

S1101A/B RF Signal Generator

(Frequency Range: 250kHz - 6GHz / 3GHz)

Key Features

- Frequency range: 250kHz - 6GHz / 3GHz
- Extremely low phase noise and high pure spectrum
- Power output of -135dBm to +7dBm
- Abundant analog modulation and digital modulation functions
- List sweep and step sweep

Typical Applications

- Consumer electronics development
- Electronic device Manufacturing
- Electronic device maintenance
- RF education

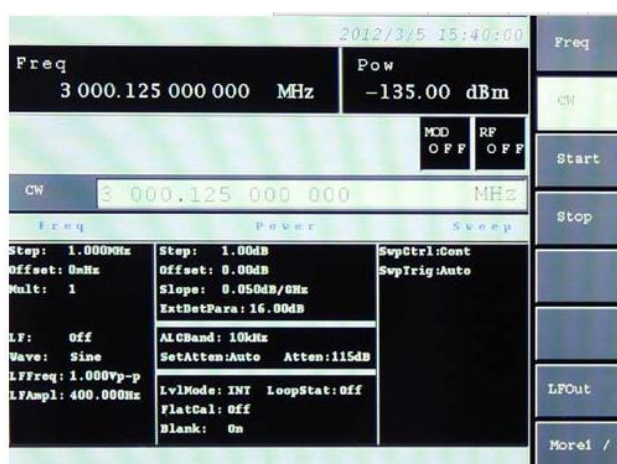


S1101 series RF signal generator covers a frequency range from 250 kHz to 6 GHz / 3 GHz. S1101 provides extremely low phase noise, accuracy frequency resolution, wide output dynamic range, and multiple built-in functions. It is widely used for R&D, education, electronic device manufacturing and maintenance.

Features To Boost Your Efficiency

Large LCD operation interface

S1101 Series RF Signal Generator uses large TFT LCD screen to offer a clear view of current state.



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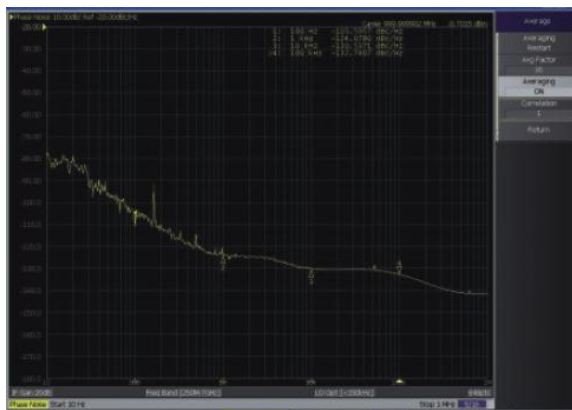


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Extremely low phase noise and high pure spectrum

S1101 Series RF Signal Generator provides a good phase noise performance(-124dBc/Hz @CF=1GHz offset=20kHz) and excellent spectrum purity. S1101 can fulfill various signal requirements of radar and satellite communication.



Update with USB Disk

A USB interface is available for software update and data backup.



Expansion Ports on Rear Panel

S1101 Series RF Signal Generator provides RS232 interface, GPIB interface, LAN interface and base-band output interface on rear panel. These interfaces are used to build measurement system. A LAN is also provided for remote control and online update, etc.



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Technical Specifications

Frequency Range	S1101A: 250kHz - 6GHz S1101B: 250kHz - 3GHz	Frequency	N			
		250 kHz ≤ f ≤ 250 MHz	1			
		250 MHz <f ≤ 500 MHz	0.5			
		500 MHz <f ≤ 1 GHz	1			
		1 GHz <f ≤ 2 GHz	2			
		2 GHz <f ≤ 3.2 GHz	4			
		3.2 GHz <f ≤ 6 GHz	8			
Frequency Resolution		0.01Hz				
Timebase Aging Rate (typical value)		1×10 ⁻⁹ /day (powered more than 7days)				
Sweep Mode		Step Sweep, List Sweep				
Harmonic		< -30 dBc				
Sub-harmonic		None				
Non-harmonic		< -62 dBc				
SSB Phase Noise (dBc/Hz)	Freq. offset Frequency	100Hz	1kHz	10kHz	100kHz	
		250kHz ≤ f ≤ 250MHz	<-91	<-107	<-125	<-127
	250MHz <f ≤ 500MHz	<-97	<-121	<-129	<-133	
	500MHz <f ≤ 1GHz	<-91	<-115	<-127	<-127	
	1 GHz <f ≤ 2 GHz	<-85	<-110	<-121	<-121	
	2 GHz <f ≤ 3GHz	<-81	<-106	<-117	<-117	
	3 GHz <f ≤ 6GHz	<-75	<-100	<-111	<-111	
Residual FM (typical value)		< N×1Hz (Typ. @frequency mode,300Hz-3kHz, bandwidth RMS)				
Output Power Range (25±10°C)		-20dBm - +7dBm Adding optional 115dB stepping attenuator: -120dBm ~ +7dBm				

