

USB Frequency Synthesizer PLL (Phase Locked Loop), Operating From 5 GHz to 10 GHz With SMA Output

FMSN3902 is a Frequency Synthesizer Module that covers a wide frequency band from 5 GHz to 10 GHz with exceptional spurious rejection and phase noise performance. Attenuation range up to 30 dB is adjustable in 1 dB steps and maximum output power is greater than +17 dBm 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 FMSN3902 is available in integer and fractional operating modes and the User can select between an internal reference 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.



Features:

- Wideband Output Frequency
- 5 GHz to 10 GHz
- Integer and Fractional operating modes
- +18 dBm max output power
- 30 dB Attenuation adjustable in 1 dB steps
- USB 2.0 Interface
- Female SMA output
- USBTMC VISA Compliant
- User Selectable internal reference or externally applied reference
- Small Compact package size
- LED indicators
- Downloadable User Manual
- Accessory cables included

Electrical Specifications (TA= 25°C, Id1 = 480 mA)

Mode Reference Option(s) Control Interface Integer/Fractional Internal (External Optional) Phase Lock Indicator USB

Description	Min	Typ	Max	Units
Frequency Range	5		10	GHz
Output Power	-15		+18	dBm
Step Size (Integer Mode)		200		MHz
Step Size (Fractional Mode)		1		MHz
Phase Locked Speed		1		ms
Phase Noise @100kHz Offset		-72		dBc/Hz
2nd Harmonic		-24.5		dBc
3rd Harmonic		-18.5		dBc
4th Harmonic		-30.5		dBc
Reference Frequency	10	50	100	MHz
Reference Power (CW)	+0		+15	dBm
Internal Reference Frequency		50		MHz
Internal Reference Accuracy		0.5		ppm
Operating DC Current 1		480		mA

Applications:

- Signal Generators
- Test Equipment
- RF System Integration
- Communication Systems
- EW Systems
- C-Band and X-Band Systems
- Radar Systems
- Frequency Conversion
- SIGINT

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Performance by Frequency

Description	F1	F2	F3	Units
Frequency	5	7.5	10	GHz
Phase Noise @ 100 kHz Offset (With Internal Reference)	-77	-75	-72	dBc/Hz
2nd Harmonics	-24.5	-22.3	-31.5	dBc
3rd Harmonics	-18.5	-27.3	-42.5	dBc
4th Harmonics	-30.5	-48.3	> -70	dBc
Output Power Range	-13 to +18	-14 to +18	-15 to +17	dBm

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

Mechanical Specifications

Size

Length 4.1 in [104.14 mm]
 Width 0.9 in [22.86 mm]
 Height 0.645 in [16.38 mm]
 Weight 0.27 lbs [122.47 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

