



# S3622B/D/E/G/H/K Vector Network Analyzer

(300kHz~9GHz/18GHz/26.5GHz/44GHz/50GHz/54GHz)



Saluki Technology Inc.

# Product Overview

The Saluki S3622 series vector network analyzer, with a frequency range of 300kHz~54GHz, is designed with such functions as dual-port vector network analysis, antenna feeder analysis, vector voltmeter, optical time-domain reflectometer, USB continuous wave power measurement and peak power measurement, etc. It is characterized by small size, light weight, strong environmental adaptability, flexible power supply, and easy operation, which is suitable for on-site installation commissioning and maintenance testing of equipment used in mobile communications, satellite communications, microcomputer communications, satellite communications, and other industries.

## Main Features

- **Wide frequency coverage**

300 kHz~54GHz

- **Excellent performance index**

Dynamic range (vector network analysis): 113dB (10MHz<f≤20GHz, typical)

- **Rich measurement functions**

Standard configuration: Vector network analyzer

Optional functions: Antenna feeder analysis, vector voltmeter, USB continuous wave power measurement, USB peak power measurement, USB optical time-domain reflectometer.

- **Excellent vector network analysis**

Simultaneous measurement of four S-parameters, time-domain analysis of amplitude and phase, mixed reflection S-parameter testing

Full 2-port calibration, unknown through calibration, waveguide calibration, electronic calibration (external), definition of calibration parts

- **Practical antenna feeder analysis:**

Testing of return loss, and 1-port cable loss

Fault location capability (DTF)

TDR cable analysis capability available to determine the location and nature (short circuit, open circuit, etc.) of the fault

- **Vector voltmeter with intuitive display**

Amplitude, phase and electrical length measurements

A/B and B/A measurements supported to measure the amplitude-phase coherence of the receiver channel

- **Flexible optical time-domain reflectometer and optical power meter**

**Optical time-domain reflectometer:**

Fiber type: G.652, single mode 9/125, measurement

Wavelength: 1310nm±20nm & 1550nm±20nm, dynamic range: 38dB (typical)

**Optical power meter:**

Calibration wavelength

850/980/1270/1300/1310/1490/1550/1577/1625/1650nm,

**Measurement range:**

-50dBm ~+20dBm (typical) (single optical port shared with OTDR)

- **Various auxiliary interfaces**

10MHz reference I/O interface

GPS/Beidou antenna interface

Wi-Fi wireless communication interface

LAN, USB, Micro-SD and other interfaces

- **Convenient use**

10.1" LCD and capacitive touch screen

8 independent cursors, with marker dragging supported

4 display windows, 8 display traces

- **Good field adaptability**

Operating temperature: -20°C ~55°C, storage temperature: -50°C~70

Total weight without battery: about 3.7kg

Three display modes, including Default, Outdoor, Night

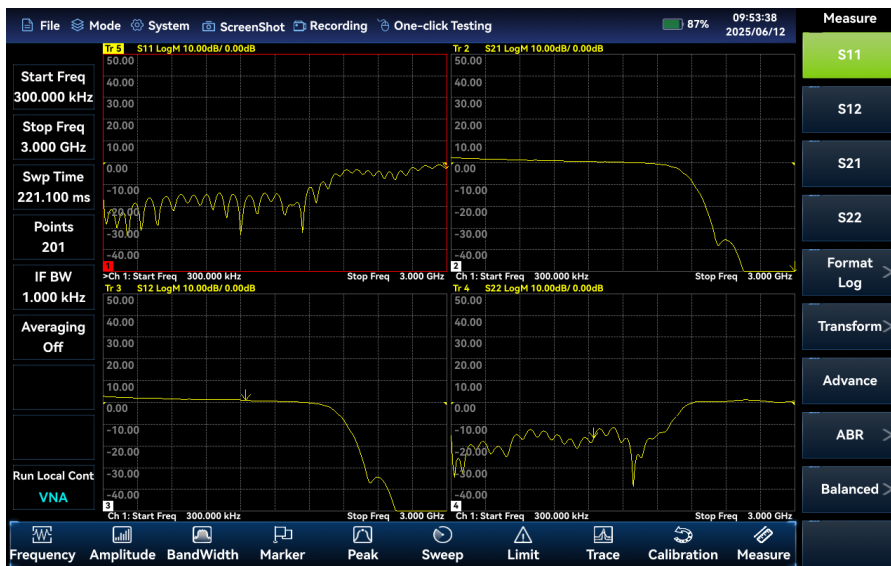
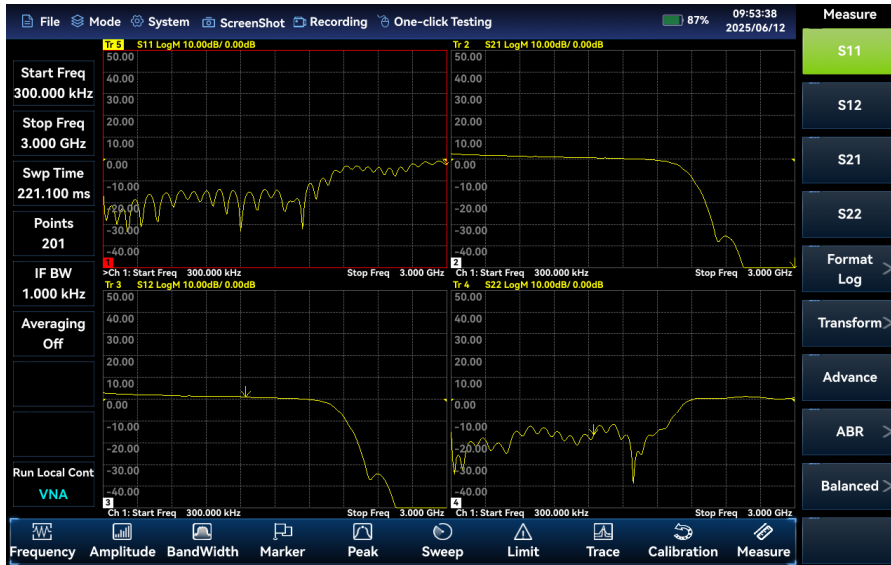
Built-in high-capacity lithium-ion battery, with a typical battery life of 3 hours

