

WR-28 Waveguide Low Noise Amplifier, Ka Band, 26.5 GHz to 40 GHz, 30 dB Gain, 18 dBm P1dB, UG-599/U Flange

The FMWGA3201 is a WR-28 Waveguide Low Noise Amplifier, operating across the Ka Band from 26.5 GHz to 40 GHz. This 50 Ohm design exhibits impressive typical performance which includes 33 dB gain, 2.8 dB noise figure, and +18 dBm P1dB. Maximum RF input power (CW) is +10 dBm, and DC bias is +8 Vdc at 280 mA typ. The rugged and small size aluminum package design is gold plated and supports a UG-599/U waveguide flange pattern at RF input and output ports. 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

Description	Min	Typ	Max	Units
Frequency	26.5		40	GHz
Small Signal Gain		33		dB
P1 dB		24		dBm
Psat		18		dBm
Noise Figure		2.8	3	dB
VSWR		2:1		
RF Input Power			10	dBm
Operating DC Voltage ^{1,4}	6	8	12	Volts
Operating DC Current		280		mA
Input Power (CW)			10	dBm
Operating Temperature Range	-40		80	°C

Biassing Up and Down Procedure

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

Electrical Specification Notes:

- 1.) DC Supply must be able to source at least 0.6A DC at startup
- 2.) Open and short-circuit loads are not recommended at the amplifier output.
- 3.) Ensure proper 50 Ohm load before turning the amplifier "ON".
- 4.) Reverse biasing will destroy the amplifier
- 5.) Do not put any foreign objects inside the waveguide. Warranty Void.

Absolute Maximum Rating

Parameter	Rating
Operating Temperature	-40°C to +80°C
Storage Temperature	-40°C to +100°C
Total Power Dissipation	4.5W
Input Power (CW)	+10dBm
DC Operating Voltage	+12Vdc



Features:

- WR-28 Waveguide Low Noise Amplifier
- 26.5 GHz to 40 GHz
- UG-599/U Flange
- Ka Band
- Small Signal Gain 33 dB typ
- Noise Figure 2.8 dB typ
- VSWR 2.0:1 typ
- Output P1dB +18 dBm typ
- Output Psat +23.8 dBm
- DC Bias +8V @ 280 mA typ
- Max RF Input Power (CW) +10 dBm
- 50 Ohm Design
- RF Input and 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 & Commercial Communications
- Military Electronic Systems
- 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

Mechanical Specifications

Size	
Length	1.5 in [38.1 mm]
Width	1.5 in [38.1 mm]
Height	0.937 in [23.8 mm]
Weight	0.2 lbs [90.72 g]
Body Material and Plating	Aluminum, Gold
Design	
DC Bias Connector	
Flange	UG-599/U

Environmental Specifications

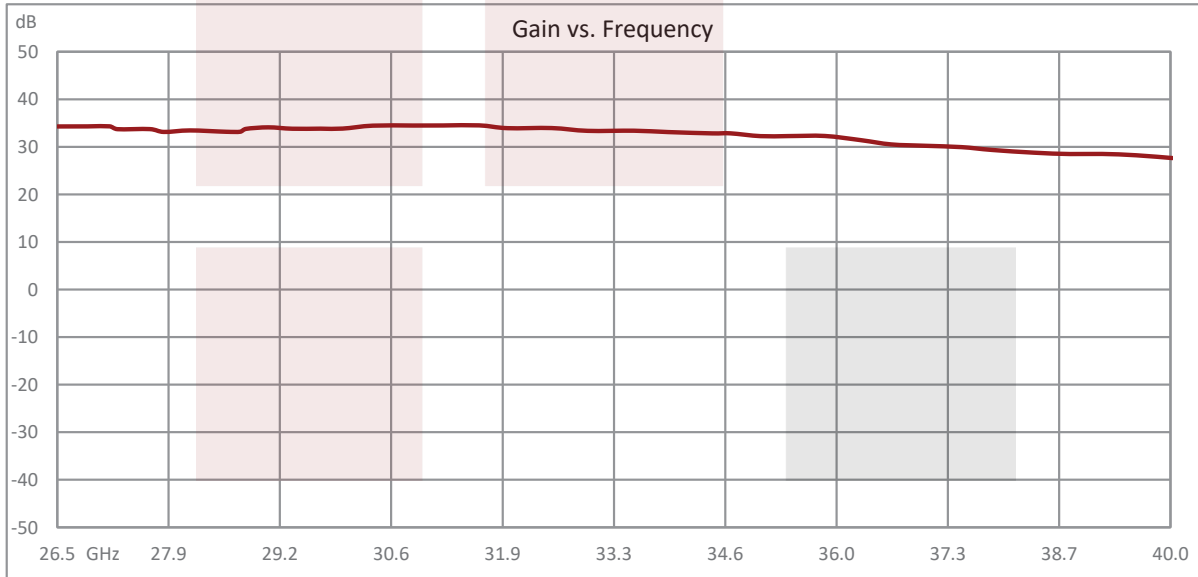
Temperature	
Operating Range	-40 to 80 deg C
Storage Range	-40 to 100 deg C

