DATASHEET

SRM100A

AXIe Advanced System Reference Module: 10 MHz, 100 MHz and 1200 MHz

- **Timebase for the ASGM18A Advanced Signal Generator and ASAM18A Advanced Signal Analyzer modules**
- **Ultra-low phase noise**
- **Drives 1 to 4 Advanced Signal Generators / Analyzers**
- **Spurious < -100 dBc**
- **10 MHz, 100 MHz and 1200 MHz outputs**
- **10 MHz or 100 MHz external reference input for phase coherent and time synchronous operation with a customer standard or system under test**

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Solutions for Next Gen EW / Radar Test & Deployment

The Giga-tronics SRM100A AXIe Advanced System Reference Module is a precision frequency reference that provides the necessary signals for phase coherent operation across instruments within the AXIe chassis, as well as across multiple chassis. One SRM100A is necessary to drive a two or four channel AXIe chassis. The SRM100A accepts an externally supplied10 MHz or 100 MHz input, as well as providing 10 MHz and 100 MHz frequency reference outputs. Additionally, an external frequency control voltage input allows for the fine tuning of the SRM100A outputs' absolute frequencies if desired in a system test environment.

This datasheet provides a summary of the key performance parameters for the Giga-tronics SRM100A AXIe Advanced System Reference Module.

All specifications apply over the +20 to +30 °C temperature range after a 30 minute warmup period unless otherwise noted.

Features:

- Ultra-low phase noise precision frequency reference
- Drives 1 to 4 Advanced Signal Generator / Analyzer channels
- Provides 10 MHz, 100 MHz and 1200 MHz outputs
- Spurious < -100 dBc