Rich measurement functions and options

## Rich measurement functions and options

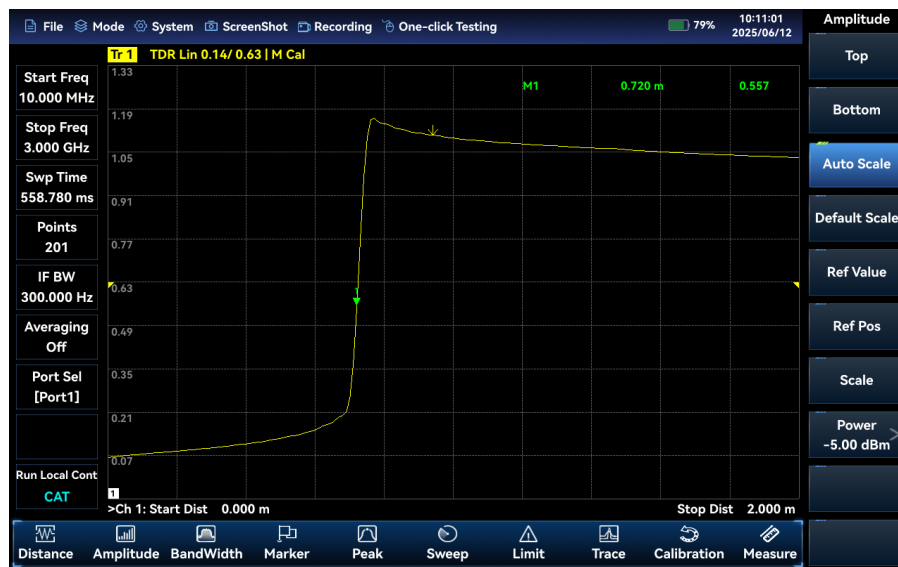
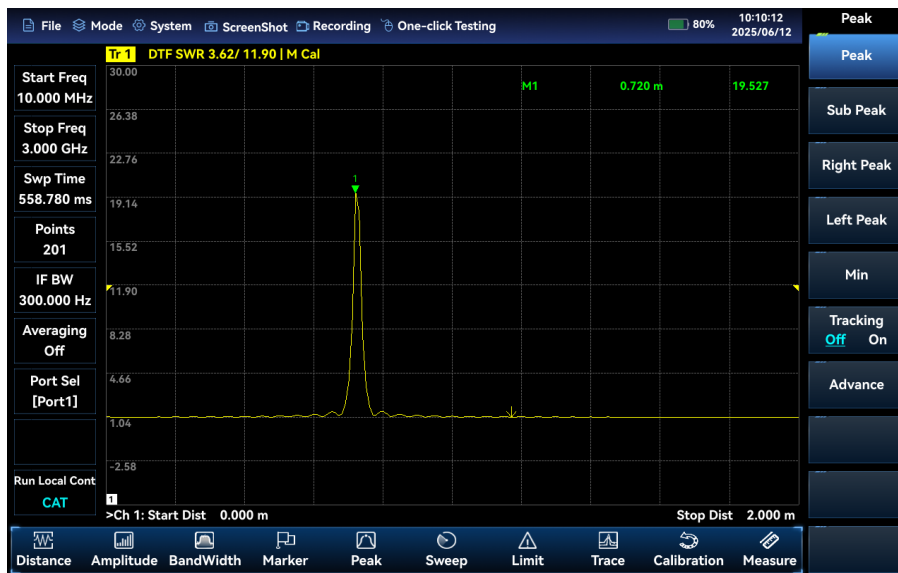
### Vector network analysis:

