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Spectrum Analyzer – Frequency Analyzers

Product No: SPA-3P6G

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Related Applications

- Automotive Electronics Test Solutions
- Cable and Wire Test Solutions
- Household Appliances Test Solutions
- Plug and Switch Test Solutions
- HID Lamp Test Solutions
- LED Driver Test Solutions
- CFL Lamp Test Solutions
- Mobile and Network Test Solutions
- LEDs and Luminaire Test Solutions

Related Standards

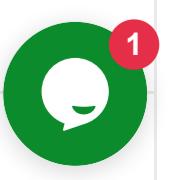
- ANSI American National Standards Institute

Description

A spectrum analyzer (also called Signal & Spectrum Analyzer, Frequency Analyzers or RF Spectrum Analyzers) measures the magnitude of an input signal versus frequency within the full frequency range of the instrument. The primary use is to measure the power of the spectrum of known and unknown signals.

Specifications:

LISUN Model	SPA-1P5G	SPA-3P6G	SPA-7P5G
Frequency			
Range	9kHz-1.5GHz	9kHz-3.6GHz	9kHz-7.5GHz
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)		





CIE International Commission on Illumination



GB China Guo Biao



IEC International Electrotechnical Commission



ISO International Organization for Standardization



NOM Norma Oficial Mexicana



PTB Physikalisch-Technische Bundesanstalt



SASO Saudi Arabian Standards Organization



TSE Turkish Standards Institution

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 , 0.01dBm 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)	
	SPA-1P5G: 1GHz~1.5 GHz -138 dBm(nominated) SPA-3P6G: 1GHz~3.6 GHz -138 dBm(nominated) SPA-7P5G: 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)	
	SPA-1P5G: 1GHz~1.5 GHz -158 dBm(nominated) SPA-3P6G: 1GHz~3.6 GHz -158 dBm(nominated) SPA-7P5G: 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	



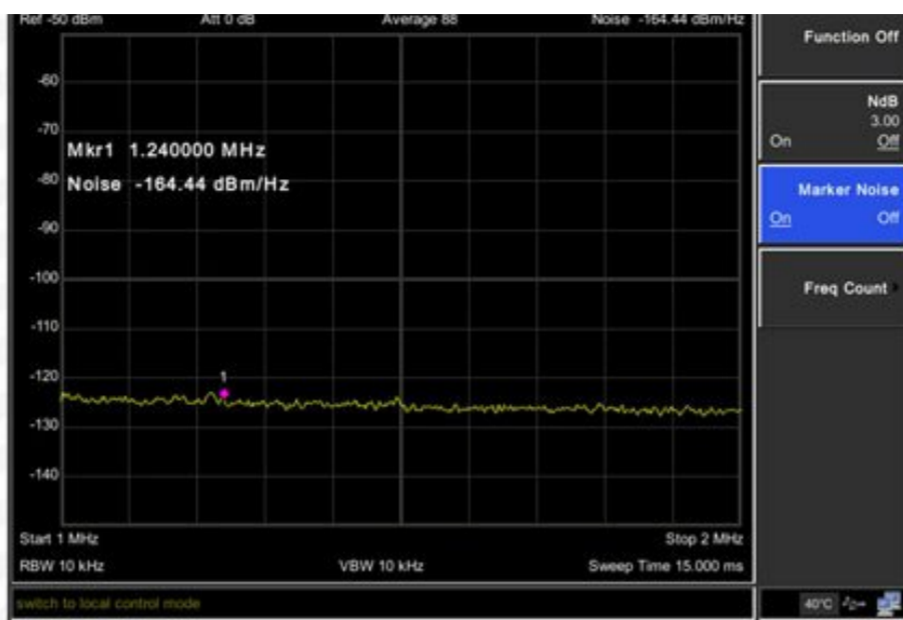


Trace functions	Clear write, Max Hold, Min Hold, View, Blank, Average	
Frequency response (20°C ~30°C , 30%~70% relative humidity, 20 dB input attenuation, reference 50 MHz)		
Preamp off	±0.8 dB ;	
Preamp on	±0.9 dB ;	
Accuracy		
Input Attenuation Switching Uncertainty	20°C ~30°C , fc=50 MHz , Preamplifier 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	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	
	+2 dBm (NSA1015/NSA1032/NSA1036) +10dBm(NSA1075)	
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	
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		

