



MAXWELLON SA1000

9kHz~1.8GHz/3.0GHz/3.6GHz
Spectrum Analyzer
2023

The SA1000 series portable spectrum analyzer adopts an ABS mold and is portable and lightweight. The full digital intermediate frequency and embedded integrated control system ensure its excellent performance and stable performance, surpassing expectations for high cost-effectiveness, making it easy for users in various fields such as research and development, production, teaching and training to have it. Rich and friendly human-machine interface, bilingual menus in both Chinese and English, easy to operate, easy to learn and use, making the testing world more convenient and enjoyable.

Key Feature

- Frequency range: 9kHz~1.8GHz/3.0GHz/3.6GHz
- Resolution bandwidth of 1Hz-3MHz, noise level better than -158dBm
- Patented dual source function, tracking source/independent source arbitrary switching
- Dedicated transient detection for fast capture of transient signals
- Waterfall plot, frequency counting, audio demodulation, and other conventional and extended functions
- More professional options such as field strength measurement, frequency discrimination testing, S11 and S21, channel measurement, etc. Pass Fail and other on-site detection and alarm capabilities
- 8-inch highlight color display, multi trace operation measurement

Specification

Model		SA1010B	SA1030B	SA1030C
Frequency Range		9kHz~1.8GHz	9kHz~3.0GHz	9kHz~3.6GHz
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		1Hz to 500kHz (in continuous 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 ~ 3MHz		
DANL (1Hz resolution bandwidth, RF attenuator 0dB)				
Pre Amplifier Off		100kHz~1MHz <-100dBm- 3×(f/100kHz)dB 1MHz ~ 10MHz <-130dBm 10MHz ~ 1GHz <-135dBm 1GHz ~ 1.8GHz<-134dBm	100kHz~1MHz <-100dBm-3×(f/100kHz)dB 1MHz~10MHz <-130dBm 10MHz~1GHz <-135dBm 1GHz~3.6GHz <-130dBm <-130dBm	
Pre Amplifier On		100kHz~1MHz <-100dBm- 3×(f/100kHz)dB 1MHz ~ 10MHz <-150dBm 10MHz ~ 1GHz <-155dBm 1GHz ~ 1.8GHz<-153dBm	100kHz~1MHz <-120dBm-3×(f/100kHz)dB 1MHz~10MHz <-150dBm 10MHz~1GHz <-155dBm 1GHz~3.6GHz <-150dBm <-130dBm	
Phase Noise				
fc=500MHz		-90dBc/Hz at 30kHz frequency offset		
		-100dBc/Hz at 100kHz frequency offset		
		-115dBc/Hz at 1MHz frequency offset		
Sweep Time				
Non Zero Sweep Width		3ms to 3000s		
Zero Sweep Width		1ms to 3000s		
Sweep Mode		Continuous, Single		

Model		SA1010B		SA1030B		SA1030C	
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					
Amplitude							
Measurement Range (fc≥10MHz)		DANL to +20dBm		DANL to +23dBm			
Max. Safe Input Level(Average continuous power)		+27dBm					
Max. DC Input Voltage		50Vdc					
Input Attenuator Range		0 - 30dB, Steps of 1 dB		0 - 39dB, Steps of 1 dB			
Stray and Residual Response							
TOI (third order distortion)		> 30MHz	+7dBm				
SHI (second-order distortion)		> 10MHz	+40dBm				
Input related spurious signal			< -60dBc				
Remaining Response			< -90dBm		< -85dBm		
Tracking Signal Source (option)							
Frequency Range		100kHz to 1.8GHz		100kHz to 3.0GHz		100kHz to 3.6GHz	
Output Power		-30dBm to 0dBm in 1dB steps					
Flatness Output		tracking signal source (100kHz to 1.6GHz) ± 3dB		tracking signal source (100kHz to 3GHz) ± 3dB		tracking signal source (100kHz to 3.6GHz) ± 3dB	
		Independent signal source (150MHz to 1.6GHz) ± 3dB		Independent signal source (150MHz to 3GHz) ± 3dB		Independent signal source (150MHz to 3.6GHz) ± 3dB	
Input/Output							
RF Input		N-type female (50 Ω)					
USB		USB 2.0					
LAN		10/100 Base-T, RJ-45 connector					
RS232		9-pin D-SUB (male)					
FM/AM Audio Demodulation		Speaker and Headphone Jack					
Reference Input/Output		10MHz, BNC female; Input power: 0dBm to+10dBm; Output power: 0dBm ± 2dB					
VGA		800 × 480, 60Hz, 15 pin D-SUB (female)					
External Trigger Input		5V TTL level (± 10V, 100mA maximum)					
General							
Display		TFT-LCD, 8 inches					
Max. Weight		4kg					
Dimensions (width × high × deep)		335mm × 162mm × 116mm					
Working Temperature		0 ℃ to 40 ℃					
Storage Temperature		-20℃ to+70℃					
Power		Input Voltage:100V to 240V					
		AC Frequency: 40Hz to 60Hz					
		Max. Power Consumption: 20W					

■ Ordering Information

Model

Model	Name	Description
SA1010B	Spectrum Analyzer	9kHz - 1.8GHz
SA1030B	Spectrum Analyzer	9kHz - 3.0GHz
SA1030C	Spectrum Analyzer	9kHz - 3.6GHz

Standard

No.	Name
1	CD-ROM (User Manual, Programming Manual)
2	AC/DC adapter

Options

Option Model	Name
SA1030B-TG15	100kHz to 1.5GHz tracking source
SA1010B-TG18	100kHz to 1.8GHz tracking source
SA1030B-TG30	100kHz to 3.0GHz tracking source
SA1030C-TG36	100kHz to 3.6GHz tracking source
SA1000-FS	Field strength measurement
ANT01	Near field probe kit
FD100	Frequency discrimination characteristic testing module
OA750/DA800	Omnidirectional antenna/directional antenna
VB30	Standing wave ratio bridge
UP60	USB power sensor
TR1000	RF demonstration kit



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