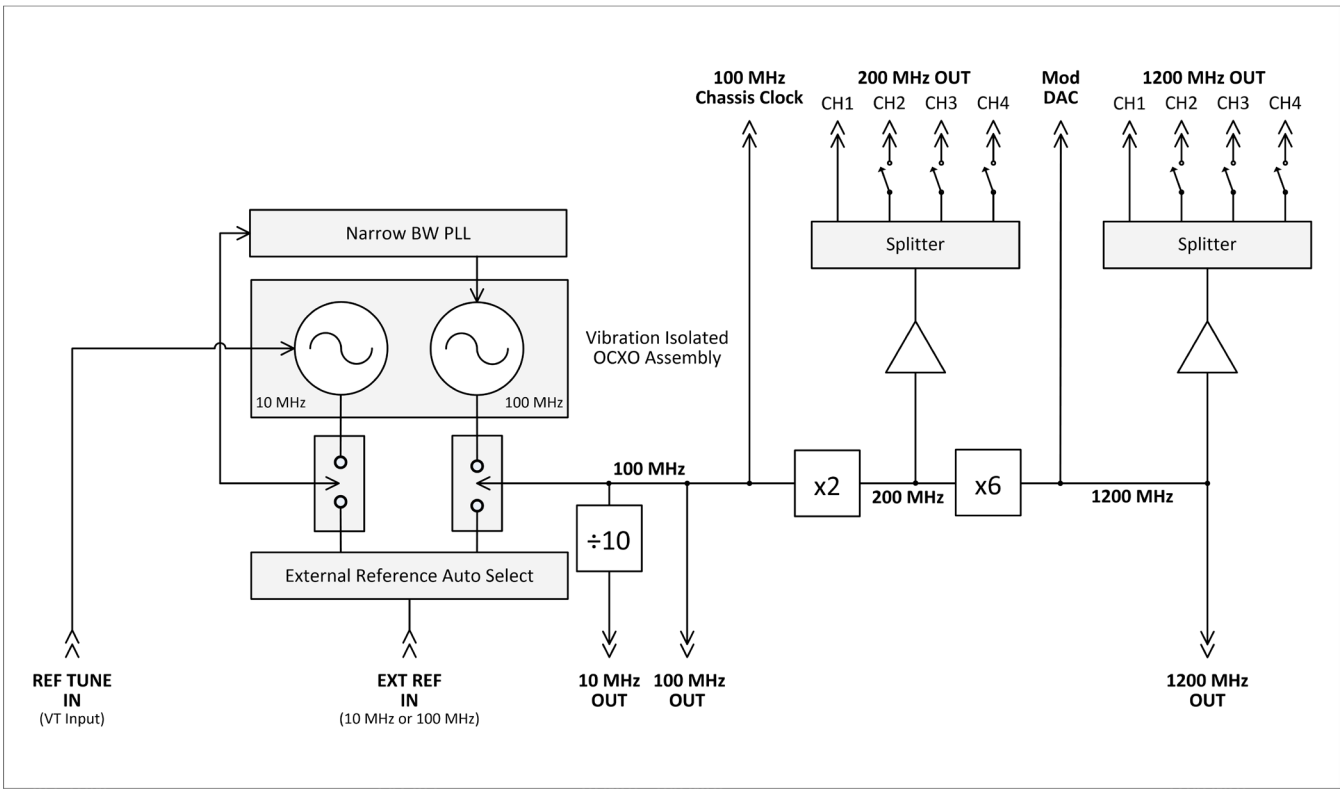

Figure 1 - The SRM100A AXIe System Reference Module Block Diagram

Per Chassis Reference Signal Outputs

Frequency	Power
10 MHz	> +8 dBm
100 MHz	> +8 dBm
1200 MHz	> + 12 dBm
Impedance	50 Ω

Frequency Stability

Accuracy	± 10 ppB
Aging rate*	< 5 x 10^{-10} ppB/day
Temp stability	< ±2 x 10^{-8} ppB/°C
Tuning range	±6.5 Hz
Tuning voltage	±5 Volts
Tuning sensitivity	-1.3 Hz/V nom

* After 30 days

Phase Noise (See Figure 2)

1200 MHz	-140 dBc/Hz @ 10 kHz offset

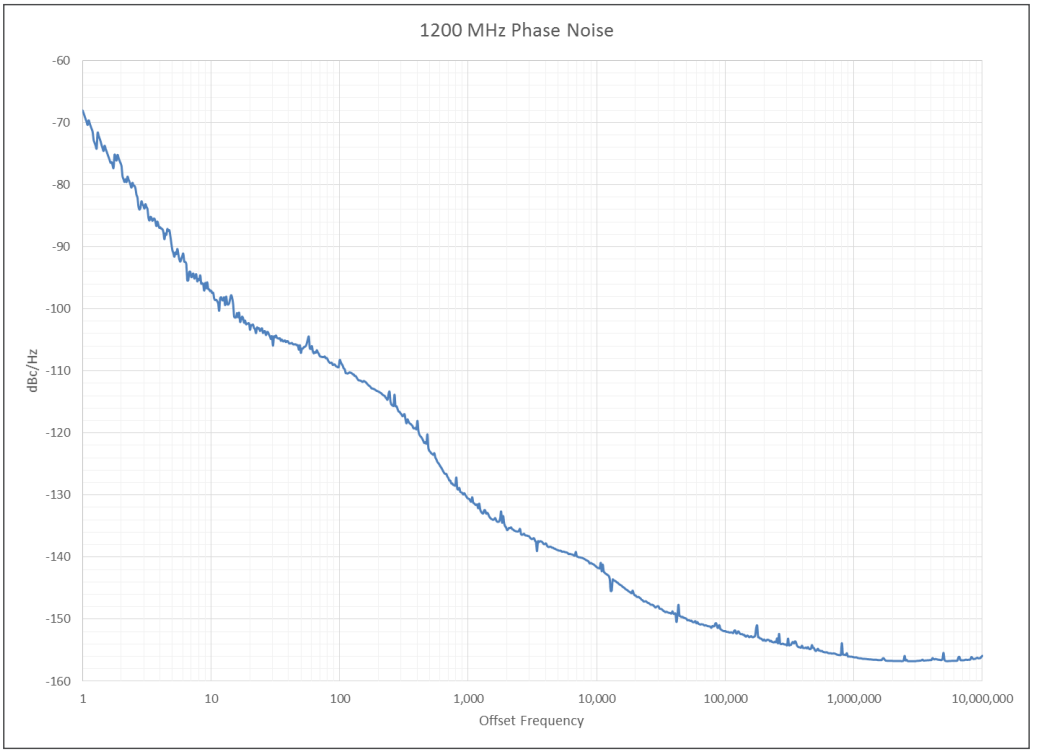

Figure 2 - The SRM100A Phase Noise

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Spurious

1200 MHz	
< 300 Hz offset	< -90 dBc
> 300 Hz offset	< -105 dBc

External Reference Signal Input

Frequency	10 MHz or 100 MHz Sinusoid
Input impedance	50 Ω
Input level	0 dBm +/-5 dB
Control	Automatic sensing (internal vs external reference)
External referene indicator	Front panel LED

