



DS INSTRUMENTS

SG22000PRO LOW-NOISE GENERATOR



Description

Introducing the New 2021 **SG22000PRO REV 5!**

An ultra-compact low-noise 100MHz to 22GHz microwave signal generator.

After years of development [DS Instrument's](#) updated low-noise premium signal generator has been released! Offering lower phase noise, a wider frequency range, and more robust output level control than the standard SG22000. Like our SG6000

product line, this RF generator is fully programmable via SCPI commands (USB / Ethernet) or the front panel interface making it more flexible than any competing product. Offered as a higher performance version of the SG22000 (*SG6000LDQ*), this upgraded microwave generator is aimed at phase-noise sensitive applications in X, Ku, and K-band development and testing.

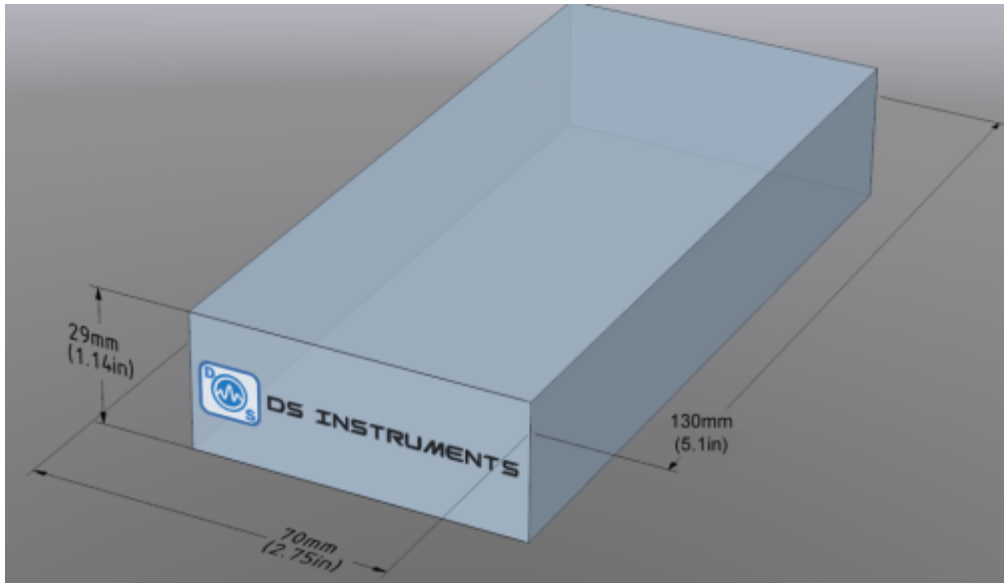
SG22000PRO Features:

- **Single multi-band SMA RF output port**
- RF output covering **0.1 – 22GHz** (*0.025 – 24.50GHz at reduced performance*)
- Increased max power output from 2019 Rev 1 (+10dBm)
- Calibrated power range (<13GHz): -40 to **+15dBm**
- Calibrated power range (>13GHz): -15 to **+15dBm**
- Uncalibrated power range: -40 to +17dBm typical
- Power output level resolution: 0.50dB steps & ~0.1dB vernier control
- Calibrated power output accuracy: ±1.0dB at 0dBm typical
- Low phase noise -92dBc @ 20GHz @ 10KHz offset
- Extremely small frequency step size (<2Hz)
- Harmonic level (typical): < -15dBm
- Ultra-low-noise 100MHz VCXO locked to internal TCXO or external 10MHz reference
- Internal precision high-frequency reference source (±280PPB 10MHz)
- **Ethernet** & USB remote operation
- Windows control software included (USB & Network enabled)
- SCPI command aware via USB virtual COM port for remote control
- Front controls and bright OLED display for stand-alone usage
- USB-C powered (5V-1.8A), requires *no extra DC adapter*
- Ultra-compact rugged aluminum case: 2.75" x 1.25" x 5.25"

Common RF Applications:

- Automated testing environments
- General RF lab use
- Flexible LO sourcing
- Antenna design
- EMC testing
- Production verification and test setups
- Educational / university lab use
- Aerospace / Defense Research
- 802.11n development / Testing
- Ku-band satellite link testing
- X-band radar applications
- Up and down converting
- Line of sight link testing
- Wireless infrastructure design
- Transponder verification
- 5G development

Mechanical Specifications:



PC Control Software:

Signal Generator Control Pro - DS Instruments

Device Configuration

Search **COM22** **Connect**

SG22000PRO - Rev 2 - SER:-1 - V4.4

5.23 VDC **30 °C**

R2-Delta007 **Save Name**

Locked (INT) **Auto Detect** **Set Reference**

Send Command

RFO Control (10 - 24000MHz)

Frequency: **-** **21000.100000** **+** **Set** **Step (MHz)** **1.0**

RF Power (dBm): **5.00**

RF Power Vernier: **-** **0** **+**

RF OFF **Band 3** **RF ON** **Help! V4.31**

RF Performance Plots:

