



# 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)	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 , 0.1dBm 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), 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 , $f_c=1$ GHz)	
Phase noise	< -90 dBc/Hz @30 kHz offset
	< -100 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: -50dBm - 0 dBm ±1.5 dB
VSWR	input 10 dB RF attenuation, 1 MHz - 1.5GHz <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 -55 dBc
Third-order intermodulation	$f_c \geq 50$ MHz +13 dBm
1 dB Gain Compression	$f_c \geq 50$ 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	$100\text{Hz} \leq \text{SPAN} \leq 3.6$ 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 x 480 px
Weight	5 kg
Working temperature	0 - 40 °C
Storage temperature	-20 °C - 60 °C
Power	100V - 240V 50/60Hz

Specifications subject to change without prior notice.