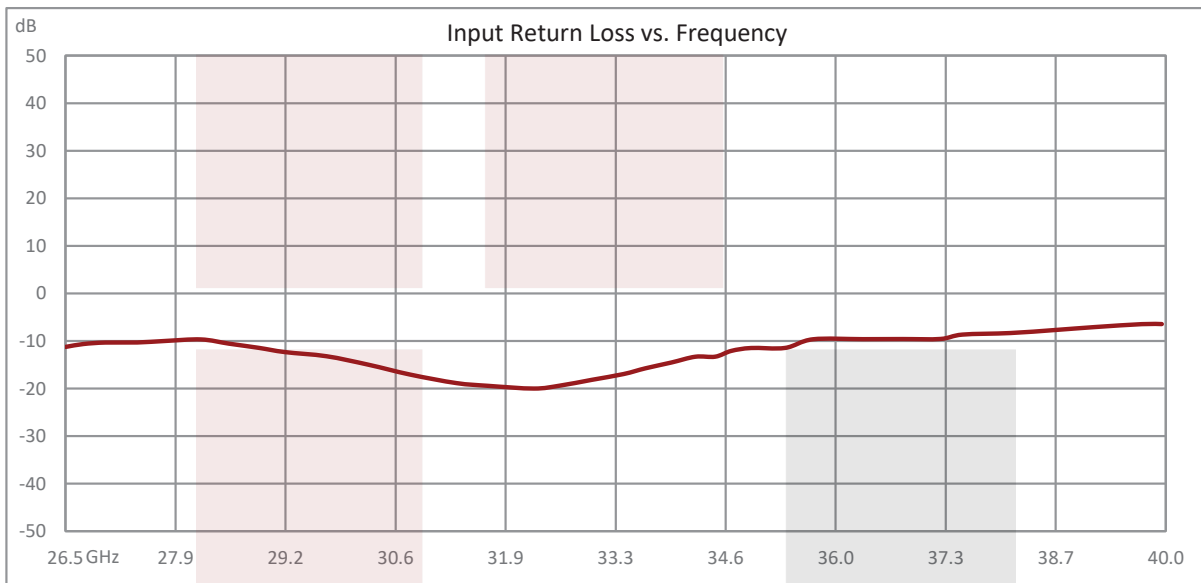
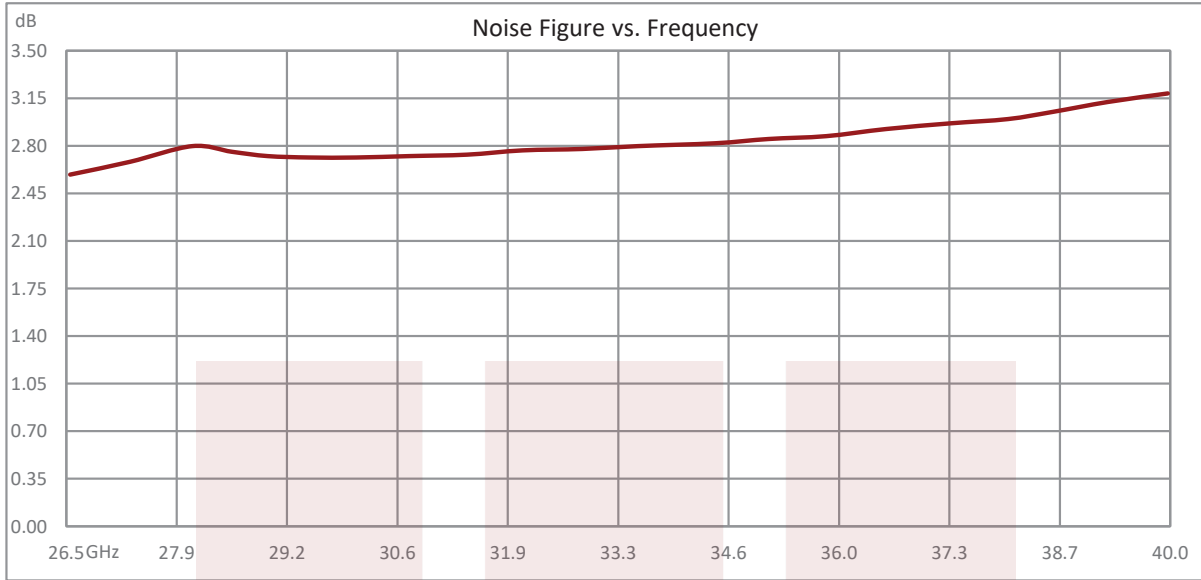
Compliance Certifications (see [product page](#) for current document)