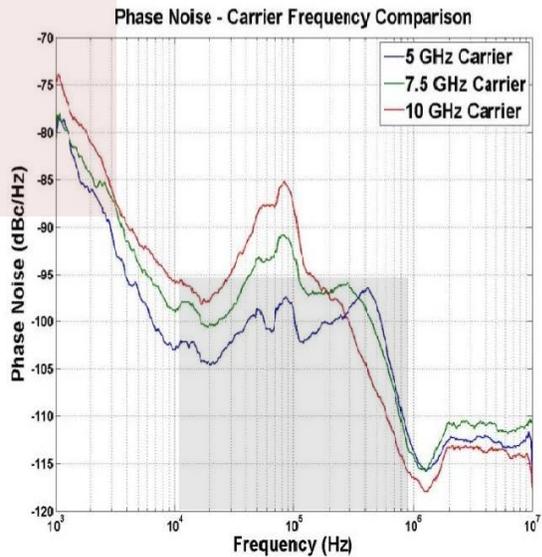
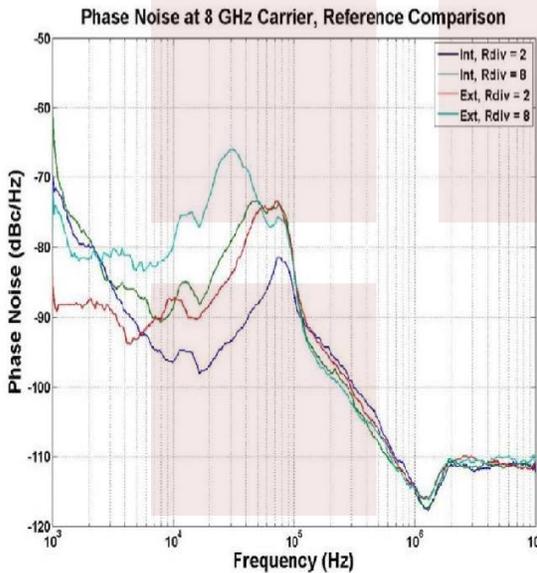
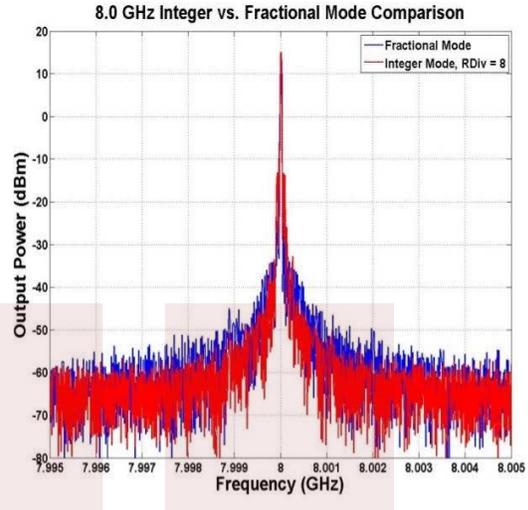
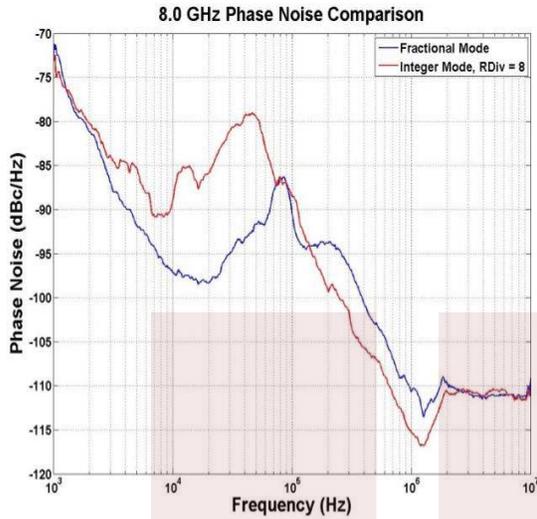
Compliance Certifications (visit www.FairviewMicrowave.com for current document)

