

S5102 Handheld RF Analyzer

(Frequency Range: 100kHz / 1MHz – 6GHz)

Key Features

- A variety of test functions include network measurement
- Easy to take, easy to operate.
- Friendly UI
- Long working hours with battery power supply.



S5102 Handheld RF Analyzer, within the frequency range from 100KHz to 6GHz, has incorporated within itself multiple functions including dual-port vector network analysis, cable and antenna test, vector voltage test, spectrum analysis, field intensity test and power measurement, providing you with powerful and comprehensive analysis capability.

Dual-port Vector Network Analysis can precisely and instantly conduct comprehensive measurements of RF network parameters, providing multiple display formats including logarithm, linearity, phase position, group delay, impedance chart, polar coordinates and voltage standing wave ratio, which makes itself qualified as a standard vector network analyzer.

Cable& Antenna Test is capable of conducting test of factors standing-wave ratio, return loss, impedance and cable loss of microwave networks including antenna, transmission line and cable. The DTF makes it convenient for the operator to test the discontinuous impedance points of antenna and cable.

Vector Voltage Testing Function, by adopting integration scheme, has replaced the conventional vector voltage tester and is capable of conducting precise test of the electrical length of cable and other measured parts.

S5102 Handheld RF Analyzer

(Frequency Range: 100kHz / 1MHz – 6GHz)

Spectrum Analysis is capable of the comprehensive test of the spectrum characteristics under electromagnetic circumstance, making itself a standard spectrum analyzer.

The customer platform of Field Strength test function is not only user-friendly but also highly sensitive. It can effectively monitor electromagnetic spectrum, in accordance with corresponding test cable, making itself universally applicable for spatial electromagnetic environment-monitoring and radio management.

The USB power probe can fulfill the measurement with huge dynamic range and high precision, and can also through spectrum input conduct power ratio monitoring.

Features To Boost Your Efficiency

Network Test

Standard Vector Network analysis capability of full-4S Parameters, capable of conducting full-S parameters test of equipment like amplifier, filter, attenuator, and duplexer.

Cable and Antenna Test

Capable of testing return loss, voltage standing-wave ratio, impedance, fault-point distance of cable and antenna.

Field Strength Measurement

Vector Voltage Measurement

Capable of precisely testing the electronic length of targeted parts and of conducting reflection and transmission test.

Spectrum Range Analysis

Built-in spectrum range analysis (spectrum range analysis, channel power, occupied bandwidth, AM/FM demodulation, adjacent-channel power ratio), frequency range spanning from 100kHz to 6GHz, capable of instant and effective signal detection and measurement, capable of displaying 3 tracks simultaneously, and providing distinct detector modes.

Power Measurement

S5102 is capable of conducting power measurement by implementing SAV 872XX Series USB Continuous Wave Power Probe produced by Saluki. Additionally, it is capable of testing radio frequency/microwave power up to 40GHz and conducting power monitoring measurement by measures of spectrum input interface.

S5102 Handheld RF Analyzer

(Frequency Range: 100kHz / 1MHz – 6GHz)

Support List-Scanning Mode

Providing frequency sweep and list-scanning mode of support spectrum analysis, antenna Test, and Network Analysis.

Support Limit Line Test

Support limit line tests including Spectrum Analysis, Antenna Test and Network Analysis.

More Cursors

Four individual cursors can display the parameter where the cursor is located and also conduct the searching of the maximum, minimum and the peak. Each cursor provides Δ mode, making the measurement number easier to recognize; additionally, the ruler at the left side of the display screen can evaluate the testing result.

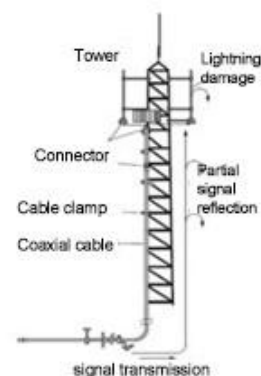
Dormant Energy-saving Function

The dormant energy-saving function enables the settable dormancy time. When the dormant function is on, the equipment will shut itself down when certain amount of time passes, making itself energy-saving and effectively prolonging battery life.

