AURSINC V3 Portable Vector Network Analyzer User Guide

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About NanoVNA-F V3

NanoVNA-F V3 is a Portable Vector Network Analyzer (VNA) with frequency range of 1MHz~ 6GHz. It can be used for S11 and S21 measurements. The S21 dynamic range of NanoVNA-FV3 is 65 dB, while the S11 dynamic range is 50 dB.

NanoVNA-F V3 is suitable for antenna testing of MF/HF/VHF/UHF/SHF bands, such as shortwave antennas, ISM band antennas, WiFi antennas, Bluetooth antennas, GPS antennas, etc. It can also be used to measure filters, amplifiers, attenuators, cables, power dividers, couplers, duplexers and other RF components. NanoVNA-F V3 supports a variety of display formats: LogMag, Linear Mag, Phase, Smith R+jX, Smith R+L/C, VSWR, Polar, Group delay, Resistance, Reactance, etc. In addition, NanoVNA-F V3 supports TDR function which is useful for cable lengths measurement.

NanoVNA-F V3 is designed with metal case, which is durable and can effectively shield electromagnetic interference. The dimension of NanoVNA-F V3 is 125mmx75mmx20mm. TheRF interface of NanoVNA-F V3 is SMA connector witch can be used to connect DUTs directly. With the optimally designed signal processing system, the scan speed of NanoVNA-F V3is upto 200 points/s and the maximum scanning points is up to 801.

The screen of NanoVNA-F V3 is a 4.3-inch high-brightness IPS with resistive panel, which allows users to see the screen contents clearly in outdoor. NanoVNA-F V3 adopts a full touchscreen design, with 3 physical buttons, users can quickly set frequency range, scale, turn on/off traces, add/delete markers, and so on. The operation is quite convenient.

The NanoVNA-V3 has 4500mAh lithium-ion batteries with a battery life of up to 5 hours. The charging interface is USB Type-C, and the Type-C cable can be used to charge the device and also for data transfer.

Features

- Frequency range 1MHz – 6GHz;
- S21 dynamic range 65dB S11 dynamic range 50dB;
- 4.3-inch high-brightness IPS display with resistive touch panel
- Metal case, effectively shield electromagnetic interference;
- SMA connector, stable and durable;
- Full touch screen and 3 physical buttons, convenient and smooth operation;
- Dimensions: 125mmx75mmx20mm;
- Built-in 4500mAh lithium-ion batteries with a battery life of up to 5 hours;
- TDR function, which can be used to measure cable length;
- Up to 4 reference traces;

- Up to 4 markers, and the marker table can be dragged to anywhere on the screen;
- 12 save/recall slots;
- Charging via USB Type-C, and the charging voltage is 5V DC;
- Designed with a 5V/1A USB power output port;
- Firmware upgrade via virtual U disk with USB Type-C cable;
- Comes with SMA calibration kit and 2 x 20cm SMA-JJ RG405 coaxial cable;
- Supports console commands and PC software;

Specifications

Parameter	Specification	Remark
Frequency range	1MHz ~ 6GHz	
RF power out	-10dBm(Max)	
RF Connectors	SMA-Type Female	
RF power in	0dBm (Max)	DC<5V
Frequency accuracy	<±1 ppm	
Frequency step	10kHz (Min)	
S21 Dynamic range	65dB	< 3GHz
	60dB	> 3GHz
S11 Dynamic range	50dB	< 3GHz
	40dB	> 3GHz
Scan points	801	Can be set to 101-801
Scan speed	200 pts/s	
Traces	4	
Markers	4	
Calibration state stor ages	12	
Display	4.3-inch IPS LCD	
Operation mode	Resistive touch and physical buttons	
Battery life	5 hours	50% brightness
Battery	Li-ion Battery	4500mAh
Charge/Data port	USB Type-C	Do not support quick charge
Charge voltage	4.7V ~ 5.5V	Recommended to charge with 5V/1A
USB power output	5V/1A	
Dimensions	120 mmx 75 mmx 20mm	RF connector not included
Weight	0.26kg	
	0.5kg	Includes accessories and packaging
Operating Temperatu re		

Appearance

Shipping list

- **NanoVNA-F V3** ×1
- **SMA OPEN/SHORT/LOAD calibration kit** ×1
- **SMA-KK adapter** ×1
- **SMA-JJ adapter** ×1
- **SMA-JKW adapter** ×1
- **20cm SMA-JJ RG405 coaxial cable** ×2
- **USB type-C cable** ×1

Customer Support

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Documents / Resources

	**AURSINC V3 Portable Vector Network Analyzer** [pdf] User Guide V3 Portable Vector Network Analyzer, V3, Portable Vector Network Analyzer, Vector Network Analyzer, Network Analyzer, Analyzer

References

- SYS
- **User Manual**