The S3622 series vector network analyzer is designed as standard with four S-parameter vector network analysis and measurement capability, supporting S-parameter testing of components such as amplifiers, filters, attenuators and duplexers, and mixed reflection S-parameter test, and also supporting display formats including log, linear, phase, group delay, Smith plot, polar coordinates, VSWR and etc.



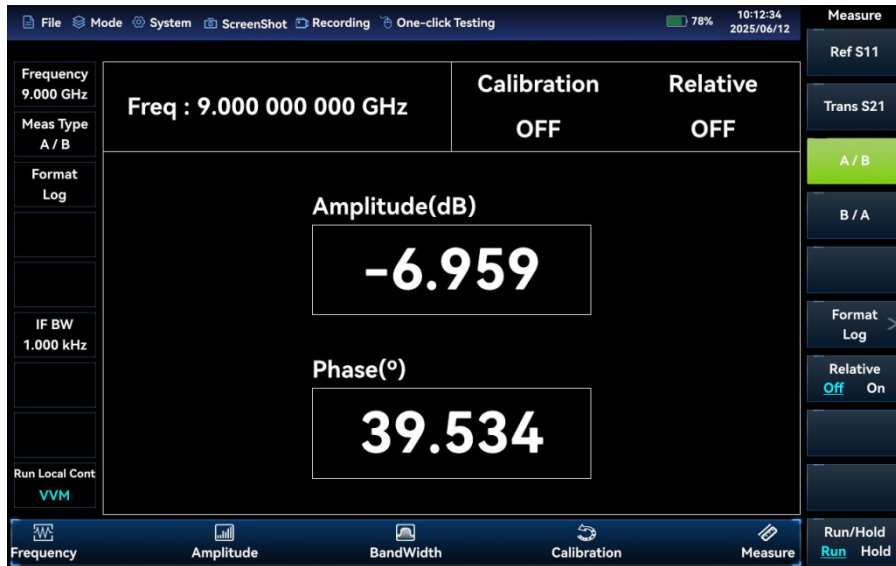
### Antenna feeder analyzer (optional):

The S3622 series vector network analyzer supports measurement of return loss, VSWR, impedance, cable loss, and distance to faults of cables, feeders, and other DUTs, among which the measurement of return loss and distance to faults will help the user determine the specific causes of system performance degradation in the antenna feeder system. The antenna feeder analyzer supports TDR testing to analyze the types of cable faults. In addition, the instrument is also built in with some commonly used parameters of cables and feeders for ease of use.



### Vector voltmeter (option):

The S3622 series vector network analyzer supports matching measurement of electrical length and phase shift of the DUTs, and also supports A/B and B/A measurement to measure the amplitude and phase consistency of the receiver.



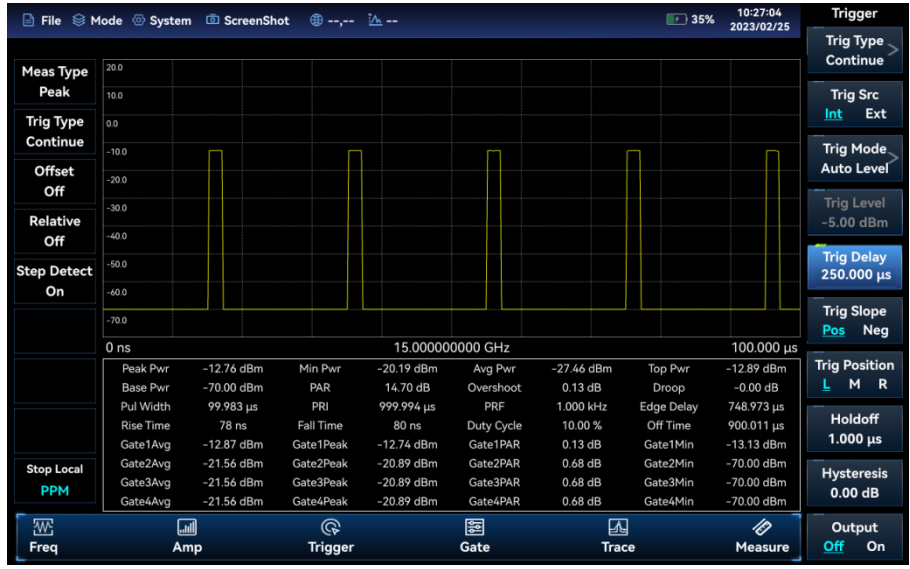
### USB power measurement (option):

With the external USB power probe of the Saluki S87230/87231/87232/87233 series, the USB power measurement function can be used to measure CW signal power of up to 40GHz.



