



DS INSTRUMENTS

6GHZ COMPACT SIGNAL GENERATOR



Description

The DS Instruments **SG6000L** ultra-compact RF Signal Generator continues to set the industry standard in affordable and portable RF Signal Generation. The **SG6000L** enables users to generate a high quality RF signal easily and at extremely

low cost without need for a host PC. This fully synthesized, modern fractional N synthesis device covers 7 octaves from 24 to 6000 MHz. Max output power is typically above +15 dBm and can be adjusted downward in 0.5dB steps, or continuously via the internal variable attenuator. The RF output step size varies from a maximum of ~3 KHz to less than 40 Hz, depending on band of operation. The crisp OLED display provides useful feedback for the user, and front control buttons provide a quick alternative to USB control. Like most of our products, the **SG6000L** easily fits in the palm of your hand, making it a truly portable and bench-space-saving device.

SG6000L (Rev 17) Signal Generator Features:

- Stand-alone and USB remote operation
- Up to 6GHz output frequency
- Adjustable output power (Step & Variable)
- Industry-standard **SCPI** command support
- Internal ± 2.5 PPM TCXO 10MHz reference
- Front user frequency step buttons
- Frequency-sweeping support
- Front-mounted bright OLED display
- Sturdy black all-aluminum enclosure
- Simple Windows control GUI
- Low voltage monitor
- Powered from standard micro-USB like a smartphone
- Easy to interface with all software packages (Matlab, python, android, linux, ios...)
- Optional Ethernet control
- Optional internal lithium-ion battery pack

RF Signal Generator Specifications:

- Frequency Range: **24-6000** MHz
- Phase Noise at 6GHz: -72dBc @ 10KHz offset
- Internal Attenuator (digital): 32dB (64x 0.5dB Steps)
- Internal Attenuator (variable): ~15dB (10 bit DAC)
- Total power output level range: -35 to **+16dBm** (uncalibrated)
- Calibrated power output: -16 to +15dBm
- Dimensions: 2.75" x 1.25" x 2.15"
- Input Voltage: 5V Standard micro-USB
- Typical current requirement: 0.45A
- Output Impedance: 50 Ohm
- RF Connectors: Premium gold microwave SMA

SG6000 Common Applications:

- Automated testing environments
- General RF Lab use
- Flexible LO sourcing
- Antenna design
- EMC Testing
- Production verification and testing
- Educational / university lab use
- Aerospace / Defense Research
- 802.11n Development / Testing
- LTE Engineering

Related Standard Models:

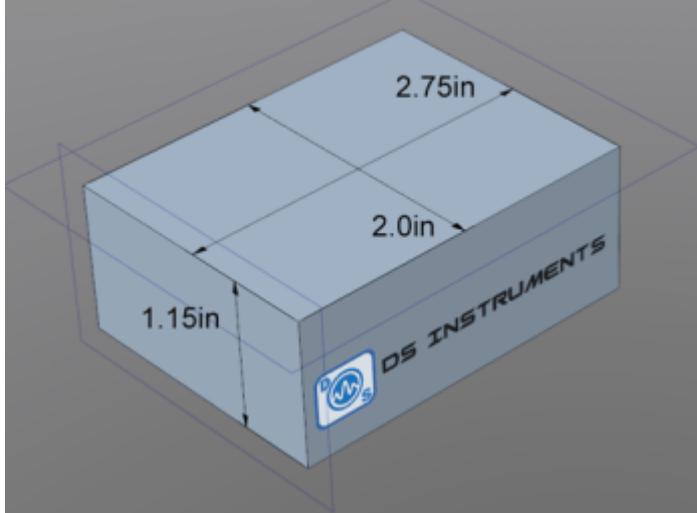
- Harmonic Filtered (low distortion) – ([SG6000F](#))
- 4.4GHz Version ([SG4400L](#))
- Battery Powered (SG6000B)
- Low Phase Noise, Harmonic Filtered, Extended Attenuator ([SG6000PRO](#)) (*PureSine*)
- Dual Channel (SG6000X)
- 12GHz Frequency Range (SG12000)
- 22GHz Frequency Range (SG22000)

Featured on [Microwave Journal](#), [Microwaves&RF](#), [Military&Aerospace Electronics!](#)

Signal Source Mechanical Data:



Ultra-Micro Case



Windows PC Control Software:

Options

Search:

Controls

MHz

Power:

Sweep Controls

Mode	Direction	Trigger
Single	UP	SWEEP

Points	Dwell (ms)
11	100

Start (MHz)	Stop (MHz)
1000	2000

Step Size	Run Time
100.0000 MHz	~1.100 Sec

Output Power Vernier [Help!](#)

DS Instruments,SG12000,-1,V12.40 0 OFF ON WolfPack-005 +7.0dBm 2000000000HZ

RF Performance (see datasheet):

