Quality&**Precise**

MAXWELLON RSA080

5kHz~8GHz

Handheld Real-time Spectrum Analyzer

2023

Maxwellon

RSA080 is a broadband, high-performance portable real-time spectrum analyzer that measures frequencies ranging from 5 kHz to 8 GHz, making it suitable for both indoor and outdoor environments. The product adopts 10.1 inch LED backlight high brightness display screen, supporting multi touch operation. Equipped with real-time spectrum, swept frequency spectrum, vector network analysis, antenna feeder measurement, field strength measurement, USB power measurement, interference localization and demodulation analysis measurement modes, it is convenient for users to diagnose and solve various RF measurement problems on site. The medium mirror frequency suppression of up to 80 dB and minimal residual response indicators enable it to meet the higher requirements of wireless monitoring. The product has comprehensive testing functions, can be powered by batteries, and is easy to carry. It is a powerful tool for on-site testing parameters, engineering installation and debugging, and daily maintenance and repair of various electronic devices. It can be widely used in various fields such as communication, broadcasting and television, radio management, electronic detection and countermeasures, precision guidance, and is also the best choice for university teaching.

Key Feature

- Frequency range: 5kHz~8GHz
- Maximum real-time bandwidth: 40MHz
- Minimum signal duration at 100% POI of 7us
- Support multiple measurement modes such as Real-Time Spectrum, Sweep Spectrum, Vector Network Analysis, Antenna And Feeder Line Measurement, Field Strength Measurement, Interference Localization, Power Measurement, Signal Modulation Analysis, etc
- Up to 80dB medium mirror frequency suppression
- 10.1-inch high brightness display screen and support for touch operation
- Detachable lithium-ion battery for easy field testing

Specification

Real-time Spectrum Analysis

Frequency Range	5kHz~8GHz
Real-Time Analysis Bandwidth	40MHz
Min. Signal Duration at 100% POI	7us
Phase Noise	-98dBc/Hz@10kHz
Window Function Types	Hanning, Blackman-Harris, rectangular, flat-top, Caesar, Gaussian
Max. Sampling Rate	51.2MHz
Display Modes	Density Spectrum, Waterfall, Power vs Time
Real Time Storage Depth	512MB
Trigger Mode	External Trigger, IF Power, PPS Second Pulse, Gated Scanning, Frequency Template

Sweep Frequency Spectrum Analysis

Resolution Bandwidth	1Hz~5MHz
Noise Level	-165dBm
Sweep Time	20us~3000s (non-zero span), 5ms~3000s (zero span)
Comprehensive Amplitude Accuracy	±1.5dB

Vector Network Analysis

Frequency Range	100kHz~8GHz
Measurement Parameters	S11, S21
RF Output Power	0dBm, 30dB adjustable
IF Bandwidth	1kH~200kHz
Display Modes	Echo/SWR, Insertion Loss, Smith Chart, Phase, Group Delay
Effective Directionality	≥38dB(1MHz~8GHz)
Dynamic Range	80dB(S21, 10kHz RBW, Log mag, Average=50, >10MHz)

Antenna Test

Frequency Range	100kHz~8GHz
Measurement Points	101~2048
Effective Directionality	≥38dB

Analog Demodulation Analysis

AM Demodulation	Modulation Rate	20Hz -100kHz
	Modulation Rate Accuracy	1Hz, nominal value (modulation rate<1kHz)<0.1% modulation rate, nominal value (modulation rate ≥ 1kHz)
	Modulation Depth	10%-95%
	Modulation Depth Accuracy	±4%, nominal value
FM Demodulation	Modulation Rate	20Hz -100kHz
	Modulation Rate Accuracy	1Hz, nominal value (modulation rate<1kHz)<0.1% modulation rate, nominal value (modulation rate ≥ 1kHz)
	Frequency Deviation	100Hz -400kHz
	Frequency Deviation Accuracy	±4%, nominal value

Digital Demodulation Analysis

Modulation type	2ASK, 2FSK, GMSK, BPSK, QPSK, 8PSK, 16QAM, 64QAM
Single analysis length	Up to 80000 sample points
Symbol rate	1 ksps - 32Msps
Filter type	Root Raised Cosine, Raised Cosine, Gaussian, Rectangular
Test display	Error Vector Amplitude, Modulation Error Ratio, Error Vector Amplitude, Phase Error; FSK Only: Frequency Deviation, Symbol Timing Error.
Display format	IQ Diagram, Constellation Diagram, I Eye Diagram, Q Eye Diagram, Phase Diagram
QPSK residual EVM	≤2.0% (100 kHz, 1MHz, 10MHz symbol rate, typical average)

General Specifications

Input/Output Interface	
RF IN/OUT	RF signal input/output, N-type negative (50Ω)
USB	Host: USB 2.0 A connector, dual USB ports
LAN	10/100 Base-T, RJ-45 connector
Headphone jack	FM/AM audio demodulation output
REF IN	10MHz reference input, SMA female, input power 0dBm to +10dBm
IF OUT	145MHz IF output, SMA female
Trig In	External trigger input, 3.3V/5V TTL level
GPS	GPS/BD antenna input port, SMA female
AUX	8-core aviation connector, directional antenna electronic compass connector
DC 20V	20VDC power adapter interface

Common Parameters		
Monitor	LED backlight, 10.1 inch TFT-LCD, 1208×800	
Machine Weight (Including Battery)	About3.9kg(Does not include VNA option)	
Dimensions (Length X Width X Height)	334mm×242mm×68mm	
Operating Temperature	0℃ - 50℃	
Storage Temperature	-20℃ - +70℃	
Battery	14.8V 6400mAh	
Power Adapter	Input	100V~240VAC 50/60Hz 1.4A
	Output	+20V 6A
Overall Power Consumption	About 30W	

Ordering Information

Model

Model	Name	Description
SRA080	Handheld Real-time Spectrum Analyzer	5kHz - 8GHz

Standard

No.	Name
1	CD-ROM (User Manual, Programming Manual)
2	AC/DC adapter (AC input, +20V output)

Options

Option Model	Name
SRA-AMK	Advanced Measurement Suite
SRA-OCXO	High stability time base
SRA080-VNA	Vector Network Analysis
SRA080-DTF	Antenna and feeder measurement
SRA-FS	field strength measurement
SRA-IL	interference location
UP60	USB power sensor
SRA-AMA	Analog Modulation Analysis
SRA-DMA	Digital Modulation Analysis
OA750/DA800	Omnidirectional Antenna/Directional Antenna
SDA800	Ultrashort Wave Handheld DF Antenna (9kHz~8000MHz)

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