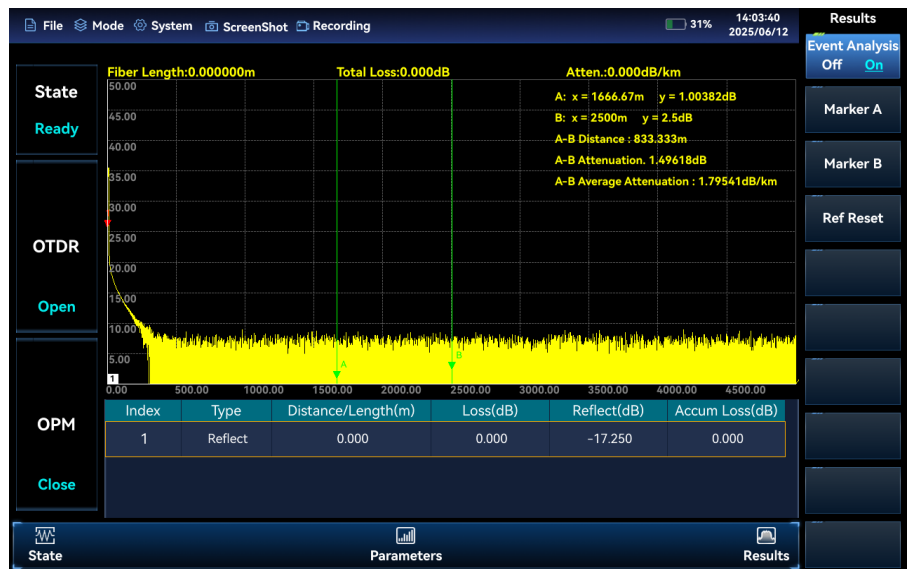
### USB peal power measurement (option):

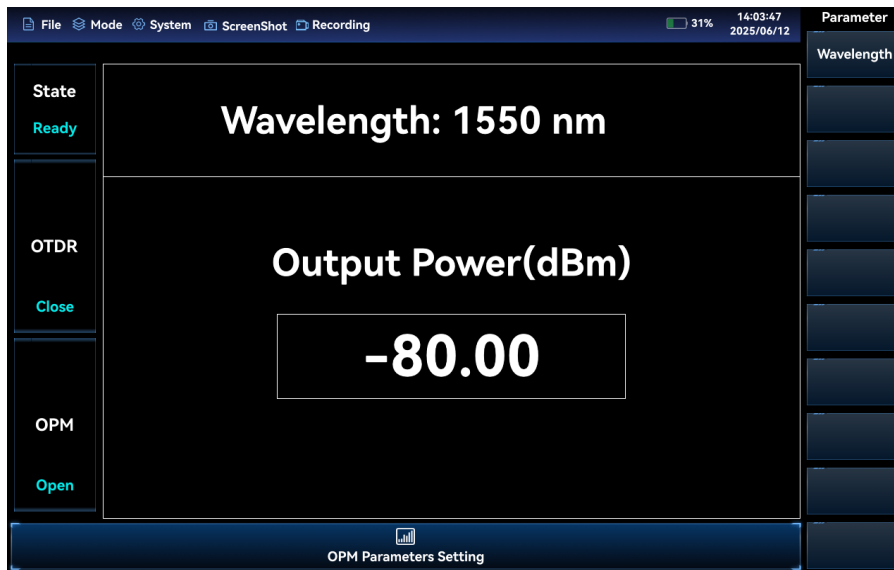
By connecting to the Saluki S87234D/E/F/L USB peak power probe via the USB interface, this function can be used to test RF/microwave signals up to 67GHz, enabling pulse power measurement in a large dynamic range.



### Optical Time Domain Reflectometer (option):

The optical time-domain reflectometer of the S3622 series vector network analyzer, when being used together with an external USB optical time-domain reflectometer, can achieve locating and analysis of optical fiber fault, as well as optical power measurement.





## Typical Applications

- **Field comprehensive performance evaluation of electronic equipment**

The S3622 series vector network analyzer has such advantages as high performance index, diversified testing functions and simple operation, which can be handheld with small size, light weight and excellent environmental adaptability. It can be battery-powered, and can be used for field installation, commissioning and maintenance of electronic equipment.

