

2.92mm Female Field Replaceable Active 2x Frequency Multiplier with 32 GHz to 46 GHz Output and +8 dBm Output Power

The FMFX2002 is a low noise X2 Active Broadband Frequency Multiplier Module that covers a wide output frequency bandwidth from 32 GHz to 46 GHz. The design utilizes advanced GaAs HBT MMIC semiconductor technology that produces low additive SSB phase noise performance with a typical level of -130 dBc/Hz at 100 kHz offset. Additional typical performance includes an output power level of +13 dBm with an input signal of +3 dBm. Input/output ports are matched for 50 ohms and are DC blocked. The design requires a single +5V DC supply. The compact drop-in package is RoHS compliant and hermetically sealed with field replaceable 2.92mm connectors. And for added confidence, this rugged package assembly is designed to meet MIL-STD-883 test conditions for Hermeticity and Temperature Cycle.

Electrical Specifications (TA= 25°C, VDC1 = 5 Vdc)

Description	Min	Typ	Max	Units
Input Frequency Range	16		23	GHz
Output Frequency Range	32		46	GHz
Impedance		50		Ohms
Output Power	+8	+13		
Operating DC Voltage 1		5		V

Performance by Frequency

Description	Min.	Typ.	Max.	Units
Frequency Range, Input		16 - 23		GHz
Frequency Range, Output		32 - 46		GHz
Output Power	+8	+13		dBm
Fo Isolation (With Respect To Output Level)		30		dBc
Input Return Loss		12		dB
Output Return Loss		8		dB
SSB Phase Noise (100 KHz Offset)		-130		dBc/Hz
Supply Current		70		mA

Mechanical Specifications

Size

Length	1.086 in [27.58 mm]
Width	0.85 in [21.59 mm]
Height	0.28 in [7.11 mm]
Weight	1.25 lbs [566.99 g]
Input Connector	Field Replaceable 2.92mm Female
Output Connector	Field Replaceable 2.92mm Female

Environmental Specifications

Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +150 deg C



Features:

- X2 Frequency Multiplier
- Wide Frequency Band
- GaAs HBT MMIC Technology
- Low Phase Noise -130 dBc/Hz @ 100 kHz offset
- Output Power +13 dBm
- Single +5V Bias Voltage
- Integrated DC Blocking Capacitors
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable 2.92mm Connectors
- -55°C to +85°C Operating Temperature

Applications:

- Electronic Warfare
- Electronic Countermeasures
- Point-To-Point Radio
- Point-To-Multipoint Radio
- VSAT Radios
- Fiber Optic
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

Fairview Microwave
 301 Leora Ln., Suite 100
 Lewisville, TX 75056
 Tel: 1-800-715-4396 / (972) 649-6678
 Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

