STL-SG-022203-S1

ACCESS Low Phase Noise Synthesized Signal Generator, 200 MHz – 20 GHz

STL-SG-022203-S1 is a portable, touchscreen and USB controlled Synthesized Signal Generator designed and manufactured for standard test instrumentation, communication, and radar systems as a local signal source. It covers a frequency range of 0.2 to 20 GHz with exceptionally low harmonics and spurious emissions, as well as superior low phase noise performance. It is externally referenced with a high-performance internal reference backup. The frequency resolution of the module is up to 0.2 Hz. This Synthesized Signal Generator has a maximum spurious of -65 dBc. It has a built-in voltage regulator to further improve the signal quality and provide overvoltage protection. This instrument integrates an advanced embedded processor, which runs stably and responds quickly. It supports direct touchscreen control via an easy-accessible HMI or can be remotely controlled with the USB Type-B port by the computer.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	0.2 GHz		20 GHz
Step Size		0.2 Hz	
Output Power	-20 dBm		+13 dBm
Output Power Flatness		±2.5 dB	
Frequency Stability		±0.2 ppm or Same as External Reference	
Frequency Accuracy		±0.2 ppm or Same as External Reference	
Output Spurious		-70 dBc	-65 dBc
Output Harmonics (0.2 - 12 GHz at 5 dBm)	30 dBc		
Output Harmonics (12 - 20 GHz at 5 dBm)	20 dBc		
External Reference Input (@ 10 MHz)		5 dBm	
Internal Refence Output (@ 100 MHz)		10 dBm	
Phase Noise (Internal)		*See the Data Plot section*	
Control Interface		Touch Screen/USB Type-B	
Pulse Modulation Depth		≥60 dBc @ Output Power + 10 dBm	
Pulse Modulation Pulse Width	0.1 ms	5 ms	10 ms
Pulse Modulation Time		≤30 ns Raise/50 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

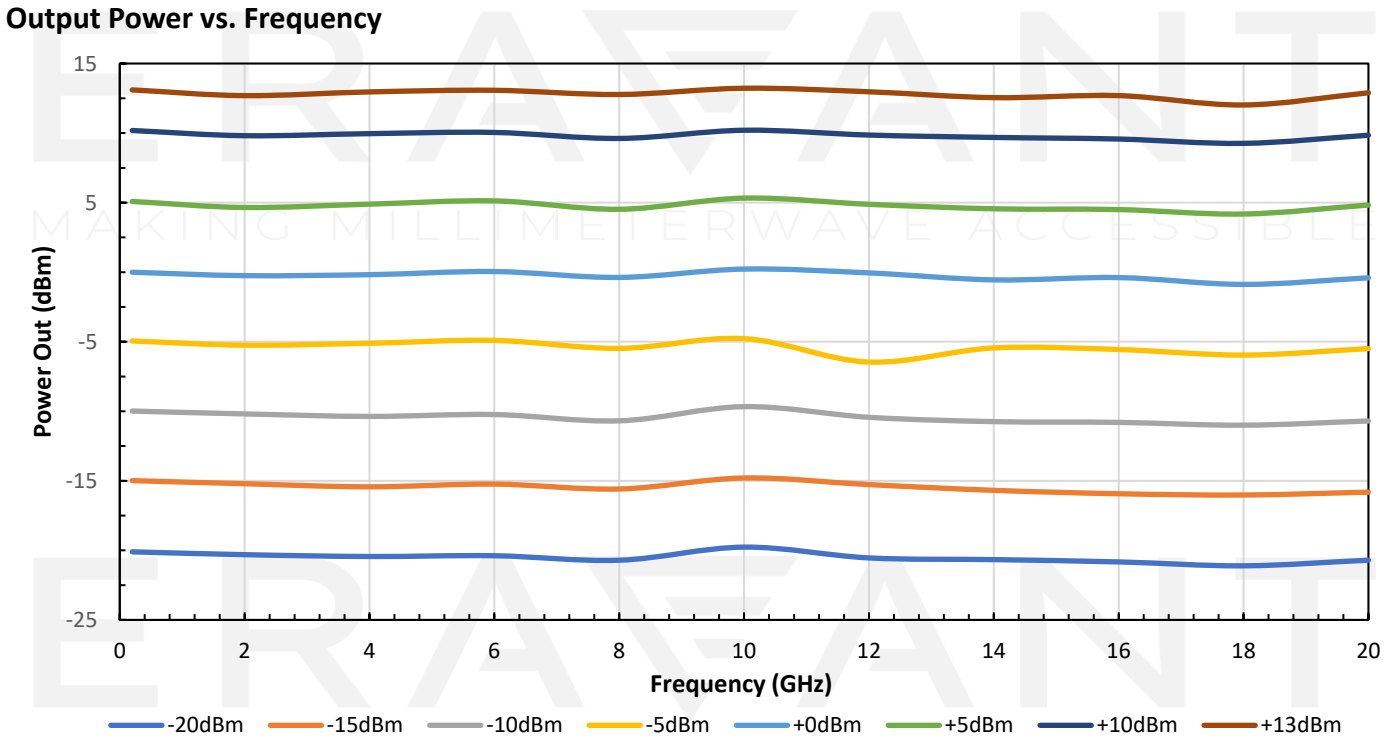
- Test Lab
- Instrumentations
- System Reference Source

