



4957D/E/F Microwave Analyzer (18GHz/26.5GHz/40GHz)



Product Overview

The 4957D/E/F microwave analyzer has a frequency range of up to 18 GHz/26.5 GHz/40 GHz, and is provided with various functions, including dual port vector network analysis, cable and antenna analysis, vector voltage measurement, spectrum analysis (channel power, adjacent channel power, occupied bandwidth, interference analysis and frequency counting), field strength measurement and power measurement, providing users with powerful comprehensive analysis capabilities!

Dual-port vector network analysis has the capability of fast and accurate measurement of RF network parameters, provides logarithm, linearity, phase, group delay, impedance circle diagram, polar coordinates, standing wave ratio and other displaying formats and also provides time domain measurements option.

The cable and antenna analysis can measure the standing wave ratio, return loss, impedance, cable loss and other parameters of the microwave network such as antenna, transmission line and cable. In addition, the Distance-To-Fault (DTF) function enables to conveniently measure the impedance discontinuous point of the cable antenna feeder and cable.

The vector voltage measurement function replaces the traditional vector voltmeter with an integrated solution that accurately analyzes the electrical length of cables and other devices under analysis.

The spectrum analyzer is a standard function spectrum analyzer that comprehensively measures the spectral features of the electromagnetic environment.

The field strength measurement function features user-friendly interface and high analysis sensitivity, can effectively monitor the electromagnetic spectrum with the corresponding analysis antenna and is widely used in space electromagnetic environment monitoring and radio management.

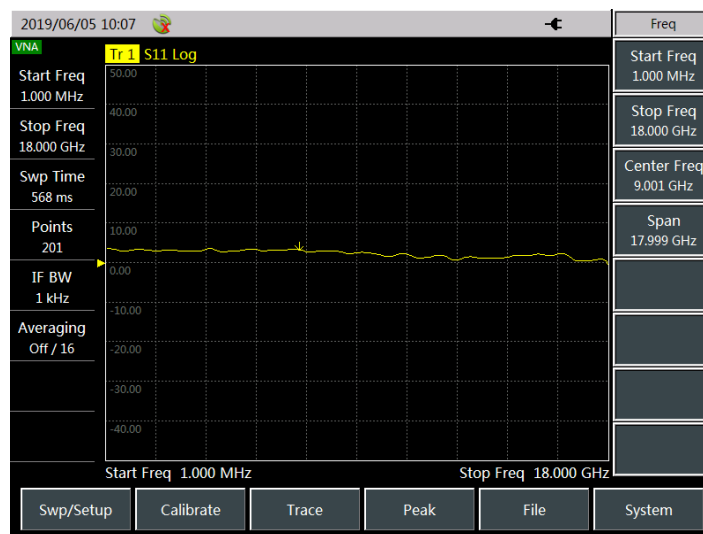
The USB power sensor is configured to achieve large dynamic range and high-precision power measurement, or implement power monitoring through the spectrum input port.

Main Features

- Rich analysis functions: Cable and antenna analysis, vector network analysis, spectrum analysis, field strength measurement, power monitoring, vector voltage measurement and USB power measurement, etc.
- Compacted size, light weight, secondary environment adaptability, easy to carry and suitable for special occasion analysis.
- 8.4-inch LCD touch screen features easy to operate, friendly man-machine interface and intuitive display result.
- Analysis data can be stored and recalled, providing three storage media: 1.5G or more large-capacity internal memory, USB external memory and SD external memory.
- Battery-powered, suitable for field use, power management intelligence, providing remaining battery indicator and low battery alarm function and sleep energy saving function
- Providing six independent marker display functions, with marker position displayed when swiping with finger
- Providing data storage, playback and comparison capabilities
- Providing USB, LAN and other interfaces for program control and data transmission