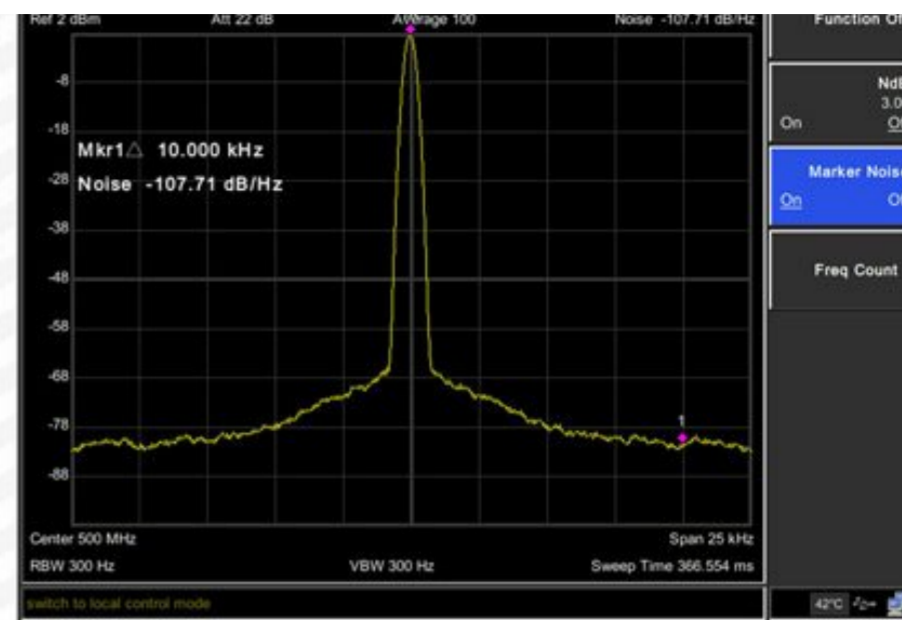


	100 kHz~1.5 GHz	or)	g generator)
Output power level range	-30 dBm~0 dBm ,		-40 dBm~0 dBm ,
Output power level resolution	1dB		
Output flatness	+/-3 dB		
Maximum safe reverse level	Average total power : +30 dBm , DC : ±50 VDC		
Inputs and Outputs			
Front panel RF input connector	50 Ω , N-type female		
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		



