

**WR-10 Waveguide Voltage Variable Attenuator, W Band, 75 GHz to 110 GHz, 30 dB Gain, 8 dB Loss, UG-387/U-M Flange**

The FMWGA3215 is a WR-10 Waveguide Voltage Variable Attenuator, operating across the W Band from 75 GHz to 110 GHz. This 50 Ohm design has 8 dB typ insertion loss with a maximum (CW) input power handling of +23 dBm. The control voltage is 0 Vdc to +5 Vdc to adjust the attenuation level from 0 dB to 30 dB typ across the full frequency band. The rugged and small size aluminum package design is gold plated and supports a UG-387/U-M waveguide flange pattern at the RF input and output ports. Solder pins are used for DC voltage control and ground. The module operates across a wide temperature range from -40°C to +80°C.



**Electrical Specifications\***

Description	Min	Typ	Max	Units
Frequency Range	75		110	GHz
Typical Attenuation Value	0		30	dB
Insertion Loss	5.5	8	10.3	dB
Maximum Pin (CW)			23	dBm
Control Voltage	0		5	Vdc

**Electrical Notes:**

- 1.) Open and short-circuit loads are not recommended at the attenuator output.
- 2.) Ensure proper 50 Ohm load before turning the attenuator "ON".
- 3.) Do not put any foreign objects inside the waveguide. Warranty will be voided.

Values at 25°C, sea level

**Biasing Up and Power Down Procedure**

Biasing 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

**Mechanical Specifications**

**Flange 1**

Interface UG-387/U-M

**Waveguide**

Interface WR-10  
Material Aluminum  
Plating Gold

**Flange 2**

Interface UG-387/U-M

**Temperature**

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

**Size**

Length 1.75 in [44.45 mm]

**Features:**

- WR-10 Waveguide Voltage Variable Attenuator
- 75 GHz to 110 GHz
- W Band
- Insertion Loss: 8 dB typ
- Attenuation Range: 0 dB to 30 dB typ
- DC Control Voltage: 0 Vdc to +5 Vdc
- Max RF Input Power (CW) +23 dBm
- 50 Ohm Design
- RF Input and Output Waveguide Flange UG-387/U-M
- Solder Pins for DC Control 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](http://www.fairviewmicrowave.com)  
[sales@fairviewmicrowave.com](mailto:sales@fairviewmicrowave.com)

Width 1.5 in [38.1 mm]  
 Height 0.975 in [24.77 mm]  
 Weight 0.05 lbs [22.68 g]

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

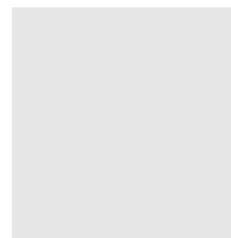
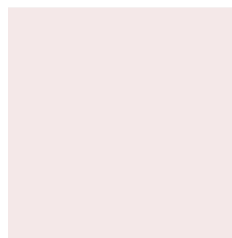
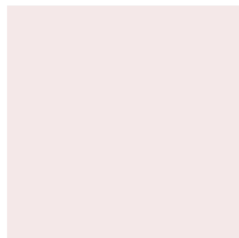
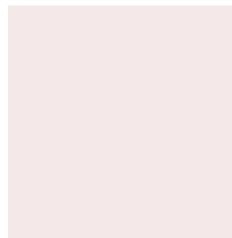
**Plotted and Other Data**

Notes:

