E Standard configuration:2 ports, 3672E-400 Option: 4 ports
Peripheral Interface	USB, GPIB, VGA, LAN
Operating System	Windows 7
Display	12.1-Inch High Resolution Touch Screen
Size	W×H×D=426mm×266mm×600mm (excluding support and handle) W×H×D=516mm×280mm×690mm (including handle, support and back foot)
Max. Power Consumption	500W
Max. Weight	50 kg

## Ordering Information

Main Unit	Description
3672A	Vector Network Analyzer (10MHZ ~ 13.5GHZ)
3672B	Vector Network Analyzer (10MHZ ~ 26.5GHZ)
3672C	Vector Network Analyzer (10MHZ ~ 43.5GHZ)
3672D	Vector Network Analyzer (10MHZ ~ 50GHZ)
3672E	Vector Network Analyzer (10MHZ ~ 67GHZ)

### Standard Package

No.	Description	Remarks
1	Power Cord Assembly	Standard three-prong power cord
2	USB Keyboard/Mouse	
3	User Manual	
4	Certificate of Conformity	
5	Aluminum Alloy Box	

### 3672A Options

Model	Description	Remarks
3672A-003	Noise Figure Measurement	It contains a built-in 10MHz~13.5GHz high-sensitivity noise receiver which needs to be equipped with external E-cal kits. It can simultaneously complete the accurate measurement of S-parameters, noise figure and noise parameters. E-cal kits and noise sources need to be purchased separately
3672A-201	2-Port Programmable Step Attenuator	Set two 70dB programmable step attenuators for the source path, and two 35dB programmable step attenuators for the receiver path
3672A-400	4-Port Measurement	Two-source stimulus four-port VNA configuration

3672A-401	4-Port Programmable Step Attenuator	Set four 70dB programmable step attenuators for the source path, and four 35dB programmable step attenuators for the receiver path (Option 400 is needed)
3672A-402	Active Inter-modulation Measurement	For inter-modulation signal measurement of amplifier (Option 400 is needed)
3672A-006	English Options	Key, Front Panel, Label, Operation System
3672A-008	Pulse Measurement	For pulse S-parameter measurement
3672A-3648	Multi-port network parameter extension	Extend to 16-port network parameter measurement (10MHz~13.5GHz )
3672A-S05	SnpExpert S Parameter Analysis	To display the frequency domain characteristics and time domain TDR characteristics of the system; built-in crosstalk evaluation modules such as NEXT, FEXT, PSXT, ILD, ICR and ICN; built-in standards such as IEEE 802.3, PCIe, SAS and SATA help to quickly evaluate whether S parameters meet the design requirements; can automatically convert the software graphic curve into Word or PPT report; support a variety of Dk/Df extraction methods; support NRZ, PAM-4 eye diagram drawing function
3672A-S07	AFR Automatic Fixture Removal	For automatic testing and removal of single-ended and balanced device measuring fixtures
3672A-S10	Time Domain Measurement	For time-domain test, can locate and analyze the discontinuous positions in devices, fixtures or cables.
3672A-S11	Advanced Time Domain Analysis	For TDR time domain impedance test, eye diagram analysis, etc.
3672A-S80	Frequency Offset Measurement	For frequency offset measurement. millimeter-wave frequency extension main unit needs this option
3672A-S82	Mixer Scalar Measurement	For the scalar parameter measurement of mixers (Option 400 is needed)
3672A-S83	Mixer Vector Measurement	For the vector parameter measurement of mixers (Option 400 is needed)
3672A-S84	Embedded LO Frequency Converter Measurement	For the measurement of embedded LO frequency converters (Option 400, S82 or S83 are needed)
3672A-S86	Gain Compression Two-Dimension Sweep Measurement	For the gain compression two-dimension sweep test of amplifier
3672A-S88	Phase Scan	For phase scanning measurement (Option 400 is needed)
31121	3.5mm Calibration Kit	For calibration of the analyzer
FB0HA0HB025.0	3.5mm Test cable	For measurement of the analyzer
FB0HA0HC025.0	3.5mm Test cable	For measurement of the analyzer
20403	E-Cal Kit	For calibration of the analyzer (10MHz-26.5GHz, 2 ports)
20405	E-Cal Kit	For calibration of the analyzer (10MHz-20GHZ, 4 ports)
87232	Usb Power Probe	For 402, S82, S86 Options in the process of power calibration (50MHz-26.5GHZ)