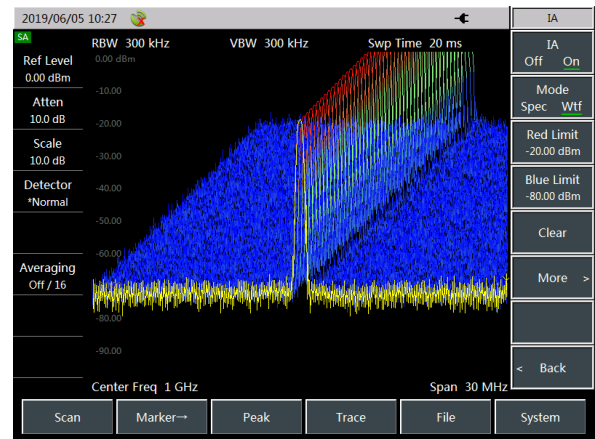
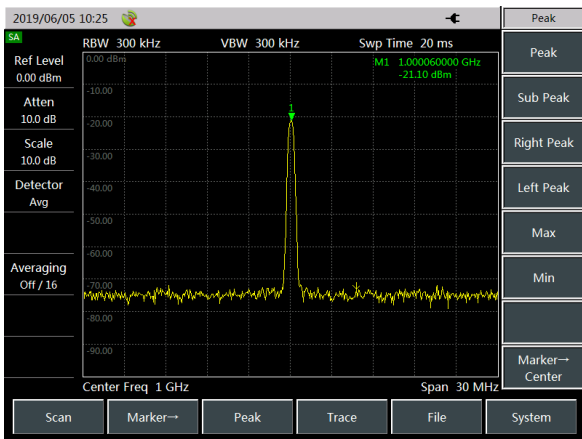
Network Analysis:

The 4957D/E/F microwave analyzer has the network analysis frequency range of 30kHz~18GHz/26.5GHz, 50MHz~40GHz, provides standard full 4S parameter vector network analysis and measurement capability and can carry out fully S-parameter analysis against amplifier, filter, attenuator and duplexer, and its display format includes logarithm, linearity, phase, group delay, impedance, polar coordinates, standing wave ratio, etc.



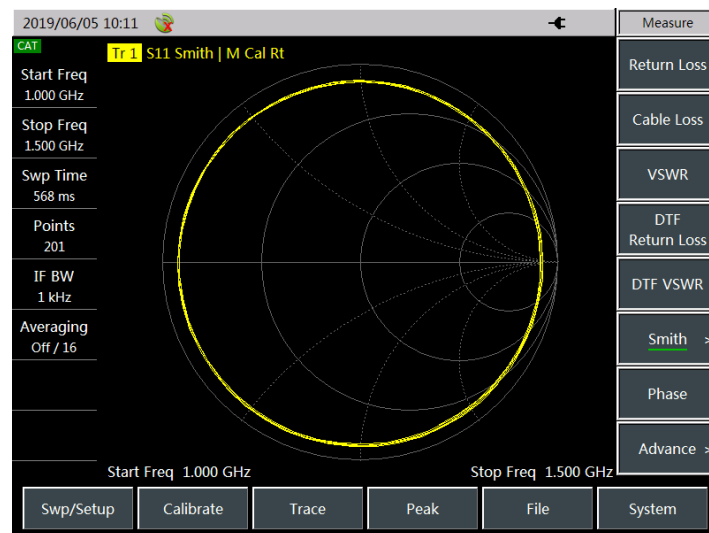
Spectrum Analysis:

The 4957D/E/F microwave analyzer has the spectrum analysis function (spectral analysis, channel power, occupied bandwidth, adjacent channel power ratio, and frequency counting) and has a frequency range of 100kHz~18GHz/26.5GHz/40GHz, featuring with wide frequency bandwidth, high sensitivity, high dynamic range and good phase noise and has the capability of implementing fast and efficient signal detection and measurement. In addition, this analyzer can display 3 traces at the same time, and has provided different detector mode selections such as standard, sampling, positive peak, negative peak and average. What's more, it has provided interference analysis, spectrogram, waterfall, data recording and playback.



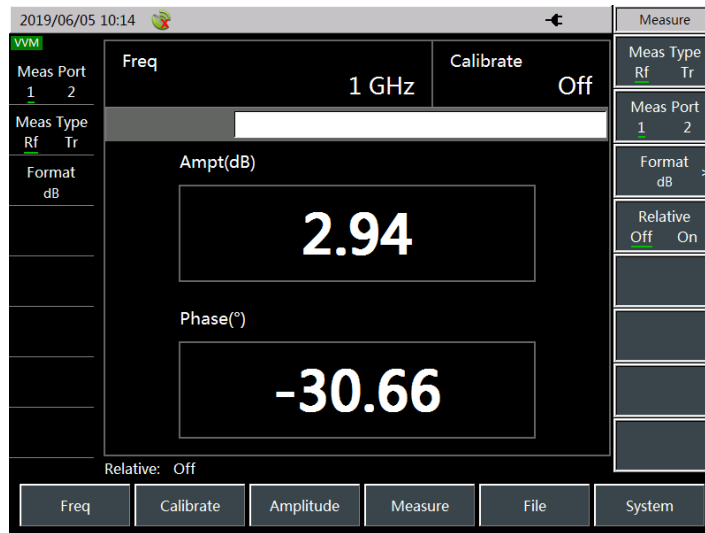
Cable and antenna analysis (Optional):

As a cable and antenna analyzer, the 4957D/E/F microwave analyzer can measure the return loss, voltage standing wave ratio, impedance, cable loss, and fault point distance of the analyzed components such as cables and antennas, and return loss and Distance-To-Fault measurement will help user determine the specific cause of the fault in the cable and antenna system that degrades the overall system. What's more, it has provided built-in common cable and antenna feeder parameters for easy use.



