

USB Frequency Synthesizer PLL (Phase Locked Loop), Operating From 35 MHz to 4.4 GHz With SMA Output

FMSN3900 is a Frequency Synthesizer Module that covers a wide frequency band from 35 MHz to 4.4 GHz with exceptional spurious rejection and phase noise performance. Output power ranges from -20 dBm to +10 dBm typical across the entire frequency band. This high quality signal source has several outstanding features including a USB 2.0 interface that is powered and command controlled directly by a host PC and a Female SMA output connector, and is VISA compliant which enables seamless cross platform use. The synthesizer can be GUI controlled via Windows®, Macintosh®, or Linux® platforms, or with SCPI compliant VISA commands (downloadable user manual), or with other system design software such as LabVIEW®. The compact size makes it ideal for bench top test and measurement use or for radar and communication systems. Frequency resolution of the FMSN3900 is available in integer and fractional operating modes and the User can select between an internal reference (capable of phase locking) or externally applied reference. The module supports integrated phase locked loop (PLL) circuitry that the User can select between an internal reference (capable of phase locking) or externally applied reference. The RF Synthesizer Module comes complete with a USB 2.0 A extension and an SMA male to MMCX plug cable.

Electrical Specifications (TA= 25°C)

Description	Min	Typ	Max	Units	Mode
					Reference Option(s)
Frequency Range	0.035		4.4	GHz	
Step Size (Fractional Mode)		2.441		kHz	
Phase Locked Speed		1		ms	
Phase Noise @100kHz Offset		-103		dBc/Hz	
Reference Frequency	10	50	100	MHz	
Reference Power (CW)	+0		+15	dBm	
Internal Reference Frequency		50		MHz	
Internal Reference Accuracy		0.5		ppm	



Features:

- Wideband Output Frequency
- 35 MHz to 4.4 GHz
- Integer and Fractional operating modes
- Output Power from -20 dBm to +10 dBm typical
- USB 2.0 Interface
- Female SMA output
- USBTMC VISA Compliant
- User Selectable internal reference or externally applied reference
- Small compact package size
- Downloadable User Manual
- Accessory cables included

Applications:

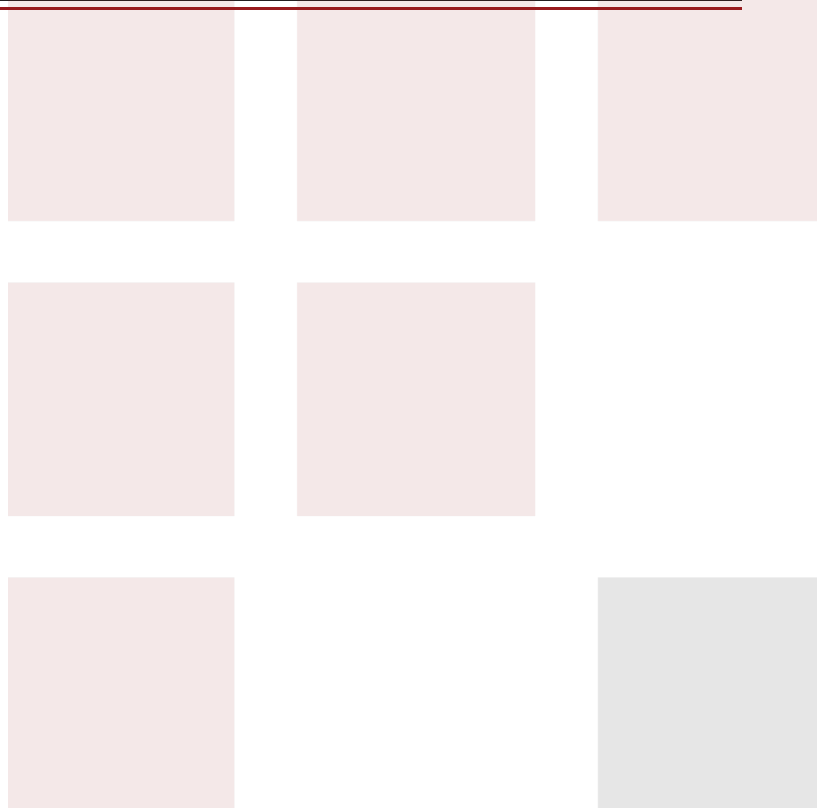
- Signal Generators
- Test Equipment
- Communications Systems
- EW Systems
- Radar Systems
- Frequency Conversion
- OEM Integration into RF Systems
- SIGINT

