

50 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA

FMXR1004 is a highly reliable Free Running Reference Oscillator module that operates at a fixed frequency of 50 MHz. The versatile low noise signal source supports an internal reference. Impressive performance includes an output power level of +7 dBm +/- 3 dB typical and low phase noise performance of -150 dBc/Hz @ 10 KHz offset typical, while using a +12 V single DC supply. The design also exhibits excellent spurious suppression levels < -70 dBc typical. The PCB solder assembly is RoHS compliant and available in a compact coaxial package that is nickel plated and supports an SMA connector with DC bias pins. The Reference Oscillator operates over a temperature range of -30°C to +70°C and is designed to meet MIL-STD-202 test conditions for Vibration and Shock.



Electrical Specifications

Description	Min	Typ	Max	Units
Output Frequency		50		MHz
Output Impedance		50		Ohms
Output Power	+4	+7	+10	dBm
Phase Noise @ 10Hz Offset		-100		dBc/Hz
Phase Noise @ 100Hz Offset		-110		dBc/Hz
Phase Noise @ 1kHz Offset		-135		dBc/Hz
Phase Noise @ 10kHz Offset		-150		dBc/Hz
2nd Harmonics		-25	-20	dBc
Spurious		-70	-65	dBc
Frequency Stability			±5	ppm
Supply Voltage (DC)		12		Vdc
Supply Current (DC)		75		mA

Mechanical Specifications

Size	
Length	2 in [50.8 mm]
Width	1.5 in [38.1 mm]
Height	0.6 in [15.24 mm]
Weight	0.085 lbs [38.56 g]
Body Material and Plating	Aluminum

Configuration

Design	Commercial
Reference Type	Internal
Package Style	Connectorized
Output Connector	SMA Female

Environmental Specifications

Temperature	
Operating Range	-30 to +70 deg C
Shock	IAW MIL-STD-202, Method 213, Condition A
Vibration	IAW MIL-STD-202, Method 204, Condition A

Features:

- Free Running Reference Oscillator Module
- Internal Reference Frequency
- Output Power: +7 dBm typical
- Extremely Low Phase Noise: -150 dBc/Hz @ 10 KHz offset typical
- Low Spurious Suppression: < -70 dBc typical
- Nickel Plated Compact Package
- SMA Connectors
- TTL Lock Detect Pin
- -30°C to +70°C Operating Temperature
- Designed to meet MIL-STD-202 Test Conditions
- SMT version available see FMXR1001

Applications:

- Phase Locked Loop
- Function Generators
- Frequency Synthesizers
- Receivers
- Electronic Jamming Equipment
- Local Oscillator
- Wireless Communications
- SATCOM
- Optical Communications

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ESD Sensitivity

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

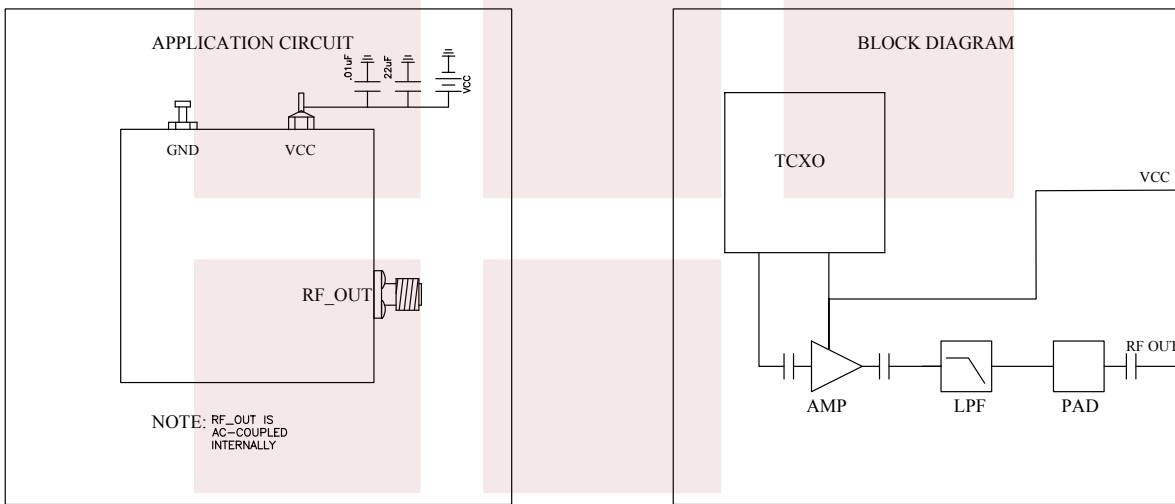


Compliance Certifications (see [product page](#) for current document)

