



Main Features

- Frequency Range from 9 kHz up to 1.5 GHz
- 150dBm Displayed Average Noise Level
- Phase Noise -82dBc/Hz @1Gz and offset at 10KHz
- Total Amplitude Accuracy <1.5dB
- 10Hz Minimum Resolution Bandwidth (RBW)
- EMI Pre-compliance Test Kit
- Up to 3.6 GHz Tracking Generator Kit
- 10.4 inches display

Specifications	
Frequency	
Range	9kHz-1.5 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)
Aging rate	<1ppm/year
Readout	
Marker frequency resolution	$\text{span} / (\text{the number of sweep points} - 1)$
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 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
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 off	1 MHz~10 MHz -140dBm (nominated)
	10 MHz~1GHz -140dBm (nominated)

Note: Specifications are subject to change.

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	SA1015TG:1GHz~1.5 GHz -138 dBm(nominated)
Preamp on	1 MHz~10 MHz -160dBm (nominated)
	10 MHz~1GHz -160dBm (nominated)
	SA1015TG: 1GHz~1.5 GHz -158 dBm(nominated)
Phase noise	20 °C ~30 °C, fc=1 GHz
Phase noise	<-82 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
	<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
	-65dbc
Third-order intermodulation	fc ≥ 50 MHz
	+10 dBm
1 dB Gain Compression	fc ≥ 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

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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
Tracking generator	
Output frequency range	100 kHz~3.6 GHz (Tracking generator) 35 MHz~3.6 GHz (Tracking generator)
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, 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)

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