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Performance by Frequency

Description	F1	F2	F3	Units
Frequency	0.2	2	4	GHz
Phase Noise @ 100 KHz Offset (with internal reference)	-117	-108	-103	dBc/Hz

Description	F1	F2	F3	Units
Frequency	.035 to 2.2	2.2 to 4.4		GHz
Step Size (Integer Mode)	25	50		MHz


Electrical Specification Notes:

Step size specified under default conditions (a 50 MHz reference input with a reference divider of 1).

Mechanical Specifications
Size

Length	3.3 in [83.82 mm]
Width	0.9 in [22.86 mm]
Height	0.6 in [15.24 mm]
Weight	0.1641 lbs [74.43 g]

Configuration

Package Type	Connectorized
Reference Connector	MMCX Female
Output Connector	SMA Female
Control Connector	USB Type A - Male

Reference Divider Out Connector MMCX Female

Mechanical Specification Notes:
The USB Type A - Male connector is used for both Power and Control.

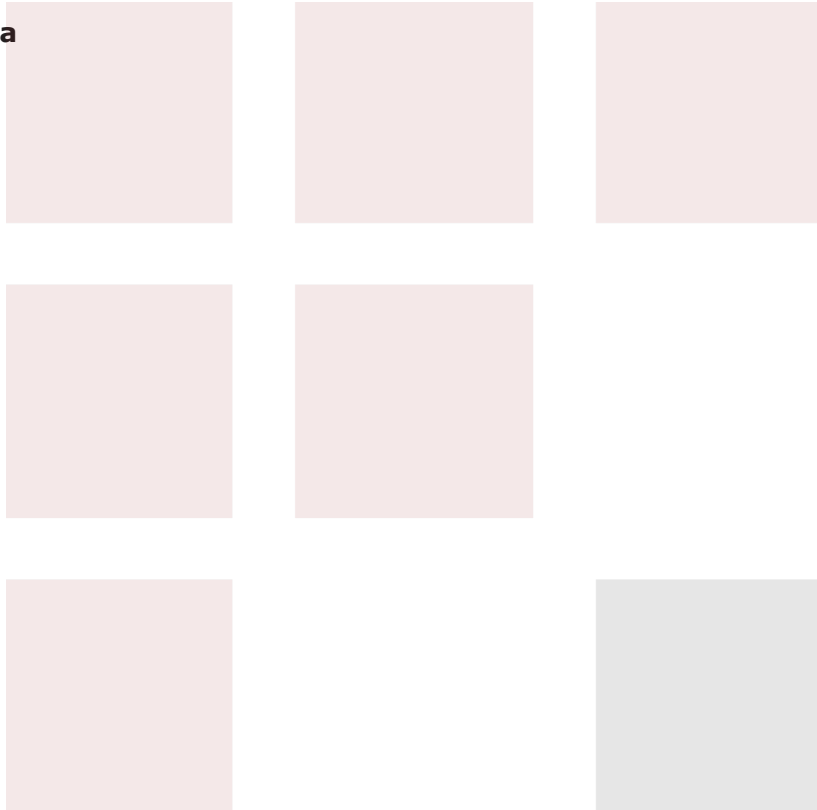
Environmental Specifications

Temperature
Operating Range 0 to +55 deg C
Storage Range -50 to +100 deg C

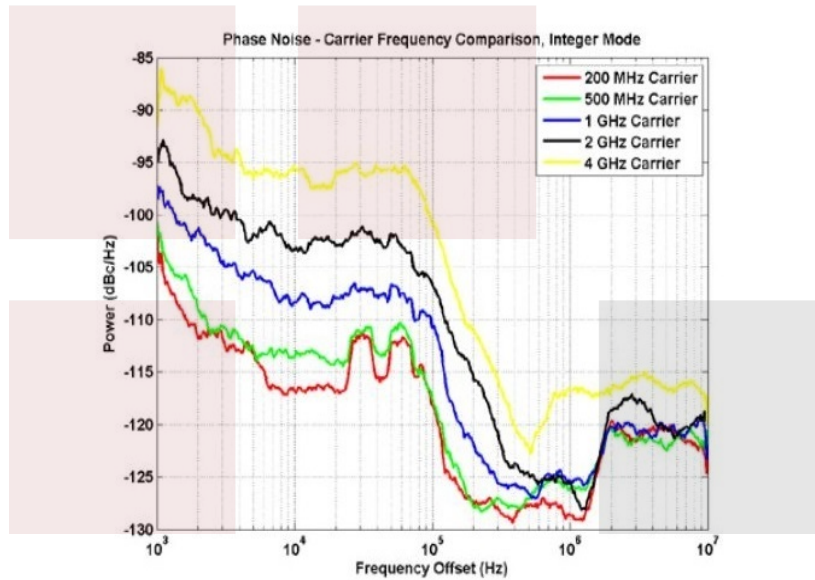
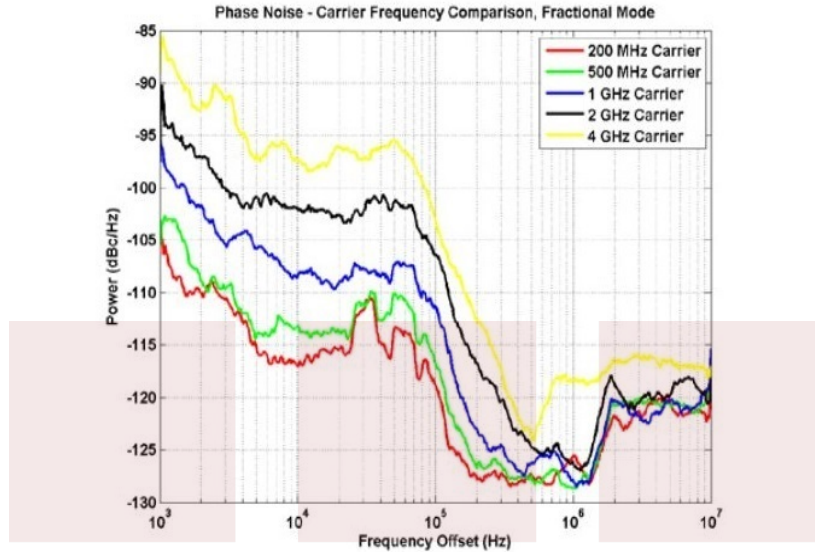
Compliance Certifications (see [product page](#) for current document)

