



XSA1000TG Series Spectrum Analyzer

- + Frequency Range from 9 kHz up to 7.5 GHz
- + -160dBm Displayed Average Noise Level
- + Phase Noise -98dBc/Hz @1Gz and offset at 10KHz
- + Total Amplitude Accuracy <1.5dB
- + 10Hz Minimum Resolution Bandwidth (RBW)
- + EMI Pre-compliance Test Kit
- + Up to 7.5 GHz Tracking Generator Kit
- + 10.4 inches display

+ Performance Specifications

Model	XSA1015 (TG)	XSA1032(TG)	XSA1036(TG)	XSA1075(TG)
Frequency				
Range	9kHz-1.5 GHz	9kHz-3.2 GHz	9kHz-3.6 GHz	9kHz-7.5 GHz
Resolution	1Hz			
Frequency span				
Range	0 Hz, 100 Hz to maximum frequency of device			
Accuracy	\pm span / (swept points -1)			
Internal reference				
Reference frequency	10.000000 MHz			
Reference frequency accuracy	\pm [(days from last calibrate \times freq aging rate) + temperature stability + initial accuracy]			
Temperature stability	<2.5ppm (15°C to 35°C)			<1ppm (15°C to 35°C)
Aging rate	<1ppm/year			
Readout				
Marker frequency resolution	span/ (the number of sweep points -1)			
Uncertainty	\pm (freq indication \times freq reference uncertainty +1% \times span +10% \times resolution bandwidth + Marker Frequency Resolution)			
Frequency counter				
Resolution	1 Hz, 10 Hz, 100 Hz, 1 kHz			
Accuracy	\pm (marker freq \times 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

Amplitude and electric level

Amplitude measurement range	DANL to +20 dBm, close the preamplifier	
Reference electric level	-80 dBm to +30 dBm, 0.01dBm steps	
Preamplifier	20 dB, nominal	
Input attenuator range	0~40 dB, 1 dB steps	0~50 dB, 1 dB steps
Max input DC voltage	50 VDC	
Max continuous power	+30dBm, average continuous power	

Displayed average noise level (DANL) Input attenuation 0 dB, 1Hz resolution bandwidth

Preamp off	1 MHz~10 MHz -140dBm (nominated)	
	10 MHz~1GHz -140dBm (nominated)	
	XSA1015TG:1GHz~1.5 GHz -138 dBm(nominated)	
	XSA1032TG:1GHz~3.2GHz -138 dBm(nominated)	
	XSA1036TG:1GHz~3.6 GHz -138 dBm(nominated)	
	XSA1075TG:1GHz~3.6GHz -138dBm(nominated); 4GHz~5GHz,-133dBm(nominated) 5GHz~6GHz,-128dBm(nominated); 6GHz~7GHz-123dBm(nominated); 7GHz~7.5GHz,-118dBm(nominated)	

Preamp on	1 MHz~10 MHz -160dBm (nominated)	
	10 MHz~1GHz -160dBm (nominated)	
	XSA1015TG: 1GHz~1.5 GHz -158 dBm(nominated)	
	XSA1032TG: 1GHz~3.2 GHz -158 dBm(nominated)	
	XSA1036TG: 1GHz~3.6 GHz -158 dBm(nominated)	
	XSA1075TG: 1GHz~4GHz -158dBm(nominated);4GHz~5GHz -153dBm(nominated) 5GHz~6GHz -148dBm(nominated);6GHz~7GHz -143dBm(nominated) 7GHz~7.5GHz -138dBm(nominated)	

Phase noise	20 °C ~30 °C, fc=1 GHz	
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Phase noise	<-82 dBc/Hz @10 kHz offset	<-98 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°C ~30°C, 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°C ~30°C, fc=50 MHz, Preamplifier Off, 20dB RF attenuation, input signal 1~40 dB ±0.5 dB
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Absolute Amplitude Uncertainty	20°C ~30°C, $f_c=50$ 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	input 20 dB, 1 MHz~7.5GHz
	<1.5, nominal	

Distortion and spurious response

Second harmonic distortion	$f_c \geq 50$ MHz, Preamp off, signal input -30 dBm, 0 dB RF attenuation, 20 °C to 30 °C	
	-65dbc	
Third-order intermodulation	$f_c \geq 50$ MHz	
	+2 dBm (NSA1015/NSA1032/NSA1036)	
	+10dBm(NSA1075)	
1 dB Gain Compression	$f_c \geq 50$ MHz, 0 dB RF attenuation, Preamp off, 20 °C to 30 °C	
	+2 dBm, nominal	
Residual response	connect 50 Ω load at input port, 0 dB input attenuation, 20 °C to 30 °C	
	<-85dBm, nominated	
Input related spurious	-30 dBm signal at input mixer, 20 °C to 30 °C	
	<-60 dBc	

Sweep time and triggering

Span range	100Hz \leq SPAN \leq 3GHz 10ms to 3000s zero sweep width 1ms to 3000s	
Mode	Continue, single	
Trigger	Free run, video	

Tracking generator

Output frequency range	100 kHz~1.5 GHz	100 kHz~3.2 GHz	100 kHz~3.6 GHz (Tracking generator) 35 MHz~3.6 GHz (Tracking generator)	100 kHz~7.5 GHz (Tracking generator)
Output power level range	-30 dBm~0 dBm ,	-40 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, REF and VGA

General technical specification

Display	TFT LCD, 10.4 inches
Weight (without package)	About 5 kg
Dimension (W x H x D)	421 x 221 x 115 (mm)
Working temperature	0~40 °C
Storage temperature	-20 °C to +60 °C
Power	100V~240V 50/60Hz