

- Frekvencia tartomány: 9kHz ~ 3 GHz
- Frekvencia stabilitás: 0.025ppm és 1ppm öregedés
- Beépített előerősítő, 50dB-es osztó és szekvencia funkció
- RBW: 1Hz ~ 1MHz
- Érzékenység: -149dBm/Hz
- Beépített AM/FM demoduláció és analízis
- Beépített P1dB pont, Harmonic, Channel Power, N-dB sávszélesség, OCBW, ACPR, SEM, TOI, CNR, CTB, CSO, zaj-marker üzemmódok
- Beépített frekvenciamérő, Time Domain Power, kapuzott Sweep
Beépített Spectrogram, topografikus és kettős-kijelzésű üzemmódú
- Tábvvezérlő interfész: LAN, USB, RS-232
- Opcionális: Tracking Generator, GPIB Interfész



PRACTICAL, AFFORDABLE AND NEVER CARELESS!

GSP-9300B is a 3GHz spectrum analyzer to meet basic RF measurement requirements. It provides the frequency stability of 0.025ppm; the aging rate of 1ppm/year; a built-in preamplifier; the base noise of -149dBm/Hz, and more than 20 measurement applications, including AM/FM modulation signal analysis, signal channel analysis, and CATV parameter test. While collocating with TG option, GSP-9300B can conduct frequency response or power linearity tests for components.

For monitoring signals, GSP-9300B provides Topographic display mode, which is capable of distinguishing continuous or random signals by using color temperature. Spectrogram mode provides a time axis on spectrum display that allows users to observe signal variations based upon the reference of time. Split window mode allows different parameter settings for each display window. Additionally, GSP-9300B also provides user-friendly user interfaces such as display mode, help, multi-languages, and fast data logging, etc. Interfaces and software include USB/RS-232/LXI/MicroSD/GPIB (option)/DVI output and dedicated PC software IVI Driver.

GSP-9300B, with its unique features, including auto wake-Up, sequence function, and limit line testing, is specially designed to meet the requirements of production lines. The patent design of heat conduction allows GSP-9300B to substantially reduce the warm-up time so as to expedite production processes. Options include tracking generator, carrying bag, battery module, EMI antenna set and rack accessories. The compact design of GSP-9300B satisfies either field testing or the integration of automatic testing systems.

To sum up, GSP-9300B is a stable, light and all-purpose test equipment, which is the most ideal choice for the educational market, production line, and general signal monitoring applications, etc. Most important, the pricing of GSP-9300B is beyond your imagination and it is the number one choice for users with budget considerations.

Frequency Stability : 0.025ppm

Wireless communications applications are nowadays ubiquitous. Signals in the limited spectrum are getting very crowded. Therefore, the demands of signal efficiency and frequency stability are higher and stricter. To meet high precision measurement requirements, GSP-9300B provides the frequency stability of 0.025ppm and the aging rate of 1ppm/year, which only appear in high-end T&M equipment.

Built-in Preamplifier

Engineers often face the challenge of measuring small RF signals during product development stage. GSP-9300B's built-in preamplifier provides the base noise of -149dBm. When collocating with the built-in EMI filter and the dedicated EMI near field probe, GSP-9300B can conduct EMI tests and debugging.

More Than 20 Measurement Applications

GSP-9300B provides rich signal processing functions, including AM/FM modulation signal analysis, signal channel analysis, and CATV parameter test, characteristic test on signal stability, and frequency response or power linearity tests for components to substantially bring up the measurement convenience. Most competitors in the same class only offer a few test functions, and the standard built-in functions of GSP-9300B are options for competitors.

SPECIFICATIONS

FREQUENCY

FREQUENCY

Range	9 kHz ~ 3 GHz	
Resolution	1 Hz	

FREQUENCY REFERENCE

Accuracy	\pm (period since last adjustment x aging rate) + stability over temperature + supply voltage stability	
Aging Rate	\pm 1 ppm max.	1 year after last adjustment
Frequency Stability Over Temperature	\pm 0.025 ppm	0 ~ 50 °C
Supply Voltage Stability	\pm 0.02 ppm	

FREQUENCY READOUT ACCURACY

Start, Stop, Center, Marker	\pm (marker frequency indication x frequency reference accuracy + 10% x RBW + frequency resolution)	
Trace Points	Max. 601 points, Min. 6 points	

MARKER FREQUENCY COUNTER

Resolution	1 Hz, 10 Hz, 100 Hz, 1 kHz	
Accuracy	\pm (marker frequency indication X frequency reference accuracy + counter resolution)	RBW/Span \geq 0.02 ; Mkr level to DNL > 30 dB

FREQUENCY SPAN

Range	0 Hz (zero span), 100 Hz ~ 3 GHz	
Resolution	1 Hz	
Accuracy	\pm frequency resolution	RBW : Auto

PHASE NOISE

Offset from Carrier		Fc=1GHz;RBW=1kHz,VBW=10Hz;Average 40
10 kHz	< -88 dBc/Hz	Typical
100 kHz	< -95 dBc/Hz	Typical
1 MHz	< -113 dBc/Hz	Typical

RESOLUTION BANDWIDTH (RBW) FILTER

Filter Bandwidth	1 Hz ~ 1 MHz in 1-3-10 sequence	-3dB bandwidth
Accuracy	200 Hz, 9 kHz, 120 kHz, 1MHz	-6dB bandwidth
Shape Factor	\pm 8%, RBW = 1MHz ; \pm 5%, RBW < 1MHz	Nominal
	< 4.5 : 1	Normal Bandwidth ratio: -60dB:-3dB