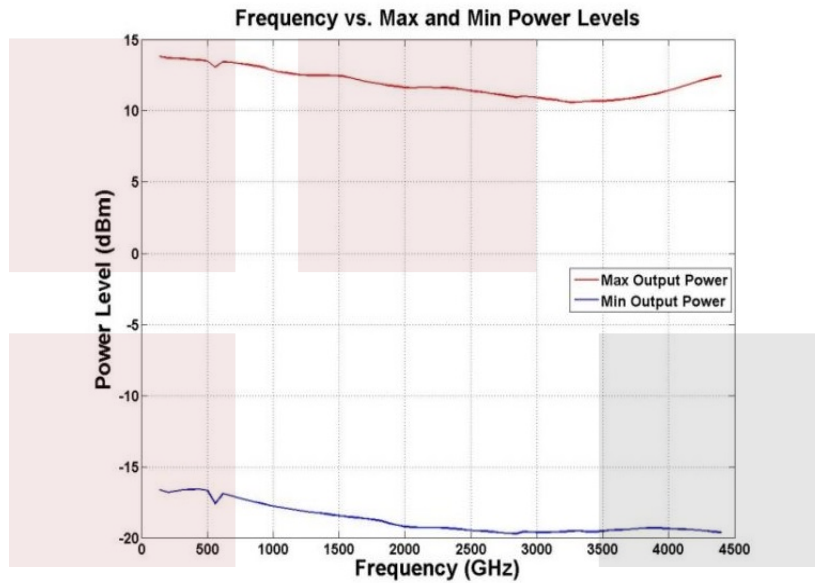
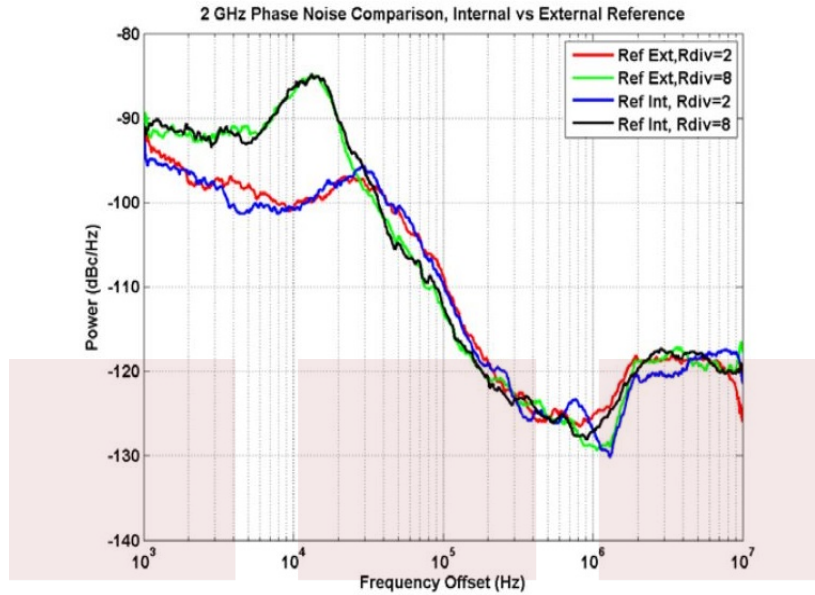
Plotted and Other Data

