Quality&**Precise**

MAXWELLON HRA4080

5kHz~8GHz

RF Comprehensive Tester

2023

Maxwellon

HRA4080 RF integrated tester is a wideband, high-performance RF integrated tester, the measurement frequency covers 5kHz~8GHz, and can be used in both indoor and outdoor environments.

The product adopts a 10.1-inch LED backlit high-brightness display, supports multi-touch; integrates spectrum analyzer, vector network analyzer, antenna and feeder measurement, vector voltmeter, interference location, field strength measurement function and power measurement and other functions and All-in-one, built-in GPS/Beidou positioning module is suitable for field use.

Products are widely used in various fields such as aerospace, microwave communication, satellite navigation, radar detection, electronic detection and countermeasures, and precision guidance.

Key Feature

- Frequency Range: 5kHz~8GHz
- Noise level: Exceed <-162dBm@1GHz
- Resolution bandwidth: 1Hz~5MHz
- Maximum real-time bandwidth: 40MHz
- SSB Phase Noise: < -110dBc/Hz @1MHz
- Up to 80dB Medium Image Rejection
- With spectrum analyzer, vector network analyzer, antenna feeder measurement, vector voltmeter measurement, field strength measurement and other measurement functions
- Optional GPS/BD navigation, USB power sensor, interference location and other functional modules
- 10.1-inch bright display and supports touch operation
- Equipped with IF output, reference input, trigger input, USB, LAN, headphone and other interfaces
- Removable lithium-ion battery with 4 hours of battery life

Specification

Vector Network Analysis		
Frequency Range		5kHz~8GHz
Test Port		N-type, Female
Measurement parameters		S11, S21
RF out output power		0dBm (nominal value), 30dB adjustable
Display Format		Return/insertion loss, phase, SWR, Smith
Measurement points		101~1000, default 201
Bridge directionality	1MHz~8GHz	≥ 15d B (typical value)
Effective directionality		≥ 38d B (typical value)
Transmission dynamic range		≥ 80d B (typical value)
Reflection tracking		±0.1dB (Open circuit, 1kHz RBW,Log mag)
Effective source matching		≥30dB(Typical value)
Calibration method		Full 1-port calibration, enhanced direct response calibration
System impedance		50 Ω
Antenna feeder measurement		
Frequency range		1MHz~8GHz
Test Port		N-type Female
Calibration method		All 1 Port Calibration (OSL)
Max. number of measurement points		2048

Field Strength Measurement		
Frequency range		5MHz~8GHz
Dynamic range		23dBuV~127dBuV
Antenna factor		Built in antenna factor, supporting editing and importing of antenna factors
Spectrum Analysis		
Frequency range		5kHz~8GHz
Frequency reading accuracy		±(Frequency standard reading×frequency reference accuracy+1%×span+10%×RBW+0.5×[span/(scan point-1)]+1Hz)
Internal benchmark (10MHz)	Aging rate	<1ppm/ year
	Temperature stability	Temperature drift: <0.5ppm (15℃ to 35℃)
Resolution bandwidth range		1Hz to 5MHz, in 1, 3, 5 steps
Video Bandwidth (VBW)		1Hz to 5MHz
DANL (preamplifier on)		1MHz to 10MHz<-139dBm Typical value -144dBm 10MHz to 2GHz <-155dBm Typical value -159dBm 2GHz to 5GHz <-153dBm Typical value -157dBm 5GHz to 8GHz <-150dBm Typical value -152dBm
Phase noise (fc=1GHz)		-98 dBc /Hz when the frequency offset is 10kHz
Frequency counter	Counting resolution	1Hz, 10Hz, 100Hz, 1kHz
	Frequency range	5MHz~8GHz
	Dynamic range	-25dBm~+10dBm
Comprehensive amplitude accuracy		±1.5dB
Maximum safe input level		Mean continuous power: +27dBm
Maximum DC input voltage		50Vdc
Input attenuator range		0 to 30dB, the step is 1dB
TOI (third order distortion)	>30MHz	+7dBm
SHI (second-order distortion)	>10MHz	+40dBm
Input related spurious signal		<-60dBc
Remaining Response		<-90dBm(Typical value <-100dBm)
Real-time Spectrum Analysis		
Frequency range		5kHz~8GHz
Real time analysis bandwidth		40MHz
Minimum signal duration at 100% POI		7us
Maximum sampling rate		51.2MHz
Display mode		Density spectrum, waterfall plot, power vs time
Trigger mode		External trigger, IF power, pps second pulse, gated scanning, frequency template
Real time storage depth		512MB
Common Parameters		
Monitor		TFT-LCD, 10.1-inch, 1280 × 800
Machine weight(including battery)		About 4kg
Size		334mm×242mm×68mm
Operating temperature		0℃ to 50℃
Storage temperature		-20℃ to +70℃
Battery		14.8V, 6400mAh
Power adapter		Input: 100V~240VAC 50/60Hz 1.4A Output: +20V 6A
Overall power consumption		29W

Ordering Information

Configuration	Describe	Order No.
RF Comprehensive Tester	5kHz to 8GHz (spectrum analyzer, vector network, antenna feeder, and field strength)	HRA4080
Standard	CD-ROM (user manual, programming manual)	/
	AC/DC adapter (AC input,+20V output)	/
Optional	Real time spectrum analysis	HRA-RSA
	High stability time base	HRA-OCXO
	Interference localization	HRA-IL
	USB power sensor	UP60
	Omnidirectional antenna/directional antenna	OA750/DA800
	Ultrashort wave handheld direction finding antenna (9kHz~8000MHz)	SDA800
	Mechanical calibration parts (DC~6000MHz)	CK006
	Mechanical calibration parts (DC~9000MHz)	CK009
	High precision mechanical calibration component (DC~6000MHz)	HCK006
	High precision mechanical calibration component (DC~9000MHz)	HCK009

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