



MAXWELLON PSA080/200

5kHz~8GHz/9kHz~20GHz

Handheld Spectrum Analyzer
2023

The PSA080/200 spectrum analyzer is a broadband, high-performance portable microwave spectrum analyzer that measures frequencies ranging from 5 kHz to 8 GHz/9 kHz to 20 GHz. It can be used in both indoor and outdoor environments.

The product adopts 10.1 inch LED backlight high brightness display screen, supporting multi touch operation, with multiple intelligent measurement functions such as spectrum Analysis, Network Measurement, Field Strength Measurement, Channel Scanning, Third-Order Intermodulation, Harmonic Distortion, Carrier To Noise Ratio, and Pass-Fail. Highly integrated RF front-end and fully digital IF technology ensure excellent performance and stable performance, with a maximum real-time bandwidth of 40 MHz to meet the testing of commonly used radio signals such as mobile communication, television, and WiFi. The built-in GPS/BD function module is suitable for outdoor use. The product is widely used in various fields such as aerospace, microwave communication, satellite navigation, radar detection, electronic detection and countermeasures, precision guidance, etc.

Key Feature

- Frequency range: 5kHz~8GHz/9kHz~20GHz
- Noise level: better than -160dBm
- Resolution bandwidth: 1Hz~5MHz
- Maximum real-time bandwidth: 40MHz
- Equipped with measurement functions such as field strength measurement, frequency counting, channel measurement, third-order intermodulation, harmonic distortion, carrier to noise ratio, chromatogram, audio demodulation, and Pass Fail
- Built-in GPS/BD function module
- 10.1-inch color display screen with touch operation support
- Equipped with intermediate frequency output, reference input, trigger input, USB, LAN, headphone and other interfaces
- Removable lithium-ion battery with a range of over 3.5 hours

Specification

Model		PSA080	PSA200
Frequency Range		5kHz~8GHz	9kHz~20GHz
Frequency Reading Accuracy		± (Frequency standard reading × Frequency reference accuracy+1% × Sweep width+10% × RBW+0.5 × [Sweep width/(Sweep point -1)]+1Hz)	
Internal Reference (10MHz)	Standard	Aging rate: <1ppm/year	Aging rate: <0.5ppm/year
		Temperature drift: <0.5ppm (15 C to 35 C)	Temperature drift: <0.2ppm (15 C to 35 C)
	High stability time base option	Aging rate: <0.2ppm/year	
		Temperature drift: <0.1ppm (15 C to 35 C)	
Resolution Bandwidth(RBW)			
Range		1Hz to 5MHz in steps of 1, 3, and 5	
Selectivity (60db/3db)	RBW≤1MHz	<5:1 typical value (digital implementation, close to Gaussian shape)	
Accuracy		<10% (<5% typical value)	
Video Bandwidth (VBW)		1Hz to 5MHz	
DANL (1Hz resolution bandwidth, RF attenuator 0dB)			
Pre Amplifier Off		5kHz~1MHz <-120dBm, -130dBm(Typical Value)	9kHz~1MHz <-100dBm
		1MHz~10MHz <-130dBm, -140dBm(Typical Value)	1MHz~20MHz <-105dBm-3×(f/2MHz)dB
		10MHz~2GHz <-138dBm, -142dBm(Typical Value)	20MHz~4.0GHz <-138dBm
		2GHz~3.1GHz <-136dBm, -140dBm(Typical Value)	4GHz~7GHz <-135dBm
		3.1 GHz~5GHz <-136dBm, -140dBm(Typical Value)	7GHz~8GHz <-133dBm
		5GHz~8GHz <-135dBm, -138dBm(Typical Value)	8GHz~15GHz <-135dBm
			15GHz~18GHz <-133dBm
			18GHz~20GHz <-128dBm