### 3672B Options

Model	Description	Remarks
3672B-003	Noise Figure Measurement	It contains a built-in 10MHz~26.5GHz high-sensitivity noise receiver which needs to be equipped with external E-cal kits. It can simultaneously complete the accurate measurement of S-parameters, noise figure and noise parameters. E-cal kits and noise sources need to be purchased separately
3672B-201	2-Port Programmable Attenuator	Step Set Two 70dB programmable step attenuators for the source path, and two 35dB programmable step attenuators for the receiver path
3672B-400	4-Port Measurement	Two-source stimulus four-port VNA configuration
3672B-401	4-Port Programmable Attenuator	Step Set four 70dB programmable step attenuators for the source path, and four 35dB programmable step attenuators for the receiver path (Option 400 is needed)
3672B-402	Active Inter-modulation Measurement	For inter-modulation signal measurement of amplifier (Option 400 is needed)
3672B-006	English Options	Key, Front Panel, Label, Operation System
3672B-008	Pulse Measurement	For pulse S-parameter measurement
3672B-480	4-port Frequency Extension System Cables	Necessary connection cables for 4-port VNA directly building a frequency extension system
3672B-3648	Multi-port network parameter extension	Extend to 16-port network parameter measurement (10MHz~13.5GHz )
3672B-S05	SnpExpert S Parameter Analysis	To display the frequency domain characteristics and time domain TDR characteristics of the system; built-in crosstalk evaluation modules such as NEXT, FEXT, PSXT, ILD, ICR and ICN; built-in standards such as IEEE 802.3, PCIe, SAS and SATA help to quickly evaluate whether S parameters meet the design requirements; can automatically convert the software graphic curve into Word or PPT report; support a variety of Dk/Df extraction methods; support NRZ, PAM-4 eye diagram drawing function
3672B-S06	Millimeter-wave Frequency Extension Port Power Control	For port power scan and calibration control of millimeter-wave frequency extending (applicable to 3643 series S parameter frequency extenders)
3672B-S07	AFR Automatic Fixture Removal	For automatic testing and removal of single-ended and balanced device measuring fixtures
3672B-S10	Time Domain Measurement	For time-domain test, can locate and analyze the discontinuous positions in devices, fixtures or cables.
3672B-S11	Advanced Time Domain Analysis	For TDR time domain impedance test, eye diagram analysis, etc.
3672B-S80	Frequency Offset Measurement	For frequency offset measurement. millimeter-wave frequency extension main unit needs this option
3672B-S82	Mixer Scalar Measurement	For the scalar parameter measurement of mixers (Option 400 is needed)
3672B-S83	Mixer Vector Measurement	For the vector parameter measurement of mixers (Option 400 is needed)

3672B-S84	Embedded LO Frequency Converter Measurement	For the measurement of embedded LO frequency converters(Option 400, S82 or S83 are needed)
3672B-S86	Gain Compression Two-Dimension Sweep Measurement	For the gain compression two-dimension sweep test of amplifier
3672B-S88	Phase Scan	For phase scanning measurement (Option 400 is needed)
31121	3.5mm Calibration Kit	For calibration of the analyzer
FB0HA0HB025.0	3.5mm Test cable	For measurement of the analyzer
FB0HA0HC025.0	3.5mm Test cable	For measurement of the analyzer
20403	E-Cal Kit	For calibration of the analyzer (10MHZ-26.5GHZ, 2 ports)
20405	E-Cal Kit	For calibration of the analyzer (10MHZ-20GHZ, 4 ports)
87232	USB Power Probe	For 402, S82, S86 Options in the process of power calibration (50MHZ-26.5GHZ)

### 3672C Options

Model	Description	Remarks
3672C-003	Noise Figure Measurement	It contains a built-in 10MHz~43.5GHz high-sensitivity noise receiver which needs to be equipped with external E-cal kits. It can simultaneously complete the accurate measurement of S-parameters, noise figure and noise parameters. E-cal kits and noise sources need to be purchased separately
3672C-201	2-Port Programmable Step Attenuator	Set two 60dB programmable step attenuators for the source path, and two 35dB programmable step attenuators for the receiver path
3672C-400	4-Port Measurement	Two-source stimulus four-port VNA configuration
3672C-401	4-Port Programmable Step Attenuator	Set four 60dB programmable step attenuators for the source path, and four 35dB programmable step attenuators for the receiver path (Option 400 is needed)
3672C-402	Active Inter-modulation Measurement	For inter-modulation signal measurement of amplifier (Option 400 is needed)
3672C-006	English Options	Key, Front Panel, Label, Operation System
3672C-008	Pulse Measurement	For pulse S-parameter measurement
3672C-480	4-port Frequency Extension System Cables	Necessary connection cables for 4-port VNA directly building a frequency extension system
3672C-3648	Multi-port network parameter extension	Extend to 16-port network parameter measurement (10MHz~43.5GHz )
3672C-S05	SnpExpert S Parameter Analysis	To display the frequency domain characteristics and time domain TDR characteristics of the system; built-in crosstalk evaluation modules such as NEXT, FEXT, PSXT, ILD, ICR and ICN; built-in standards such as IEEE 802.3, PCIe, SAS and SATA help to quickly evaluate whether S parameters meet the design requirements; can automatically convert the software graphic curve into Word or PPT report; support a variety of Dk/Df extraction methods; support NRZ, PAM-4 eye diagram drawing function
3672C-S06	Millimeter-wave Frequency	For port power scan and calibration control of

	Extension Port Power Control	millimeter-wave frequency extending (applicable to 3643 series S parameter frequency extenders)
3672C-S07	AFR Automatic Fixture Removal	For automatic testing and removal of single-ended and balanced device measuring fixtures
3672C-S10	Time Domain Measurement	For time-domain test, can locate and analyze the discontinuous positions in devices, fixtures or cables.
3672C-S11	Advanced Time Domain Analysis	For TDR time domain impedance test, eye diagram analysis, etc.
3672C-S80	Frequency Offset Measurement	For frequency offset measurement. millimeter-wave frequency extension main unit needs this option
3672C-S82	Mixer Scalar Measurement	For the scalar parameter measurement of mixers (Option 400 is needed)
3672C-S83	Mixer Vector Measurement	For the vector parameter measurement of mixers (Option 400 is needed)
3672C-S84	Embedded LO Frequency Converter Measurement	For the measurement of embedded LO frequency converters (Option 400, S82 or S83 are needed)
3672C-S86	Gain Compression Two-Dimension Sweep Measurement	For the gain compression two-dimension sweep test of amplifier
3672C-S88	Phase Scan	For phase scanning measurement (Option 400 is needed)
31123	2.4mm Calibration Kit	For calibration of the analyzer
FE0BN0BM025.0	2.4mm Test cable	For measurement of the analyzer
FE0BN0BL025.0	2.4mm Test cable	For measurement of the analyzer
20404	E-Cal Kit	For calibration of the analyzer (10MHz-50GHz 2 ports)
87233	USB Power Probe	For 402, S82, S86 Options in the process of power calibration (50MHz-40GHz)

### 3672D Options

Model	Description	Remarks
3672D-003	Noise Figure Measurement	It contains a built-in 10MHz~50GHz high-sensitivity noise receiver which needs to be equipped with external E-cal kits. It can simultaneously complete the accurate measurement of S-parameters, noise figure and noise parameters. E-cal kits and noise sources need to be purchased separately
3672D-201	2-Port Programmable Step Attenuator	Set two 60dB programmable step attenuators for the source path, and two 35dB programmable step attenuators for the receiver path
3672D-400	4-Port Measurement	Two-source stimulus four-port VNA configuration
3672D-401	4-Port Programmable Step Attenuator	Set four 60dB programmable step attenuators for the source path, and four 35dB programmable step attenuators for the receiver path (Option 400 is needed)
3672D-006	English Options	Key, Front Panel, Label, Operation System
3672D-008	Pulse Measurement	For pulse S-parameter measurement
3672D-480	4-port Frequency Extension System Cables	Necessary connection cables for 4-port VNA directly building a frequency extension system
3672D-3648	Multi-port network parameter	Extend to 16-port network parameter

