



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

Synthesizers Technical Data Sheet

PE11S3902

Features

- Wideband Output Frequency
- 5 GHz to 10 GHz
- Integer and Fractional operating modes
- > +17 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

Applications

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

Description

The PE11S3902 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 Female SMA output connector and a USB 2.0 interface that is powered and command controlled directly by a host PC, 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 PE11S3902 is available in integer and fractional operating modes and the User can select between an internal reference 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, Id1 = 480 mA)

Mode
Reference
Option(s)
Control Interface

Integer/Fractional
Internal (External Optional)
Phase Lock Indicator
USB

Description	Minimum	Typical	Maximum	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

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [USB Frequency Synthesizer Module, Phase Locked Loop \(PLL\), 5 GHz to 10 GHz Output, SMA PE11S3902](#)



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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

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
Power Supply Connector	USB Type A - Male
Control Connector	USB Type A - Male
Reference Divider Out Connector	MMCX Female

Environmental Specifications

Temperature

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

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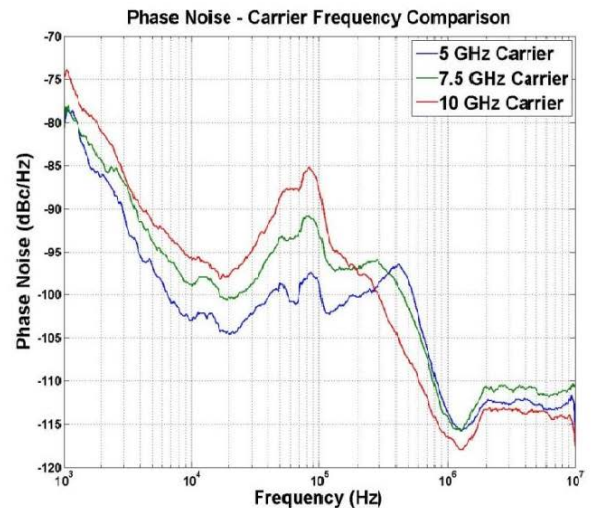
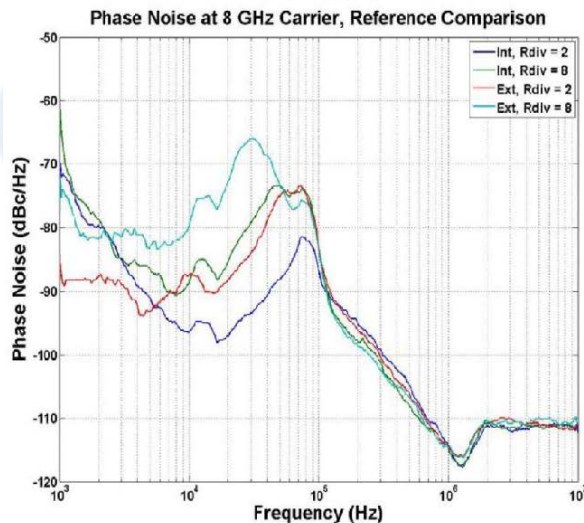
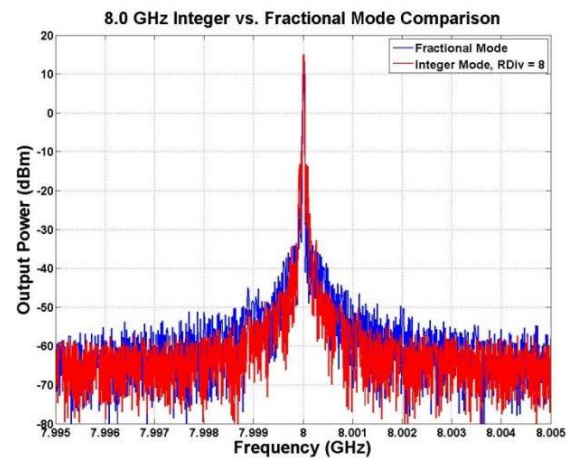
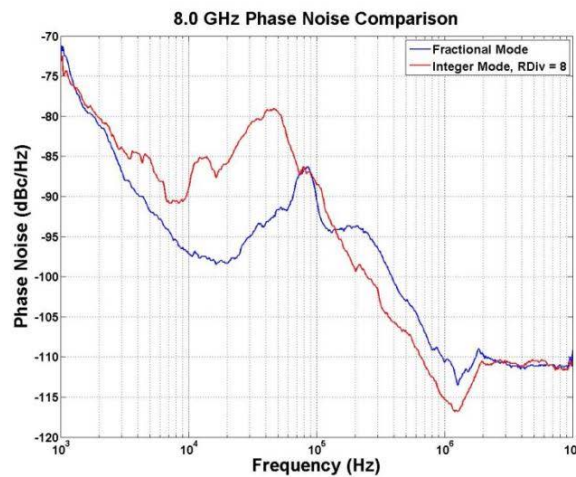
PE11S3902

