

40 GHz to 60 GHz U-Band 4x Active Frequency Multiplier, +10 dBm Pout, WR-19 Output with UG-383/U-M Flange, SMA Female Input

The FMFX2022 is a WR-19 Waveguide 4x Active Frequency Multiplier that covers the full U frequency band from 40 GHz to 60 GHz with an input frequency band from 10 GHz to 15 GHz. Typical performance for the 50 ohm design includes +3 dBm input power, +10 dBm output power, and -15 dBc harmonics. Maximum input power (CW) is +10 dBm, and DC bias is +6 Vdc at 153 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-383/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 maximum.

Electrical Specifications@ +25°C

| Description | Min | Typ | Max | Units |
|------------------------|-----|-------|-----|-------|
| Input Frequency Range | 10 | | 15 | GHz |
| Output Frequency Range | 40 | | 60 | GHz |
| Input Power | 0 | 3 | 10 | dBm |
| Output Power | | 10 | | dBm |
| DC Voltage | 5 | 6 | 8 | Volts |
| DC Current | | 153 | | 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 | 1.213 in [30.81 mm] |



Features:

- WR-19 Waveguide 2x Active Frequency Multiplier
- Output Frequency 40 GHz to 60 GHz, U Band
- Input Frequency 10 GHz to 15 GHz
- Pout +10 dBm typ
- Bias Voltage Range +6 Vdc to +8 Vdc
- DC current 150 mA typ
- 50 Ohm Design
- Input RF Connector SMA Female
- Output Waveguide WR-19 with UG-383/U flange
- 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

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| | |
|---------------------------|--|
| Weight | 0.2 lbs [90.72 g] |
| Body Material and Plating | Aluminum |
| Finish | GLD |
| Input Port | SMA Female |
| Output Port | WR-19 Waveguide with UG-383/U-M 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)

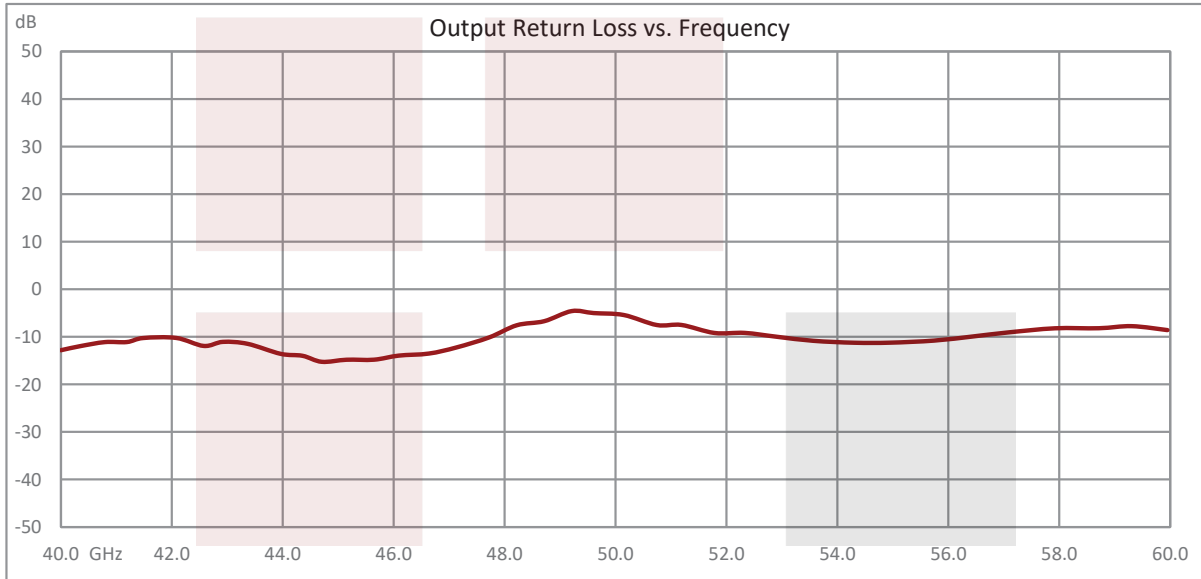
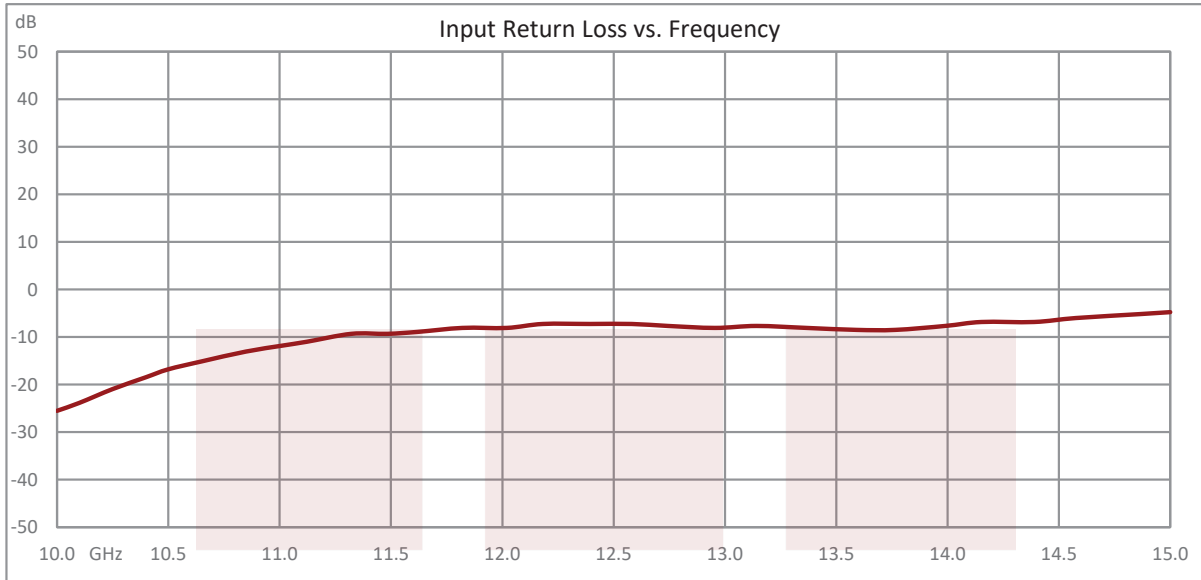
Plotted and Other Data