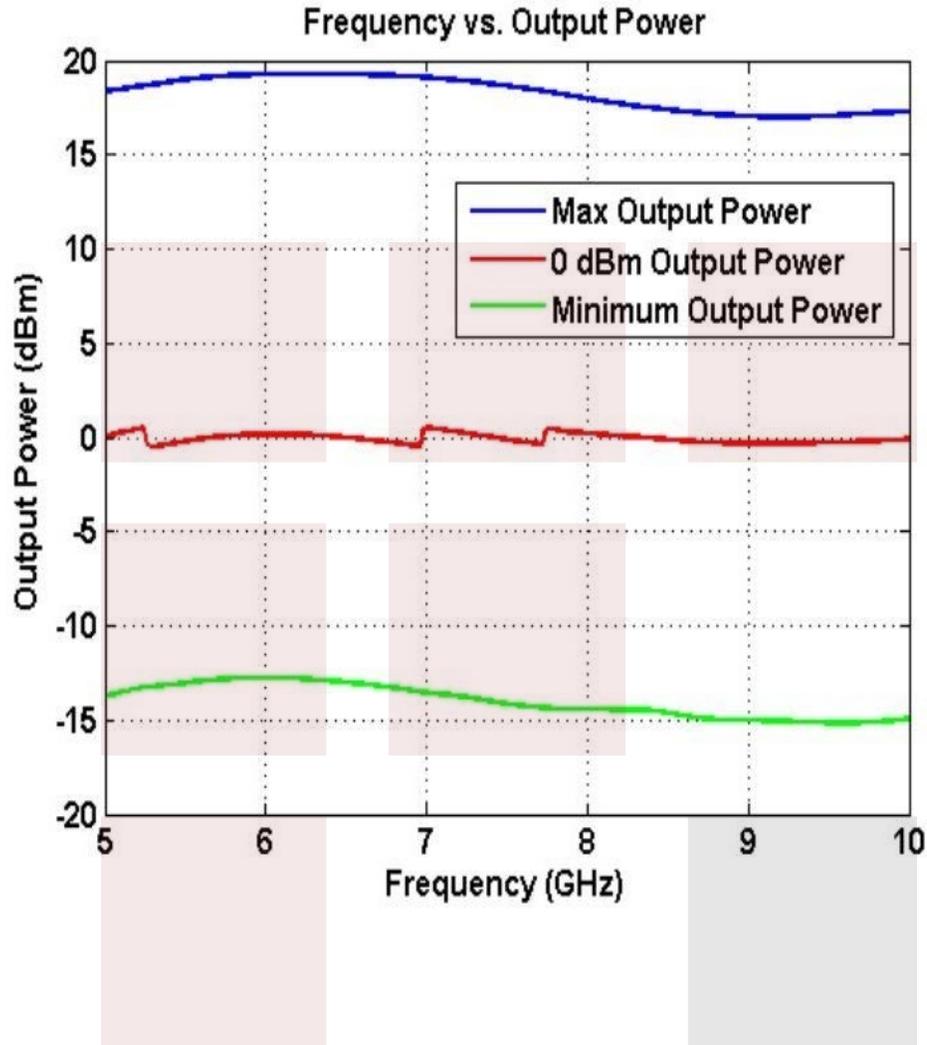
RoHS Compliant Yes

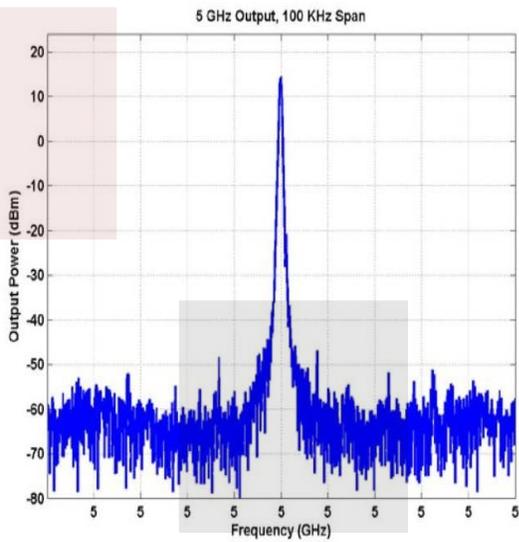
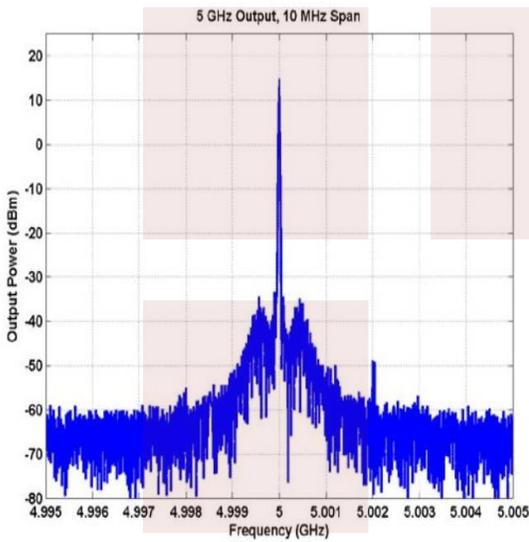
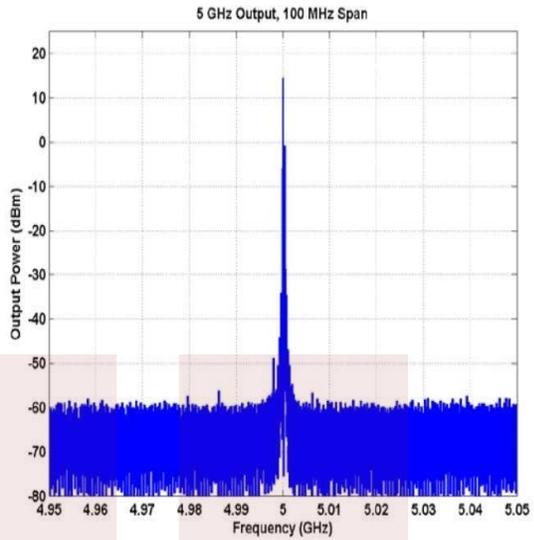
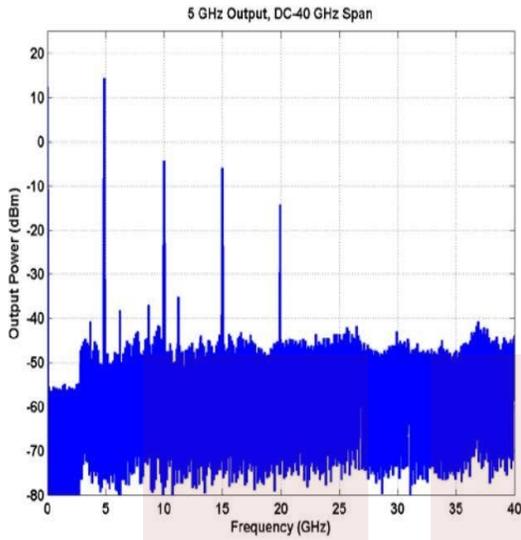