ESD Sensitivity

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

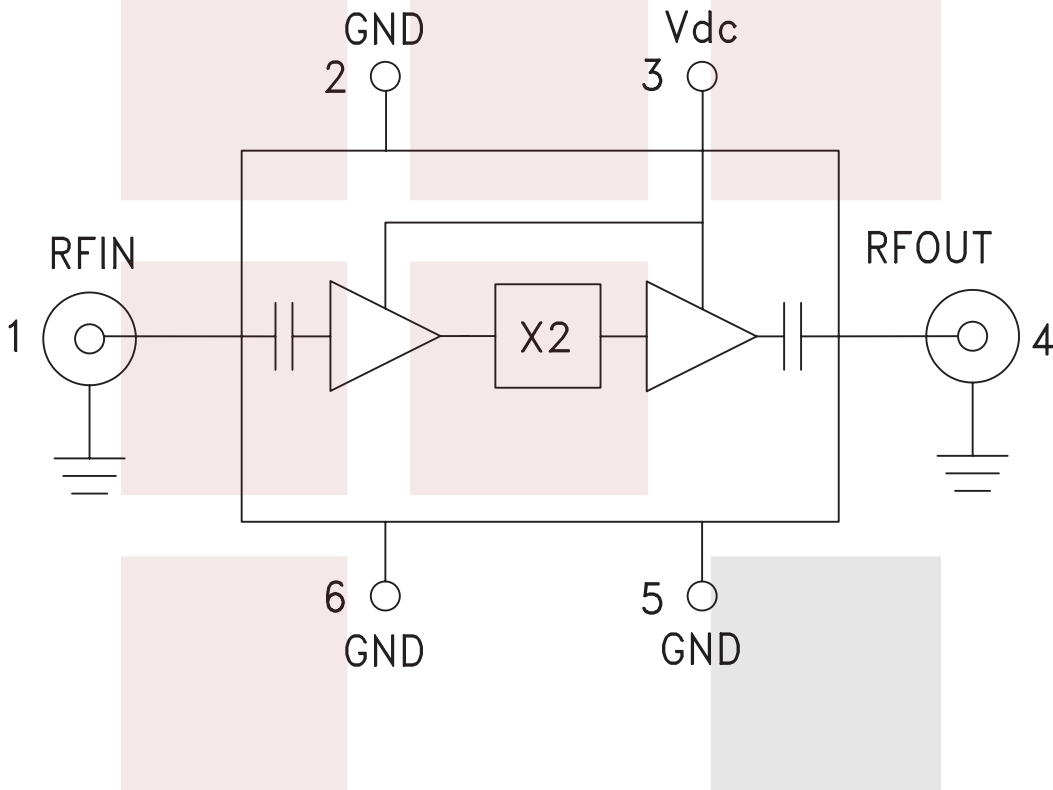


Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

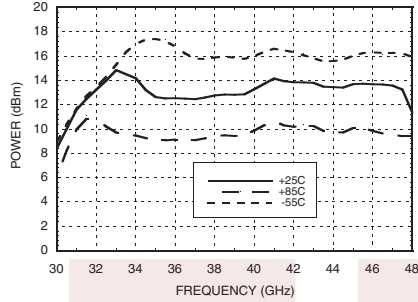
Notes:

Functional Block Diagram

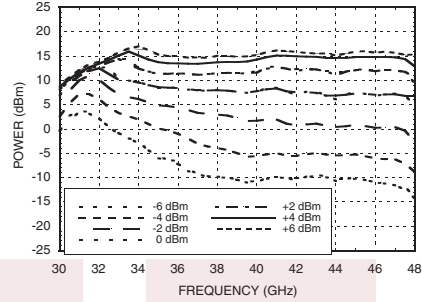


Typical Performance Data

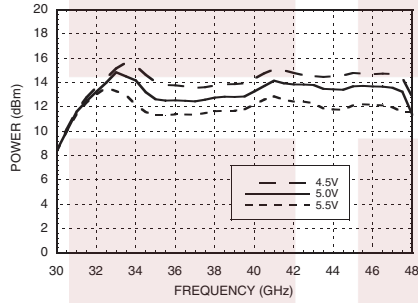
Output Power vs. Temperature @ 3 dBm Drive Level



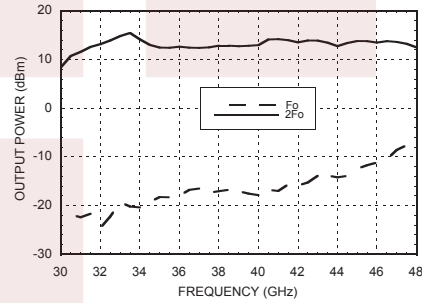
Output Power vs. Drive Level



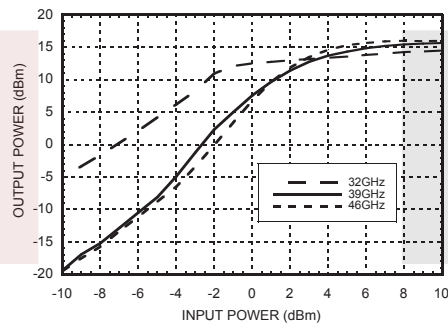
Output Power vs. Supply Voltage @ 3 dBm Drive Level