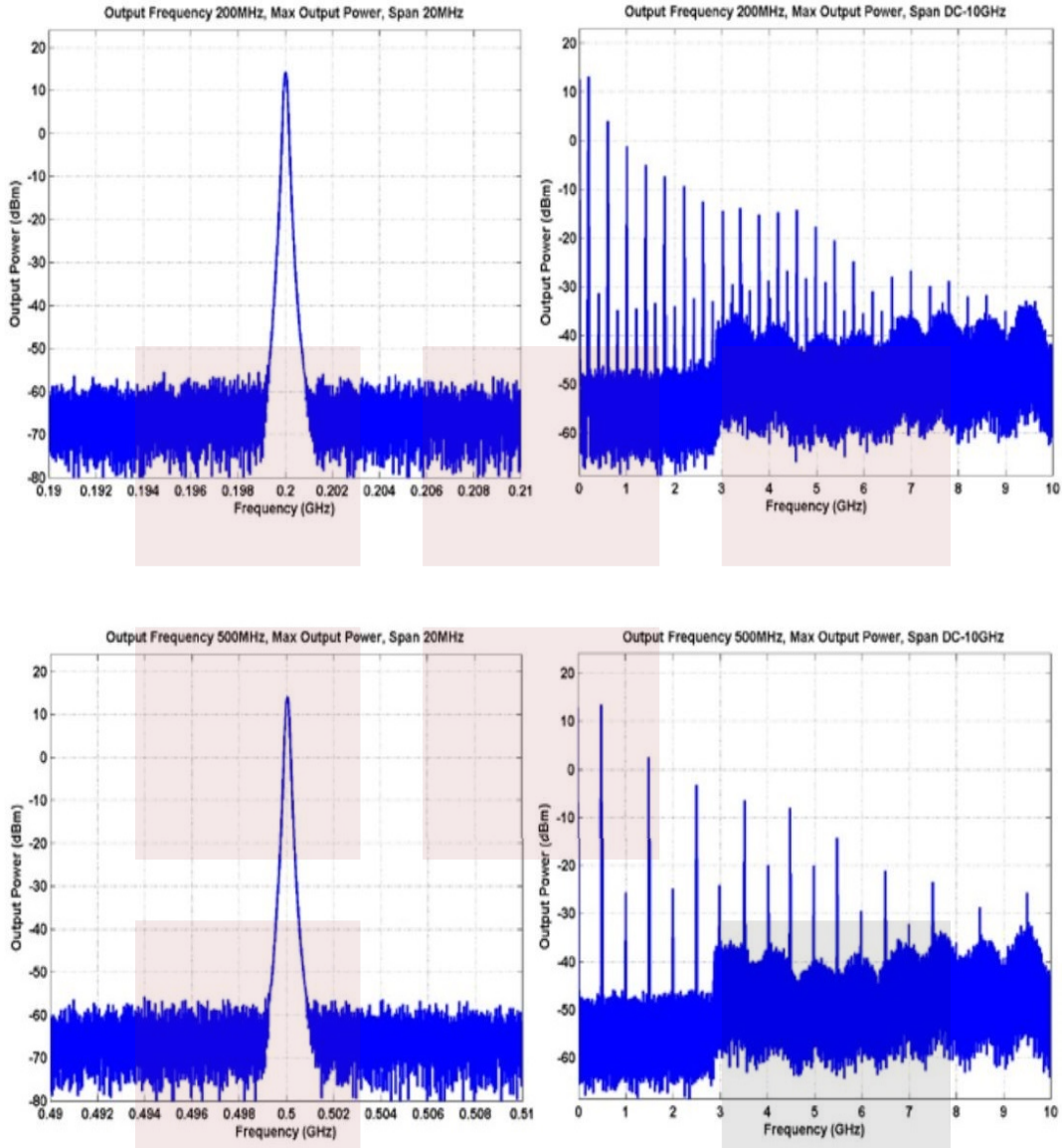
Notes:

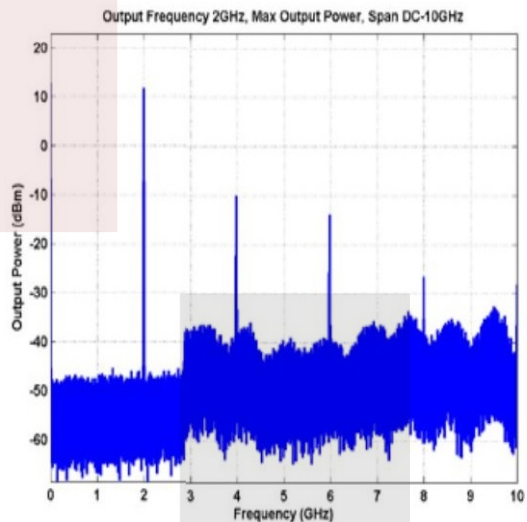
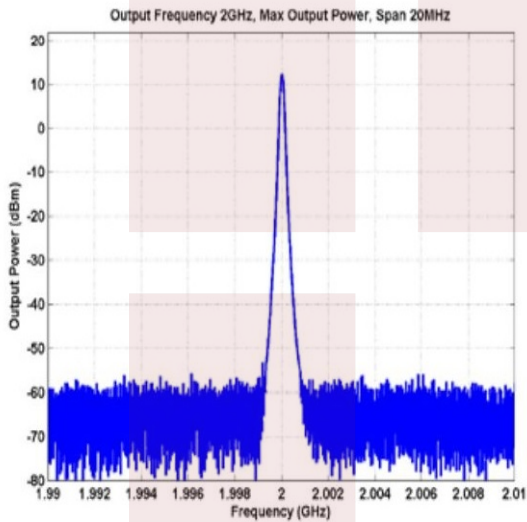
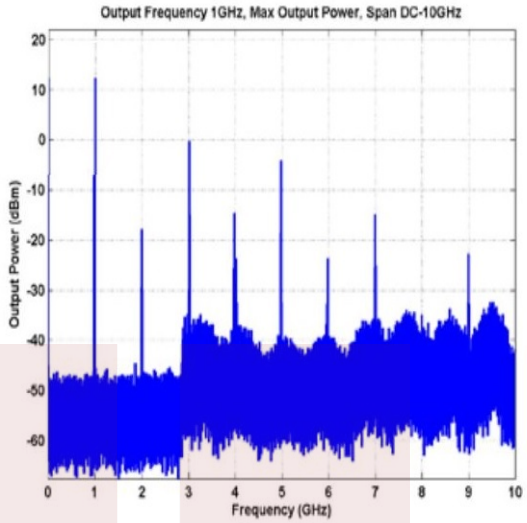
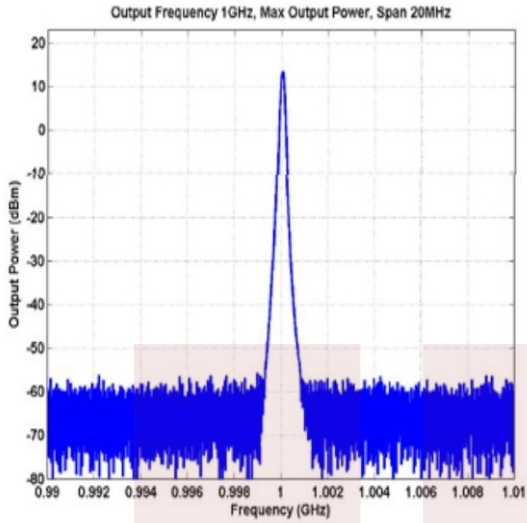


