Order Code - 10209J
Spectrum Analyzer 3.6 GHz with TG

10209J spectrum analyzers have a frequency range of 9 kHz to 3.6 GHz. With their light weight, small size, and friendly user interface, the 10209J offer a bright easy to read display, powerful and reliable automatic measurements, and plenty of powerful features. Applications include broadcast monitoring/evaluation, site surveying, EMI pre-compliance, research and development, education, production, and maintenance.

FEATURES

- Frequency Range from 9kHz up to 3.6 Ghz
- -160 dBm Displayed Average Noise Level
- Phase Noise -82dBc/Hz @1Gz and offset at 10 Khz
- Total Amplitude Accuracy <1.5dB
- 10Hz Minimum Resolution Bandwidth (RBW)
- EMI Pre-compliance Test Kit (optional)
- 3.6 GHz Tracking Generator
- 10.4 inches display

SPECIFICATIONS

Frequency

Range : 9 kHz ~ 3.6 GHz
Resolution : 1Hz
Range : 0 Hz, 100Hz to maximum frequency of device
Accuracy : ± 0 span/ (swept points -1)

Internal Reference

Reference Frequency : 10.000000MHz

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 Facto : <5 : 1 nominal (Digital implement, similar to Gauss Pattern)
Accuracy : <5% nominal
Video Bandwidth (-3 dB): 10Hzto 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, 9 kHz-1.5 GHz
InputAttenuator Range : 0-40 dB, 3 dB steps , 10-50Db, 1Db steps
Max Input DC Voltage : 50 VDC
Max Continuous Power : 30dBm, average continuous power

Displayed Average Noise Level (DANL)

Preamp off : Input attenuation 0dB 1Hz resolution bandwidth, RBW = 10Hz Normalization to 1 Hz
1MHz 10MHz - 130 dBm (typical)
10MHz- 1GHz - 130 dBm (typical)
1GHz 3.6GHz - 148 dBm (typical)
Preamp on :
1MHz - 10 MHz -150dBm (typical)
10MHz - 1 GHz -150dBm (typical)
1GHz - 3.6 GHz -148dBm (typical)

Phase Noise

Phase Noise :
<-82 dBc/ Hz @10 kHz offset
<-100 dBc/ Hz @100 kHz offset
<-110 dBc/ Hz @10 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 : Clearwrite, Max Hold, Min Hold, View, Blank, Average

Frequency Response

Preamp off : ±0.8 dB; ±0.4 db. typical
Preamp on : ±0.9 dB; ±0.5 db. typical
20°C -30°C, 30%-70% relative humidity, 10 dB input attenuation, reference 50 MHZ

Accuracy

- Input Attenuation Switching Uncertainty : 20°C - 30°C, fc=50 MHZ, Preamplifier Off, 20dB RF attenuation, input signal 0-40 dB ±0.5 dB
- Absolute Amplitude Uncertainty : 20°C-30t, fc=50 MHZ Span = 200kHz, RBW=1 kHz, VBW=1 kHz, Peak detector, 10 dB RF attenuation, Preamplifier Off ±0.4 dB, input signal= -20dBm

Preamplifier On ±0.5 dB, input signal= - 40dBm

- VSWR : input 10 dB RF attenuation, 1MHz- 3.6GHz, <1.5, nominal

Sweep Time and Triggering

- Span Range : 100HzSPAN3GHz 10ms to 3000s, None-zero Span 10ms to 3000s zero sweep width 1 ms to 3000s, Zero Span 10ms to 3000s
- Mode : Continue, single
- Trigger : Free run, video, external

Tracking generator

- Output Frequency Range : 100 kHz-3.6 GHz

Note: Specifications are subject to change.

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(tracking generator) 35MHz- 3.6GHz (Signal 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

General Technical Specification

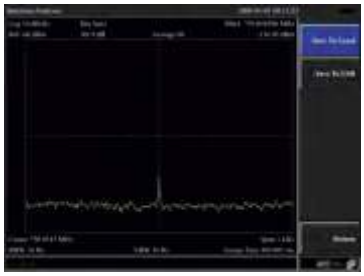
- Display : TFT LCD, 10.4 inches, 800 x 600 pixels
- Front Panel RF Input Connector : 50W, N-type female
- Front Panel Track Generator Output : 50W, N-type female
- Communication Port : USB HOST, USB DEVICE, LAN, earphone port, REF and VGA
- Power : 100V-240V 50/60Hz
- Accessories : Power Chord, CD-ROM, User Manual, N-SMA Adapter - 2nos

ACCESSORIES

- Power Cord : 1 No.
- USB Cable : 1 No
- N Type SMA Cable : 2 No.

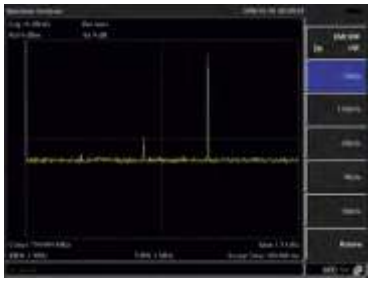
KEY MEASUREMENT PARAMETERS

1. 10 Hz Minimum Resolution Bandwidth



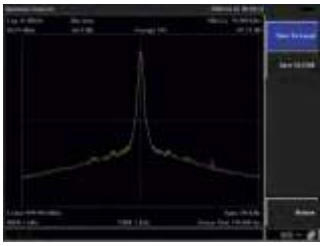
Digital IF technology offers a minimum bandwidth of 10Hz, allowing excellent signal resolution when separation of closely spaced signals is required.

2. Phase noise: <-80 dBc/Hz @1 GHz @ 30 KHz offset



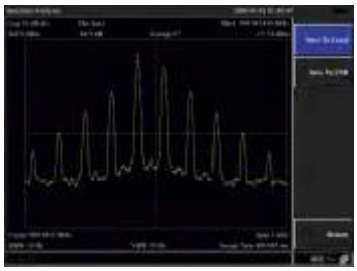
Excellent phase noise performance - <-80dBc/Hz @30KHz enables users to evaluate most synthesizers and signal generators.

3. EMI filter and peak detector kit



Akademika offers an EMI filter and peak detector kit to help evaluating EMI levels for pre-compliance testing.

4. Measure -130dB small signal at 10Hz RBW



Offers a DANL (displayed average noise level) down to 130 dBm, which is able to measure smaller signals.

Experiment List

01. Measured the Variation of Received Power Vs distance

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