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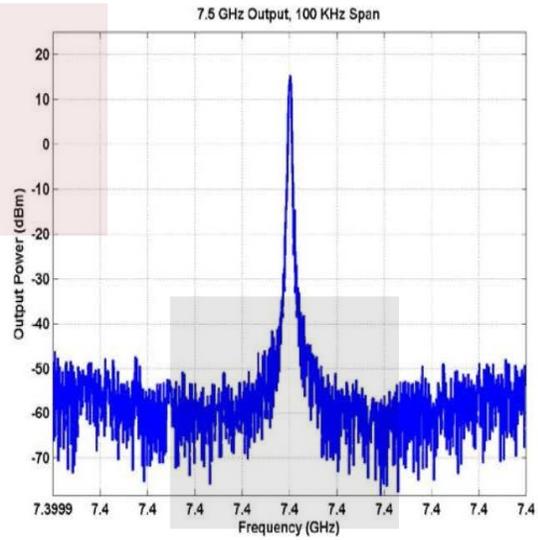
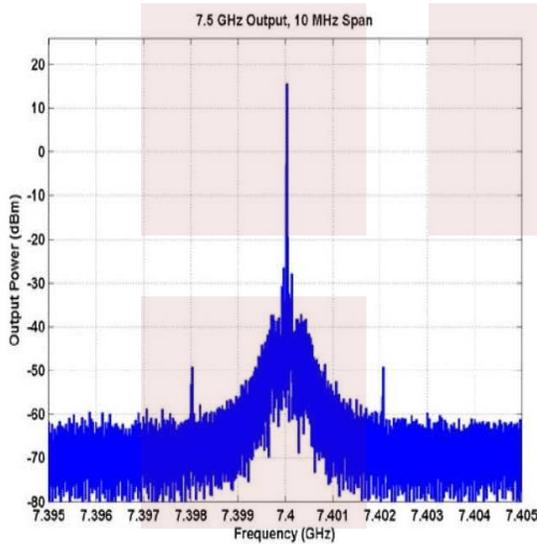
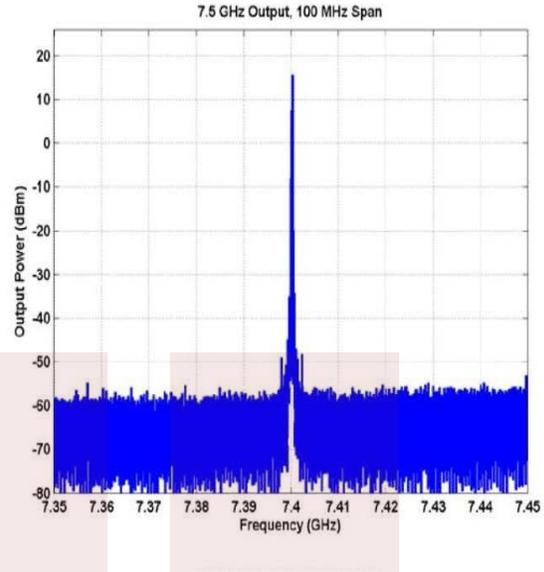
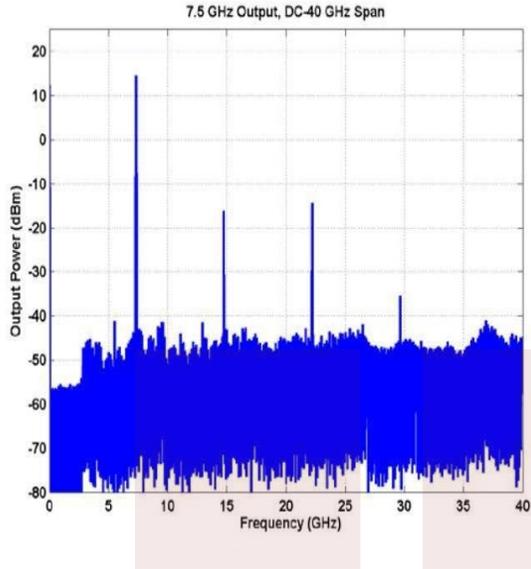