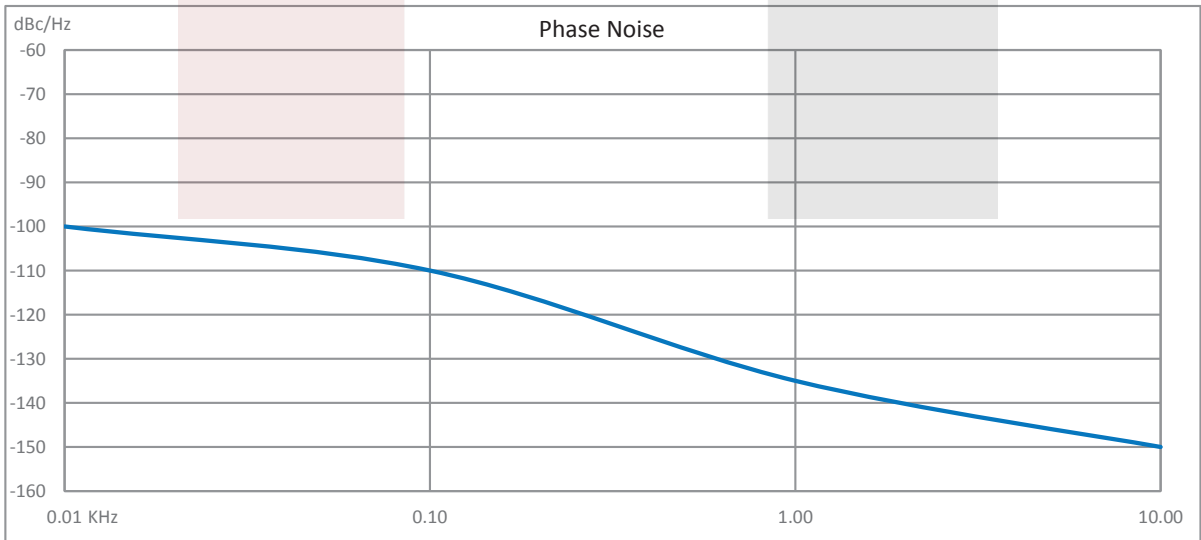
Plotted and Other Data

Notes:

Functional Block Diagram



Typical Performance Data



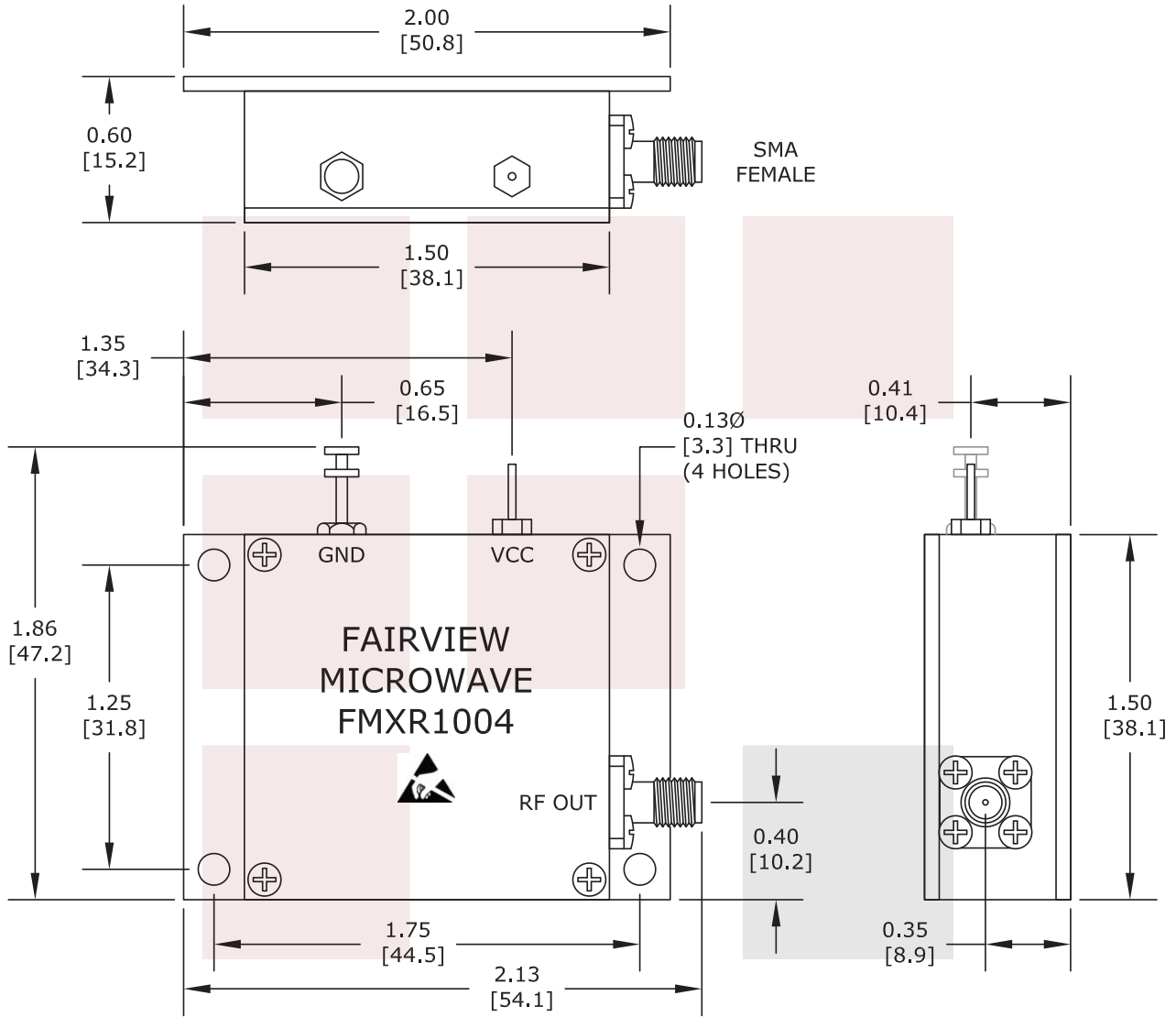
50 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [50 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA FMXR1004](#)

URL: <https://www.fairviewmicrowave.com/50-mhz-free-running-reference-oscillator-internal-fmxr1004-p.aspx>

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NOTE: HOUSING IS GROUND.

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TITLE 50 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA		DWG NO FMXR1004		CAGE CODE 3FKR5	
CAD FILE	061516	SHEET	SCALE	N/A	SIZE A 2233