Model	PSA080	PSA200
DANL (1Hz resolution bandwidth, RF attenuator 0dB)		
Pre Amplifier On	1MHz~10MHz <-140dBm, -145dBm(Typical Value) 10MHz~2GHz <-158dBm, -162dBm(Typical Value) 2GHz~3.1GHz <-156dBm, -160dBm(Typical Value) 3.1 GHz~5GHz <-155dBm, -159dBm(Typical Value) 5GHz~8GHz <-153dBm, -155dBm(Typical Value)	1MHz~10MHz <-135dBm 10MHz~2GHz <-156dBm 2GHz~5GHz <-154dBm 5GHz~7GHz <-152dBm 7GHz ~8GHz <-150dBm 8GHz~15GHz <-154dBm 15GHz~18GHz <-152dBm 18GHz~20GHz <-147dBm
Phase Noise		
FC=1GHz (Typical fc=1GHz, sampling detection, average number of traces ≥ 10)	-98dBc/Hz at 10kHz frequency offset	-90dBc/Hz at 10kHz frequency offset
	-112dBc/Hz at 1MHz frequency offset	-105dBc/Hz at 1MHz frequency offset
Sweep Time		
Non Zero Sweep Width	5ms to 3000s	
Zero Sweep Width	20us to 3000s	
Sweep Mode	Continuous, Single	
Trigger		
Trigger Source	Freedom, Video, External	
External trigger level	5V TTL level, Nominal Value	
Frequency Counter		
Counting Resolution	1Hz, 10Hz, 100Hz, 1kHz	
Counter Uncertainty	Frequency Reading × Frequency Reference Accuracy+Counting Resolution	
Amplitude Accuracy (20℃ to 30℃)		
Comprehensive Amplitude Accuracy	±1.5dB	1MHz~13.5GHz:±1.5dB
		13.5GHz~20GHz:±2.0dB
Amplitude		
Measurement Range (fc≥10MHz)	DANL to+20dBm	
Max. Safe Input Level	+27dBm (Average Continuous Power)	
Max. DC Input Voltage	50Vdc	
Input Attenuator Range	0 to 30dB in steps of 1dB	
Stray and Residual Response		
TOI (third order distortion)	> 30MHz	+7dBm
SHI (second-order distortion)	> 10MHz	+40dBm
Input related spurious signal		<-60dBc
Remaining Response		<-90dBm(Typical Value <-100dBm)
Input/Output		
RF Input	N-type female (50 Ω)	
USB	Main control end: USB 2.0 A connector, Dual USB interface	
LAN	10/100 Base-T, RJ-45 connector	
FM/AM Audio Demodulation	Speaker and Headphone Jack	
Reference Input	10MHz, SMA female; Input power from 0dBm to+10dBm	
Intermediate Frequency Output	145MHz, SMA female	
External Trigger Input	3.3 V TTL level (± 5V, 100mA maximum)	
GPS/BD Antenna Input	SMA female	

Common Parameters		
Monitor	LED backlight, 10.1 inch TFT-LCD, 1208×800	
Machine Weight (Including Battery)	About 3.9kg	
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 26W	About 29W

■ Ordering Information

Model

Model	Name	Description
PSA080	Handheld Spectrum Analyzer	5kHz - 8GHz
PSA200	Handheld Spectrum Analyzer	9kHz - 20GHz

Standard

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

Options

Option Model	Name
PSA-AWK	Advanced measurement options
PSA-OCXO	High stability time base option
PSA-BD	GPS/BD navigation
ANT01	Near field probe kit
OA750/DA800	Omnidirectional antenna/directional antenna
UP60	USB power sensor



Maxwellon Electronic Instruments Co.,LTD.

Factory: No.6 Xiangjiang Road, Qingdao 266000, China
Tel: 0086 13816527810

Sales Office: NO.153 Zhuzhou Rd.,Laoshan District, Qingdao 266100, China.
Tel: 0086-532-80977508
Fax: 0086-532-80977508

Sales: Sales@Maxwellon.com
Web: www.maxwellon.com