- **Field test and diagnosis of transmitter and receiver**

The S3622 series vector network analyzer is designed with various measurement modes such as vector network analysis, antenna feeder testing, and power measurement for measurement and testing of the VSWR, reflection coefficient, insertion loss, return loss and impedance characterization of the transmitting and receiving antenna subsystems.

- **Multi-parameter testing for cable TV, wireless communication, etc.**

The S3622 series vector network analyzer is applicable to operators and equipment manufacturers in cable TV, cellular phone systems, digital mobile telecommunication operators and equipment manufacturers for on-site integrated testing of antenna feeder contact performance, components' S-parameters, and feed through power.

# Technical Specifications

<b>Model</b>	S3622B : 300kHz ~ 9GHz S3622D : 300kHz ~ 18GHz S3622E : 300kHz ~ 26.5GHz S3622G : 300kHz ~ 44GHz S3622H : 300kHz ~ 50GHz S3622K : 300kHz ~ 54GHz
<b>Frequency accuracy</b>	±0.9ppm
<b>Frequency resolution</b>	1Hz
<b>IFBW</b>	3Hz, 10Hz, 30Hz, 100Hz, 300Hz, 1kHz, 3kHz, 10kHz, 30kHz, 100kHz
<b>Power level</b>	High, Low, Manual Setting Power
<b>Port output power</b>	High power: ≥-8.0dBm                    300kHz≤f≤10MHz ≥3.0dBm                    10MHz<f≤9GHz ≥0.0dBm                    9GHz<f≤20GHz ≥-2.0dBm                   20GHz<f≤26.5GHz ≥-8.0dBm                   26.5GHz<f≤44GHz ≥-8.0dBm                   44GHz<f≤50GHz ≥-12.0dBm                  50GHz<f≤54GHz Low power: ≤-35dBm                    10MHz≤f≤54GHz
<b>Port output power accuracy</b>	Note: -10dBm output, 23±5°C ±2.0dB   300kHz≤f≤26.5GHz ±2.5dB   26.5GHz<f≤50GHz ±3.0dB   50GHz<f≤54GHz
<b>Valid directivity</b>	≥42dB   300kHz≤f≤4GHz ≥34dB   4GHz<f≤20GHz ≥26dB   20GHz<f≤54GHz
<b>Reflection tracking</b>	±0.06dB                    300kHz≤f≤20GHz ±0.08dB                    20GHz<f≤50GHz ±0.12dB                    50GHz<f≤54GHz
<b>Effective load matching</b>	≥30dB   300kHz≤f≤4GHz ≥27dB   4GHz<f≤26.5GHz ≥23dB   26.5GHz<f≤54GHz
<b>Transmission tracking</b>	±0.08dB   300kHz≤f≤4GHz ±0.16dB   4GHz<f≤26.5GHz ±0.24dB   26.5GHz<f≤50GHz ±0.28dB   50GHz<f≤54GHz
<b>System dynamic range</b>	≥90dB   300kHz≤f≤2MHz ≥103dB   2MHz<f≤20GHz ≥93dB   20GHz<f≤26.5GHz ≥90dB   26.5GHz<f≤40GHz ≥81dB   40GHz<f≤50GHz ≥80dB   50GHz<f≤54GHz

