STL-SG-022403-S1

200MHz-40GHz Low Phase Noise Synthesized Signal Generator

STL-SG-022403-S1 is a portable, touch screen-controlled Synthesized Signal Generator designed and manufactured for standard test instrumentation, communication, and Radar systems as a local signal source. The module covers a frequency range of 0.2 to 40 GHz with exceptional low harmonics and spurious emissions as well as superior low phase noise performance. The model is externally referenced with high performance internal reference backup. The frequency resolution of the module is up to 0.2 Hz. The synthesized signal generator has a maximum spurious of -60 dBc. It has a built-in voltage regulator to further improve the signal quality and provide over voltage protection. This module can be directly controlled with a touch screen via a user-friendly GUI.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range (GHz)	0.2		40
Step Size (Hz)		0.2	
Output Power (dBm)	-40		+10
Output Power Flatness (dB)		±2.0	
Frequency Stability		±0.2 ppm or Same as External Reference	
Frequency Accuracy		±0.2 ppm or Same as External Reference	
Output Spurious (dBc)		-65	-60
Output Harmonics (dBc)		-20	
External Reference Input (dBm at 10 MHz)		7 ± 3	
Internal Refence Output (dBm at 100 MHz)		10	
Phase Noise (Internal)		*See the Data Plot section*	
Control Interface		Touch Screen	
Pulse Modulation Depth		≥60 dBc @ Output Power + 10 dBm	
Pulse Modulation Pulse Width	0.1 ms	5 ms	10 ms
Pulse Modulation Time		≤50 ns Raise/100 ns Fall	
Supply Voltage/Current		12 V/2,600 mA	
Specification Temperature		+25 °C	
Operating Temperature	0°C		+50°C

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FEATURES

- Easy Control
- Portable
- Low Phase Noise

APPLICATIONS

- Test Lab
- Instrumentations
- System Reference Source

SUPPLEMENTAL DETAILS

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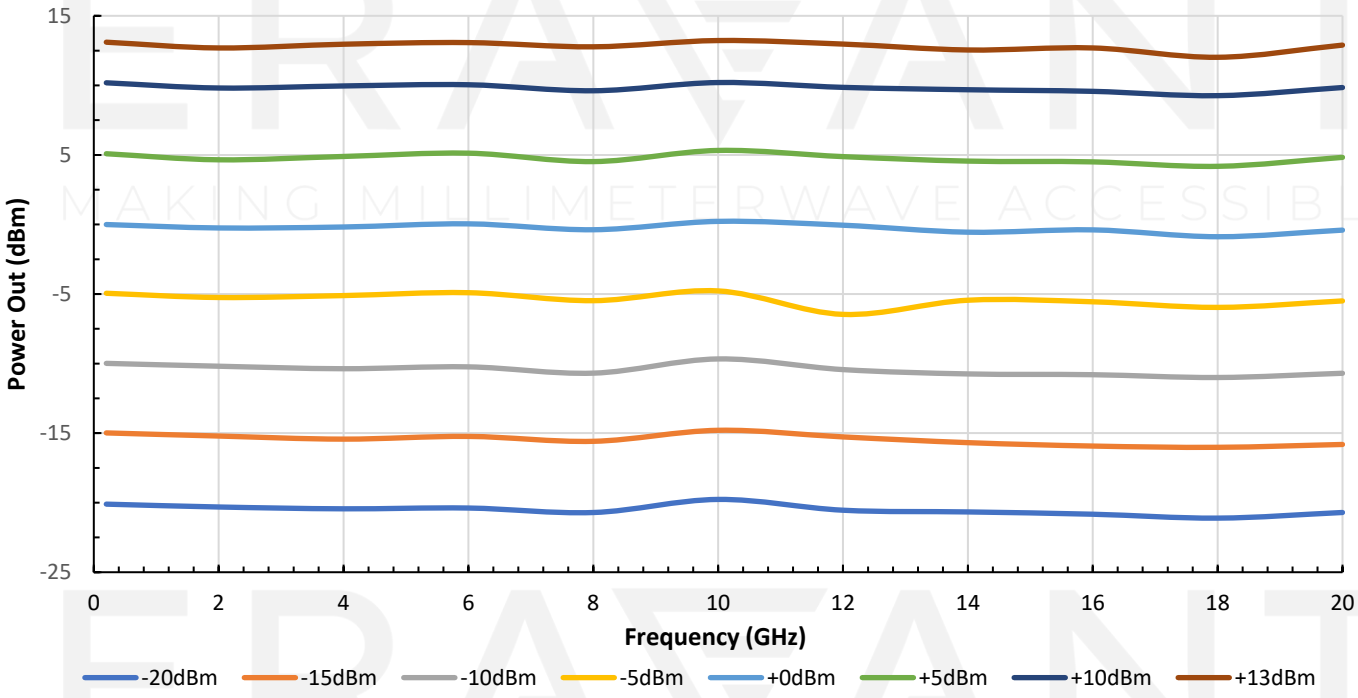
Mechanical Specifications:

Item	Specification
RF Output	SMA(F) Connector
100MHz Output	SMA(F) Connector
10MHz Input	SMA(F) Connector
Pulse Input	SMA(F) Connector
DC Bias	2.5 mm DC Jack (AC-to-DC power converter included)
Body Material	Aluminum
Finish	Black Anodized
Dimension	9.00''(L) x 6.25''(W) x 2.50''(H)
Outline	TL-SG-S1

Typical Performance Plots:

Output Power vs. Frequency



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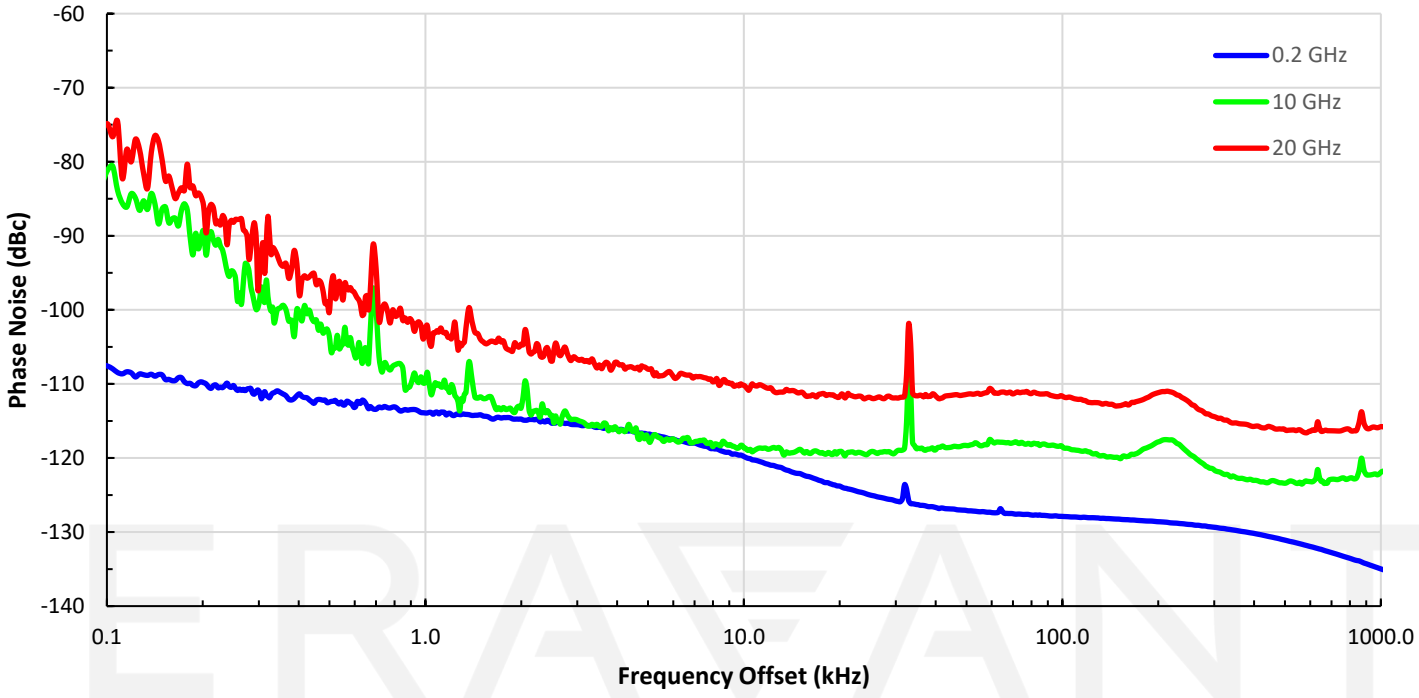
Measured Phase Noise vs. Frequency



