

## 2x Active Frequency Multiplier, 23 GHz to 33 GHz Output Frequency, 12.0 dB Conversion Gain, 2.92mm Output

The FMFX2028 is an active Frequency Multiplier (2x) module that covers a broad output frequency bandwidth from 23 GHz to 33 GHz. Typical performance includes 12 dB conversion gain, 20 dB fundamental Isolation, with an RF input drive level of +3 dBm. DC bias is +12Vdc with 110 mA DC current. Maximum RF input power is +13 dBm with an operational temperature range of -40°C to +85°C. The rugged and compact package assembly supports an input SMA female connector and output 2.92mm female connector. And for highly reliable operation, the model is designed to meet a variety of MIL-STD-202 test conditions including shock, vibration, altitude, and humidity.



### Electrical Specifications (TA= 25°C, VDC1 = 12 Vdc, IDC1 = 110 mA)

Description	Min	Typ	Max	Units
Input Frequency Range	11.5		16.5	GHz
Output Frequency Range	23		33	GHz
Impedance		50		Ohms
Input Power (CW)	+0	+3	+6	dBm
Output Power	+10	+14		dBm
Conversion Gain (Pin = +3 dBm)	8	12		dB
F0 Isolation* (Fin=14GHz/Fout=14GHz)	15	20		dB
3F0 Isolation* (Fin=14GHz/Fout=42GHz)	20	25		dB
Phase Noise @100kHz Offset		-132		dBc/Hz
Input VSWR(Fin=14GHz)		1.3:1	2:1	
Output VSWR(Fout=28GHz)		1.6:1	2.2:1	
Operating DC Voltage 1	9	12	15	V
Operating DC Current 1		110	125	mA

\*Isolation with respect to desired frequency output power level at 14GHz

### Mechanical Specifications

<b>Size</b>	
Length	1.25 in [31.75 mm]
Width	1.25 in [31.75 mm]
Height	0.563 in [14.3 mm]
Weight	0.009 lbs [4.08 g]
Package Type	Drop-In
Output Connector	SMA Female

### Environmental Specifications

#### Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +105 deg C

Humidity MIL-STD-202, Method 103B, Condition B

Shock MIL-STD-202F, Method 213B, Condition B

Vibration MIL-STD-202F, Method 204D, Condition B

Altitude MIL-STD-202F, Method 105C, Condition B

### Features:

- 2x Active Frequency Multiplier
- 11.5 GHz to 16.5 GHz Input Frequency
- 23 GHz to 33 GHz Output Frequency
- Conversion Gain 12 dB typ
- Fundamental Isolation 20 dB typ
- RF Input Drive Level +3 dBm
- Max RF Input Power +13 dBm
- DC Bias +12Vdc @ 110 mA
- SMA Female Input and 2.92mm Female Output Connectors
- -40°C to +85°C Operating Temperature
- RoHS & REACH Compliant
- 50 Ohm Design
- Rugged Design meets MIL-STD-202 Test Conditions

### Applications:

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications

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

**Plotted and Other Data**

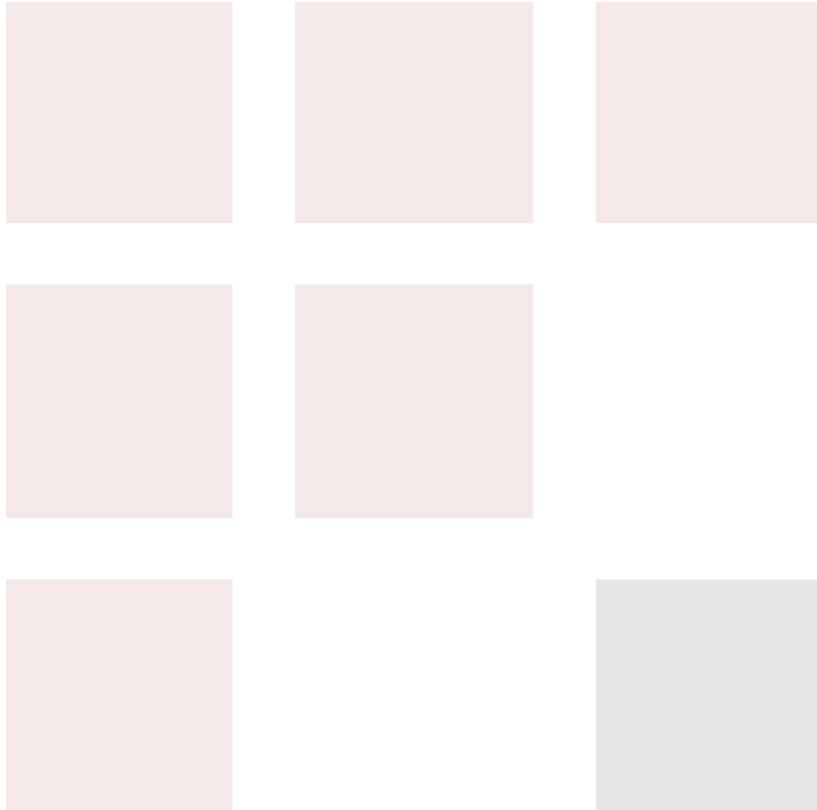
Notes:

**Absolute Maximum Rating**

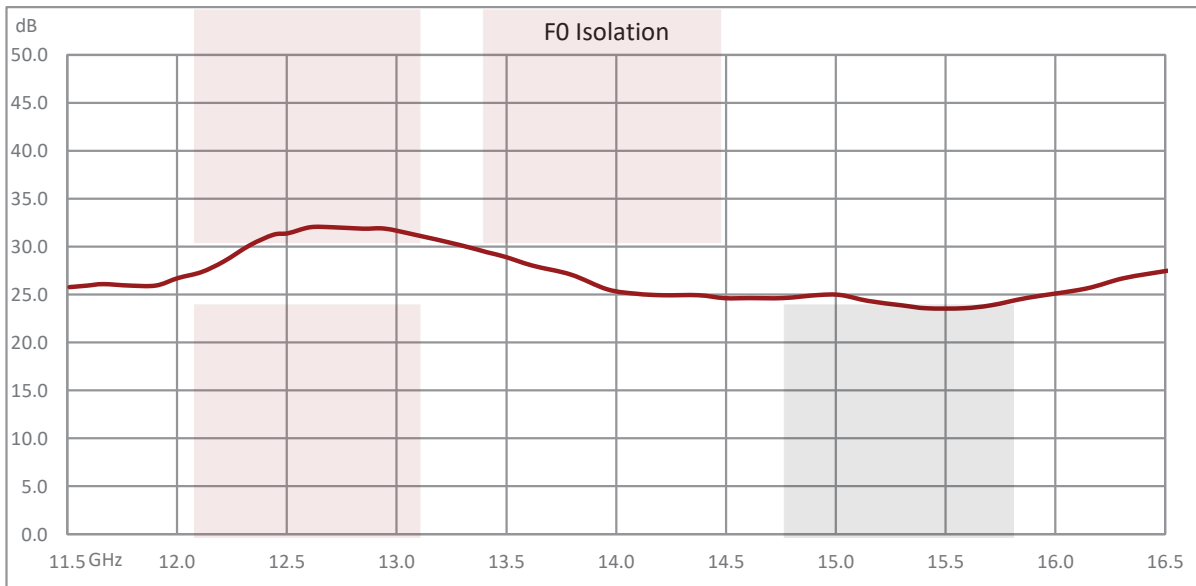
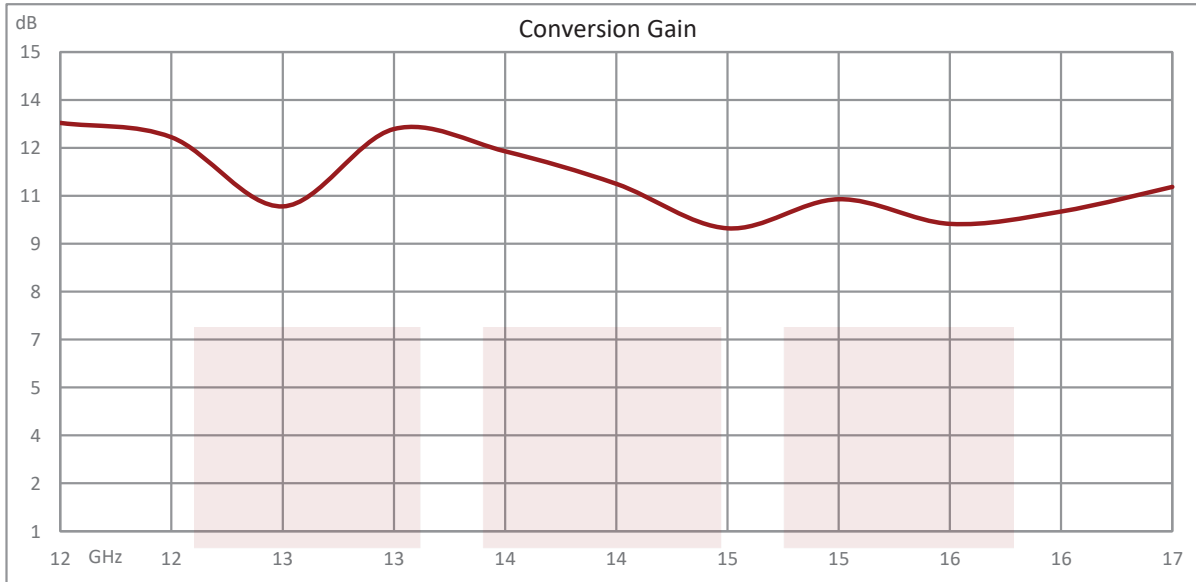
Parameter	Absolute Maximum
RF Input Power	+13dBm
DC Supply Voltage	+25V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