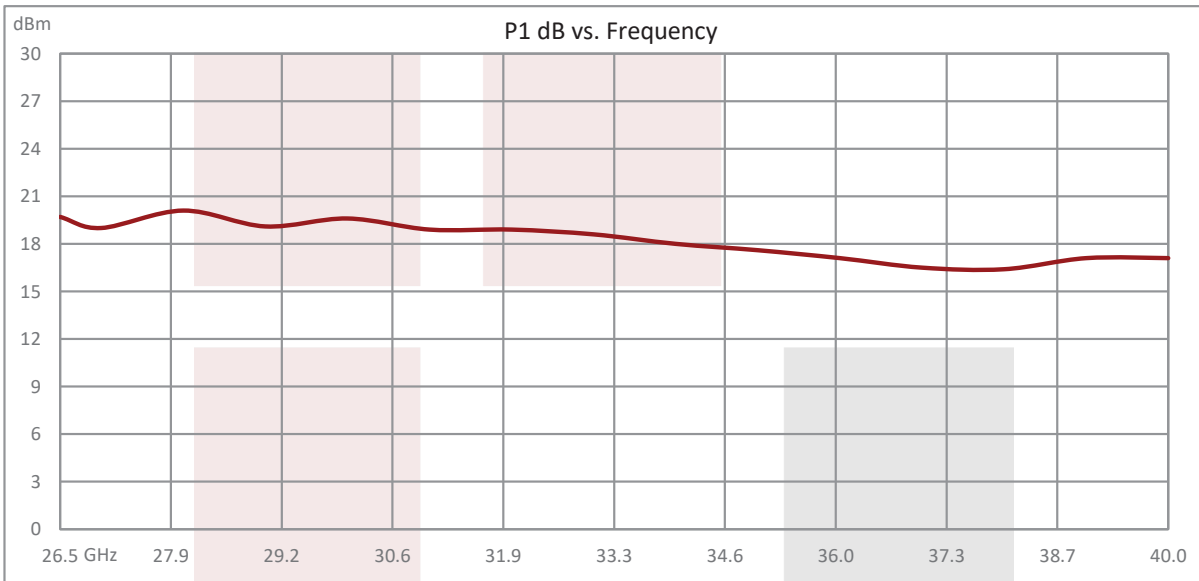
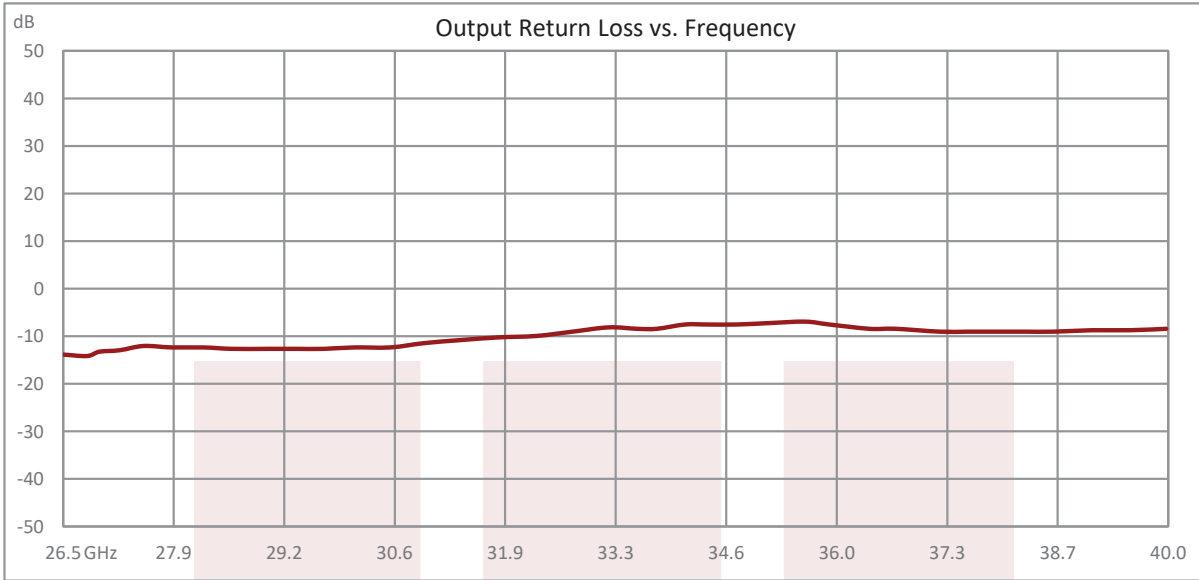
Plotted and Other Data

