

# Miniature Signal Generators SG Series

The SG series of Miniature Signal Generators are supplied with control software, USB to mini USB cable and AC power supply adaptor.

 Operating frequency range  
25–6000MHz

 Ethernet Control



 USB

 High Output  
+13dBm up to 3GHz  
+6dBm between 3-6GHz

- 25 - 6000MHz
- Full Range Tuning
- Frequency & Level Control
- USB, Ethernet and RS-232 Interface
- External or Internal (+/-1ppm) Reference
- Non-Volatile Memory
- RoHS Compliant

\* Image Representative of Range

## RF Performance

|                          |                                                                                                                                                                 |             |               |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|
| Frequency Range          | 25 - 6000MHz                                                                                                                                                    |             |               |
| Frequency Step Size      | 1Hz                                                                                                                                                             |             |               |
| Output Power Level       | +13dBm, < 3GHz                                                                                                                                                  |             |               |
| Output Range             | +13dBm to -17dBm, 0.5dB Steps (output level set in dBm), < 3GHz<br>+6dBm to -17dBm, 0.5dB Steps (output level set in dBm), 3-6GHz                               |             |               |
| Internal Reference       | 100MHz, +/-1ppm over temperature, +/-1ppm per year                                                                                                              |             |               |
| Phase Noise Max (dBc/Hz) | Frequency                                                                                                                                                       | 1KHz Offset | 100KHz Offset |
|                          | 25 - 250MHz                                                                                                                                                     | -106        | -112          |
|                          | 250 - 1000MHz                                                                                                                                                   | -98         | -96           |
|                          | 1000 - 3000MHz                                                                                                                                                  | -92         | -94           |
|                          | 3000 - 6000MHz                                                                                                                                                  | -83         | -85           |
| Spurious                 | Maximum: < -50dBc, Typical: < -70dBc                                                                                                                            |             |               |
| Harmonics                | Maximum: -20dBc, Typical: -25dBc                                                                                                                                |             |               |
| RF Output connector      | SMA Female                                                                                                                                                      |             |               |
| Reference Connector      | SMA Female<br>Reference Input / Output autodetect and switch<br>100MHz Output<br>Selectable 10 or 100MHz input (software programmable frequency) @ -4 to +12dBm |             |               |

## Power

|                 |                                                                                                                                                                                |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Input     | 9 - 28V DC<br>12V, 3.0A AC adaptor with 1.20m lead included<br>Current consumption: 300mA typ. at 12V<br>Can be powered also via USB3.0, current consumption: 860mA typ. at 5V |
| Power Selection | Automatic Switching<br>Coaxial Power jack selected by default<br>USB power used when coaxial power not present<br>USB power used when coaxial power not present                |

## Options:

- OPT01 +20dBm output level (in 19" x 1U)
- OPT02 Rechargeable Battery Powered (not with 19" x 1U)
- OPT03 Portable Bench Instrument – 260 x 150 x 420 mm
- OPT04 Ruggedised Portable Instrument – 380 x 310 x 245mm
- OPT05 Weatherproof ODU – 360 x 210 x 95 mm (remote control only)
- OPT06 ASG Mounting Bracket Pair - Supplied fitted to the unit

## Interface

|                    |                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control Interface  | USB: Virtual COM port<br>RS-232: 9-pin male D-sub connector<br>Ethernet: RJ45 connector                                                                                                                                                                                                                                                                |
| Output Modes       | Continuous<br>Sweep<br>On/Off via external trigger                                                                                                                                                                                                                                                                                                     |
| External Trigger   | Pin 4 of RS-232 connector: Pulse TTL/RS232 levels, 50ms min. pulse width<br>Manual trigger via GUI                                                                                                                                                                                                                                                     |
| Status Indicators  | Power<br>Lock<br>RF Output<br>Reference Out                                                                                                                                                                                                                                                                                                            |
| PC User Interfaces | Third-part terminal application (e.g. HyperTerm):<br>• ASCII commands<br><br>Graphical User Interface Executable File:<br>• Adjust frequency and output power level<br>• Set reference frequency<br>• Select operation mode<br>• Set power-on defaults<br>• Adjust sweep configuration<br>• Change device network settings<br>• Control multiple units |
| Internal Memory    | Non-volatile, automatically stores most recent settings                                                                                                                                                                                                                                                                                                |

## Environmental

|                       |             |
|-----------------------|-------------|
| Operating Temperature | -20 to +50C |
| Storage Temperature   | -40 to +85C |

## Mechanical

|            |                                                                             |
|------------|-----------------------------------------------------------------------------|
| Dimensions | 163mm x 103mm x 30.5mm                                                      |
| Weight     | 350g                                                                        |
| Material   | Aluminium extrusion<br>Aluminium endplates with black legend<br>Rubber Feet |

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.  
Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