Vector Voltage Measurement (Optional):

The 4957D/E/F microwave analyzer has the vector voltage measurement frequency range of 30kHz~18GHz/26.5GHz, 50MHz~26.5GHz, which can accurately match and measure the electrical length and phase shift of the device under analysis, and can perform reflection and transmission analysis.



USB Power Measurement (Optional):

The 4957D/E/F microwave analyzer can perform power measurement by selecting the CETC 872XX series USB continuous wave power sensor, which can analyze the RF/microwave power up to 40GHz.



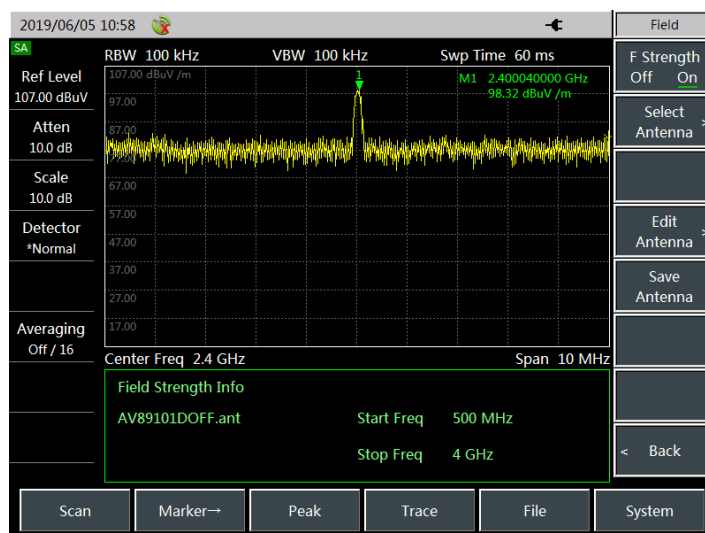
Power Monitoring (Optional):

The 4957D/E/F microwave analyzer can also be used for power monitoring measurements through the spectrum input port, and has a frequency range of 100kHz to 18GHz/26.5GHz/40GHz.



Field Strength Measurement (Optional):

The 4957D/E/F microwave analyzer can also be used for field strength measurement with the corresponding analysis antennas (such as CETGC's 89101A/B/C/D, etc.), which is widely used in space electromagnetic environment monitoring and radio management. It supports user antennas, allowing users to customize their own antennas.



Supporting List Sweep

In addition to frequency sweep, including spectrum analysis, cable and antenna analysis, network analysis, etc., it also supports list scanning mode and makes the parameters in each segment become independent of each other.

Supporting Upper and Lower Limit Lines

Spectrum analysis, cable and antenna analysis, and network analysis support limit line analysis. The limit line can be used as a visual reference or as a basis for PASS/FAIL judgment. If the analysis data exceeds the upper limit line or is lower than the lower limit line, the speaker will send a "beep" sound to remind the user that the data is out of tolerance.

Menu in Both Chinese and English for Easy Operation

Both Chinese and English menus are available in the machine, which is very convenient to switch with one button.

Sleep and Energy Saving Function

It provides the function of displaying sleep for energy saving, set the sleep time, and when the sleep function is turned on and is not operated for a certain period of time, it will automatically turn off the

display or shut down, thus saving energy, and effectively extending working time and life of battery.

More Markers

It provides up to 8 independent markers to display the parameters of the marker position, as well as provide maximum, minimum or peak search. Each marker provides a Δ mode to make analysis readings become easier. In addition, the ruler on the left side of the display facilitates the judgment of the analysis results.

Automatic Software Upgrade through U Disk

The 4957D/E/F microwave analyzer provides a USB interface that can be used for software intelligent upgrade and data backup. User can conveniently use the USB flash drive to upgrade and maintain the instrument, which only takes a few steps to operate and is simple and quick. The instrument should be restarted after the upgrade.

