



Spectrum Analyzer

OSA92000 Series

- Frequency range: 9 KHz-1.5 GHz / 3 GHz / 7.5 GHz.
- Displayed average noise level (DANL): <-160 dBm (typical value).
- Phase noise: -100 / -90 / -95 dBc/Hz (offset 10 kHz).
- Full amplitude accuracy: <1.0 dB.

- Minimum resolution bandwidth (RBW): 1 Hz.
- Tracking generator (optional).
- AM/FM demodulation measurement (optional).
- Extensive measurement capabilities and a variety of automatic setting functions.



Model		OSA92015	OSA92115	OSA92030	OSA92130	OSA92075					
Frequency Specifications	Frequency Range	9 kHz~1.5 GHz		9 kHz~3 GHz		9 kHz~7.5 GHz					
	Internal 10 MHz Frequency Reference Accuracy	Initial Calibration Accuracy	$\pm 1 \times 10^{-7}$								
	Temperature Stability	Aging Rate	$\pm 0.1 \text{ ppm/year}$	$\pm 1 \text{ ppm/year}$	$\pm 0.1 \text{ ppm/year}$						
			$\pm 5 \times 10^{-8}$ Referenced to frequency reading at 0-50 °C								
	Frequency Readout Accuracy with Marker (Start, Stop, Center, Marker)	Marker Resolution	(frequency span)/(sweep points -1)								
		Uncertainty	$\pm (\text{frequency indication} \times \text{frequency reference uncertainty} + 1\% \times \text{span} + 10\% \times \text{resolution bandwidth} + \text{marker resolution} + 1 \text{ Hz})$								
		Frequency Reference Uncertainty	$= (\text{aging rate} \times \text{period of time since adjustment} + \text{temperature stability})$								
	Marker Frequency Counter	Resolution	1 Hz								
		Accuracy	$\pm (\text{marker frequency} \times \text{frequency reference uncertainty} + \text{counter resolution})$ (Marker level to displayed noise level > 25 dB; frequency offset 0 Hz)								
	Frequency Span	Range	0 Hz (zero span), 100 Hz to 3 GHz								
		Resolution	1 Hz								
		Accuracy	$\pm \text{span}/(\text{sweep points} - 1)$								
	SSB Phase Noise		<- 100 dBc /Hz @ 10 kHz	< - 90 dBc /Hz @ 10 kHz	< - 95 dBc /Hz @ 10 kHz						
	Resolution Bandwidth (RBW)	-3 dB Bandwidth	1 Hz ~ 3 MHz	100 Hz ~ 1 MHz	1 Hz ~ 3 MHz						
		Accuracy	$\pm 5\%$, RBW = 1 Hz to 1 MHz Nominal, $\pm 20\%$, RBW = 3 MHz								
		Resolution Filter Shape Factor	< 5:1								
	Video bandwidth (VBW)	-3 dB Bandwidth	1 Hz to 3 MHz, 1-3-10 sequence								
Amplitude Specifications	Measurement range		+30 dBm to displayed average noise level (DANL)								
	Input attenuator range		0 dB to 50 dB, in 10 dB steps								
	Maximum Safe Input Level	Average Continuous Power	+30 dBm, (3 minutes maximum, Input attenuator ≥ 20 dB, preamplifier off)								
		DC Voltage	50 V		25 V						
	Displayed Average Noise Level	Preamp On	$\leq -148 \text{ dBm}$ -160 dBm Typical value	$\leq -128 \text{ dBm}$ -140 dBm Typical value	$\leq -148 \text{ dBm}$ -160 dBm Typical value						
		Preamp Off	$\leq -130 \text{ dBm}$	$\leq -110 \text{ dBm}$	$\leq -130 \text{ dBm}$						
	Level Display Range	Log Scale		10 dB to 100 dB, 10 divisions displayed; 1, 2, 5, 10 dB/division							
		Linear Scale		0% to 100%, 10 divisions displayed							
		Scale Units		dBm, dB mV, dB uV, dB uV/m, uV, mV, V, mW, W							
		Sweep (Trace) Points		501							
	Marker Level Readout Resolution	Log Scale	0.01 dB								
		Linear Scale	$\leq 1\%$ of signal level Nominal								
		Detectors	Normal, Positive peak, Sample, Negative peak								
		Number of Traces	3								
	Level Display Range	Trace Functions		Clear/write, Maximum hold, Minimum hold, View							
		Level Measurement Error		$\pm (0.6 \text{ dB} + \text{frequency response})$, all frequency							
		Frequency Response		$\pm 1 \text{ dB}$							
	Reference Level	Setting Range		-110 dBm to +30 dBm steps of 1 dB							
		Setting Resolution Log Scale		0.01 dB							
		Linear Scale Same as Log		(2.236 μ V to 7.07 V)							
	RF Input VSWR (at Tuned Frequency)			< 1.5:1, (10 MHz to 3 GHz, 10 dB or 20 dB attenuation)							
	Spurious Response	Second Harmonic Distortion		< -70 dBc, (Mixer signal level -40 dBm, input attenuation 0 dB, preamp off)							