VIDEO BANDWIDTH (VBW) FILTER

Filter Bandwidth	1 Hz ~ 1 MHz in 1-3-10 sequence	-3dB bandwidth
------------------	---------------------------------	----------------

AMPLITUDE

AMPLITUDE RANGE

Measurement Range	100 kHz ~ 1 MHz 1 MHz ~ 10 MHz 10 MHz ~ 3 GHz	Displayed Average Noise Level(DANL)to 18 dBm DANL to 21 dBm DANL to 30 dBm
-------------------	---	--

ATTENUATOR

Input Attenuator Range	0 ~ 50 dB, in 1 dB steps	Auto or manual setup
------------------------	--------------------------	----------------------

MAXIMUM SAFE INPUT LEVEL

Average Total Power	\leq +33 dBm	Input attenuator \geq 10 dB
DC Voltage	\pm 50 V	

1 dB GAIN COMPRESSION

Total Power at 1st Mixer	> 0 dBm	Typical ; Fc \geq 50 MHz; preamp. off
Total Power at the Preamp	> -22 dBm	Typical ; Fc \geq 50 MHz; preamp. on Mixer power level (dBm) = input power (dBm) – attenuation (dB)

DISPLAYED AVERAGE NOISE LEVEL (DANL)

Preamp off	0 dB attenuation; RF Input is terminated with a 50 load. RBW 10 Hz; VBW 10 Hz; span 500 Hz; reference level = - 60 dBm; trace average \geq 40	
9 kHz~100 kHz	< -93 dBm	Nominal
100 kHz~1 MHz	< -90 dBm - 3 x (f/100 kHz) dB	Nominal
1 MHz~10 MHz	< -122 dBm	Nominal
2.7 ~ 3.25 GHz	< -116 dBm	Nominal
Preamp on	0 dB attenuation; RF Input is terminated with a 50 load. RBW 10 Hz; VBW 10 Hz; span 500 Hz; reference level = - 60 dBm; trace average \geq 40	
100 kHz~1 MHz	< -108 dBm - 3 x (f/100 kHz) dB	Nominal
1 MHz~10 MHz	< -142 dBm	Nominal
10 MHz~3.25 GHz	< -142 dBm + 3 x (f/1 GHz) dB	Nominal

LEVEL DISPLAY RANGE

Scales	Log, Linear	
Units	dBm, dBmV, dBuV, V, W	
Marker Level Readout	0.01 dB	Log scale
Level Display Modes	0.01 % of reference level	Linear scale
Number of Traces	Trace, Topographic, Spectrogram	Single/Split Windows
Detector	4	
Trace Functions	Positive-peak,negative-peak,sample,normal,RMS(not Video), Quasi-Peak(EMI),Average(EMI),Clear & Write,Max/Min Hold, View, Blank, Average	

ABSOLUTE AMPLITUDE ACCURACY

Absolute Point	Center=160 MHz ; RBW 10 kHz; VBW 1 kHz; span 100 kHz; log scale; 1 dB/div; peak detector; 23° C \pm 1° C; Signal at Reference Level	
Preamp Off	\pm 0.3 dB	Ref level 0 dBm; 10 dB RF attenuation
Preamp On	\pm 0.4 dB	Ref level 0 dBm; -30 dB RF attenuation

FREQUENCY RESPONSE

Preamp Off	Attenuation : 10 dB; Reference: 160 MHz; 20 ~ 30° C	
100 kHz ~ 2.0 GHz	\pm 0.5 dB	
2GHz ~ 3 GHz	\pm 0.7 dB	
Preamp On	Attenuation: 0 dB; Reference: 160 MHz; 20 ~ 30° C	
1 MHz ~ 2 GHz	\pm 0.6 dB	
2 GHz ~ 3 GHz	\pm 0.8 dB	

ATTENUATION SWITCHING UNCERTAINTY

Attenuator Setting	0 ~ 50 dB in 1 dB step	
Uncertainty	\pm 0.25 dB	Reference : 160 MHz, 10dB attenuation

RBW FILTER SWITCHING UNCERTAINTY

1 Hz ~ 1 MHz	\pm 0.25 dB	Reference : 10 kHz RBW
--------------	---------------	------------------------

LEVEL MEASUREMENT UNCERTAINTY

Overall Amplitude Accuracy	\pm 1.5 dB	20 ~ 30° C; frequency > 1 MHz; Signal input 0 ~ -50 dBm; Reference level 0 ~ -50 dBm; Input attenuation 10 dB; RBW 1 kHz; VBW 1 kHz; after cal; Preamp Off
	\pm 0.5 dB	Typical

SPURIOUS RESPONSE

Second Harmonic Intercept	+35 dBm +60 dBm	Preamp off; signal input -30dBm; 0 dB attenuation Typical; 10 MHz < fc < 775 MHz
Third-order Intercept		Typical; 775 MHz \leq fc < 1.625 GHz Preamp off; signal input -30dBm; 0 dB attenuation
Input Related Spurious	> 1 dBm	300 MHz ~ 3 GHz
Residual Response (Inherent)	< -60 dBc < -90 dBm	Input signal level -30 dBm, Att. Mode, Att = 0dB; 20 ~ 30° C Input terminated; 0 dB attenuation; Preamp off