Compliance Certifications (visit www.Pasternack.com for current document)
RoHS Compliant

Plotted and Other Data

Notes:

Typical Performance Data



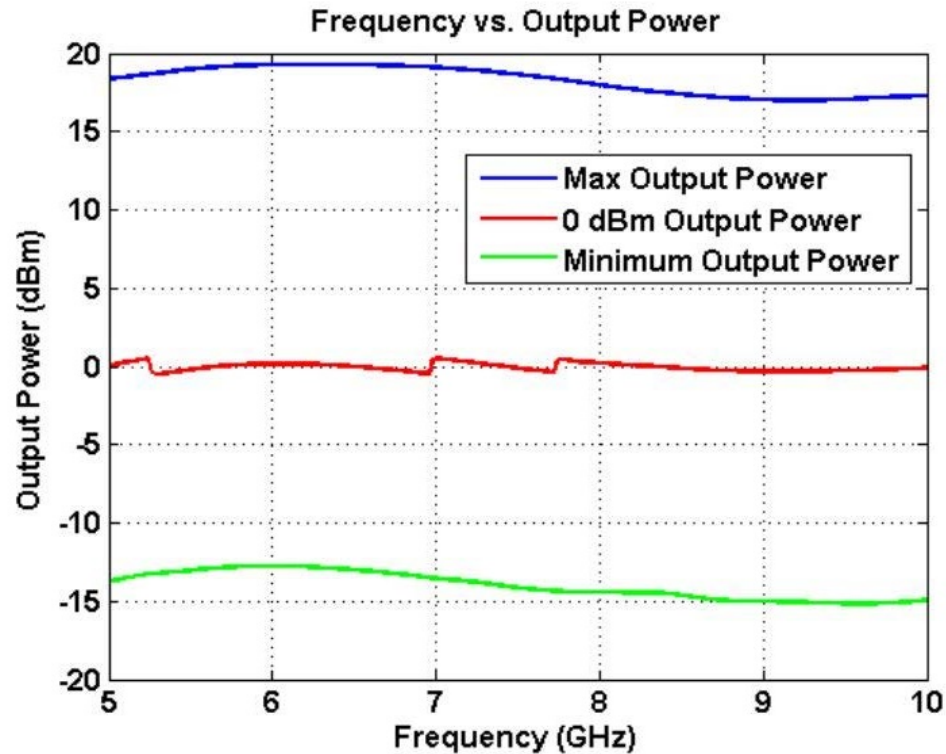
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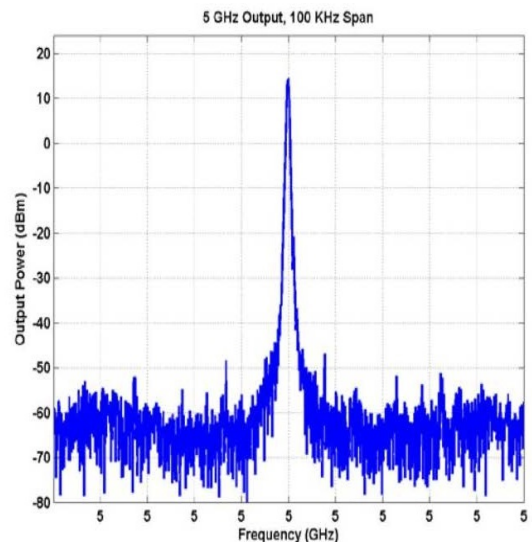