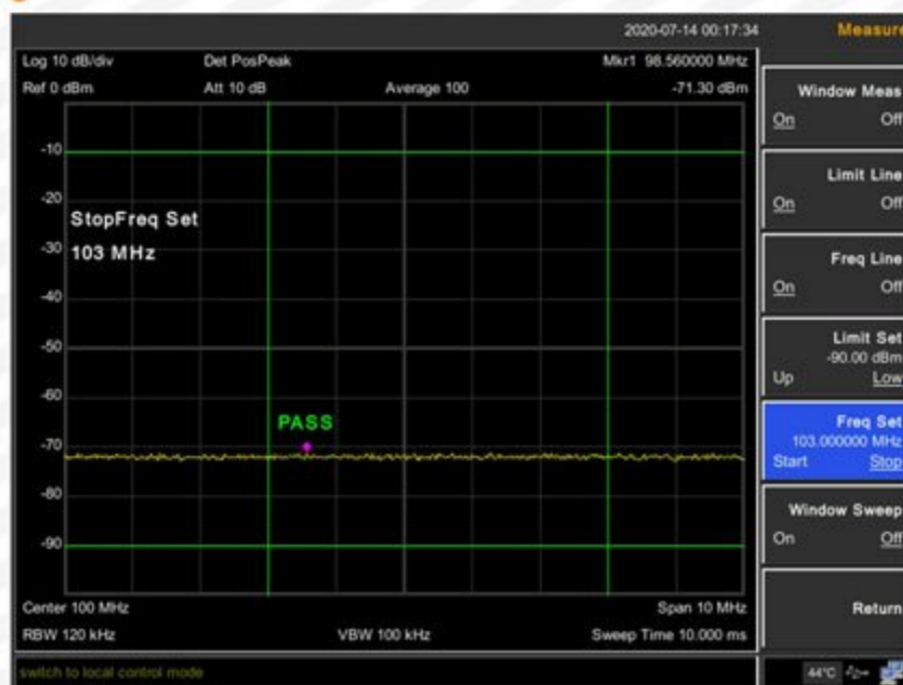


-160 dBm DANL (Displayed Average Noise Level), can observe weaker small signals



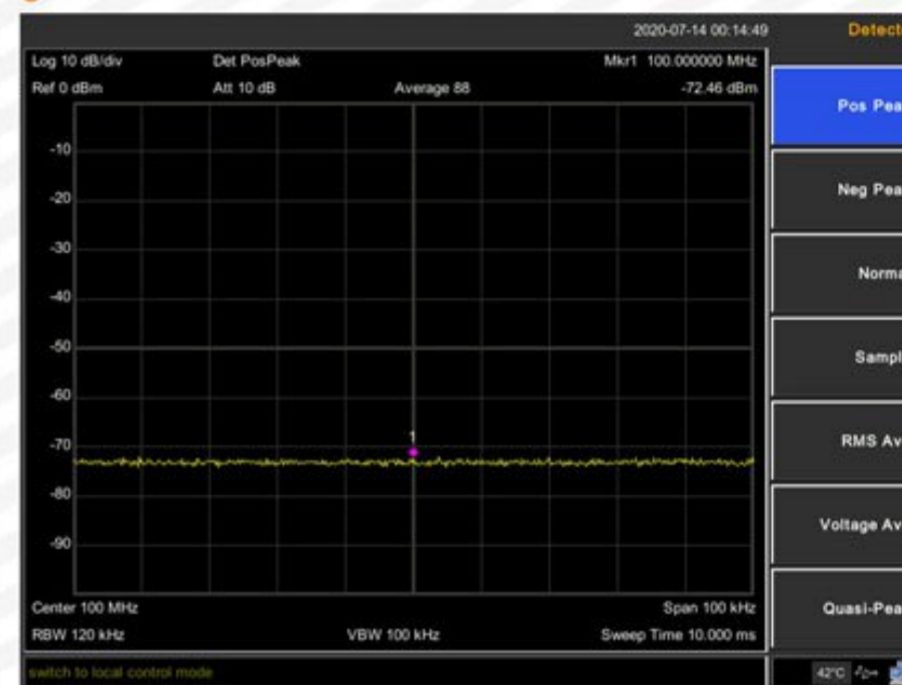
Phase Noise < -80 dBc/Hz @1GHz at 10 kHz offset