<b>Trace noise</b>	<p>Note: The output power of port within the band of <math>300\text{kHz} \leq f \leq 10\text{MHz}</math> is set to <math>-5\text{dBm}</math>; and the output power of port within the band of <math>10\text{MHz} &lt; f \leq 54\text{GHz}</math> is set to <math>0\text{dBm}</math>, with IF bandwidth set to <math>100\text{Hz}</math>, S21 and S12.</p> <p>Amplitude trace noise (dB rms):</p> <table border="0"> <tr><td>0.0040</td><td><math>300\text{kHz} \leq f \leq 10\text{MHz}</math></td></tr> <tr><td>0.0015</td><td><math>2\text{MHz} &lt; f \leq 10\text{GHz}</math></td></tr> <tr><td>0.0018</td><td><math>10\text{GHz} &lt; f \leq 20\text{GHz}</math></td></tr> <tr><td>0.0040</td><td><math>20\text{GHz} &lt; f \leq 26.5\text{GHz}</math></td></tr> <tr><td>0.0050</td><td><math>26.5\text{GHz} &lt; f \leq 36\text{GHz}</math></td></tr> <tr><td>0.0050</td><td><math>36\text{GHz} &lt; f \leq 50\text{GHz}</math></td></tr> <tr><td>0.0100</td><td><math>50\text{GHz} &lt; f \leq 54\text{GHz}</math></td></tr> </table> <p>Phase trace noise within the band (deg rms):</p> <table border="0"> <tr><td>0.0600</td><td><math>300\text{kHz} \leq f \leq 10\text{MHz}</math></td></tr> <tr><td>0.0200</td><td><math>10\text{MHz} &lt; f \leq 10\text{GHz}</math></td></tr> <tr><td>0.0270</td><td><math>10\text{GHz} &lt; f \leq 20\text{GHz}</math></td></tr> <tr><td>0.0500</td><td><math>20\text{GHz} &lt; f \leq 26.5\text{GHz}</math></td></tr> <tr><td>0.0600</td><td><math>26.5\text{GHz} &lt; f \leq 36\text{GHz}</math></td></tr> <tr><td>0.1200</td><td><math>36\text{GHz} &lt; f \leq 50\text{GHz}</math></td></tr> <tr><td>0.5000</td><td><math>50\text{GHz} &lt; f \leq 54\text{GHz}</math></td></tr> </table>	0.0040	$300\text{kHz} \leq f \leq 10\text{MHz}$	0.0015	$2\text{MHz} < f \leq 10\text{GHz}$	0.0018	$10\text{GHz} < f \leq 20\text{GHz}$	0.0040	$20\text{GHz} < f \leq 26.5\text{GHz}$	0.0050	$26.5\text{GHz} < f \leq 36\text{GHz}$	0.0050	$36\text{GHz} < f \leq 50\text{GHz}$	0.0100	$50\text{GHz} < f \leq 54\text{GHz}$	0.0600	$300\text{kHz} \leq f \leq 10\text{MHz}$	0.0200	$10\text{MHz} < f \leq 10\text{GHz}$	0.0270	$10\text{GHz} < f \leq 20\text{GHz}$	0.0500	$20\text{GHz} < f \leq 26.5\text{GHz}$	0.0600	$26.5\text{GHz} < f \leq 36\text{GHz}$	0.1200	$36\text{GHz} < f \leq 50\text{GHz}$	0.5000	$50\text{GHz} < f \leq 54\text{GHz}$
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<b>Overall dimensions</b>	316.5mm (width) × 236.5mm (height) × 75mm (depth) (excluding side straps, panel connector, interface plugs, rear bracket closure)																												
<b>Weight</b>	≤ 3.7kg excluding built-in battery)																												
<b>Operating temperature range</b>	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$ (battery discharging temperature $-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$ , battery charging temperature $+10^{\circ}\text{C} \sim +45^{\circ}\text{C}$ )																												
<b>Storage temperature</b>	$-50^{\circ}\text{C} \sim +70^{\circ}\text{C}$ (battery storage temperature $-20^{\circ}\text{C} \sim +50^{\circ}\text{C}$ , storage time < 1 month)																												
<b>Electromagnetic compatibility</b>	Comply with relevant requirements of 3.9.1 in GJB 3947A-2009																												
<b>Power input type</b>	AC power adapter: input voltage $100\text{V} \sim 240\text{V AC}$ , $50\text{Hz}/60\text{Hz}$ , output voltage $19\text{V DC}$ , $4.7\text{A}$ . Built-in Li-ion battery: nominal voltage $10.8\text{V}$																												
<b>Battery power endurance time</b>	Typical value 3h																												
<b>Test port</b>	S3622B/D: N-type female adapter S3622E: 3.5mm male adapter S3622G/H: 2.4mm male adapter S3622K: 1.85mm male adapter																												
<b>Other interface</b>	10MHz reference input/output: SMA female External trigger input interface: SMA female GPS antenna interface: SMA female Wi-Fi/4G antenna interface: SMA female (optional, in which the input interface of 4G antenna is reserved and temporarily not supported).																												
<b>Communication and auxiliary interfaces</b>	USB interfaces: 2 USB3.0 Type A interfaces, 1 USB2.0 Type C type interface and 1 USB3.0 Type C interface (reserved). LAN interface: Standard RJ-45 type. Earphone interface: standard 3.5 mm. Memory card/SIM card: MicroSD card and SIM card (for reserved 4G option) slots																												

# Ordering Information

## ● Mainframe

Model	Name	Frequency range
S3622B	RF microwave analyzer	300kHz ~ 9GHz
S3622D	Microwave analyzer	300kHz ~ 18GHz
S3622E	Microwave analyzer	300kHz ~ 26.5GHz
S3622G	Microwave analyzer	300kHz ~ 44GHz
S3622H	Microwave analyzer	300kHz ~ 50GHz
S3622K	Microwave analyzer	300kHz ~ 54GHz