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Power Accuracy (25°C ±10°C)	No attenuator			
	-10dBm - +7dBm		-20dBm - -10dBm	
	±0.8dB		±1.0dB (Typ.)	
	With optional programmable step attenuator			
	-10dBm ~ +7dBm	-60dBm ~ -10dBm	-90dBm ~ -60dBm	-120dBm ~ -90dBm
±0.8dB	±1.0dB	±1.5dB (Typ)	±3.0dB (Typ)	
Modulation Performance	Pulse	Pulse modulation on / off ratio		>60dB
	Modulation	Pulse modulation rise / fall time		<150ns
		Internally leveled min. pulse width		2µs
		Level hold (ALC is off)		0.5µs
	Amplitude Modulation	Modulation mode		Exponential mode Linear mode
		Modulation rate (3 dB bandwidth, 30% modulation depth)		DC - 100kHz
	Amplitude Modulation	Max. amplitude modulation depth		Exponential : 20dB Linear: 90%
		Accuracy (1kHz modulation rate 300Hz~3kHz demodulation bandwidth, depth<90%).		±(6%×set value+1%)
		Distortion (1kHz modulation rate 30% depth, linear mode, total harmonic distortion)		<1.5%
	Frequency Modulation	Max. frequency modulation offset		N×1MHz (Typ.)
		Accuracy: (1kHz modulation rate, 300Hz~3kHz demodulation bandwidth, 1kHz <frequency offset <N×100kHz, except residual frequency modulation)		±(5%×set value +20Hz)

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Modulation Performance	Frequency Modulation	Modulation rate (3 dB bandwidth, 100kHz offset)	Internal DC: DC - 100MHz Internal AC: 100kHz - 1MHz External DC: DC - 100MHz External AC: 100kHz - 10MHz
		Distortion (1kHz modulation rate, N×100kHz frequency modulation offset, total harmonic distortion)	<1%
	Phase Modulation	Max. phase modulation offset	N×10rad (100kHz modulation bandwidth) N×1rad (1MHz modulation bandwidth)
		Accuracy (1kHz modulation rate, 300Hz~3kHz demodulation bandwidth, 1rad <phase modulation offset <N×10rad, except residual phase, 100kHz modulation bandwidth)	±(5%×set value+0.01rad)
		Modulation rate (3 dB bandwidth)	DC - 100kHz (100kHz modulation bandwidth) 100kHz - 1MHz (Typ. 1MHz modulation bandwidth)
		Distortion (1kHz modulation rate, N x 10rad phase offset, total harmonic distortion, 100kHz modulation bandwidth)	<1%

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Modulation Performance	Vector Modulation Module (Optional Components Required)	Operating mode	External I/Q Input	
		Input connector	BNC (female)	
		Input impedance	50ohms	
		Frequency modulation range (typical value, 3dB point)	DC - 10MHz	
		Vector accuracy (typ, 4Msps, QPSK modulation mode, Nyquist filter, $\alpha=0.3$)	EVM (rms)	<3%
Amplitude Error	<3%			
Phase Error	100MHz - 3.2GHz <2° 3.2GHz - 6GHz <3°			
Internal Modulation Signal Generator	Function generator provides	Amplitude modulation, Frequency / Phase modulation signals		
	Waveform	Sine wave, Square wave, Triangular wave, Ramp wave, Noise, Dual-sine, Swept-sine		
	Frequency range	Sine wave, Dual-sine, Swept-sine: 1Hz - 1MHz Square wave, Triangular wave, Ramp wave: 1Hz - 100kHz Resolution: 1Hz		
	Pulse modulation signal	Pulse width: 40ns - (42s - 20ns) Pulse period: 100ns- 42s Resolution: 20ns		
Base-band Signal Generator	Max. symbol rate: 10ksps - 10Msps (MSK, 2FSK Max. symbol rate 2Msps) Modulation format: BPSK, QPSK, OQPSK, 8PSK, MSK, 16QAM, 2FSK			
RF Output Port	N (F)			
Display	TFT-LCD			

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General Information

Dimension (W×H×L)	482mm×152mm×582mm
Max. Weight	Approx. 23kg
Power Consumption	300W (Max)
Power Supply Mode	220V AC
Environmental Adaptation	Operating temp.: 0°C ~ +40°C (32°F - 104°F) Storage temp.: -30°C ~ +70°C (-22°F - 158°F) (Low temperature is subject to the LCD) Relative humidity: 5% - 95%, ±5%RH

Standard Package

Item	Name	Qty
1	RF Signal Generator	1 Set
2	User Guide (programming manual included)	1 PC
3	Standard three-wire power cord	1 Set
4	Calibration cable	1 PC

Main machine

S1101A	RF Signal Generator	250kHz - 6GHz
S1101B	RF Signal Generator	250kHz - 3GHz

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Optional Accessories

No.	Name	Description
S1101-001	115dB programmable step attenuator	Expand power
S1101-002	Vector modulation module	Generate vector modulation signal ,must work with base-band signal generator
S1101-003	Base-band signal generator	With internal base-band signal generation function, shall work with vector modulation module
S1101-005	Aluminum case	With handle and wheels for easy transportation
S1101-006	Cabinet	Building a testing system

Note: Information will conduct the necessary updates, the contents of this document are subject to change without notice