



## Synthesized Signal Generator

### OSG2113

- Dual channel.
- Frequency range: 1  $\mu$ Hz ~ 1000 MHz.
- Up to 13 dBm output power.
- Complete AM / FM / FSK / PSK modulation.
- Up to 1 ppm frequency accuracy.
- USB Device, RS, 232 interface.

| Model                       |                             | OSG2113                   |   |
|-----------------------------|-----------------------------|---------------------------|---|
| Frequency                   | Range                       | Sine                      | 1 $\mu$ Hz ~ 1000 MHz   |
|                             |                             | Square                    | 1 $\mu$ Hz ~ 80 MHz   |
|                             | Resolution                  |                           | 1 $\mu$ Hz (carrier frequency $\leq$ 80 MHz)<br>1 Hz (carrier frequency >80 MHz)                                  |
|                             | Accuracy                    |                           | $\pm$ 1 ppm, frequency $\geq$ 1.0 kHz<br>$\pm$ 50 ppm, frequency < 1.0 kHz  |
| Sine Output Level           | Range                       | Frequency $\leq$ 500 MHz  | -127 dBm ~ +13 dBm (-127 dBm ~ -117 dBm typical)  |
|                             |                             | Frequency $\leq$ 1000 MHz | -110 dBm ~ +13 dBm (-100 dBm ~ -110 dBm typical)  |
|                             |                             | Frequency $\leq$ 1500 MHz | -105 dBm ~ +10 dBm (-100 dBm ~ -105 dBm typical)  |
|                             | Resolution                  |                           | 0.1 dB  |
|                             | Accuracy                    | Frequency $\leq$ 300 MHz  | Setting $\pm$ 1 dBm (output level +13 dBm ~ -105 dBm)   |
|                             |                             | Frequency $\leq$ 1500 MHz | Setting $\pm$ 1.5 dBm (output level +13 dBm ~ -80 dBm)<br>Setting $\pm$ 2.5 dBm (output level -80 dBm ~ -100 dBm) |
| Stationary Wave Ratio (SWR) |                             | < 1.8                     |   |
| Spectrum Purity             | Harmonic                    |                           | < -33 dBc (output level $\leq$ 4 dBm, typical value)  |
|                             | Non-Harmonic                |                           | < -40 dBc (output level $\leq$ 4 dBm, deviation CF $\leq$ 5 kHz)  |
|                             | Sub-Harmonic                |                           | < -40 dBc (output level $\leq$ 4 dBm)   |
|                             | Remain Modulating Frequency |                           | < 100 Hz (BW: 0.3 ~ 3 kHz, RMS < 120 MHz)   |
| Square                      | Rise/Fall Edge Time         |                           | $\leq$ 15 ns  |
|                             | Overshoot                   |                           | $\leq$ 5%   |
| Modulation                  | Type                        |                           | AM, FM, FSK, PSK  |
|                             | External Modulation Input   |                           | Voltage Range: $\pm$ 2.5 V, Frequency: DC to 10 kHz   |
| Frequency Sweep             | Sweep Rate                  |                           | 1 ms ~ 800 s Linear (carrier $\leq$ 80 MHz)<br>100 ms ~ 800 s Logarithm (carrier $\leq$ 80 MHz)                   |
|                             | Step Time                   |                           | 50 ms ~ 10 s Linear   |
| Burst                       | Burst Count                 |                           | 1 to 10000 cycles   |
|                             | Interval                    |                           | 0.1 ms to 800 s   |
|                             | Frequency Range             |                           | 1 $\mu$ Hz ~ 10 MHz   |
|                             | Resolution                  |                           | 1 $\mu$ Hz  |
|                             | Accuracy                    |                           | $\pm$ 1 ppm, Frequency $\leq$ 1.0 kHz<br>$\pm$ 50 ppm, Frequency < 1.0 kHz  |
| Waveform                    | Type                        |                           | Sine, Square, Ramp, Pulse, Sinc, Exp, Noise, DC   |
|                             | Square                      | Edge Time                 | $\leq$ 50 ns  |
|                             |                             | Duty Cycle                | 0.01% ~ 99.99%  |
|                             | Pulse                       | Edge Time                 | $\leq$ 50 ns  |
|                             |                             | Pulse Width               | 20 ns ~ 20 s  |
|                             | Ramp                        | Symmetry                  | 0.0% ~ 100.0%   |
| Output                      | Amplitude                   |                           | 1 mVpp to 10 Vpp (50 $\Omega$ ), 2 mVpp to 20 Vpp (High Z)  |
|                             | Offset                      |                           | $\pm$ 5 Vpk ac+dc (50 $\Omega$ ), $\pm$ 10 Vpk ac+dc (High Z)   |
|                             | Resolution                  |                           | 5 mVpp  |
|                             | Accuracy                    |                           | $\pm$ (1% of setting + 10 mVpp)   |
|                             | Flatness                    |                           | $\pm$ 0.5 dB  |
| General Characteristics     | Power                       |                           | AC100 V ~ 240 V, 50 (1 $\pm$ 10%) Hz  |
|                             | Dimension & Weight          |                           | 254 x 103 x 374 mm; 4.2 kg  |

### Accessories

|            |                           |
|------------|---------------------------|
| OSG2113-A1 | Power Cord                |
| OSG2113-A2 | BNC Testing Cable         |
| OSG2113-A3 | CD (Software+ User Guide) |