## ● Standard configuration

No.	Name	Quantity	Description
1	Power cord	1	
2	9000mAh rechargeable li-ion battery	1	
3	Power adapter	1	
4	Quick Start Guide	1	Quick Start Guide
5	Product certificate of conformity	1	Certificate of Conformity

## ● Option

No.	Option No.	Option name	Function
1	S3622-01	English version	Including English signs, menus and Quick Start Guide.
2	S3622-02	User' manual (Chinese version)	User' manual (Chinese version).
3	S3622-03	User' manual (English version)	User' manual (English version).
4	S3622-04	Programming manual (Chinese version)	Programming manual (Chinese version).
5	S3622-05	Programming manual (English version)	Programming manual (English version).
6	S3622-S01	USB power measurement	It provides power measurement function, which can be used with an external USB CW power probe S87230/87231/87232/87233.
7	S3622-S02	USB peal power	It provides peak power measurement, which can be used with the S87234D/E/F/L USB peak/average power meter.

No.	Option No.	Option name	Function
8	S3622-S30	Antenna feeder analyzer	Testing of return loss, VSWR and breakpoints of cables and feeders.
9	S3622-S31	Vector voltmeter	Testing of cable phase shift and electrical length.
10	S3622-S32	TDR	Analysis of the location and nature of cable faults
11	S3622-S33	Electronic calibration	A software option, which shall be used together with electronic calibration parts for vector network analysis, antenna analysis, vector voltmeter calibration.
12	S3622-S34	Optical Time Domain Reflectometer	Optical time-domain reflectometer and optical power meter functions To be used together with S3622-H67 option.
13	3622-S35	Mixed reflection S-parameter	Differential S-parameter measurements.
14	S3622-S36	VNA time-domain measurement	Time-domain measurement in vector network analysis mode.
15	S3622-H01	GPS/Beidou function	GPS or BSD positioning when an external antenna is connected.
16	S3622-H02	WiFi wireless communication	Wireless data transmission and communication with external devices.
17	S3622-H03	Aluminum alloy trolley case	Aluminum alloy trolley case
18	S3622-H04	Trolley case	Trolley case
19	S3622-H05	Portable backpack	Portable backpack
20	S3622-H06	Power adapter	Power adapter.
21	S3622-H07	9900mAh rechargeable li-ion battery	Backup battery pack, nominal voltage 10.8V, battery capacity 9900mAh, not suitable for air transportation.
22	S3622-H08	9000mAh rechargeable li-ion battery	Backup battery pack, nominal voltage 10.8V, battery capacity 9000mAh, allowed for air transportation.
23	S3622-H09	On-board power adapter	The on-board charger with input voltage of 12~24V and output voltage of 19V can be used to power handheld measuring instruments.
24	S3622-H10	Intelligent battery charging dock	Lithium-ion battery charging standard
25	S3622-H11	Memory card	Mrico SD card, capacity 128G.
26	S87231	USB CW power probe	Frequency range: 10MHz ~ 18GHz, interface type N(m).
27	S87232	USB CW power probe	Frequency range: 50MHz ~ 26.5GHz, interface type 3.5mm (m).
28	S87233	USB CW power probe	Frequency range: 50MHz ~ 40GHz, interface type 2.4mm (m).
29	S87234D	USB peak/average power meter	Frequency range: 50MHz ~ 18GHz, interface type N(m).

No.	Option No.	Option name	Function
30	S87234E	USB peak/average power meter	Frequency range: 50MHz ~ 26.5GHz, interface type 3.5mm (m).
31	S87234F	USB peak/average power meter	Frequency range: 50MHz ~ 40GHz, interface type 2.4mm (m).
32	S87234L	USB peak/average power meter	Frequency range: 500MHz ~ 67GHz, interface type 1.85mm (m).
33	S31101A	Coaxial calibration kits	N(M), DC-18GHz, for calibration of vector network analyzer, CAT and VVM.
34	S31101B	Coaxial calibration kits	N(F), DC-18GHz, for calibration of vector network analyzer, CAT and VVM.
35	S31121	Coaxial calibration kits	3.5mm, DC-26.5GHz, for calibration of vector network analyzer, CAT and VVM.
36	S31123A	Coaxial calibration kits	2.4mm, DC-50GHz, for calibration of vector network analyzer, CAT and VVM.
37	S20209LB	Coaxial calibration kits	1.85Mm, DC-67GH.
38	S20402	Electronic calibration kit	300kHz ~ 18GHz (N type)
39	S20403	Electronic calibration kit	10MHz ~ 26.5GHz (3.5mm)
40	S20404	Electronic calibration kit	10MHz ~ 50GHz (2.4mm)
41	S20409	Electronic calibration kit	10MHz ~ 67GHz (1.85mm)
42	S3622-H49	N-type male-male calibration cable GORE-OSZKUZKU0240	Cable for calibration or testing
43	S3622-H50	N-type female-male calibration cable GORE-OSZKUZKV0240	Cable for calibration or testing
44	S3622-H51	3.5 mm female-female calibration cable GORE-ORD02D02024.0	Cable for calibration or testing
45	S3622-H52	3.5mm female-male calibration cable GORE-ORD01D02024.0	Cable for calibration or testing
46	S3622-H53	2.4 mm female-female calibration cable GORE-0K0CK0CK024.0	Cable for calibration or testing
47	S3622-H54	2.4mm female-male calibration cable GORE-0K0CJ0CK024.0	Cable for calibration or testing
48	S3622-H55	2.4mm (female-male), 50GHz calibration cable 0Z0CJ0CK024.0	Cable for calibration or testing

