

Quality & Precise



MAXWELLON
HSA800

9kHz~1.8GHz/2.5GHz/3.6GHz/7.5GHz

Handheld Spectrum Analyzer

2023

Maxwellon

The HSA800 series spectrum analyzer is designed specifically for on-site operations. It is lightweight, portable, fast and precise, sturdy and durable, with rich measurement functions, making it the perfect choice for pursuing excellent performance and outstanding value.

The product adopts a high brightness 6.5-inch large screen, with a dynamic appearance and clear graphics. Large capacity rechargeable battery, with a continuous working time of up to 4 hours. The push cover battery compartment is easy to replace at any time and has unlimited extension of operating time. Equipped with options such as built-in tracking source, preamplifier, field strength measurement, GPS/BD navigation measurement, and antenna feeder testing, it can quickly and reliably solve various conventional measurement tasks and adapt to harsh and complex environmental requirements. Universal USB and LAN communication interfaces enable remote control. By using the standard and complete SCPI command set, it is possible to quickly build and upgrade an integrated testing system, making it convenient for users to measure and use.

■ Key Feature

- Frequency range: 9kHz~1.8GHz/2.5GHz/3.6GHz/7.5GHz
- Noise level: better than -160dBm
- Resolution bandwidth: 1Hz-3MHz
- Dedicated transient detection for fast capture of transient signals
- Waterfall plot, channel measurement, frequency counting, audio decoding, Pass Fail detection alarm, and other conventional and extended functions
- More professional options such as field strength measurement, S11 and S21, GPS/BD navigation measurement, antenna and feeder line testing, etc
- Fully charged for up to 4 hours, ready for backup power connection at any time

■ Specification

Model		HSA818	HSA820	HSA830	HSA870
Frequency Range		9kHz~1.8GHz	9kHz~2.5GHz	9kHz~3.6GHz	9kHz~7.5GHz
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)	Aging Rate	<1ppm/ year			
	Temperature Drift	<0.5ppm (15 C to 35 C)			
Resolution Bandwidth(RBW)					
Range		10Hz to 500kHz(in steps of 1 to 10), 1MHz, 3MHz	1Hz to 500kHz(in steps of 1 to 10), 1MHz, 3MHz		
Selectivity (60db/3db)	RBW≤500kHz	<5:1 typical value (digital implementation, close to Gaussian shape)			
Accuracy		<10% (<5% typical value)			
Video Bandwidth (VBW)		10Hz to 3MHz			
DANL (1Hz resolution bandwidth, RF attenuator 0dB)					
Pre Amplifier Off		100kHz~1MHz: <-100dBm-3×(f/100kHz)dB	100kHz~1MHz: <-100dBm-3×(f/100kHz)dB	100kHz~1MHz: <-100dBm-3×(f/100kHz)dB	1MHz~10MHz:<-125dBm
		1MHz~10MHz:<-130dBm	1MHz~10MHz:<-130dBm	1MHz~10MHz:<-130dBm	10MHz~2GHz:<-133dBm
		10MHz~1GHz:<-135dBm	10MHz~1GHz:<-135dBm	10MHz~1GHz:<-135dBm	2GHz~3.4GHz:<-130dBm
		10MHz~1GHz:<-135dBm	10MHz~1GHz:<-135dBm	10MHz~1GHz:<-135dBm	3.4GHz~5GHz:<-133dBm
		1GHz~1.8GHz:<-132dBm	1GHz~2.5GHz:<-131dBm	1GHz~3.6GHz:<-130dBm	5GHz~7.5GHz:<-127dBm
Pre Amplifier On		100kHz~1MHz: <-120dBm-3×(f/100kHz)dB	100kHz~1MHz: <-120dBm-3×(f/100kHz)dB	100kHz~1MHz: <-120dBm-3×(f/100kHz)dB	1MHz~10MHz:<-140dBm
		1MHz~10MHz:<-150dBm	1MHz~10MHz:<-150dBm	1MHz~10MHz:<-150dBm	10MHz~2GHz:<-148dBm
		10MHz~1GHz:<-155dBm	10MHz~1GHz:<-155dBm	10MHz~1GHz:<-155dBm	2GHz~3.4GHz:<-143dBm
		10MHz~1GHz:<-155dBm	10MHz~1GHz:<-155dBm	10MHz~1GHz:<-155dBm	3.4GHz~5GHz:<-145dBm
		1GHz~1.8GHz:<-152dBm	1GHz~2.5GHz:<-150dBm	1GHz~3.6GHz:<-148dBm	5GHz~7.5GHz:<-138dBm