SUPPLEMENTAL DETAILS

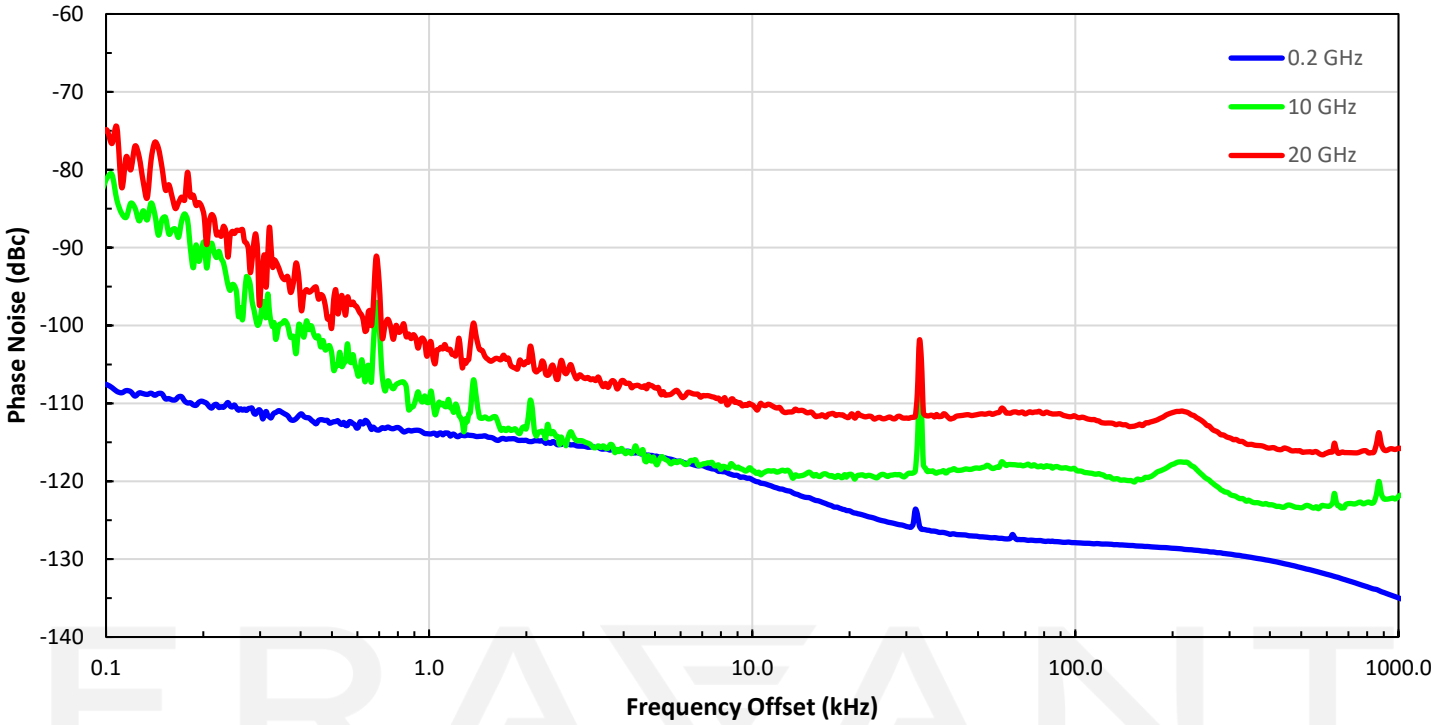
Mechanical Specifications:

