

26.5 GHz to 40 GHz Ka-Band 2x Active Frequency Multiplier, +22 dBm Pout, WR-28 Output with UG-599/U Flange, SMA Female Input

The FMFX2021 is a WR-28 Waveguide 2x Active Frequency Multiplier that covers the full Ka frequency band from 26.5 GHz to 40 GHz with an input frequency band from 13.25 GHz to 20 GHz. Typical performance for the 50 ohm design includes +4 dBm input power, +22 dBm output power, and -15 dBc harmonics. Maximum input power (CW) is +10 dBm, and DC bias is +6 Vdc at 350 mA typ. The rugged and small size aluminum package design is gold plated and supports an SMA female connector for the RF input port, and a UG-599/U waveguide flange pattern at the RF output port. Solder pins are used for DC bias voltage and ground. The module operates across a wide temperature range from -40°C to +80°C.

Electrical Specifications@ +25°C

Description	Min	Typ	Max	Units
Input Frequency Range	13.25		20	GHz
Output Frequency Range	26.5		40	GHz
Input Power	0	4	10	dBm
Output Power		22		dBm
DC Voltage	5	6	8	Volts
DC Current		350		mA
Input VSWR		2.5:1		
Harmonics		-15		dBc

Biasing Up and Down Procedure

Biasing Up Procedure	
Step 1	Connect Ground Pin
Step 2	Apply DC Supply Voltage
Step 3	Turn ON RF input
Power Down Procedure	
Step 1	Turn OFF RF input
Step 2	Turn OFF DC Supply Voltage
Step 3	Remove Ground

Electrical Specification Notes:

- 1.) DC Supply must be able to source at least 0.5A DC at startup
- 2.) Open and short circuit loads are not recommended at the multiplier output.
- 3.) Ensure proper 50 Ohm load before turning the multiplier "ON".
- 4.) Do not put any foreign objects inside the waveguide. The warranty will be voided.

Mechanical Specifications

Size	
Length	1.5 in [38.1 mm]
Width	1.5 in [38.1 mm]
Height	1 in [25.4 mm]



Features:

- WR-28 Waveguide 2x Active Frequency Multiplier (2x)
- Output Frequency 26.5 GHz to 40 GHz, Ka Band
- Input Frequency 13.25 GHz to 20 GHz
- Pout +22 dBm typ
- DC Bias +6V @ 350 mA typ
- Max RF Input Power (CW) +10 dBm
- 50 Ohm Design
- Input RF Connector SMA Female
- Output Waveguide Flange UG-599/U
- Solder Pins for DC Bias Voltage and Ground
- Operational Temperature Range -40°C to +80°C
- Rugged and Compact Aluminum Gold Plated Package Design

Applications:

- Test & Measurement
- Military Electronic Systems
- Military & Commercial Communications
- Research & Development

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

Weight	0.2 lbs [90.72 g]
Body Material and Plating	Aluminum
Finish	GLD
Input Port	SMA Female
Output Port	WR-28 Waveguide with UG-599/U Flange
DC Bias	Feed-thru Pin