Typical Applications

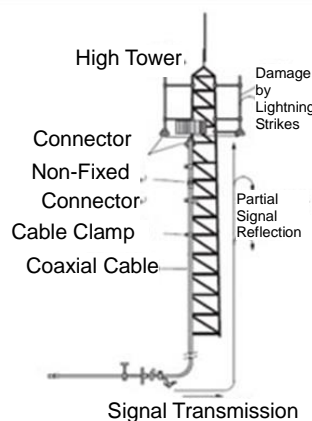
The 4957D/E/F microwave analyzer is characterized by compact size, light in weight, easy to carry, numerous analysis parameters and comprehensive analysis functions. What's more, it is very suitable for multi-parameter analysis requirements and is battery-powered, serves as a powerful tool for routine maintenance and repair of field engineering installation and debugging of various microwave electronic equipment. In addition, it is widely used in radar, communications, radio and television, radio management and other fields. Besides, it is also an optimized choice for college teaching.

Main Performance Parameter Analysis of Radar

As a full-featured analyzer, the 4957D/E/F microwave analyzer can perform the main performance parameter analysis of subsystems in respect of radar antenna, transmitting and receiving of up to 18GHz/26.5GHz/40GHz, including the standing wave ratio, reflection factor, insertion loss, return loss and impedance characteristics etc. of antenna subsystem, frequency of the transmitted signal, spectral characteristics etc. of transmitting subsystem, center frequency, gain, loss, bandwidth, dynamic range of receiving subsystem.

Multi-Parameter Analysis in the Fields of Cable TV and Wireless Communication Etc.

Cable TV, cellular telephone systems, digital mobile communication operators and equipment manufacturers use the 4957D/E/F microwave analyzer to carry out on-site comprehensive analysis of spectrum distribution, antenna contact performance, S-parameters of feed components and feed-through power.



Specifications

		4957D	4957E	4957F	
Power and antenna Analysis	Frequency Span	30kHz~18GHz	30kHz~26.5GHz	50MHz~40GHz	
	Frequency Accuracy	$\pm 1 \times 10^{-6}$			
	Power Level	Big/small			
	Number of Data Points	101, 201, 401, 601, 801, 1001, 1601, 4001 and 10001			
	Valid Directivity	30dB~40dB	30dB~38dB	28dB~35dB	
Vector Network Analysis	Frequency Span	30kHz~18GHz	30kHz~26.5GHz	50MHz~40GHz	
	Frequency Accuracy	$\pm 1 \times 10^{-6}$			
	Power Scope	Big/ small/manual			
	Valid Directivity	30dB~40dB	30dB~38dB	28dB~35dB	
Power Monitoring	Frequency Span	100kHz~18GHz	100kHz~26.5GHz	100kHz~40GHz	
	Power Scope	-60dBm~+20dBm	-60dBm~+20dBm	-50dBm~+20dBm	
Spectrum Analysis Mode	Frequency Span	100kHz~18GHz	100kHz~26.5GHz	100kHz~40GHz	
	Res BW	10Hz~5MHz (1, 3 sequence)			
	Video Bandwidth	1Hz~5MHz (1, 3 sequence)			
	Explicit Average Noise Level	-140dBm~-151dBm (Pre Amp On)	-138dBm~-151dBm (Pre Amp On)	-135dBm~-151dBm (Pre Amp On)	
		-120dBm~-135dBm (Pre Amp Off)	-116dBm~-135dBm (Pre Amp Off)	-113dBm~-135dBm (Pre Amp Off)	
	Phase Noise (CF=1GHz)	$\leq -99\text{dBc/Hz}@100\text{kHz}$			
		$\leq -110\text{dBc/Hz}@1\text{MHz}$			
	Residual Response	$\leq -80\text{dBm}$		$\leq -70\text{dBm}$	
Maximum Safe Input Level	+27dBm				
Type of Analysis Port	N type female	3.5 mm male	2.4 mm male		
Power Supply	Rechargeable lithium-ion battery or power adapter				
Power Consumption	$\leq 45\text{W}$ (excluding charging the battery)				

Working Temperature Range	-10°C~+50°C
Storage Temperature Range	-40°C~+70°C
Maximum Weight	5.3kg (excluding battery)
Maximum Boundary Dimension (Width x Height x Depth)	315mmx220mmx102mm (excluding handle and support)

Ordering Information

- Mainframe:

4957D microwave analyzer 100kHz/30kHz~18GHz

4957E microwave analyzer 100kHz/30kHz~26.5GHz

4957F microwave analyzer 100kHz/50MHz~40GHz

- Standard Configuration:

No.	Name	Description
1	Power Cable Component	Standard 3-core power cord Power adapter: input 100~240V 50/60Hz Output 15V 4A Rechargeable lithium ion battery
2	CD	Including the user manual, programming manual, USB driver, program control function library, program control example, installation files required for program control function library, etc.
3	Product Quick Start Guide	Getting started with the instrument
4	Product Certificate of Conformity	Factory Certificate of Conformity

- Options:

Option number	Name	Function
4957D-01	User Manual	
4957D-02	Programming Manual	
4957D-S02	Cable and Antenna Analyzer (Software)	Used for return loss, standing wave ratio and breakpoint analysis on cable and antenna
4957D-S03	Vector Voltmeter (Software)	Used for cable phase shift, electrical length analysis
4957D-S04	USB Power Measurement (Software, Additional USB Power Probe Required)	Support external USB power probe for accurate measurement of continuous wave signal power
4957D-S05	Power Monitoring (Software)	Receive external signals from the spectrum input port to measure signal power

4957D-S06	Field Strength Measurement (Software, Additional Antenna Required)	Measure the field strength with the corresponding antenna
4957D-S07	GPS Positioning (Software, Including GPS Antenna)	Provide geographic location information such as longitude, latitude and altitude, etc.
4957D-H01	Rechargeable Lithium ion Battery	Spare battery
4957D-H02	AC-DC Adapter	Standby
4957D-H03	English (Panel, Button And Signage)	Used for customers who are unfamiliar with Chinese or exits
4957D-H04	31101A N-Type Male Calibration Piece	DC-18GHz for vector network analysis, cable and antenna analysis and vector voltmeter calibration etc.
4957D-H05	31101B N Type Female Calibration Piece	DC-18GHz for vector network analysis, cable and antenna analysis and vector voltmeter calibration etc.
4957D-H06	31121 3.5mm Calibration Piece	DC-26.5GHz for vector network analysis, cable and antenna analysis and vector voltmeter calibration, etc.
4957D-H07	31123 2.4mm Calibration Piece	DC-40GHz for vector network analysis, antenna analysis and vector voltmeter calibration, etc.
4957D-H08	N Type Male and Male Calibration Cable GORE-OSZKUZKU0240	Calibration or cable and antenna analysis
4957D-H09	N Type Female and Male Calibration Cable GORE-OSZKUZKV0240	Calibration or cable and antenna analysis
4957D-H10	3.5mm Female and Female Calibration Cable Gore-0rd02d02024.0	Calibration or cable and antenna analysis
4957D-H11	3.5 Mm Female and Male Calibration Cable Gore-0rd01d02024.0	Calibration or cable and antenna analysis
4957D-H12	2.4mm Female and Female Calibration Cable Gore-0k0ck0ck024.0	Calibration or cable and antenna analysis
4957D-H13	2.4mm Female and Male Calibration Cable Gore-0k0cj0ck024.0	Calibration or cable and antenna analysis
4957D-H14	87230 USB Continuous Wave Power Sensor	9kHz~6GHz for high precision power measurement
4957D-H15	87231 USB Continuous Wave Power Sensor	10MHz~18GHz for high precision power measurement
4957D-H16	87232 USB Continuous Wave Power Sensor	50MHz~26.5GHz for high precision power measurement
4957D-H17	87233 USB Continuous Wave Power Sensor	50MHz~40GHz for high precision power measurement

4957D-H18	89101A Antenna	10kHz~20MHz for field strength measurement
4957D-H19	89101B Antenna	20MHz~200MHz for field strength measurement
4957D-H20	89101C Antenna	200MHz~500MHz for field strength measurement
4957D-H21	89101D Antenna	500MHz~4000MHz for field strength measurement
4957D-H22	89901 Antenna	1GHz~18GHz for field strength measurement
4957D-H23	89401 Antenna Amplifier	10kHz~4000MHz for field strength measurement
4957D-H24	71522D Attenuator	40dB, 25W for high power measurement
4957D-H25	71523C Attenuator	40 dB, 50 W for high power measurement
4957D-H26	71524C Attenuator	40 dB, 100 W for high power measurement
4957D-H27	71101 Adapter	N(f)-N(f) for transfer between connectors
4957D-H28	71115 Adapter	3.5mm(m)-N(f) for transfer between connectors
4957D-H29	71116 Adapter	3.5mm(m)-N(m) for transfer between connectors
4957D-H30	71117 Adapter	3.5mm(f)-N(m) for transfer between connectors
4957D-H31	81101 Adapter	N(m)-N(f) for transfer between connectors
4957D-H32	Soft Backpack	For carrying
4957D-H33	Aluminum Alloy Carrying Case	For transportation
4957D-H34	Waterproof Safety Box	For transportation