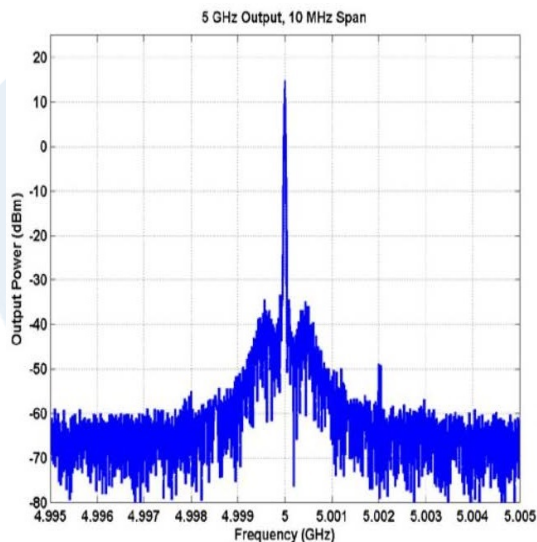
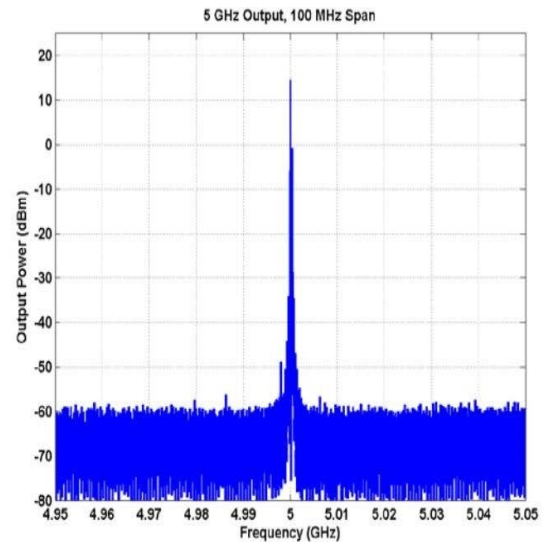
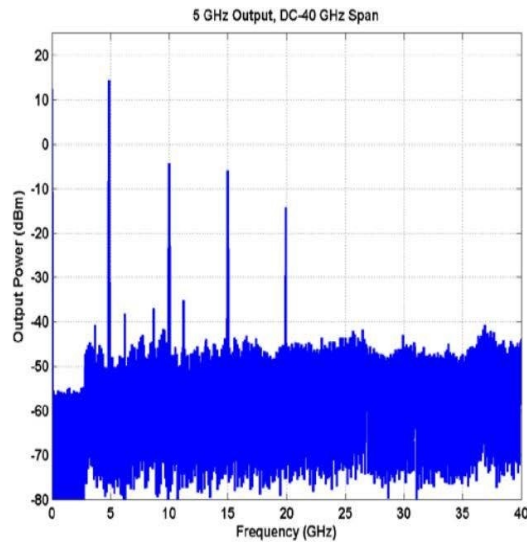
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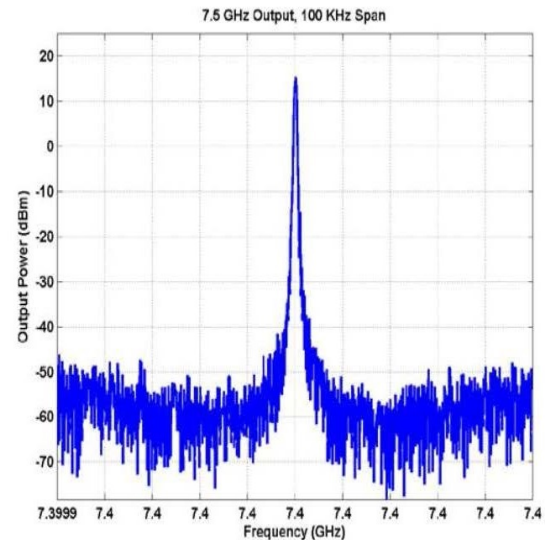