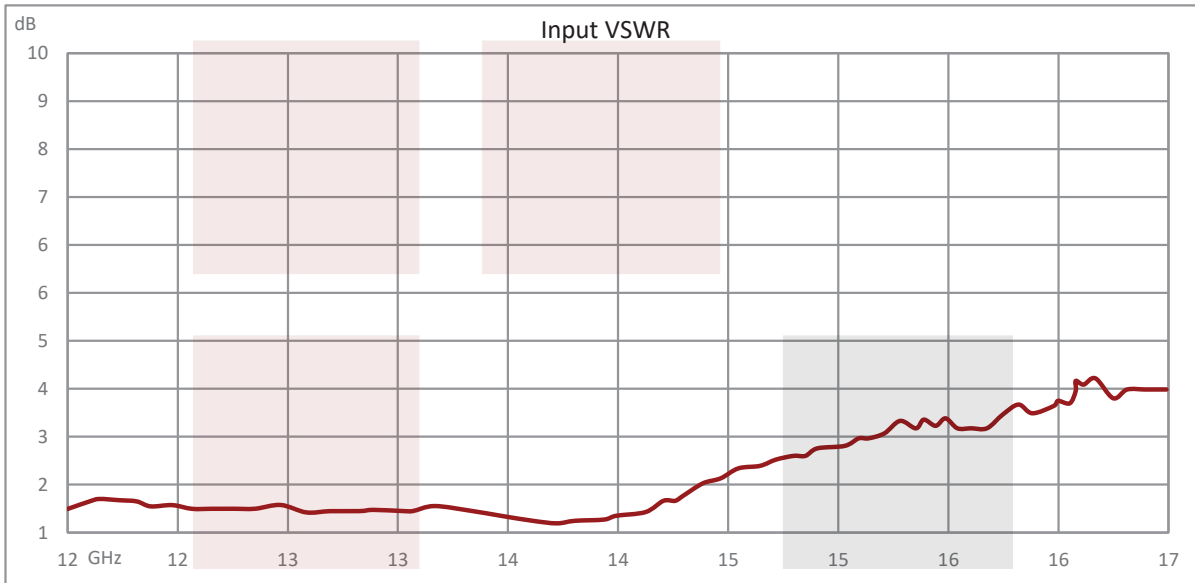
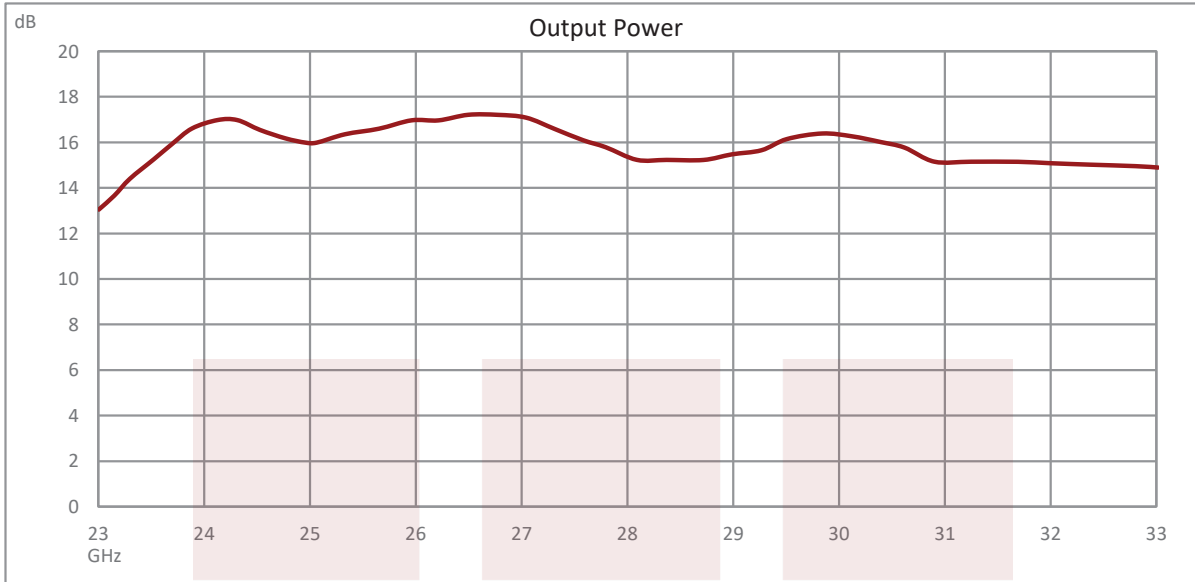