Item	Specification
RF Output	SMA (F) Connector
100 MHz Output	SMA (F) Connector
10 MHz Input	SMA (F) Connector
Pulse Input	SMA (F) Connector
Communication Port	USB Type-B
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:



Measured Phase Noise vs. Frequency

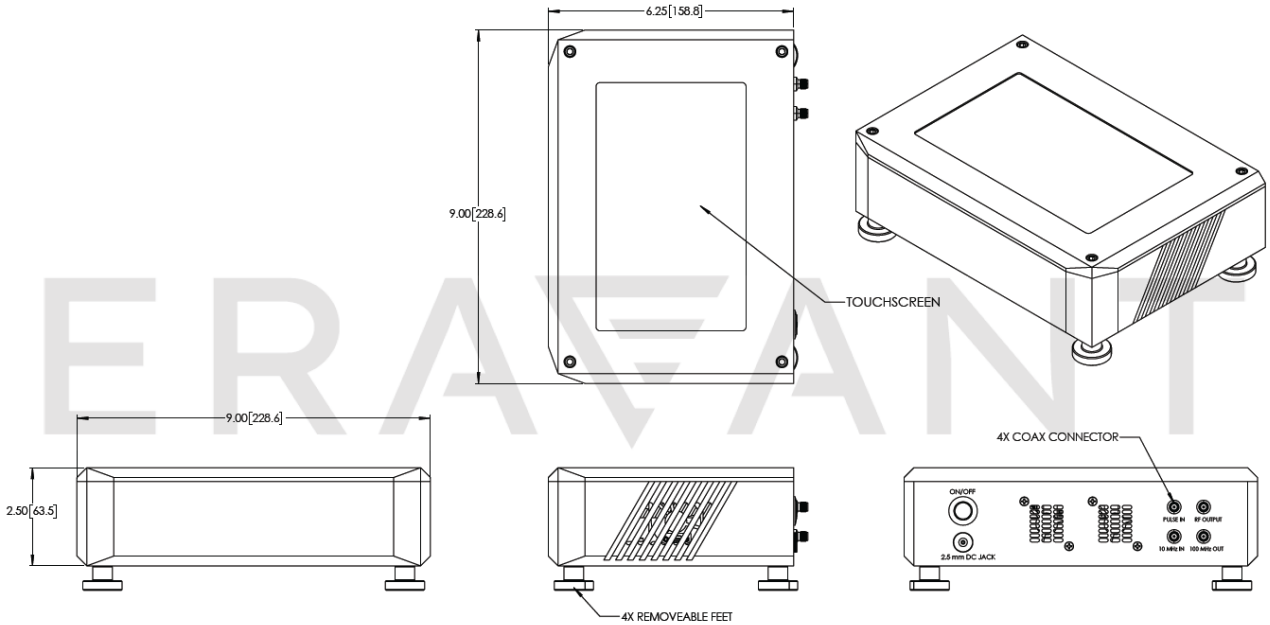


* *The phase noise data is taken with internal reference:*

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	-112 dBc/Hz

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:

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- 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.