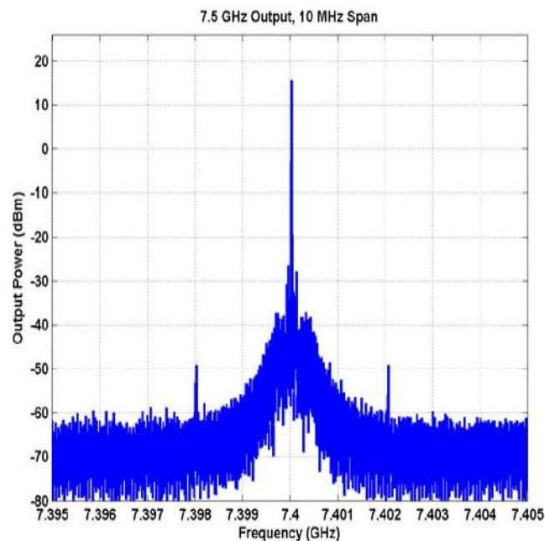
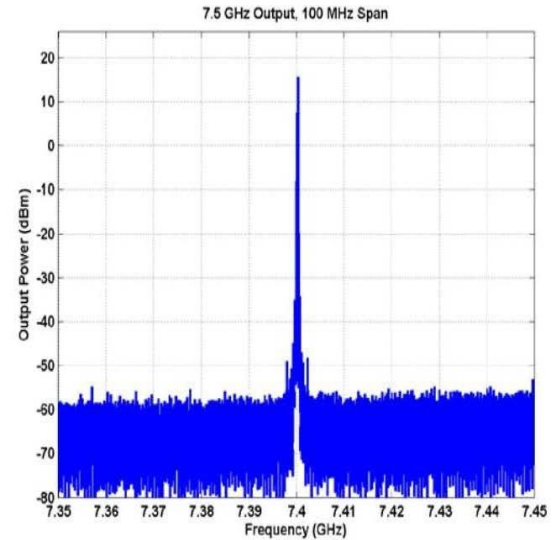
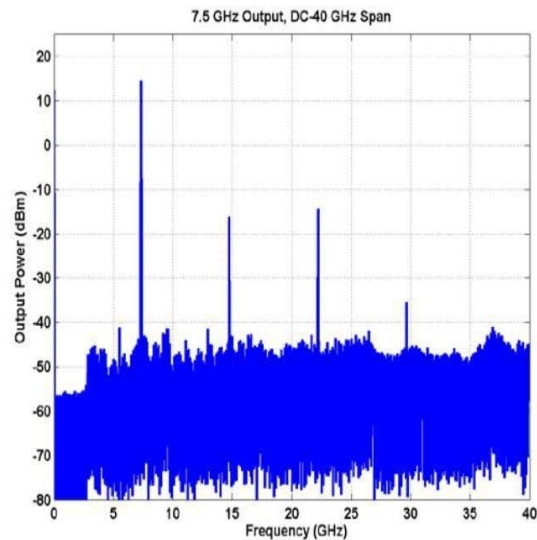
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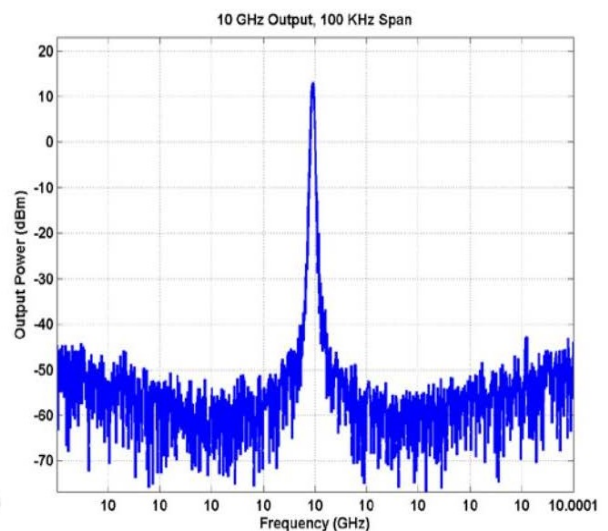
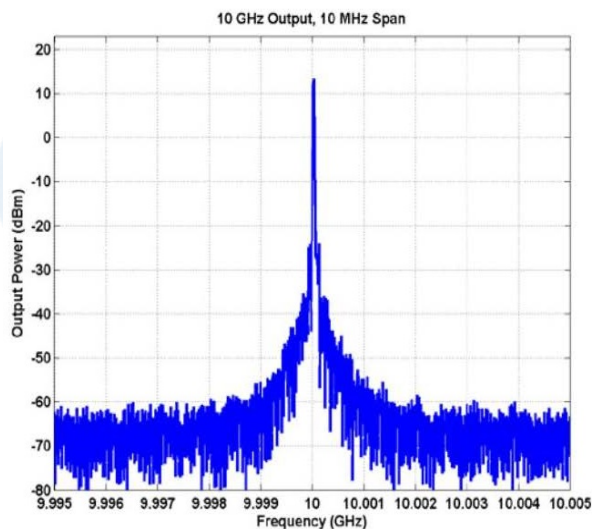
