



## Handheld Spectrum Analyzer

### OHSA1600 Series

- Frequency range: 9 kHz ~ 1.6 GHz AC coupled; RBW: 10 Hz to 1 MHz.
- Optimal sensitivity: -161 dBm.
- Built in 1.6 GHz tracking generator.
- AM / FM audio demodulator, frequency counter.
- Built-in large capacity lithium battery, can work for more than 4 hours.
- 5.6 inch highlight color display, 640 x 480 resolution.
- USB / LAN communication.

Model			OHSA1601	OHSA1602
Frequency	Frequency Range		9KHz ~ 1.6 GHz AC coupled	9KHz ~ 1.6 GHz AC coupled 5 M ~ 1.6 GHz TG
	Frequency Resolution		1 Hz	
	Reference Frequency		10 MHz	
	Frequency Readout Accuracy		± (frequency indication x frequency reference uncertainty + 1% x span+20%RBW + marker resolution + 1 Hz)	
	Internal 10 MHz Reference Accuracy	Aging Rate	±1 ppm/year (0 °C ~ 50 °C, Reference is 25 °C)	
		Temperature Stability	±1 ppm/year	
Marker Resolution		(Frequency span)/ (number of sweep points-1)		
Resolution Bandwidth (RBW)	-3 dB Bandwidth		10 Hz to 1 MHz, 1-3-10 sequence	
	Accuracy		±5% RBW=10 Hz ~ 1 MHz nominal	
	Resolution Filter Shape Factor		< 5: 1 nominal	
	Video Bandwidth (VBW)	-3 dB Bandwidth	1 Hz to 1 MHz, 1-3-10 sequence	
Accuracy		±10% VBM = 1 Hz ~ 1 MHz nominal		
Displayed Average Noise Level (Normalized to 1 Hz)	100 K ~ 1 MHz	Preamp off	-108 dBm, Typical -127 dBm	
	1 MHz ~ 10 MHz		-128 dBm, Typical -146 dBm	
	10 MHz ~ 500 MHz		-142 dBm, Typical -146 dBm	
	500 MHz ~ 1.6 GHz		-141 dBm, Typical -145 dBm	
	100 K ~ 1 MHz	Preamp on	-131 dBm, Typical -150 dBm	
	1 MHz ~ 10 MHz		-148 dBm, Typical -163 dBm	
10 MHz ~ 500 MHz	-161 dBm, Typical -164 dBm			
500 MHz ~ 1.6 GHz	-159 dBm, Typical -162 dBm			
SSB Phase Noise	Carrier Offset (20 °C ~ 30 °C, 500 MHz Central Frequency)	10 K	< -92 dBc/Hz, Typical -95 dBc/Hz	
		30 K	< -93 dBc/Hz, Typical -96 dBc/Hz	
		100 K	< -95 dBc/Hz, Typical -97 dBc/Hz	
		1 MHz	< -117 dBc/Hz, Typical -119 dBc/Hz	
Sweep Time	Range	Span >100 Hz	2 ms to 1000 s	
		Span=0 Hz	600 ns to 200 s	
	Sweep Mode		Continuous, single	
	Trigger Source		Free run, video, external	
	Trigger Slope		Selectable positive or negative edge	
Trigger Delay	Span = 0 Hz	±12 ms to ±12 s nominal		
Frequency Counter	Counter Resolution		1 Hz	
	Accuracy		± (marker frequency × frequency reference uncertainty + counter resolution)	
Level Display Range	Log Scale and Units		1 to 10 dB/divisions in 1, 2, 5, 10 dB steps, 10 divisions displayed	
	Linear Scale and Units		0 to 100%, 10 divisions displayed	
	Scale Unit		dBm, dB mV, dB uV, Watts, Volts	
	Sweep (Trace) Points		461	
	Number of Markers		4	
	Detectors		Normal, positive peak, sample, negative peak, RMS	
	Number of Traces		4	
	Trace Functions		Clear/write, maximum hold, minimum hold, average, chec, close	
Level Measurement Error		±1.5 dB (excluding input VSWR mismatch) 20 ~ 30 °C peak detector, preamplifier off input signal -50 dBm to 0 dBm		
Reference Level	Setting Range		-100 dBm to +30 dBm, steps of 1 dB	
	Setting Resolution	Log Scale	0.01 dB	
		Linear Scale	Almost log (2.236 μV to 7.07 V)	
Amplitude	Maximum Safety Input Level	Average Continuous Power	+33 dBm	
		DC Input Voltage	50 Vdc	
	Measurement Range	9KHz ~ 2 MHz	Displayed average noise level (DANL) to +10 dB	
		2 MHz ~ 1.6 GHz	Displayed average noise level (DANL) to +20 dB	
Input Attenuator Range		0 to 51 dB, 1 dB steps		

Model		OHSA1601	OHSA1602	
Spurious Response	Second Harmonic Distortion (SHI)	<65 dBc, 50 MHz to 1.6 GHz (Mixer level -30 dBm, attenuator =0 dB, preamp off, 20 °C ~ 30 °C)		
	Third-Order Intermodulation (TOI)	50 ~ 300 MHz	+8 dBm, third-order intermodulation products: 2 x -20 dBm; frequency separation 100 kHz: attenuation = 0 dB; preamp off, 20 °C ~ 30 °C	
		300 MHz ~ 1.6 GHz	+10 dBm	
	Input Related Spurious	<-75 dBc, (input mixer = -30 dBm)		
	Inherent Residual Response	<-90 dBm, Typical -98 dBm (Input terminated and 0 dB RF attenuation, preamplifier off)		
RF Input VSWR (at Tuned Frequency)	10 MHz to 1.6 GHz	<1.5: 1, nominal attenuator setting 10 ~ 20 dB		
10 MHz Reference/External Trigger Input	Reference Input Frequency	10 MHz		
	Reference Input Amplitude	0 ~ 10 dBm		
	Trigger Voltage	5 V TTL level		
	Connector and Output Impedance	N female (50 Ω)		
General Features	Interface Language	English		
	Display Index	5.7 inch, 640 x 480 resolution, 64 M color LCD display		
	Temperature Range	Working	-10 °C to +50 °C, (battery : 0 °C to 50 °C)	
		Storage	-40 °C to +70 °C, (battery: -20 °C to 50 °C)	
	Relative Humidity	<95%		
	Weight	2.9 kg (with battery), 2.6 kg (without battery)		
	Size	260 mm x 220 mm x 75 mm		
	Power	Input Voltage Range	DC: 12-17 V, maximum 2.8 A input 220 VAC±15%	
		AC Frequency Range	40 Hz to 60 Hz	
Power Consumption		Maximum 32 W		

### Accessories

OHSA1600-A1	Adapter
OHSA1600-A2	Software CD
OHSA1600-A3	Velcro Hanger
OHSA1600-A4	A BNC to BNC Cable
OHSA1600-A5	User Guide
OHSA1600-A6	Aluminum Alloy Cabinet



## Microwave Signal Generator

### OSG5000 Series

- 5 MHz to 12, 24, 40 GHz frequency range with resolution 1 Hz.
- High quality spectral performance, phase noise: -119 dBc / Hz at 10 kHz.
- Extremely high frequency stability, aging rate  $< \pm 8 \times 10^{-9}$  / day.
- LAN (100 Base T); RS232 interface.