		Third Order Intermodulation Distortion	< -70 dBc, (Two -30 dBm tones at input mixer, spaced by 1 MHz input attenuation 0 dB, preamp off)	
		Input Related Spurious	< -60 dBc, (-30 dBm signal at input mixer)	
		Inherent Residual Response	<-88 dBm, (Input terminated 50 Ω and 0 dB RF attenuation, preamp off)	
Sweep Specifications	Sweep Time	Range	10 ms to 3000 s, Span≥100 Hz; 100 μs to 100 s, Span = 0 Hz (zero span)	
		Sweep Mode	Continuous, single	
		Trigger Source	Free run, Line trigger, External trigger	
		Trigger Slope	Positive or Negative edge available	
RF Input	10 MHz Reference	Connector and Impedance	N-Type female, 50 Ω nominal	
		Reference Input Frequency	10 MHz	
		Reference Input Amplitude	0 dBm to +10 dBm	
		Reference Output Frequency	10 MHz	
		Reference Output Amplitude	0 dBm to +10 dBm	
		Connector	BNC female, 50 Ω nominal	
Auto Measurement Functions		Phase noise, Adjacent channel power, Occupied bandwidth. Third order intermodulation distortion, Pass/Fail, Standing wave ratio.		
Interface	Host Connector	USB Type-A female		
	Device Connector	USB type mini AB female, LAN, RS232 or VGA		
General Specifications (Display)	Resolution	800 pixels x 480 pixels		
	Size And Type	8.5 inch TFT color display		
	Languages	On-screen GUI: English		
Power Requirement	Adaptor Voltage	100 V to 240 V AC, Rate 50/60/400 Hz, auto-ranging		
	Power Consumption	Less than 35 W		
Environmental and Size	Temperature Range	0 °C to +40 °C (operating) -40 °C to +70 °C (storage)		
	Relative Humidity	< 95%		
	Weight	Less than 7 kg		
	Dimensions	410 mm × 210 mm × 136 mm (W x H x D)		
Tracking Generator (Optional)	Frequency Range	5 MHz~1.5 GHz	5 MHz~3 GHz	5 MHz~7.5 GHz
	Output Level	0 dBm to -25 dBm, 1 dB steps		
	Output Flatness	± 3 dB		
	VSWR	< 2.0: 1, nominal		
	Connector and Impedance	N-Type female, 50 Ω		
AM / FM Demodulation Measurement-except OSA92115 (Optional)	AM Demodulation	Modulation Frequency	20 Hz ~ 100 kHz	
		Frequency Accuracy	1 Hz (Modulation Frequency<1 kHz) 0.1% (Modulation Frequency≥1 kHz)	
		Modulation Depth	5 ~ 95%	
		Depth Measurement Precision	±4%	
	FM Demodulation	Modulation Frequency	20 Hz ~ 200 kHz	
		Frequency Accuracy	1 Hz (modulation frequency<1 kHz) 0.1% (modulation frequency≥1 kHz)	
		Frequency Offset	20 Hz ~ 400 kHz	
		Frequency Offset Precision	±4%	
	SINAD	Measurement Range	0 ~ 60 dBc	
		Measurement Precision	±1 dB	

Options:

OSA92000-A1	Tracking Generator (Explained In Specification Table)
OSA92000-A2	AM / FM Demodulation Measurement (Except OSA92115)



Spectrum Analyzer

OSA9000 Series

- Frequency range: 9 kHz to 1.5 GHz / 3 GHz; resolution: 1 Hz.
- Amplitude resolution: ± 1.0 dB; resolution BW: 10 Hz to 1 MHz (step 1-3-10).
- Phase noise: -80 dBc/Hz.
- Quasi-peak detector, channel power measurement, adjacent channel power measurement, occupied BW measurement.
- USB host, USB device, LAN, RS-232.