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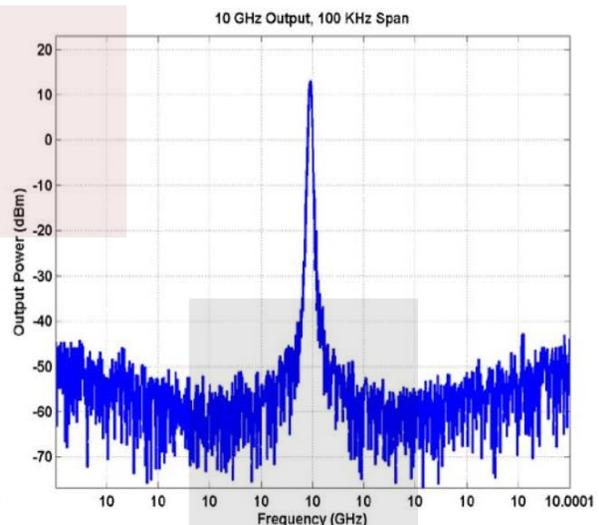
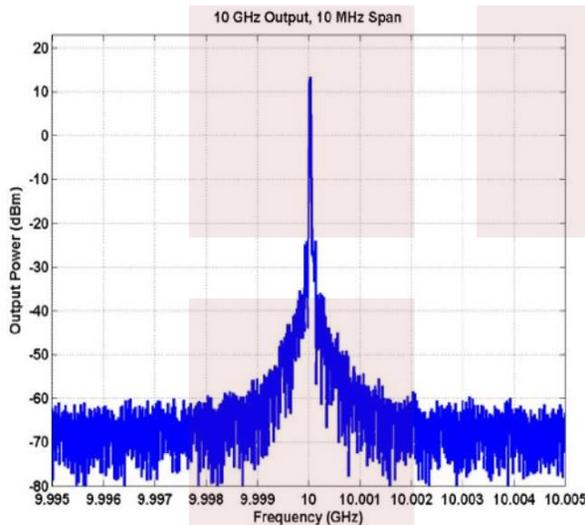
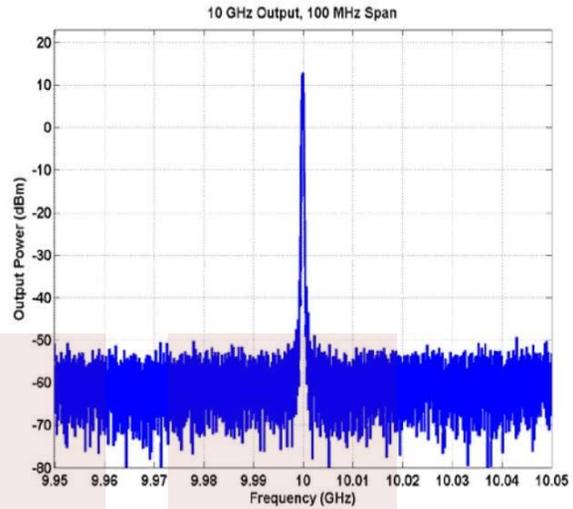
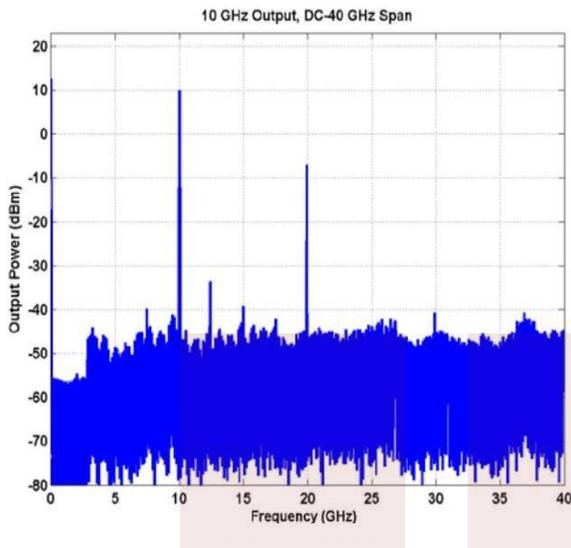
Typical Performance Data