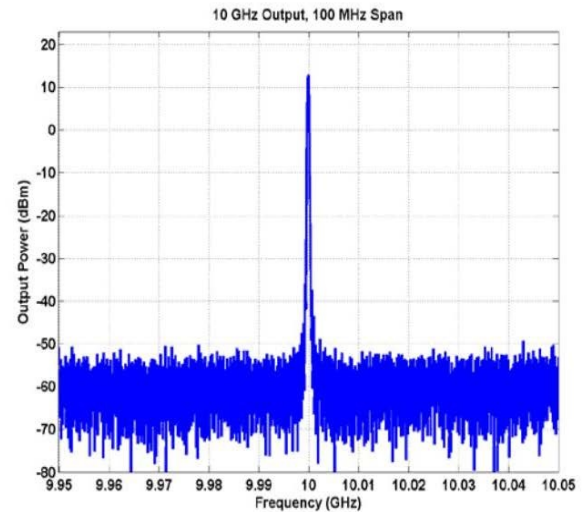
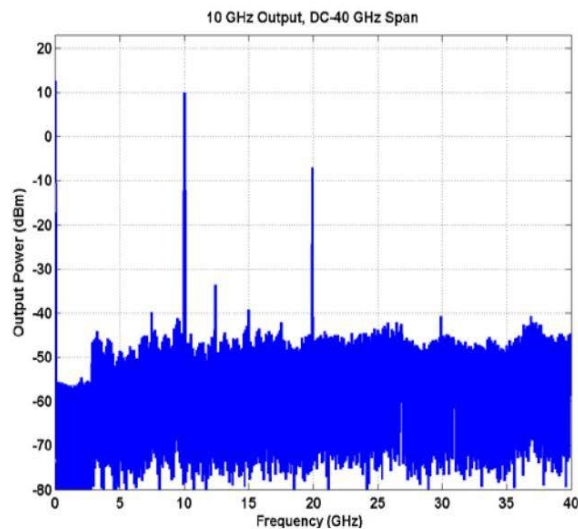
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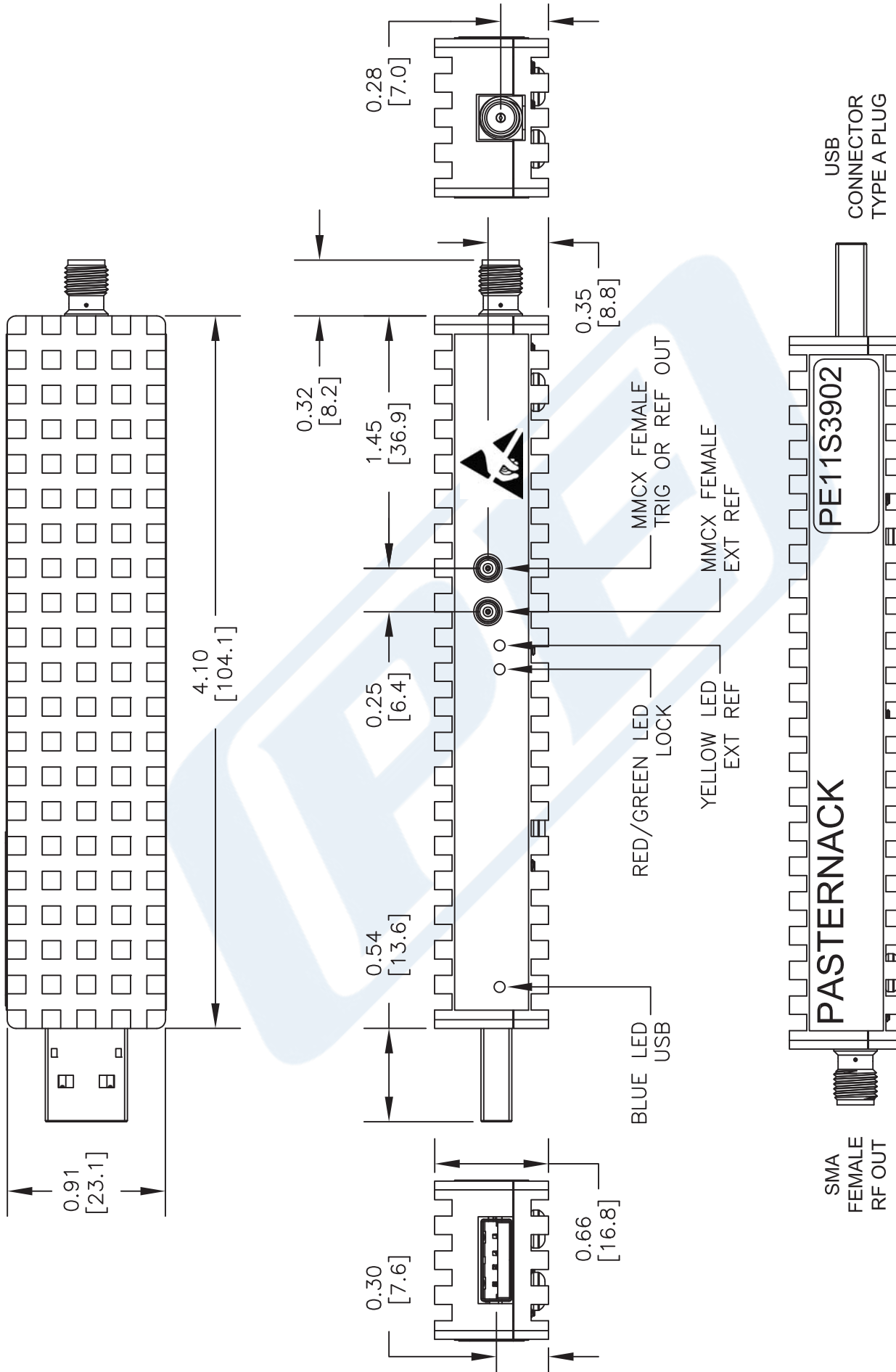
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PE11S3902 CAD Drawing

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



DWG TITLE

PE11S3902

- 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].

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FSCM NO. 53919

CAD FILE 021516

SCALE N/A

SIZE A

2233