Environmental Specifications
Temperature

Operating Range	-40 to 80 deg C
Storage Range	-40 to 100 deg C

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

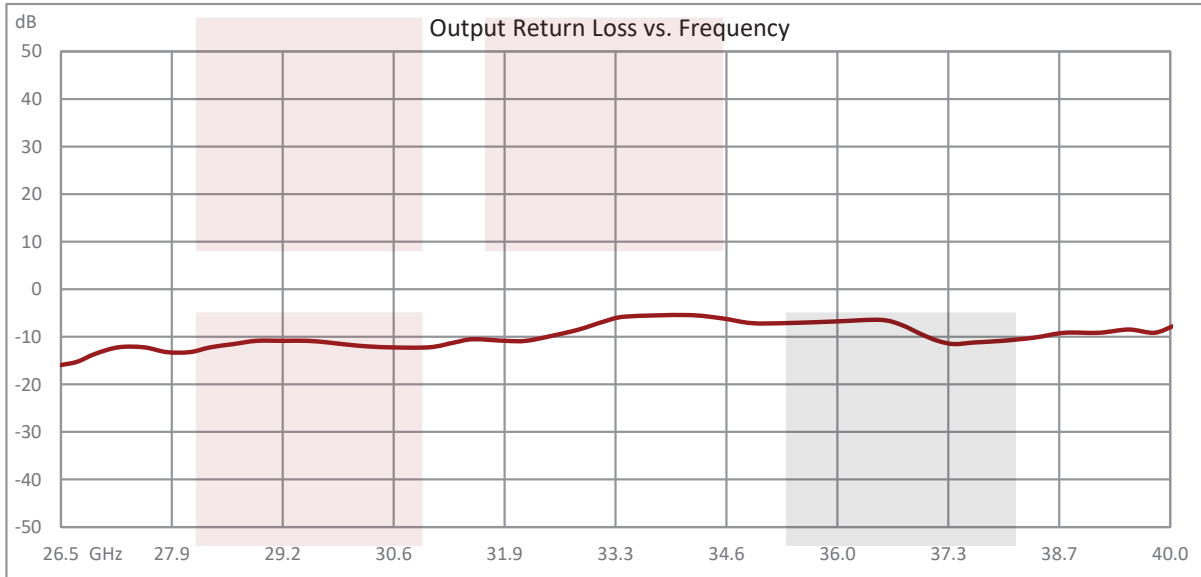
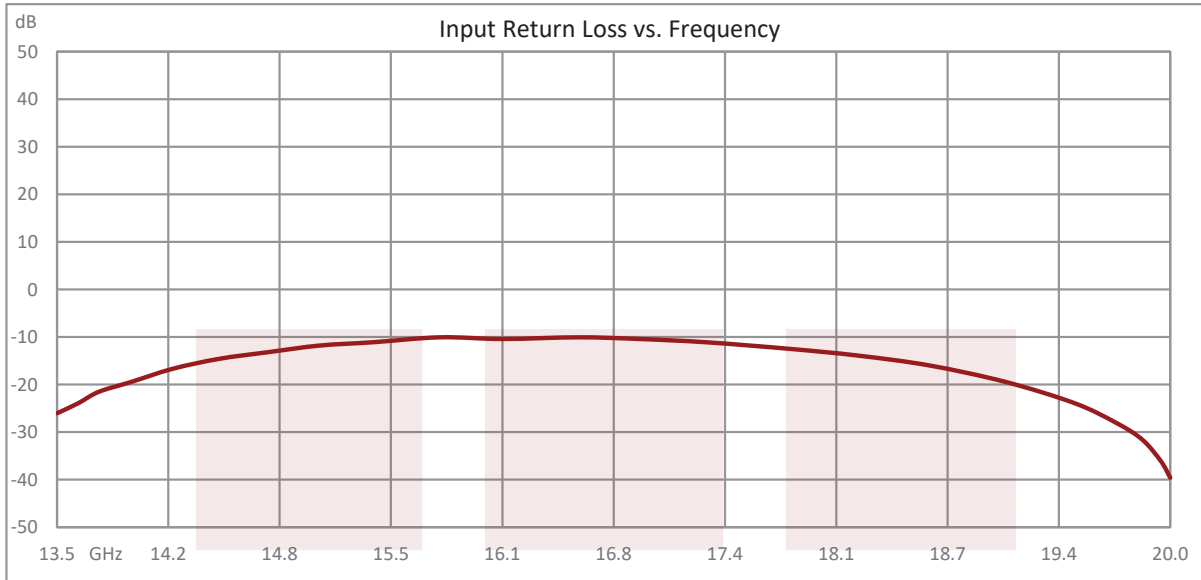
Plotted and Other Data

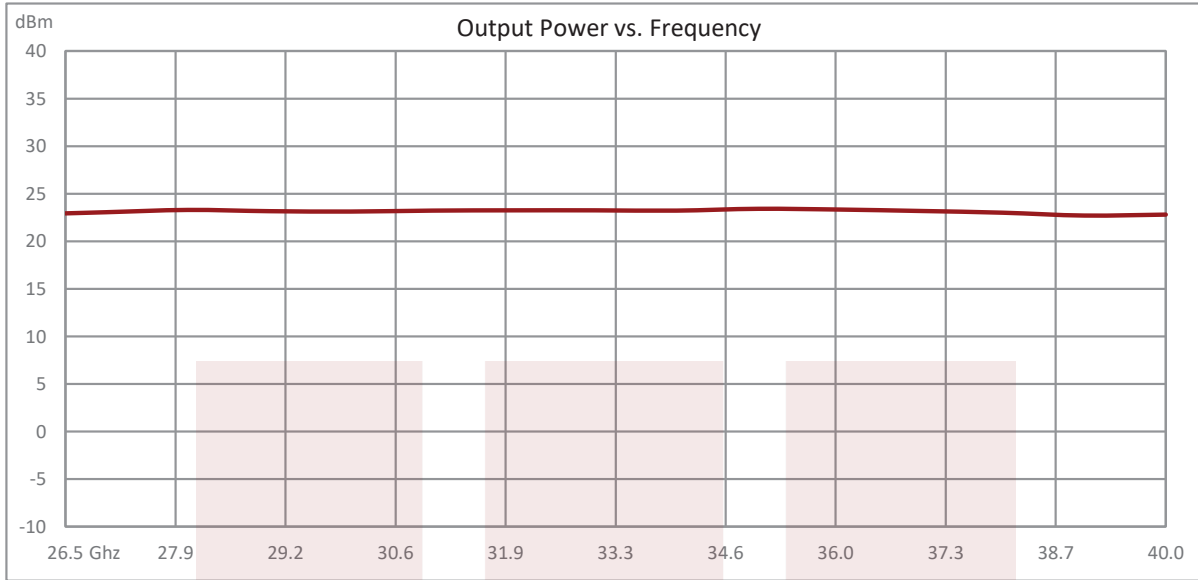
Notes:

Absolute Maximum Rating

Parameter	Rating
Operating Temperature	-40°C to +80°C
Storage Temperature	-40°C to +100°C
Total Power Dissipation	4.8W
Input Power (CW)	+10dBm
DC Operating Voltage	+12V

Typical Performance Data





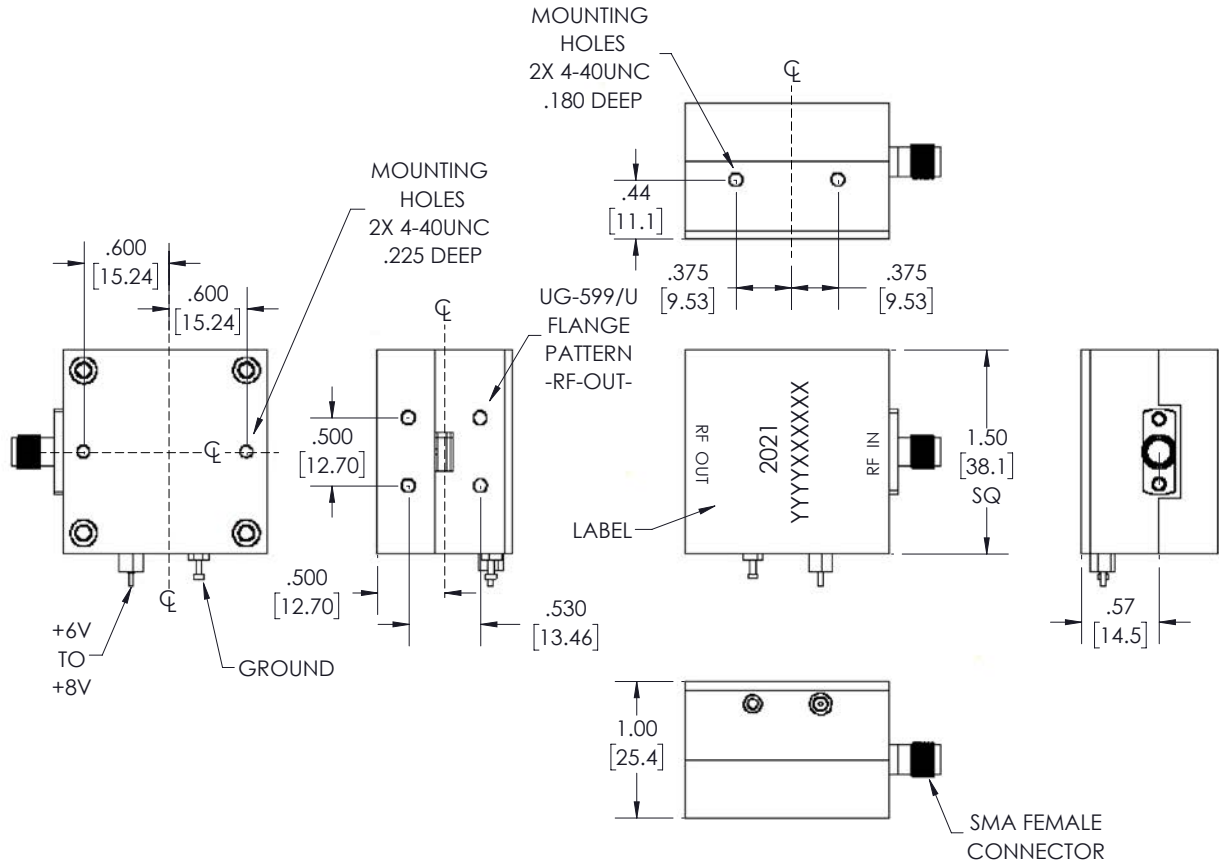
26.5 GHz to 40 GHz Ka-Band 2x Active Frequency Multiplier, +22 dBm Pout, WR-28 Output with UG-599/U Flange, SMA Female Input from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [26.5 GHz to 40 GHz Ka-Band 2x Active Frequency Multiplier, +22 dBm Pout, WR-28 Output with UG-599/U Flange, SMA Female Input FMFX2021](https://www.fairviewmicrowave.com/wr-28-waveguide-2x-frequency-multiplier-module-ka-band-26.5-ghz-to-40-ghz-output-frequency-+20-dbm-pout-input-sma-ug-599-u-flange-fmfx2021-p.aspx)

URL: <https://www.fairviewmicrowave.com/wr-28-waveguide-2x-frequency-multiplier-module-ka-band-26.5-ghz-to-40-ghz-output-frequency-+20-dbm-pout-input-sma-ug-599-u-flange-fmfx2021-p.aspx>

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	03/11/2022	TGALLA



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TITLE

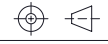
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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0
.XX = ±.02 [51]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0
.XXX = ±.005 [13]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
		300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY BPUCHASKI	ITEM NO. FMFX2021	REV A
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PEPERFORMANCE
T-Rev.D