	extension	measurement (10MHz~50GHz )
3672D-S05	SnExpert S Parameter Analysis	To display the frequency domain characteristics and time domain TDR characteristics of the system; built-in crosstalk evaluation modules such as NEXT, FEXT, PSXT, ILD, ICR and ICN; built-in standards such as IEEE 802.3, PCIe, SAS and SATA help to quickly evaluate whether S parameters meet the design requirements; can automatically convert the software graphic curve into Word or PPT report; support a variety of Dk/Df extraction methods; support NRZ, PAM-4 eye diagram drawing function
3672D-S06	Millimeter-wave Frequency Extension Port Power Control	For port power scan and calibration control of millimeter-wave frequency extending (applicable to 3643 series S parameter frequency extenders)
3672D-S07	AFR Automatic Fixture Removal	For automatic testing and removal of single-ended and balanced device measuring fixtures
3672D-S10	Time Domain Measurement	For time-domain test, can locate and analyze the discontinuous positions in devices, fixtures or cables.
3672B-S11	Advanced Time Domain Analysis	For TDR time domain impedance test, eye diagram analysis, etc.
3672D-S80	Frequency Offset Measurement	For frequency offset measurement. millimeter-wave frequency extension main unit needs this option
3672D-S82	Mixer Scalar Measurement	For the scalar parameter measurement of mixers (Option 400 is needed)
3672D-S83	Mixer Vector Measurement	For the vector parameter measurement of mixers (Option 400 is needed)
3672D-S84	Embedded LO Frequency Converter Measurement	For the measurement of embedded LO frequency converters(Option 400, S82 or S83 are needed)
3672D-S86	Gain Compression Two-Dimension Sweep Measurement	For the gain compression two-dimension sweep test of amplifier
3672D-S88	Phase Scan	For phase scanning measurement (Option 400 is needed)
31123A	2.4mm Calibration Kit	For calibration of the analyzer
FE0BN0BM025.0	2.4mm Test cable	For measurement of the analyzer
FE0BN0BL025.0	2.4mm Test cable	For measurement of the analyzer
20404	E-Cal Kit	For calibration of the analyzer (10MHZ-50GHZ 2 ports)

### 3672E Options

Model	Description	Remarks
3672E-201	2-Port Programmable Step Attenuator	Set two 50dB programmable step attenuators for the source path, and two 50dB programmable step attenuators for the receiver path
3672E-400	4-Port Measurement	Two-source stimulus four-port VNA configuration
3672E-401	4-Port Programmable Step Attenuator	Set four 50dB programmable step attenuators for the source path, and four 50dB programmable step attenuators for the receiver path (Option 400 is needed)
3672E-402	Active Inter-modulation Measurement	For inter-modulation signal measurement of amplifier (Option 400 is needed)

3672E-006	English Options	Key, Front Panel, Label, Operation System
3672E-008	Pulse Measurement	For pulse S-parameter measurement
3672E-480	4-port Frequency Extension System Cables	Necessary connection cables for 4-port VNA directly building a frequency extension system
3672E-S05	SnExpert S Parameter Analysis	To display the frequency domain characteristics and time domain TDR characteristics of the system; built-in crosstalk evaluation modules such as NEXT, FEXT, PSXT, ILD, ICR and ICN; built-in standards such as IEEE 802.3, PCIe, SAS and SATA help to quickly evaluate whether S parameters meet the design requirements; can automatically convert the software graphic curve into Word or PPT report; support a variety of Dk/Df extraction methods; support NRZ, PAM-4 eye diagram drawing function
3672E-S06	Millimeter-wave Frequency Extension Port Power Control	For port power scan and calibration control of millimeter-wave frequency extending (applicable to 3643 series S parameter frequency extenders)
3672E-S07	AFR Automatic Fixture Removal	For automatic testing and removal of single-ended and balanced device measuring fixtures
3672E-S10	Time-Domain Measurement	For time-domain test, can locate and analyze the discontinuous positions in devices, fixtures or cables.
3672E-S11	Advanced Time Domain Analysis	For TDR time domain impedance test, eye diagram analysis, etc.
3672E-S80	Frequency Offset Measurement	For frequency offset measurement. millimeter-wave frequency extension main unit needs this option
3672E-S82	Mixer Scalar Measurement	For the scalar parameter measurement of mixers (Option 400 is needed)
3672E-S83	Mixer Vector Measurement	For the vector parameter measurement of mixers (Option 400 is needed)
3672E-S84	Embedded LO Frequency Converter Measurement	For the measurement of embedded LO frequency converters(Option 400, S82 or S83 are needed)
3672E-S86	Gain Compression Two-Dimension Sweep Measurement	For the gain compression two-dimension sweep test of amplifier
3672E-S88	Phase Scan	For phase scanning measurement (Option 400 is needed)
31128	1.85mm Calibration Kit	For calibration of the analyzer
N4697F/ FF0CN0CM025.0 FF0CN0CL025.0	1.85mm Test cable	For measurement of the analyzer
20409	E-Cal Kit	For calibration of the analyzer (10MHZ-67GHZ, 2 ports)

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