Pass/Fail function



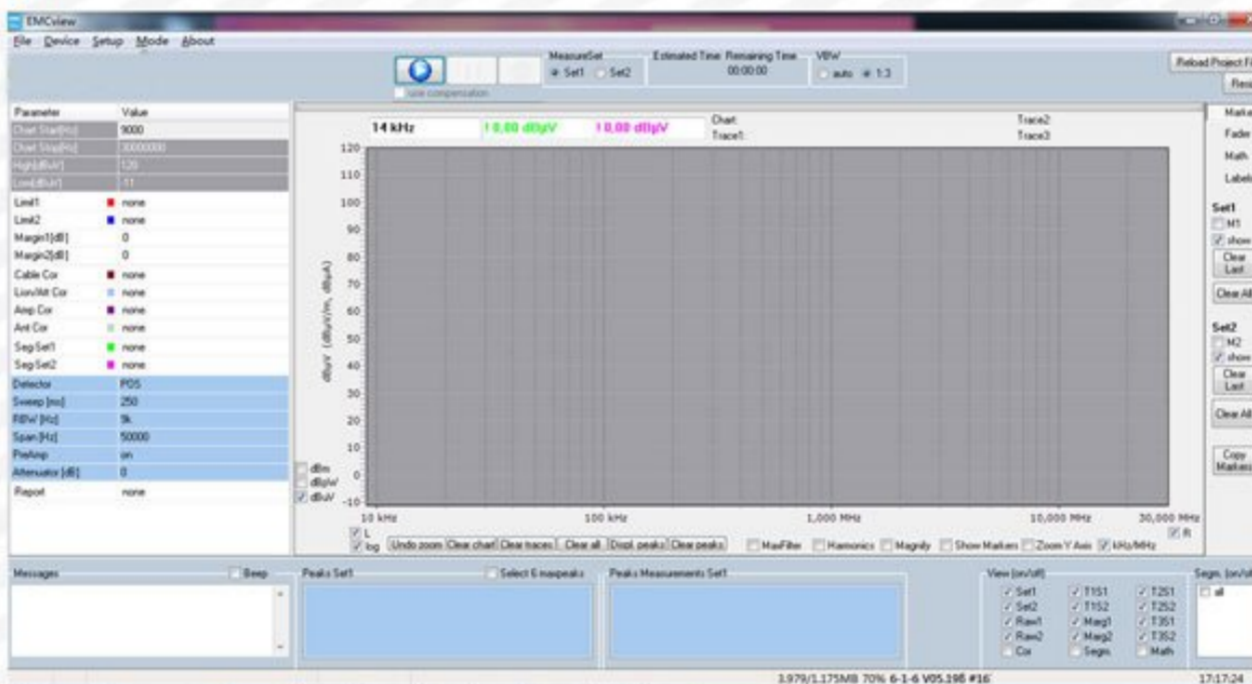
Quickly determine if the test results pass

