

# Spectrum Analyzer - XSA1036



## Frequency Specification

Frequency	
Range	9kHz-3.6 GHz
Resolution	1Hz
Frequency span	
Range	0 Hz , 100 Hz to maximum frequency of device
Accuracy	$\pm \text{span} / (\text{swept points} - 1)$
Internal reference	
Reference frequency	10.000000 MHz
Reference frequency accuracy	$\pm [ (\text{days from last calibrate} \times \text{freq aging rate}) + \text{temperature stability} + \text{initial accuracy} ]$
Temperature stability	<2.5ppm ( 15°C to 35°C )
Readout	
Uncertainty	$\pm (\text{freq indication} \times \text{freq reference uncertainty} + 1\% \times \text{span} + 10\% \times \text{resolution bandwidth} + \text{Marker Frequency Resolution} )$
Frequency counter	
Resolution	1 Hz , 10 Hz , 100 Hz , 1 kHz
Accuracy	$\pm (\text{marker freq} \times \text{freq reference uncertainty} + \text{counter resolution} )$
Bandwidth	
Resolution bandwidth (-3 dB)	1Hz 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 , 0.1dBm steps
Preamplifier	20 dB , nominal , 9 kHz~3.6 GHz
Input attenuator range	0~39 dB , 3 dB steps
Max input DC voltage	50 VDC
Max continuous power	27dBm , average continuous power
Displayed average noise level ( DANL ) , Input attenuation 0 dB , 1Hz resolution bandwidth	
Preamp on	1 MHz~10 MHz -150dBm ( typical ) ; 10 MHz~1GHz -150dBm ( typical ) ; 1GHz~3.6 GHz -148 dBm( typical )
Phase noise (20 °C ~30 °C , fc=1 GHz)	
Phase noise	<-80 dBc/Hz @30 kHz offset , <-90 dBc/Hz @100 kHz offset <-110 dBc/Hz @1 MHz offset



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

Uncertainty	input signal range 0dbm~-50dbm ±1.5 dB
VSWR	input 10 dB RF attenuation , 1 MHz~1.5GHz <1.5 , nominal

Distortion and spurious response

Second harmonic distortion	fc ≥ 50 MHz , Preamp off, signal input -30 dBm, 0 dB RF attenuation, 20 °C to 30 °C -55dbc
Third-order intermodulation	fc ≥ 50 MHz +13 dBm
1 dB Gain Compression	fc ≥ 50 MHz , 0 dB RF attenuation , Preamp off , 20 °C to 30 °C +7 dBm, nominal
Input related spurious	-30 dBm signal at input mixer , 20 °C to 30 °C <-60 dBc

Sweep time and triggering

Span range	100Hz≤SPAN≤3.6 GHz 10ms to 3000s zero sweep width 1ms to 3000s
Mode	Continue, single
Trigger	Free run, video

Tracking generator ( apply to TG model )

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 technical specification

Display	TFT LCD , 10.4 inches , resolution 600*480
Weight	5 kg
Working temperature	0~40 °C
Storage temperature	-20 °C to +60 °C
Power	100V~240V 50/60Hz

Specifications subject to change without prior notice.