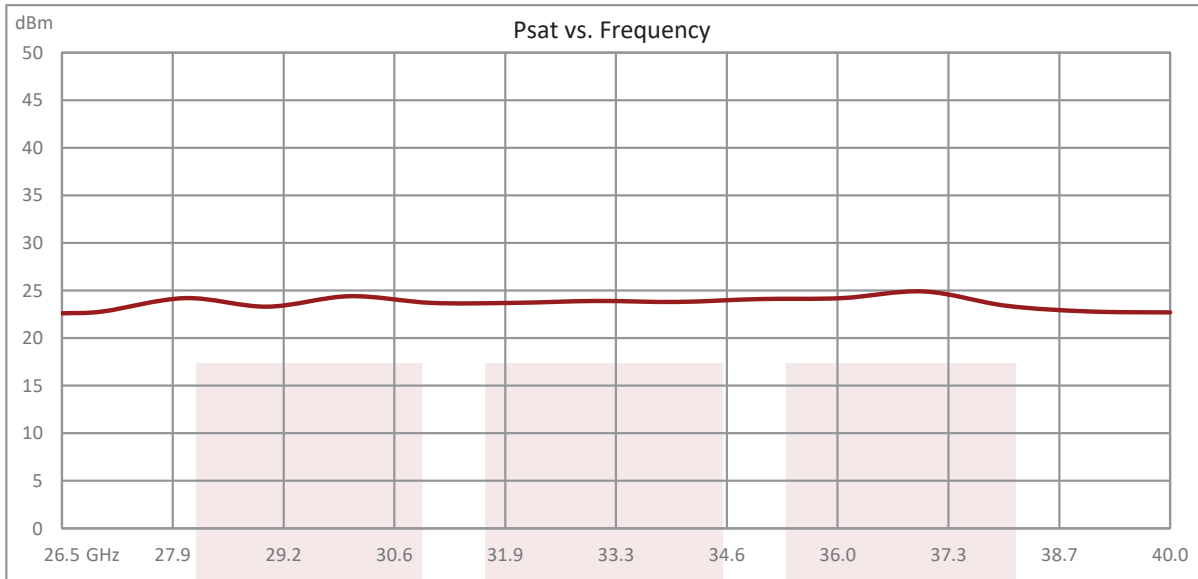
Notes:

Typical Performance Data







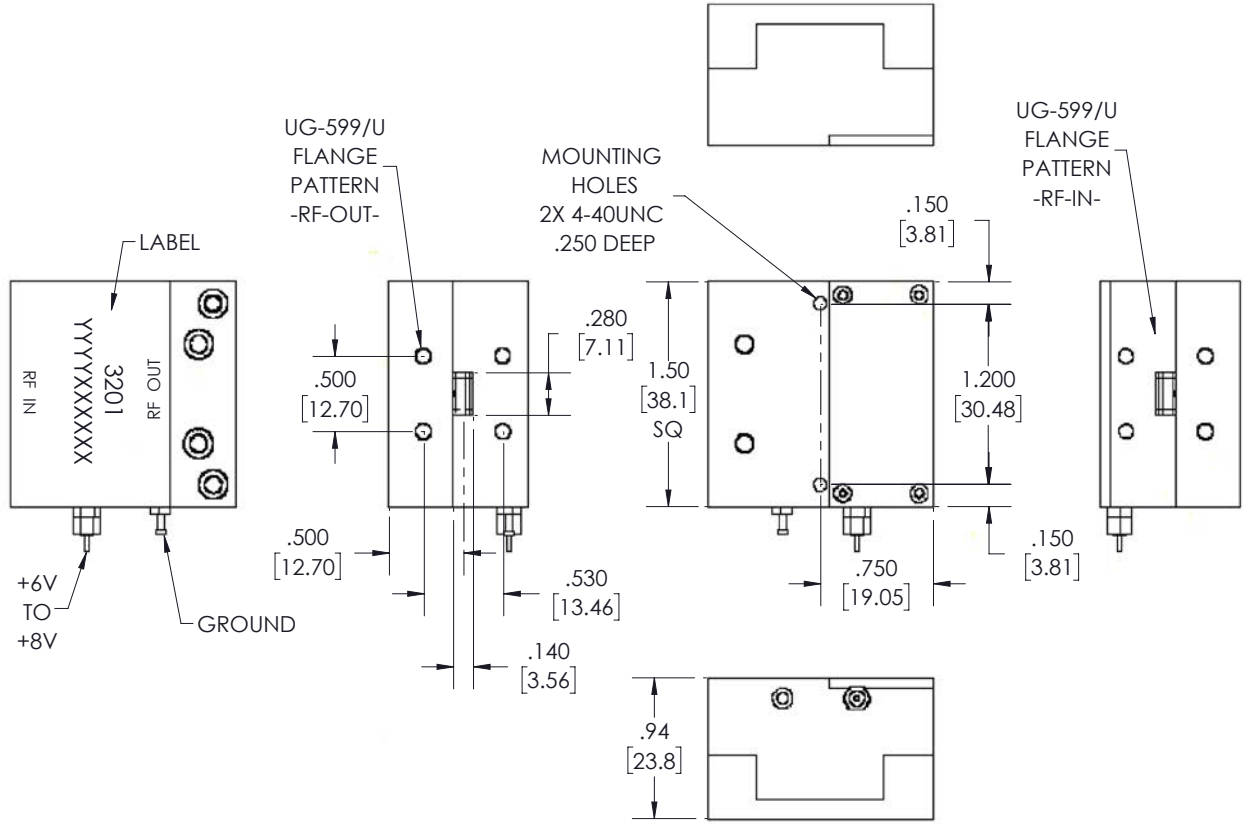


WR-28 Waveguide Low Noise Amplifier, Ka Band, 26.5 GHz to 40 GHz, 30 dB Gain, 18 dBm P1dB, UG-599/U Flange from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [WR-28 Waveguide Low Noise Amplifier, Ka Band, 26.5 GHz to 40 GHz, 30 dB Gain, 18 dBm P1dB, UG-599/U Flange FMWGA3201](https://www.fairviewmicrowave.com/wr-28-waveguide-low-noise-amplifier-40-ghz-ka-band-fmwga3201-p.aspx) URL: <https://www.fairviewmicrowave.com/wr-28-waveguide-low-noise-amplifier-40-ghz-ka-band-fmwga3201-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.

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



THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

TITLE
WR-28 Waveguide Low Noise Amplifier, Ka Band, 26.5 GHz to 40 GHz, 30 dB Gain, 18 dBm P1dB, UG-599/U Flange

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS		THIRD-ANGLE PROJECTION	
TOLERANCES:		CABLE LENGTH (L) TOLERANCES:	
.X = ±.2 [5.08]	FRACTIONS ± 1/32	L ≤ 12 [305] = +1 [25] / -0	THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED.
.XX = ±.02 [.51]	ANGLES ± 1°	12 [305] < L ≤ 60 [1524] = +2 [51] / -0	
.XXX = ±.005 [.13]		60 [1524] < L ≤ 120 [3048] = +4 [102] / -0	
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0	SHEET 1 OF 1
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.		SCALE N/A	
SIZE A	CAGE CODE 3FKR5	DRAWN BY BPUCHASKI	ITEM NO. FMWGA3201
		REV A	