General Specifications

Environmental	MIL-PRF-28800F for Temperature, Humidity and Altitude only. Operating Random Vibration: 5 to 500 Hz, 0.21 grms. Survival Random Vibration: 5 to 500 Hz, 2.09 grms
Safety	EN61010-1:2010
Emissions	EN61326-1:2013
Weight	< 10 lbs (4.6 kg)
Dimensions	1.78” H x 12.7” W x 12.3” D
Form Factor	AXIe
Power	< 65 Watts

Selection Guide by Application

	APPLICATION				OPTIONS			
Model Number	Real-Time Synthesizer	AXIe Companion	Real-Time Threat Emulation	Radar Quiet Target Generator	OPT-ATT Electronic Step Attenuator	OPT-UP1 1200 MHz IF Input	OPT-BCD Parallel BCD Input	OPT-TCI TEmS Control Interface
ASGM18A 100 MHz to 18 GHz Advanced Signal Generator Module	●	●	●	●	●	●	●	●
ASAM18A 500 MHz to 18 GHz Advanced Signal Analyzer Module		●	●				●	
SRM100A System Reference Module	●	●	●	●				
CHSIS2A / CHSIS4A 2-Channel or 4-Channel AXIe System Chassis	●	●	●	●				
CHSISBK AXIe Blank Module: 2-Slot	●	●	●	●				
ONS On-Site System Configuration Service	●	●	●	●				
TEmS Threat Emulation Software and Control System			●					

Ordering Information

Model Number	Description
ASGM18A OPT-ATT OPT-UP1 OPT-BCD OPT-TCI	AXIe Advanced Signal Generator: 100 MHz to 18 GHz Electronic Step Attenuator for 90 dB Dynamic Range 1200 MHz Upconverter IF Input Parallel BCD Input Control Interface TEmS Control Interface
ASAM18A OPT-BCD	AXIe Advanced Signal Analyzer: 500 MHz to 18 GHz Parallel BCD Input Control Interface
SRM100A	AXIe System Reference Module: 10 MHz, 100 MHz, 1200 MHz
CHSIS2A	2-Channel AXIe System Chassis (4U) (For 1 or 2 channel systems)
CHSIS4A	4-Channel AXIe System Chassis (7U) (For 1 to 4 channel systems)
CHSISBK	AXIe Blank Module: 2-Slot cover for Airflow Management and Backplane Termination
EWS20	Extended 2 Year Warranty
EWS40	Extended 4 Year Warranty
Consultancy	Professional Consultation

Standard Warranty

Giga-tronics warrants to the Customer that all manufactured products conform to published specifications and are free from defects in material and workmanship for one year. The period begins on the date of shipment and only applies to normal operation of the product within the appropriate service condition. Giga-tronics shall have no responsibility hereunder for any defect or damage caused by improper storage, improper installation, unauthorized modification, misuse, neglect, inadequate maintenance, accident, or any part which has been repaired or altered by anyone other than Giga-tronics or its authorized representative, or not in accordance with Giga-tronics furnished instructions. https://go-asg.gigatronics.com/warranty

Extended Warranty

Extended warranty (Service and Calibration) can only be purchased at time of ordering or within 30 days after the ship date. Service for extended warranties will be performed by Giga-tronics Incorporated, its Microsource subsidiary; or, an authorized Giga-tronics Service Center. Prices do not include freight, insurance, handling, taxes, duties or any other related shipping charges. Extended warranty service and extended calibration options are based on the original ship date of the product. Extended calibration option requires that units be calibrated annually, if applicable. https://go-asg.gigatronics.com/warranty

ASR American Systems Registrar ANAB ACCREDITED

American Systems Registrar, LLC certified ISO 9001:2008
Certification: https://go-asg.gigatronics.com/quality

ISO 9001:2008

Giga-tronics Support Services

At Giga-tronics, we understand the challenges you face. Our support services begin from the moment you call us. We help you achieve both top-line growth and bottom-line efficiencies by working to identify your precise needs and implement smart and result orientated solutions. We believe and commit ourselves in providing you with more than just our superior test solutions. For technical support, contact:

Phone: +1 925.328.4650 | Email: asg-info@gigatronics.com

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