Model	HSA818	HSA820	HSA830	HSA870
Phase Noise				
FC=500MHz	-90dBc/Hz at 30kHz frequency offset			-80dBc/Hz at 30kHz frequency offset
	-100dBc/Hz at 100kHz frequency offset			-90dBc/Hz at 100kHz frequency offset
	-115dBc/Hz at 1MHz frequency offset			-110dBc/Hz at 1MHz frequency offset
Sweep Time				
Non Zero Sweep Width	3ms to 3000s			
Zero Sweep Width	1ms 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 C to 30 C)				
Comprehensive Amplitude Accuracy	±1.5dB			
Amplitude				
Measurement Range (fc≥10MHz)	DANL to+27dBm			DANL to+20dBm
Max. Safe Input Level (Average Continuous Power)	+27dBm			+23dBm
Max. DC Input Voltage	50Vdc			
Input Attenuator Range	0 to 39dB in steps of 3dB			0 to 30dB in steps of 1dB
Stray and Residual Response				
TOI (third order distortion)	>30MHz	+7dBm	+10dBm	
SHI (second-order distortion)	>10MHz	+40dBm	+40dBm	
Input related spurious signal		<-60dBc		
Remaining Response		<-85dBm		
Tracking Source (option)				
Frequency Range	100kHz ~ 1.5GHz			100kHz ~ 3.2GHz
Output Power	-30dBm to 0dBm in 1dB steps			
Flatness Output	±3dB			
Input/Output				
RF Input/Output	N-type female (50 Ω)			
USB	USB 2.0			
LAN	10/100 Base-T, RJ-45 connector			
FM/AM Audio Demodulation	Speaker and Headphone Jack			
Reference Input/Output	10MHz, BNC female. Input power from 0dBm to+10dBm; Output power 0dBm ± 2dB			
External Trigger Input	5V TTL level (Max. ± 10V, 100mA)			
Common Parameters				
Display	TFT-LCD, 6.5 inches			
Weight	2.8kg			
Size (Length × Wide × High)	290mm×186mm×66mm			
Working Temperature	0 C to 50 C			
Storage Temperature	-20 C to+70 C			
Battery	7.4 V 6600mAh			
AC Adapter	Input: 100V~240VAC 50/60Hz 1.5A			
	Output: +9V 4000mA			
Overall Power Consumption	13W			15W

■ Ordering Information

Model

Model	Name	Description
HSA818	Handheld Spectrum Analyzer	9kHz ~ 1.8GHz
HSA820	Handheld Spectrum Analyzer	9kHz ~ 2.5GHz
HSA830	Handheld Spectrum Analyzer	9kHz ~ 3.6GHz
HSA870	Handheld Spectrum Analyzer	9kHz ~ 7.5GHz

Standard

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

Options

Option Model	Name
HSA820-TG15 HSA830-TG15	100kHz to 1.5GHz tracking source
HSA870-TG32	100kHz to 3.2GHz tracking source
HSA800-FS	Field strength measurement
HSA800-BAT	Backup battery pack
OA750/DA800	Omnidirectional antenna/directional antenna
ANT01	Near field probe kit
VB30	Standing wave ratio bridge
UP60	USB power sensor
HSA800-BD	GPS/BD navigation



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