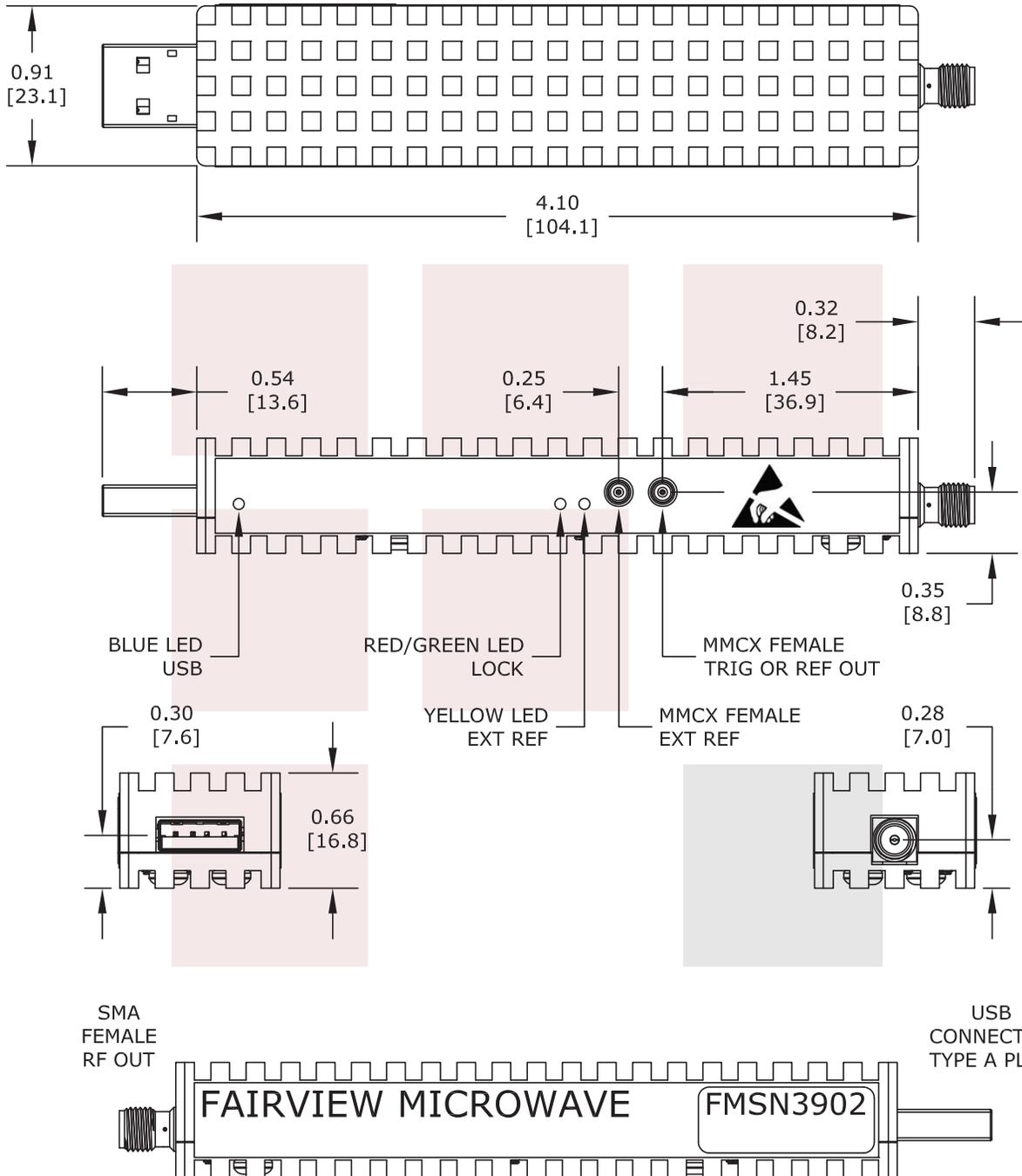


USB Frequency Synthesizer PLL (Phase Locked Loop), Operating From 5 GHz to 10 GHz With SMA Output from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [USB Frequency Synthesizer PLL \(Phase Locked Loop\), Operating From 5 GHz to 10 GHz With SMA Output FMSN3902](http://www.fairviewmicrowave.com/usb-frequency-synthesizer-pll-5-10-ghz-sma-fmsn3902-p.aspx)

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TITLE USB Frequency Synthesizer PLL (Phase Locked Loop), Operating From 5 GHz to 10 GHz With SMA Output		DWG NO FMSN3902		CAGE CODE 3FKR5	
CAD FILE 021516 SHEET		SCALE N/A		SIZE A 2233	