



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 : \pm (marker freq \times 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-

Note: Specifications are subject to change.

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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, $f_c=50$ MHz, Preamplifier Off, 20dB RF attenuation, input signal 0-40 dB ± 0.5 dB

- Absolute Amplitude Uncertainty : 20°C-30t, $f_c=50$ 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

(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

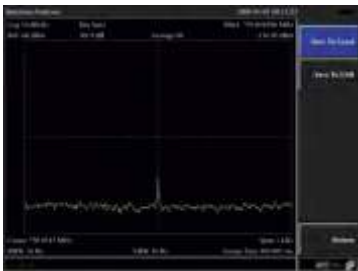
- Display : TFT LCD, 10.4 inches, 800 x 600 pixels
- Front Panel RF Input Connector : 50W, N-type female
- Front Panel Track Generator Output : 50W, N-type female
- Communication Port : USB HOST, USB DEVICE, LAN, earphone port, REF and VGA
- Power : 100V-240V 50/60Hz
- Accessories : Power Chord, CD-ROM,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

ACCESSORIES

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

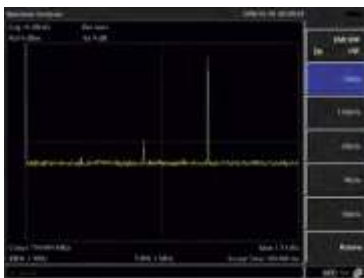
KEY MEASUREMENT PARAMETERS

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



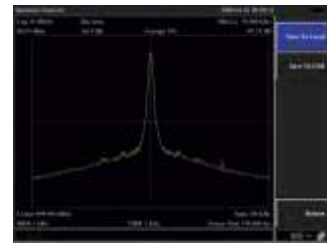
Excellent phase noise performance - < -80 dBc/Hz @30KHz enables users to evaluate most synthesizers and signal generators.

3. EMI filter and peak detector kit

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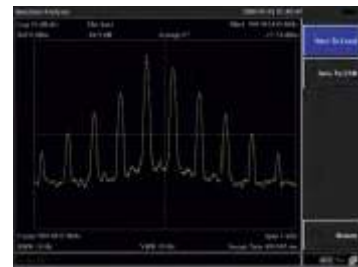
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Akademika offers an EMI filter and peak detector kit to help evaluating EMI levels for pre-compliance testing.

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