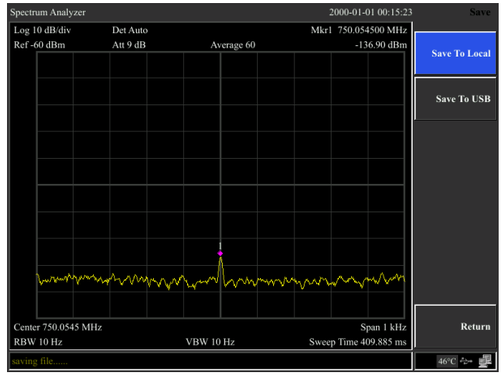
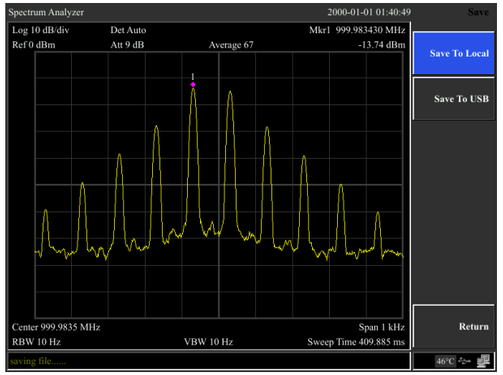
1. 10 Hz Minimum Resolution Bandwidth (RBW)

Digital IF technology offers a minimum bandwidth of 10Hz, allowing excellent signal resolution when separation of closely spaced signals is required.



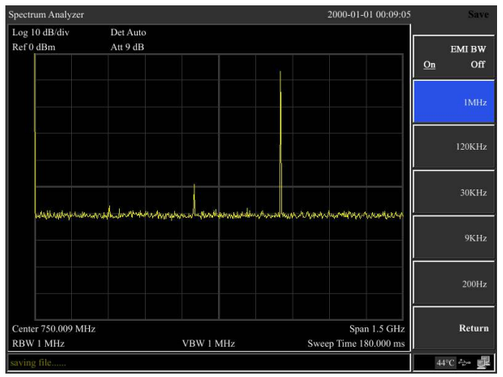


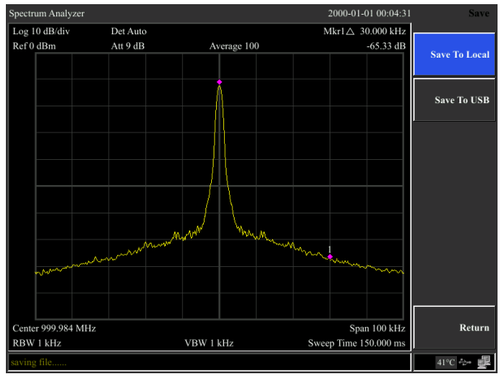
2. Measure -130dB small signal at 10Hz RBW

Offers a DANL (displayed average noise level) down to -130 dBm, which is able to measure smaller signals.

3. Phase noise:
<-80 dBc/Hz @1 GHz @ 30 KHz offset

Excellent phase noise performance - <-80dBc/Hz @30KHz enables users to evaluate most synthesizers and signal generators.





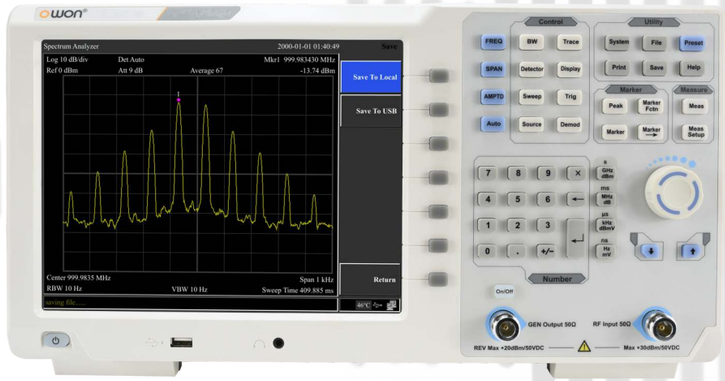
4. EMI filter and quasi-peak detector kit

OWON offers an EMI filter and quasi-peak detector kit to help evaluating EMI levels for pre-compliance testing.

OWON® LILLIPUT®

1000 Series
Spectrum Analyzer

OWON®



Model: XSA1015-TG

Frequency Specification

Frequency	
Range	9kHz - 1.5 GHz
Resolution	1Hz
Frequency span	
Range	0 Hz, 100 Hz to maximum frequency of device
Accuracy	± span / (swept points -1)
Internal reference	
Reference frequency	10.000000 MHz
Reference frequency accuracy	±[(days from last calibrate x freq aging rate) + temperature stability + initial accuracy]
Temperature stability	<2.5ppm
Aging rate	<1ppm/year
Readout	
Marker frequency resolution	span/(the number of sweep points -1)
Uncertainty	±(freq indication x freq reference uncertainty +1%× span +10% x resolution bandwidth + Marker Frequency Resolution)
Frequency counter	
Resolution	1 Hz, 10 Hz, 100 Hz, 1 kHz
Accuracy	±(marker freq x freq reference uncertainty + counter resolution)
Bandwidth	
Resolution bandwidth (-3 dB)	10Hz to 500kHz (in 1 to 10 sequence), 1MHz, 3MHz
Resolution filter shape factor	<5 : 1 nominal (Digital implement, similar to Gauss Pattern)
Accuracy	<5% nominal
Video bandwidth (-3 dB)	10Hz to 3MHz