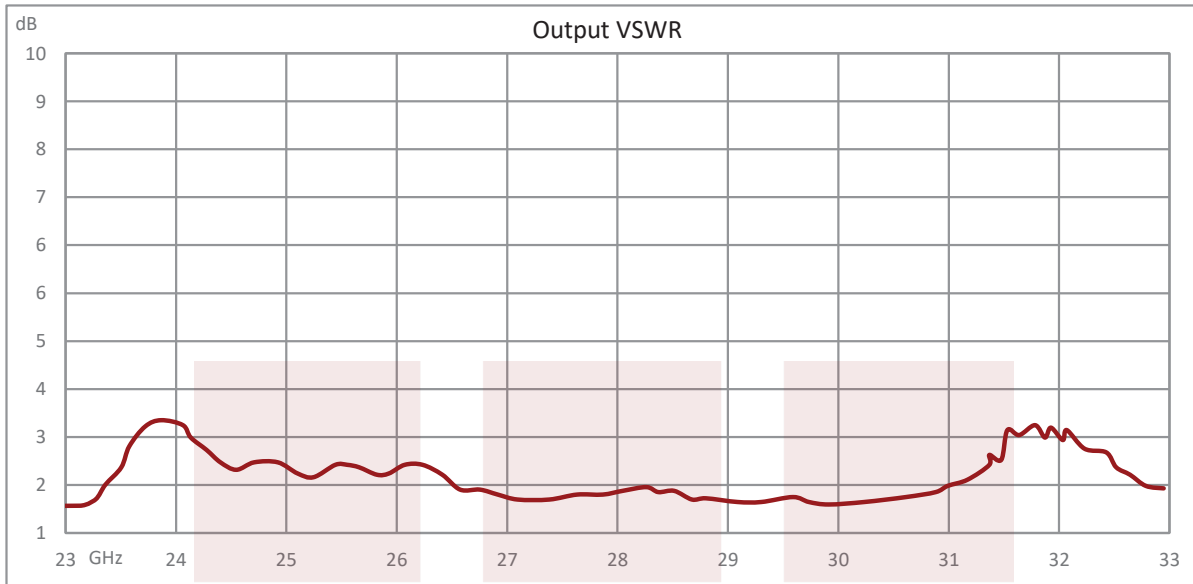
ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved



**Typical Performance Data**







2x Active Frequency Multiplier, 23 GHz to 33 GHz Output Frequency, 12.0 dB Conversion Gain, 2.92mm 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 Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [2x Active Frequency Multiplier, 23 GHz to 33 GHz Output Frequency, 12.0 dB Conversion Gain, SMA FMFX2028](#)

URL: <https://www.fairviewmicrowave.com/sma-active-2x-frequency-multiplier-33-ghz-10-dbm-fmfx2028-p.aspx>

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