Provides EMI pre-compliance test function

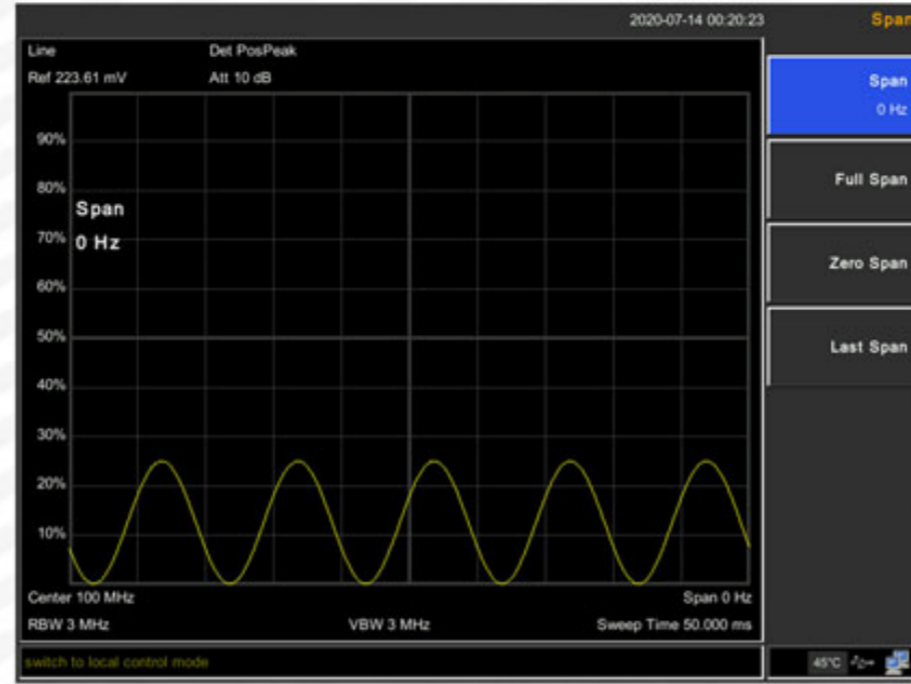


Equipped with EMI filter (6dB) and peak detector as standard, it is more accurate for EMI pre-test and diagnosis, and complete testing and production report can be completed by using supporting software.

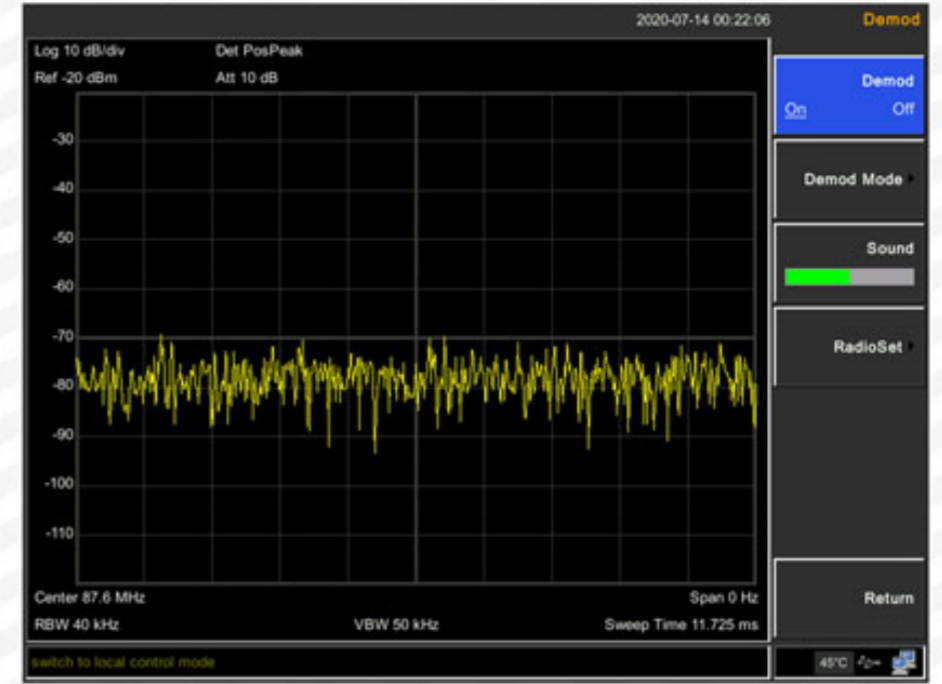
Provide EMC test function (requires optional software)



Built-in more than 200 mainstream EMC test standards and regulations templates. The user selects the corresponding template, and the software automatically sets the spectrum analyzer and records the test data. The data and regulations can be compared on the same screen. Users can also customize regulations for comparative analysis.