Typical Applications

Multi-Parameter Test of Cable TV& Wireless Communication

Cable TV, cellular cellphone system, digital mobile communication operators and equipment manufacturers could use S5102 to conduct on the spot volume test of spectral distribution, antenna contact features, and S-parameter of device components.



S5102 Handheld RF Analyzer

(Frequency Range: 100kHz / 1MHz – 6GHz)

Radar Primary Features Parameter Test

As a comprehensively functionalized analyzer, S5102 can fulfill the primary features parameter test of sub-systems including radar antenna, transmission and receiving, including the standing-wave ratio, reflectance, insertion loss, return loss, impedance characteristics, radio signal frequency, spectrum characteristics of radio subsystem, as well as the center frequency, gain, loss, bandwidth and dynamic range of receiving subsystem.

S5102 Handheld RF Analyzer

(Frequency Range: 100kHz / 1MHz – 6GHz)

Technical Specifications

Cable & Antenna Test	
Frequency Range	1MHz - 6GHz
Frequency Accuracy	$\pm 2 \times 10^{-6}$ (23°C), $\pm 1 \times 10^{-6}$ /10°C
Frequency Resolution	10Hz
Effective Directionality	≥ 38 dB
Effective Source Termination	≥ 32 dB
Reflection Tracking	± 0.08 dB
Vector Network Analyzer	
Frequency Range	1MHz - 6GHz
Frequency Accuracy	$\pm 2 \times 10^{-6}$ (23°C), $\pm 1 \times 10^{-6}$ /10°C
Frequency Resolution	10Hz
Effective Directionality	≥ 38 dB
Effective Source Termination	≥ 32 dB
Reflection Tracking	± 0.08 dB
Transmission Tracking	± 0.08 dB
Dynamic Range	1MHz-100MHz ≥ 75 dB
	100MHz-6GHz ≥ 70 dB
Power Detector	
Frequency Range	100kHz - 6GHz
Power Range	-60dBm - +20dBm
Power Accuracy	± 4 dB
Spectrum Analysis	
Frequency Range	100kHz - 6GHz
Frequency Readout Accuracy	\pm (Frequency Readout $\times 2 \times 10^{-6}$ + 0.1 \times RBW + 0.01 \times Span)
Resolution Bandwidth	1Hz - 3MHz (step by 1,3,10)
Resolution Bandwidth Accuracy	$\pm 10\%$ (1kHz - 3MHz)
Video Bandwidth	1Hz - 3MHz (step by 1,3,10)
Display Average Noise Level	10MHz - 4GHz ≤ -148 dBm (Pre-amplifier on)
	4GHz - 6GHz ≤ -145 dBm (Pre-amplifier on)
	10MHz - 4GHz ≤ -133 dBm (Pre-amplifier off)
	4GHz - 6GHz ≤ -130 dBm (Pre-amplifier off)

S5102 Handheld RF Analyzer

(Frequency Range: 100kHz / 1MHz – 6GHz)

Noise Sideband (CF=1GHz)	$\leq -90\text{dBc/Hz}@10\text{kHz}$
	$\leq -93\text{dBc/Hz}@30\text{kHz}$
	$\leq -95\text{dBc/Hz}@100\text{kHz}$
	$\leq -110\text{dBc/Hz}@1\text{MHz}$
Residual Response	50MHz-6GHz, $\leq -80\text{dBm}$
Max. Safety Input Level	+27dBm
Type of Testing Interface	N (F)

General Information

Display	7 inch color TFT-LCD (800×480mm)
Power Supply	Rechargeable Lithium-ion Battery or Power Adapter
Power	$\leq 32\text{W}$ (Except for battery charging)
Operating Temp.	-10°C - +50°C (14°F - 122°F)
Storage Temp.	-40°C - +70°C (-40°F - 158°F)
Weight (kg)	4.3kg (without battery)
Dimension (L×H×W)	330mm×230mm×116mm