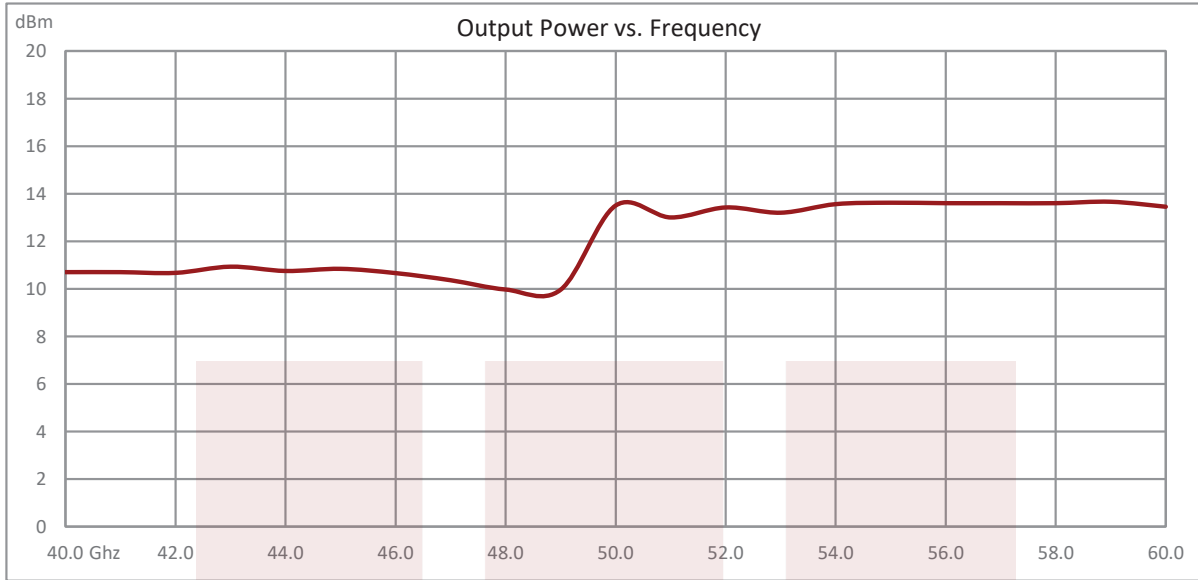
Notes:

Absolute Maximum Rating

| Parameter | Rating |
|-------------------------|-----------------|
| Operating Temperature | -40°C to +80°C |
| Storage Temperature | -40°C to +100°C |
| Total Power Dissipation | 3W |
| Input Power (CW) | +10dBm |
| DC Operating Voltage | +12V |

Typical Performance Data





40 GHz to 60 GHz U-Band 4x Active Frequency Multiplier, +10 dBm Pout, WR-19 Output with UG-383/U-M 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: [40 GHz to 60 GHz U-Band 4x Active Frequency Multiplier, +10 dBm Pout, WR-19 Output with UG-383/U-M Flange, SMA Female Input FMFX2022](https://www.fairviewmicrowave.com/wr-19-waveguide-4x-frequency-multiplier-module-u-band-40-ghz-to-60-ghz-output-frequency-+10-dbm-pout-input-sma-ug383-u-m-flange-fmfx2022-p.aspx)

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