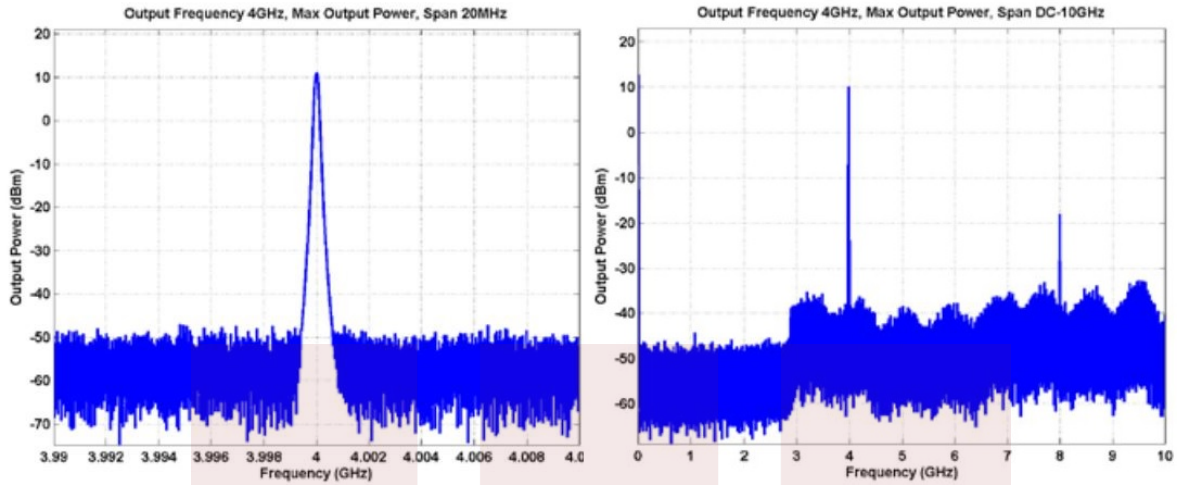
Typical Performance Data









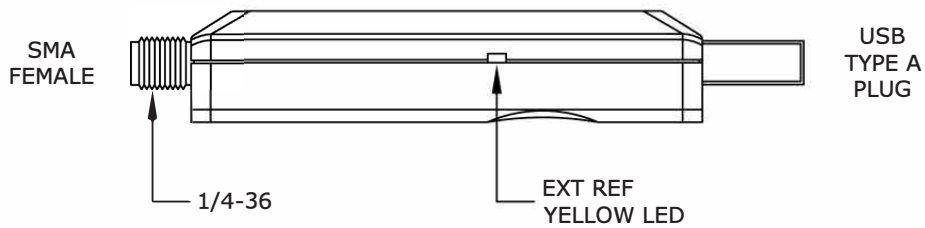
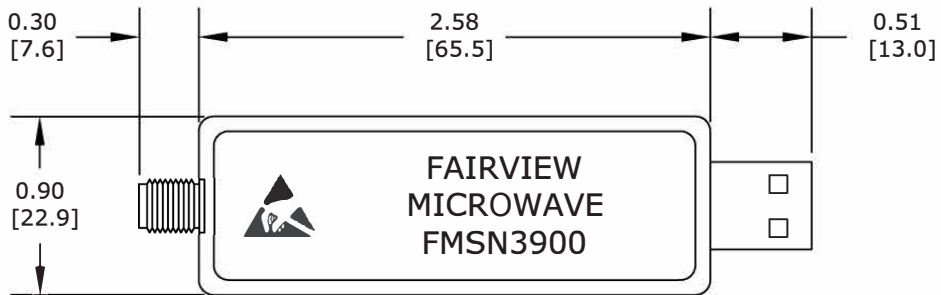
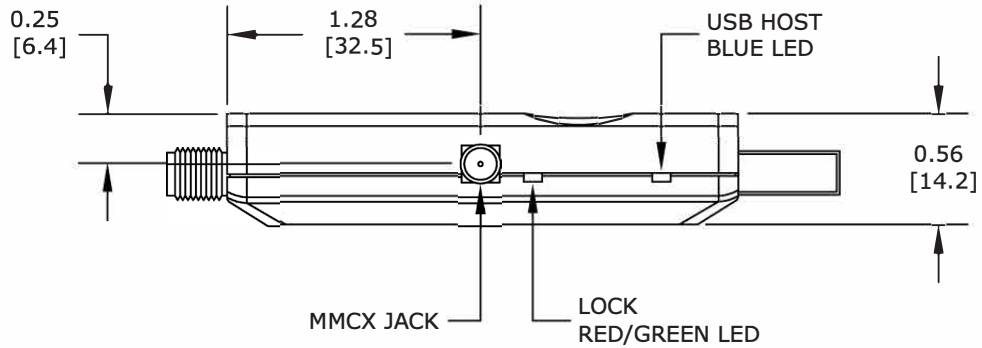


USB Frequency Synthesizer PLL (Phase Locked Loop), Operating From 35 MHz to 4.4 GHz With SMA Output from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [USB Frequency Synthesizer PLL \(Phase Locked Loop\), Operating From 35 MHz to 4.4 GHz With SMA Output FMSN3900](https://www.fairviewmicrowave.com/usb-frequency-synthesizer-pll-35-mhz-4.4-ghz-sma-fmsn3900-p.aspx)

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STANDARD TOLERANCES

.X ±0.2
.XX ±0.1
.XXX ±0.05

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

FAIRVIEW MICROWAVE INC.

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NOTES:

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

TITLE

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DWG NO

FMSN3900

CAGE CODE

3FKR5

CAD FILE 102616

SHEET

SCALE N/A

SIZE A

2233