No.	Option No.	Option name	Function
49	S3622-H56	2.4mm (female-male), 50GHz calibration cable 0ZOCKOCK024.0	Cable for calibration or testing
50	S3622-H57	1.85mm (female-male), 67GHz calibration cable 0FOCB0CA024.0	Cable for calibration or testing
51	S3622-H58	1.85mm (female-male), 67GHz calibration cable 0FOCA0CA024.0	Cable for calibration or testing
52	S87302FZ	Test cable	3.5/3.5-KK test cable (0.6m)
53	S87302FE	Test cable	3.5/3.5-KJ test cable (0.6m)
54	S87302AZ	Test cable	N/N-JJ test cable (0.6m)
55	S87302BA	Test cable	N/N-KJ test cable (0.6m)
56	S3622-H63	AL50-35FNM-01.00M test cable	3.5mm/N-KJ test cable (1.0m)
57	S3622-H64	AL50-35MNM-01.00M test cable	3.5mm/N-JJ test cable (1.0m)
58	S3622-H65	AL50-24F35F-01.00M test cable	2.4mm/3.5mm-KK test cable (1.0m)
59	S3622-H66	AL50-24F35M-01.00M test cable	2.4mm/3.5mm-KJ test cable (1.0m)
60	S3622-H67	USB Optical Time Domain Reflectometer	
61	S3622B-JL	Measurement service	Measurement and calibration services and measurement reports are provided, which applies to S3622B only.
62	S3622D-JL	Measurement service	Measurement and calibration services and measurement reports are provided, which applies to S3622D only.
63	S3622E-JL	Measurement service	Measurement and calibration services and measurement reports are provided, which applies to S3622E only.
64	S3622G-JL	Measurement service	Measurement and calibration services and measurement reports are provided, which applies to S3622G only.
65	S3622H-JL	Measurement service	Measurement and calibration services and measurement reports are provided, which applies to S3622H only.
66	S3622K-JL	Measurement service	Measurement and calibration services and measurement reports are provided, which applies to S3622K only.
67	S3622B-EWT1	An extended warranty beyond the standard warranty period is available for 1 year.	An extended warranty beyond the standard warranty period is available for 1 year. For a 2-year extension, 2 items can be selected, and so on. The service does not include calibration and covers only one-way shipping costs.

No.	Option No.	Option name	Function
68	S3622D-EWT1	An extended warranty beyond the standard warranty period is available for 1 year.	An extended warranty beyond the standard warranty period is available for 1 year. For a 2-year extension, 2 items can be selected, and so on. The service does not include calibration and covers only one-way shipping costs.
69	S3622E-EWT1	An extended warranty beyond the standard warranty period is available for 1 year.	An extended warranty beyond the standard warranty period is available for 1 year. For a 2-year extension, 2 items can be selected, and so on. The service does not include calibration and covers only one-way shipping costs.
70	S3622G-EWT1	An extended warranty beyond the standard warranty period is available for 1 year.	An extended warranty beyond the standard warranty period is available for 1 year. For a 2-year extension, 2 items can be selected, and so on. The service does not include calibration and covers only one-way shipping costs.
71	S3622H-EWT1	An extended warranty beyond the standard warranty period is available for 1 year.	An extended warranty beyond the standard warranty period is available for 1 year. For a 2-year extension, 2 items can be selected, and so on. The service does not include calibration and covers only one-way shipping costs.
72	3622K-EWT1	An extended warranty beyond the standard warranty period is available for 1 year.	An extended warranty beyond the standard warranty period is available for 1 year. For a 2-year extension, 2 items can be selected, and so on. The service does not include calibration and covers only one-way shipping costs.

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