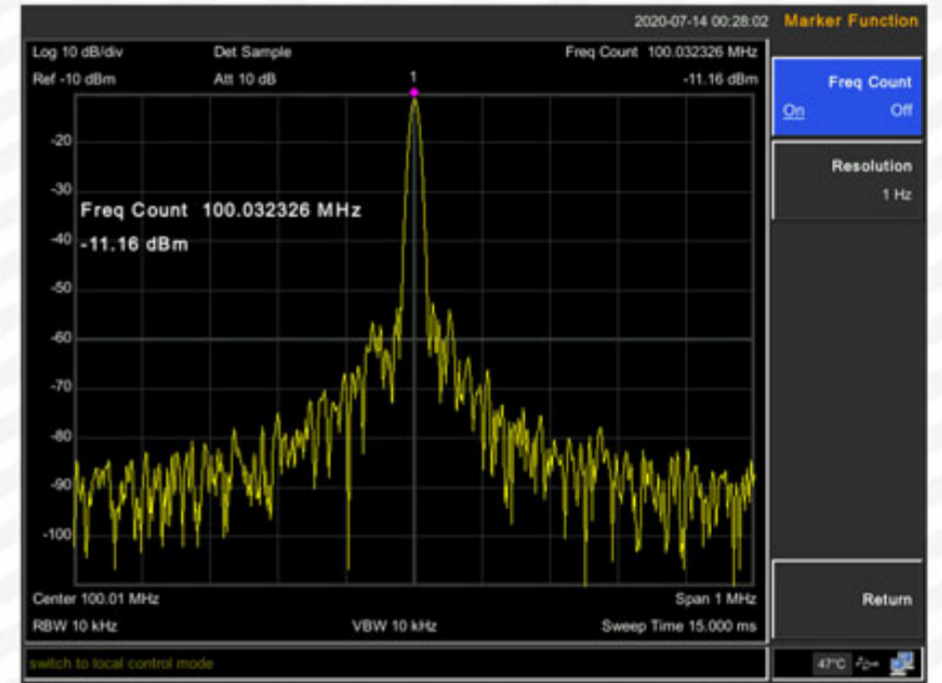
modulation signal quality analysis



audio demodulation

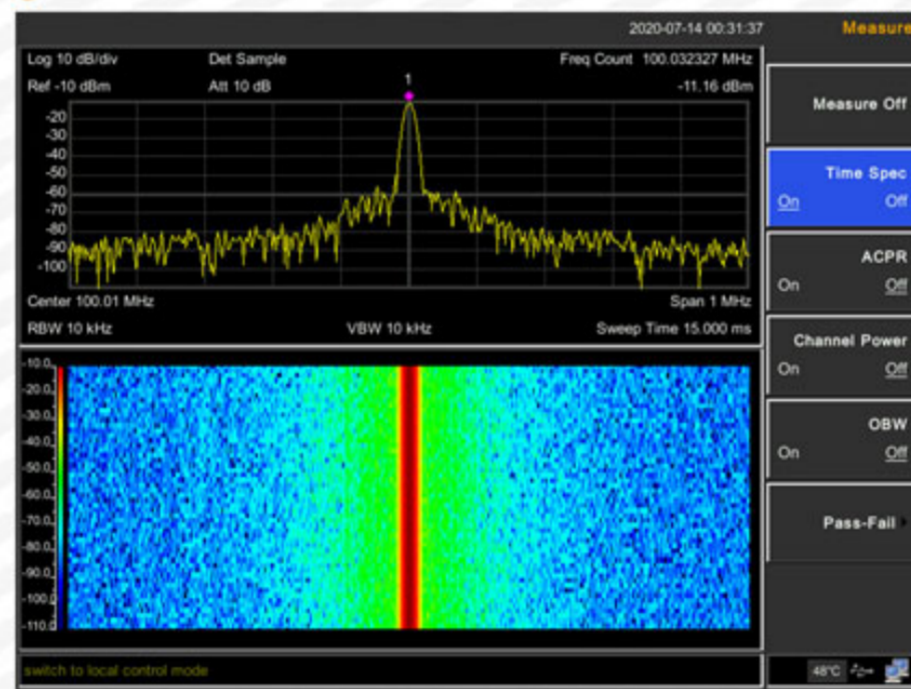


channel measurement



frequency counter

Waterfall plot graphic



View the behavior of varying signal parameters over time, track the frequency and power behavior over the time, particularly intermittent signals. The user can use waterfall plot graphic to analyze the stability of a signal over the time, or to identify intermittent interference signals in communications systems.

Related Products



OSP1102 Digital Oscilloscope



EMI-9KB EMI Test Receiver



EMI-9KA EMI Test System