Standard Package

Item	Name	Qty
1	Handheld RF Analyzer (100kHz/1MHz - 6GHz)	1 Set
2	USB Communication Cable for Programmable	1 PC
3	Standard three-wire power cord, AC-DC Power Adapter Input:100 - 240V 50 / 60Hz; Output 15V 4A	1 Set
4	Rechargeable Lithium-ion Battery Nominal Voltage: 10.8V (For power supply)	1 PC
5	CD (User Guide, programming manual, USB drives, programmable function data base, programmable example, installation file for programmable function database are stored)	1 PC

No.367, Fuxing N. Rd.,105 Taipei,Taiwan Tel: +886.2.2175 2930

sales@salukitec.com www.salukitec.com



S5102 Handheld RF Analyzer

(Frequency Range: 100kHz / 1MHz – 6GHz)

Optional Accessories

Part No.	Name	Description
S5102-001	Rechargeable Lithium-ion Battery	/
S5102-002	Antenna Test (Software)	For testing RL, VSWR, Breakpoint of Cable and Antenna.
S5102-003	Vector voltmeter (Software)	For testing cable phase shift and electrical length
S5102-004	USB power measurements (Software) (need to reprovision USB power sensors)	External USB Power probe can conduct precise measurement of continuous wSAVe signal.
S5102-005	Power detection (software)	Receiving external signal at spectrum input port in order to measure signal power
S5102-006	Field strength measurements (software) (need to reprovision antenna)	For field strength measurements
S5102-007	GPS (software, including GPS antenna)	/
S5102-009	SAV20201A, N (M) Calibration Kit, DC-9GHz	Calibrate for Vector Network Analysis, Antenna Test and Vector
S5102-010	SAV20201B, N (F) Calibration Kit, DC-9GHz	
S5102-011	N (M-M) Calibration Cable	Calibration or Cable Test
S5102-012	N (F-M) Calibration Cable	
S5102-013	SAV87230 USB Power Sensors, 9kHz-6GHz	For High-precision Power Measurements
S5102-014	SAV87231 USB Power Sensors, 10MHz-18GHz	
S5102-015	SAV87232 USB Power Sensors, 50MHz-26.5GHz	
S5102-016	SAV87233 USB Power Sensors, 50MHz-40GHz	
S5102-017	SAV89101A Antenna, 10kHz-20MHz	For Field Strength Measurement
S5102-018	SAV89101B Antenna, 20MHz-200MHz	
S5102-019	SAV89101C Antenna, 200MHz-500MHz	

No.367, Fuxing N. Rd.,105 Taipei,Taiwan Tel: +886.2.2175 2930

sales@salukitec.com www.salukitec.com



S5102 Handheld RF Analyzer

(Frequency Range: 100kHz / 1MHz – 6GHz)

S5102-020	SAV89101D Antenna, 500MHz-4000MHz	For Field Strength Measurement
S5102-021	SAV89901 Antenna, 1MHz-18GHz	
S5102-022	SAV89401 Antenna Amplifier, 10kHz-4000MHz	
S5102-023	SAV71522D Attenuator, 40dB、25W	For High Power Measurement
S5102-024	SAV71523C Attenuator, 40 dB、50W	
S5102-025	SAV71524C Attenuator, 40 dB、100W	
S5102-026	SAV71101 Adapter, N(F)-N(F)	/
S5102-027	SAV71115 Adapter, 3.5mm(M)-N(F)	/
S5102-028	SAV71116 Adapter, 3.5mm(M)-N(M)	/
S5102-029	SAV71117 Adapter, 3.5mm(F)-N(M)	/
S5102-030	SAV81101 Adapter, N(M)-N(F)	/
S5102-031	Soft backpack	/
S5102-032	Aluminum Carrying Case	/
S5102-033	Waterproof Safety box	/

Note: Information will conduct the necessary updates , the contents of this document are subject to change without notice