Spectrum Analyzer

HSA2000 Series

9K~3.2GHz, 3.2GHz Tracking Generator

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Product Features

- IP-51 high protection portable design, sturdy and durable, suitable for the field;
- 5.6 inch 64M color LCD display, 640 × 480 resolution;
- 7.4V/7,800mAh large capacity lithium battery pack lasts up to 4 hours;
- USB 2.0 and LAN for quick and easy connectioty to a PC;
- Low display average noise level (DANL);
- Optimal sensitivity: -161dBm, standard preamplifier, 3.2G or 1.6G tracking generator.

Specification

Model			HSA2030A	HSA2030B	HSA2016A	HSA2016B
Frequency	Frequency Range		9KHz - 3.2GHz AC Coupled		9KHz - 1.6GHz AC Coupled	
	Frequency Resolution		1Hz			
Tracking Generator (TG)	Range		N/A	5MHz - 3.2GHz	N/A	5MHz - 1.6GHz
Frequency Reference	Nominal Frequency		10MHz			
	Aging Rate		±1ppm/year (0°C~50°C, reference is 25°C)			
	Temperature Stability		±1ppm/year			
Redout Accuracy	Marker Resolution		(Frequency span)/(number of sweep point - 1)			
	Uncertainty		± (frequency indication x frequency reference uncertainty +1% x span + 20%RBW + marker resolution+1Hz)			
Frequency Counter	Counter Resolution		1Hz			
	Accuracy		± (marker frequency × frequency reference uncertainty + counter resolution)			
Frequency Span	Range		0Hz (zero span), 100Hz to 3.2GHz			
	Resolution		0Hz			
	Accuracy		± Span/(Sweep point-1)			
SSB Phase Noise	Carrier Offset (20°C~30°C, 500MHz Center Frequency)	10 KHz	< -92 dBc/Hz, -95 dBc/Hz typical			
		30 KHz	< -93 dBc/Hz, -96 dBc/Hz typical			
		100 KHz	< -95 dBc/Hz, -97 dBc/Hz typical			
		1 MHz	< -117 dBc/Hz, -119 dBc/Hz typical			
Resolution Bandwidth (RBW)	Range (-3dB Bandwidth)		1Hz to 1MHz in 1-3-10 sequence			
	Accuracy		± 5% RBW = 10Hz~1MHz nominal			
	Resolution Filter Shape Factor		< 5 : 1 nominal			
Video Bandwidth (VBW)	Range (-3dB Bandwidth)		1Hz to 1MHz in 1-3-10 sequence			
	Accuracy		± 10% VBW = 1Hz~1MHz nominal			
Measurement Range	100KHz~2MHz	PreampOff	Display average noise level (DANL) to + 10dB			
	2MHz~3.2GHz	PreampOff	Display average noise level (DANL) to + 20dB			
	Input Attenuator Range		0 to 51dB, 1dB steps			
Maximum Damage	Average Continuous Power		+33dBm, maximum 3-minute, input attenuatior setting ≥ 20dB, 2MHz~3GHz			
	DC Voltage		50 VDC maximum			
Displayed Average Noise Level (Normalized to 1Hz)	9KHz~1MHz	PreampOff	-108dBm, -127dBm typical			
	1MHz~10MHz	PreampOff	-128dBm, -146dBm typical			
	10MHz~500MHz	PreampOff	-142dBm, -146dBm typical			
	500MHz~2.5GHz	PreampOff	-141dBm, -145dBm typical			
	2.5GHz~3.2GHz	PreampOff	-140dBm, -144dBm typical		N/A	
	9KHz~1MHz	PreampOn	-131dBm, -150dBm typical			
	1MHz~10MHz	PreampOn	-148dBm, -163dBm typical			
	10MHz~500MHz	PreampOn	-161dBm, -164dBm typical			
	500MHz~2.5GHz	PreampOn	-159dBm, -162dBm typical			
	2.5GHz~3.2GHz	PreampOn	-158dBm, -161dBm typical		N/A	
Level Display Range	Resolution (Linear Scale)		0 to 100%, 10 divisions displayed			
	Scale Units		dBm, dBmV, dBμV, Watts, Volts			
	Sweep (Trace) Points		461			
	Number of Markers		4			
	Detectors		Normal, positive-peak, sample, negative-peak, RMS (average)			
	Number of Traces		4			
	Trace Function		Clear/write, maximum hold, minimum hold, average, check, close			
	Level Measurement Error		±1.5dB (excluding input VSWR mismatch) 20~30°C, peak detector, preamplifier off, input signal -50dBm to 0dBm			
Reference Level	Setting Range		-100dBm to + 30dBm, steps of 1dB			
	Setting Resolution	Log Scale	0.01dB			
		Linear Scale	Almost log(2.236μV to 7.07V)			
Sweep Time	Range	Span > 100Hz	2ms to 1,000s			
		Span = 0Hz	600ns to 200s			
	Mode		Continuous, single			
	Trigger		Free run, video, external			
	Trigger Slope		Selectable positive or negative edge			
	Trigger Delay	Span = 0Hz	±12ms to ± 12s nominal			
RF Input	Connector and Impedance		N-type female; 50Ω			
EXT Reference Input	Frequency		10MHz			
	Input Amplitude		0~10dBm			
External Trigger Input	Connector and Impedance		N-type female; 50Ω			
General	Power Adapter		Input: 100 to 240VAC, 50 to 60Hz, 1.5A max.; Output: 12 to 17VDC, 2.8A max.			
	Display		5.6 inch, 600 x 480 resolution, 64M color LCD			
	Dimensions		260 mm x 220mm x 75mm; 2.9kg (including battery); 2.6kg (excluding battery)			