



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	± span / (swept points -1)			
Internal reference				
Reference frequency	10.000000 MHz			
Reference frequency accuracy	±[(days from last calibrate × 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	± (freq indication × freq reference uncertainty +1%× span +10%× resolution bandwidth + Marker Frequency Resolution)			
Frequency counter				
Resolution	1 Hz, 10 Hz, 100 Hz, 1 kHz			
Accuracy	± (marker freq × 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	
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	

Absolute Amplitude Uncertainty	20°C ~30°C, 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	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 × H × D)	421 × 221 × 115 (mm)
Working temperature	0~40 °C
Storage temperature	-20 °C to +60 °C
Power	100V~240V 50/60Hz