Model		OSA9015	OSA9030	
Frequency	Range	9 kHz ~ 1.5 GHz	9 kHz ~ 3.0 GHz	
	Resolution	1 Hz		
Internal Frequency Reference	Frequency Reference		10 MHz	
Frequency Readout Accuracy	Marker Resolution		Span/ (sweep points-1)	
	Marker Uncertainty		± (frequency indication × frequency reference uncertainty + 1% × span + 10% × resolution bandwidth + marker resolution)	
Frequency Span	Frequency Span Range		0 Hz, 100 Hz ~ 1.5 GHz 0 Hz, 100 Hz ~ 3.0 GHz	
	Uncertainty		±span/ (sweep points-1)	
SSB Phase Noise	Input Coupling		-80 dBc/Hz (10 kHz offset, fc=1.0 GHz)	
Bandwidths	Resolution Bandwidth (-3 dB)		10 Hz ~ 1 MHz, step 1-3-10 200 Hz, 9 kHz, 120 kHz	
	RBW Uncertainty		<5%, nominal	
	Resolution Filter Shape Factor (60 dB: 3 dB)		<5, nominal	
	Video Bandwidth (-3 dB)		1 Hz to 1 MHz, step 1-3-10	
Measurement Range	Range		DANL to +30 dBm	
Maximum Input Level	CW RF Power		+30 dBm (1.0 W)	
	Max Damage Level		+40 dBm (10 W)	
Displayed Average Noise Level (DANL)	DANL (Preamplifier Off)	100 kHz to 10 MHz	-90 dBm, typ. -110 dBm	
		10 MHz to 3.0 GHz	120 dBm+6 x (f/1 GHz) dB, typ. -125 dBm	
	DANL (Preamplifier On)	100 kHz to 30 MHz	-90 dBm, typ. -110 dBm	
		30 MHz to 3.0 GHz	-135 dBm+6 x (f/1 GHz) dB, typ. -140 dBm	
Level Display	Trace Detectors		Positive-peak, negative-peak, quasi-peak, sample, standard, rms average, voltage average	
	Trace Functions		Clear write, max hold, min hold, average, view, blank	
	Units of Level Axis		dBm, dB mV, dB μV, V, W	
Reference Level	Range		-100 dBm to +30 dBm, step 1 dB	
Spurious	Image Frequency		<-60 dBc	
	Intermediate Frequency		<-60 dBc	
	Spurious Response		<-90 dBm, typ.	
	Input Related Spurious	Mixer level: -30 dBm	<-60 dBc, typ.	
Sweep	Sweep Time Range	100 Hz≤Span≤3 GHz	10 ms to 3000 s	
		Span=0 Hz	20 μs to 3000 s	
	Sweep Time Uncertainty	100 Hz≤Span≤3 GHz	5%, nominal	
	Sweep Mode	Span=0 Hz	0.5%, nominal	
			Continuous, single	
Trigger	Trigger Source		Free, Video, External	
	External Trigger Level		5 V TTL level	
Advance Measurement	EMI		9 kHz, 120 kHz, 200 kHz	
General Characteristics	Interface		USB_Host, USB_Device, LAN, RS232	
	Display		7 inch TFT LCD	
	Power Supply	Input Voltage	AC100 V to 240 V	
		Frequency	4.5 Hz to 440 Hz	
		Power Consumption	35 W	
	Environment	Temperature	5 °C to 40 °C	
Dimension & Weight		364 × 154 × 327 mm (W × H × L), approx. 6.0 kg		
Output	Frequency Range		9 kHz to 3.0 GHz	
	Output Power		-20 dBm to 0 dBm, step 1 Db	
	Output Flatness		20 MHz ~ 2.7 GHz ±3 dB	
			20 MHz ~ 2.2 GHz ±2 dB	
			20 MHz ~ 1.5 GHz ±2 dB	

Accessories:

OSA9000 -A1	User Guide
OSA9000 -A2	Measurement Idler Wheels (X2)
OSA9000 -A3	Measurement Touch Tips (X2)
OSA9000 -A4	Lengthening Bar
OSA9000 -A5	Portable Bag
OSA9000 -A6	Plastic Bag



Handheld Spectrum Analyzer

OHSA3200 Series

- Frequency range: 9 kHz ~ 3.2 GHz AC coupled, RBW: 10 Hz to 1 MHz.
- Built-in 3.2 GHz tracking generator.
- Optimal sensitivity: -161 dBm.
- 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, 640x480 resolution.
- USB / LAN communication, easy for long-range control.

Model			OHSA3201	OHSA3202
Frequency	Frequency Range		9 kHz ~ 3.2 GHz AC coupled	9 kHz ~ 3.2 GHz AC coupled 5 M ~ 3.2 GHz TG
	Frequency Resolution		1 Hz	
	Reference Frequency		10 MHz	
	Frequency Readout Accuracy		\pm (frequency indication*frequency reference uncertainty+1%*span+20%RBW+marker resolution+ 1 Hz)	
	Internal 10 MHz Reference Accuracy	Aging Rate	\pm 1 ppm/year (0 °C ~ 50 °C. Reference is 25 °C)	
		Temperature Stability	\pm 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		\pm 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	\pm 10% VBM= 1 Hz ~ 1 MHz nominal	
Displayed Average Noise Level (Normalized to 1 Hz)	9K ~ 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 ~ 2.5 GHz		-141 dBm, Typical -145 dBm	
	2.5 GHz ~ 3.2 GHz		-140 dBm, Typical -144 dBm	
	9K ~ 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 ~ 2.5 GHz		-159 dBm, Typical -162 dBm	
	2.5 GHz ~ 3.2 GHz		-158 dBm, Typical -161 dBm	
SSB Phase Noise	Carrier Offset (20 °C ~ 30 °C, 500 MHz Central Frequency)	10 KHz	< -92 dBc/Hz, Typical -95 dBc/Hz	
		30 KHz	< -93 dBc/Hz, Typical -96 dBc/Hz	
		100 KHz	< -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	
Frequency Counter	Trigger Delay	Span = 0 Hz	\pm 12 ms to \pm 12 s nominal	
	Counter Resolution		1 Hz	
	Accuracy		\pm (marker frequency \times 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, check, close	
	Level Measurement Error		\pm 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 μ V 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 ~ 3.2 GHz	Displayed average noise level (DANL) to +20 dB	
		Input Attenuator Range	0 to 51 dB; 1 dB steps	
Spurious Response	Second Harmonic Distortion		<65 dBc, 50 MHz to 3.2 GHz (Mixer level -30 dBm, attenuator =0 dB,	

	(SHI)	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 ~ 3.2 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 3.2 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 Feature	Interface Language	English	
	Display Index	5.7 inch, 640 x 480 resolution, 64 M color LCD display	
General Feature	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:

OHSA3200-A1	Adapter
OHSA3200-A2	Software CD
OHSA3200-A3	Velcro Hanger
OHSA3200-A4	A BNC to BNC Cable
OHSA3200-A5	User Guide
OHSA3200-A6	Aluminum Alloy Cabinet



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
Frequency Counter	Trigger Delay	Span = 0 Hz	±12 ms to ±12 s nominal
	Counter Resolution		1 Hz
Accuracy		± (marker frequency x 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

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)				
10 MHz Reference/External Trigger Input	RF Input VSWR (at Tuned Frequency)	10 MHz to 1.6 GHz	<1.5: 1, nominal attenuator setting 10 ~ 20 dB			
	Reference Input Frequency	10 MHz				
	Reference Input Amplitude	0 ~ 10 dBm				
	Trigger Voltage	5 V TTL level				
General Features	Connector and Output Impedance	N female (50 Ω)				
	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
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OHSA1600-A4	A BNC to BNC Cable
OHSA1600-A5	User Guide
OHSA1600-A6	Aluminum Alloy Cabinet