* *The phase noise data is taken with internal reference:*

Maximum phase noise at 20 GHz:

Frequency Offset	1 kHz	10 kHz	100 kHz	1 MHz
Phase Noise	-101 dBc/Hz	-110 dBc/Hz	-110 dBc/Hz	-110 dBc/Hz

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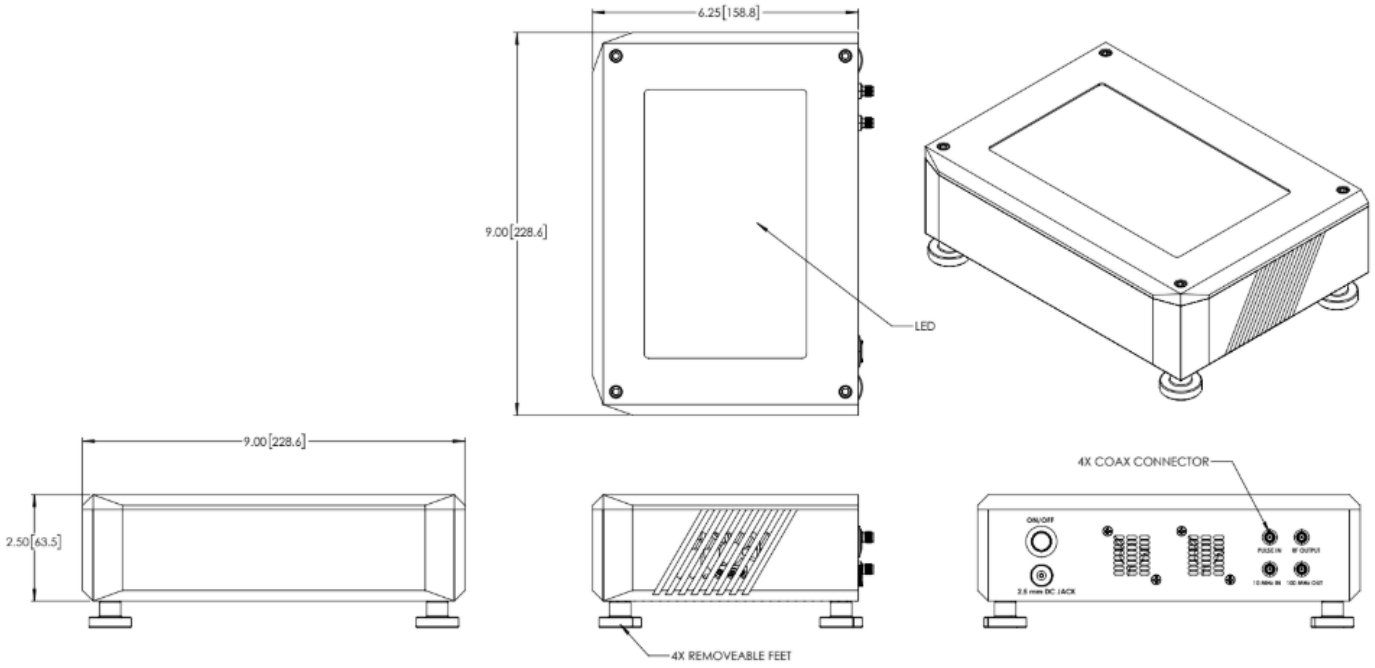
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



NOTE:

- Test data provided is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.

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