Amplitude Specification

Model: XSA1015-TG

Amplitude and electric level	
Amplitude measurement range	DANL to +20 dBm, close the preamplifier
Reference electric level	-80 dBm to +30 dBm, 0.1dBm steps
Preamplifier	20 dB, nominal, 9 kHz~1.5 GHz
Input attenuator range	0~39 dB, 3 dB steps
Max input DC voltage	50 VDC
Max continuous power	30dBm, average continuous power
Displayed average noise level (DANL)	
Preamp off	Input attenuation 0 dB, 1Hz resolution bandwidth, RBW=10 Hz Normalization to 1 Hz
	1 MHz~10 MHz -130dBm (typical)
	10 MHz~1GHz -130dBm (typical)
	1GHz~1.5 GHz -128 dBm (typical)
Preamp on	1 MHz~10 MHz -150dBm (typical)
	10 MHz~1GHz -150dBm (typical)
	1GHz~1.5 GHz -148 dBm (typical)
Phase noise	
	20 ℃ ~ 30 ℃, fc=1 GHz
Phase noise	<-85 dBc/Hz @10 kHz offset
	<-100 dBc/Hz @100 kHz offset
	<-110 dBc/Hz @1 MHz offset
Level display range	
Log scale coordinate	1dB ~255dB
Linear scale coordinate	0 to reference level
level unit	dBm, dBuW, dBpW, dBmV, dBuV, W,V
Points	201~1001
Number of traces	5
Detectors	Positive-peak, negative-peak, sample, normal, RMS
Trace functions	Clear write, Max Hold, Min Hold, View, Blank, Average
Frequency response	
	20℃ ~30℃, 30%~70% relative humidity, 20 dB input attenuation, reference 50 MHz
Preamp off	±0.8 dB
Preamp on	±0.9 dB
Accuracy	
Input Attenuation Switching Uncertainty	20℃ ~30℃, fc=50 MHz, Preamplifier Off, 20dB RF attenuation, input signal 0~39 dB ±0.5 dB
Absolute Amplitude ncertainty	20℃ ~30℃, fc=50 Mhz, RBW=1 kHz, VBW=1 kHz, peak detector, 20 dB RF attenuation, Preamplifier Off ±0.4 dB, input signal= -20dBm Preamplifier On ±0.5 dB, input signal= -40dBm
Uncertainty	input signal range 0dbm~-50dbm
	±1.5 dB
VSWR	input 10 dB RF attenuation, 1 MHz~1.5GHz
	<1.5 , nominal

Accessories

The accessories subject to final delivery.


Power Cord


CD-Rom

Manual

Distortion and spurious response	
Second harmonic distortion	fc ≥ 50 Mhz, Preamp off, signal input -30 dBm, 0 dB RF attenuation, 20 ℃ to 30 ℃
	-60dbc
Third-order intermodulation	fc ≥ 50 MHz
	+13 dBm
1 dB Gain Compression	fc ≥ 50 MHz, 0 dB RF attenuation, Preamp off, 20 ℃ to 30 ℃
	+7 dBm, nominal
Residual response	connect 50 Ω load at input port, 0 dB input attenuation, 20 ℃ to 30 ℃
	<-85dBm, nominated
Input related spurious	-30 dBm signal at input mixer, 20 ℃ to 30 ℃
	<-60 dBc
Sweep time and triggering	
Span range	100Hz≤SPAN≤3GHz 10ms to 3000s zero sweep width 1ms to 3000s
Mode	Continue, single
Trigger	Free run, video, external
Tracking generator	
Output frequency range	100 kHz~1.5 GHz
Output power level range	-30 dBm~0 dBm
Output power level resolution	1dB
Output flatness	+/-3 dB
Maximum safe reverse level	Average total power : 30 dBm, DC : ±50 VDC
Inputs and Outputs	
Front panel RF input connector	50 Ω, N-type female
Front panel track generator output	50 Ω, N-type female
10 M reference input	50 Ω, N-type female
Communication port	USB HOST, USB DEVICE, LAN, earphone port, VGA
General techincal specification	
Display	TFT LCD, 10.4 inches
Weight	5 kg
Working temperature	0~40 ℃
Storage temperature	-20 ℃ to +60 ℃
Power	100V~240V 50/60Hz

Specifications subject to change without prior notice.

Optional Accessories

The accessories subject to final delivery.

◀ Near Field Probe includes:
Four near-field probes,
N-SMA adapter,
SMA-SMAcable,
(Frequency range: 30MHz - 3GHz)


N-N Cable


N-SMA Cable


SMA-SMA Cable


SMA Adaptor


MA Adaptor