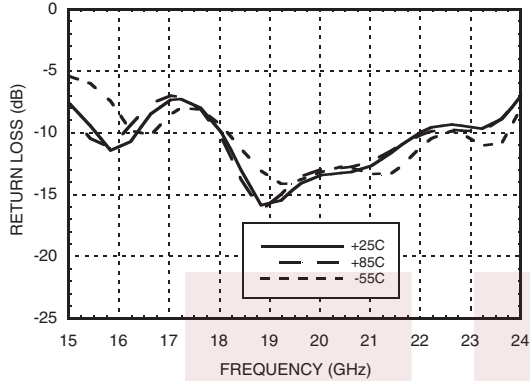
Isolation @ 3 dBm Drive Level



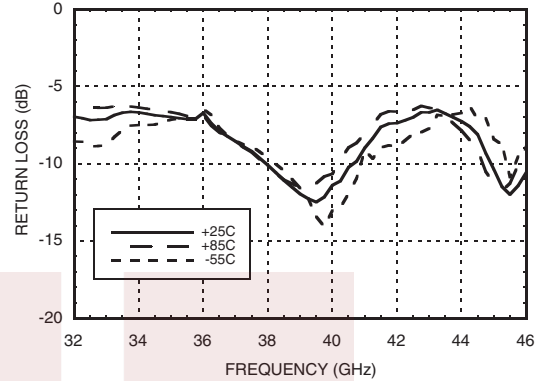
Output Power vs. Input Power



Input Return Loss vs. Temperature @ 0 dBm Drive Level



Output Return Loss vs. Temperature @ 0 dBm Drive Level

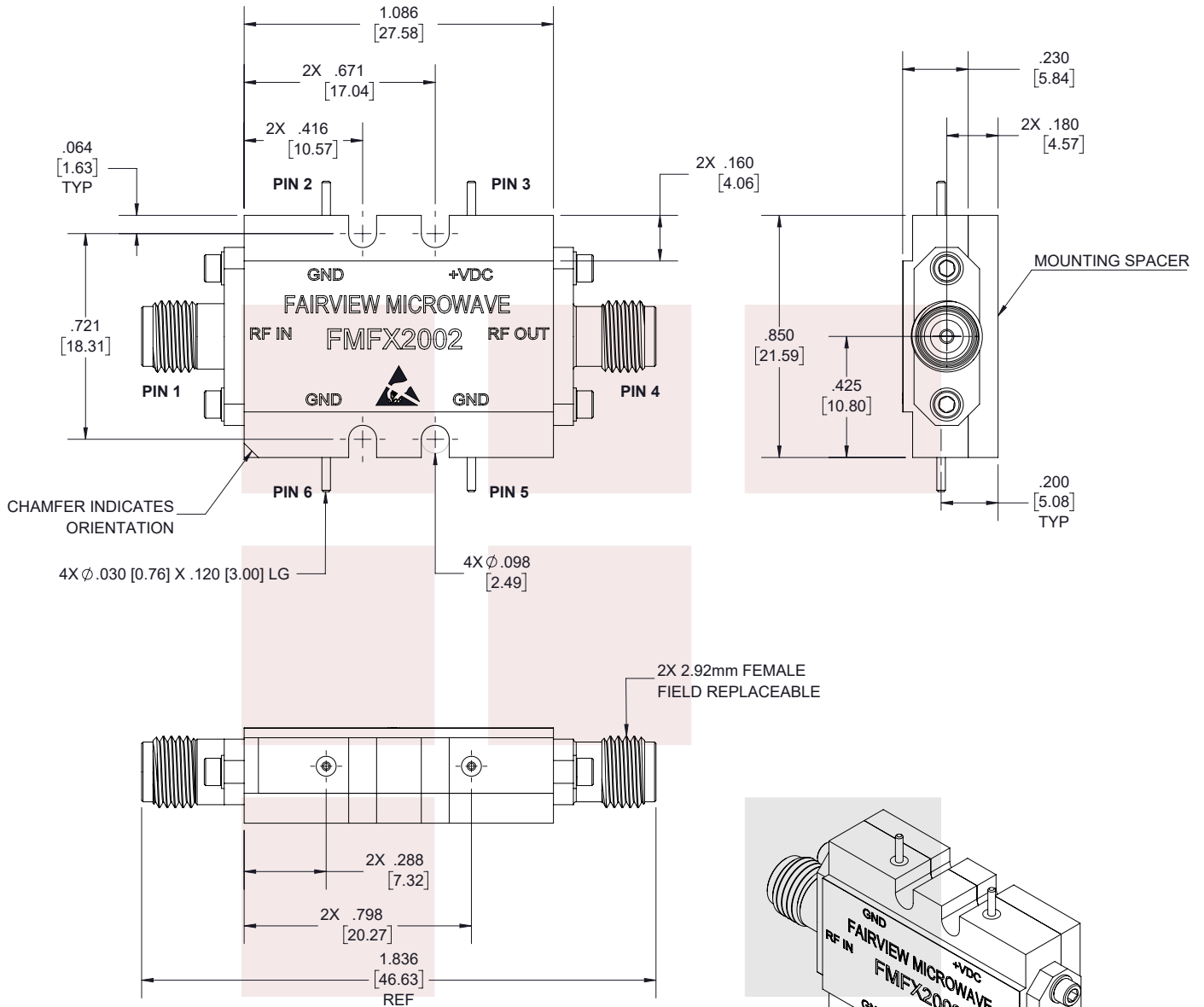


2.92mm Female Field Replaceable Active 2x Frequency Multiplier with 32 GHz to 46 GHz Output and +8 dBm Output Power from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [2.92mm Female Field Replaceable Active 2x Frequency Multiplier with 32 GHz to 46 GHz Output and +8 dBm Output Power FMFX2002](https://www.fairviewmicrowave.com/2.92mm-field-replaceable-active-2x-frequency-multiplier-46-ghz-8-dbm-fm-fx2002-p.aspx)

URL: <https://www.fairviewmicrowave.com/2.92mm-field-replaceable-active-2x-frequency-multiplier-46-ghz-8-dbm-fm-fx2002-p.aspx>

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STANDARD TOLERANCES	
.X	±0.2
.XX	±0.01
.XXX	±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

Fairview Microwave RF COMPONENTS ON DEMAND. <i>Done!</i>		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	2.92mm Female Field Replaceable Active 2x Frequency Multiplier with 32 GHz to 46 GHz Output and +8 dBm Output Power	DWG NO	FMFX2002
		CAGE CODE	3FKR5
CAD FILE	05/29/18	SHEET	1 OF 2
SCALE	N/A	SIZE	A
			7361