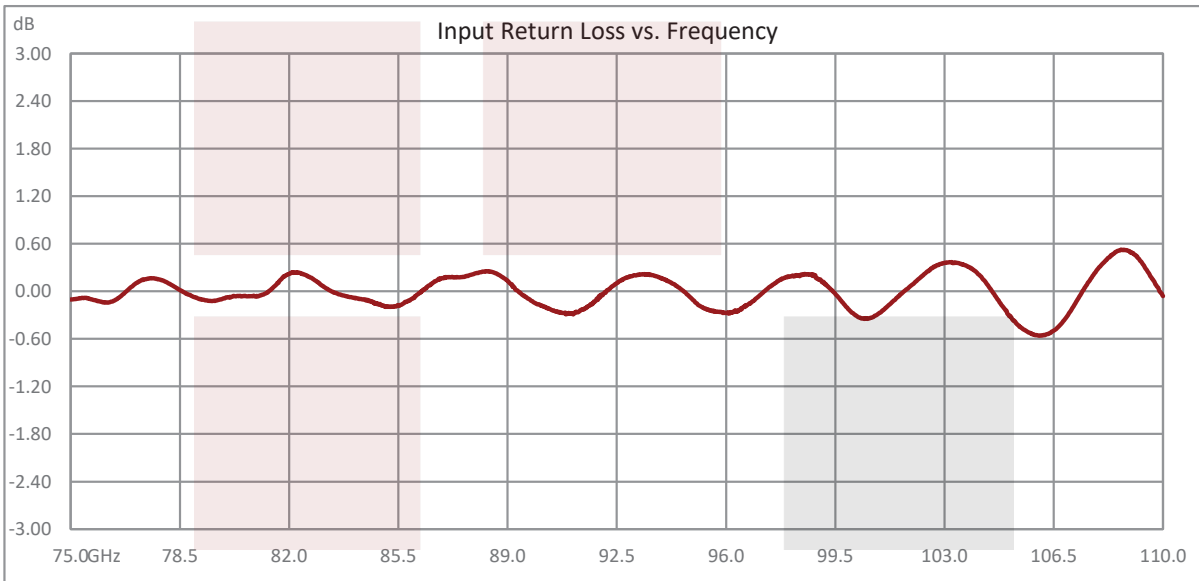
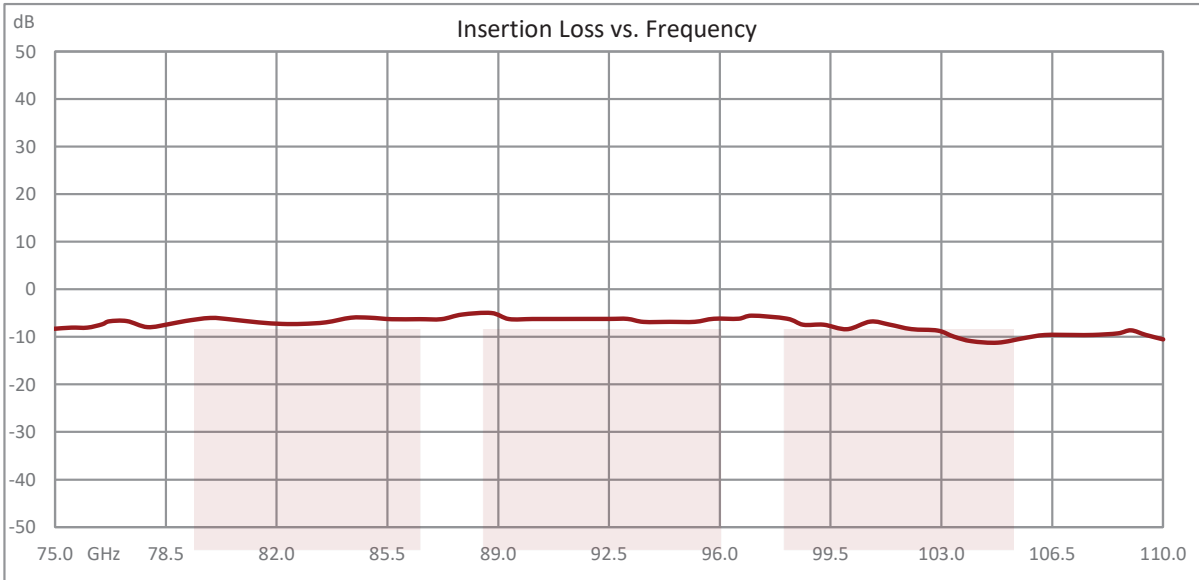
- Values at 25 °C, sea level

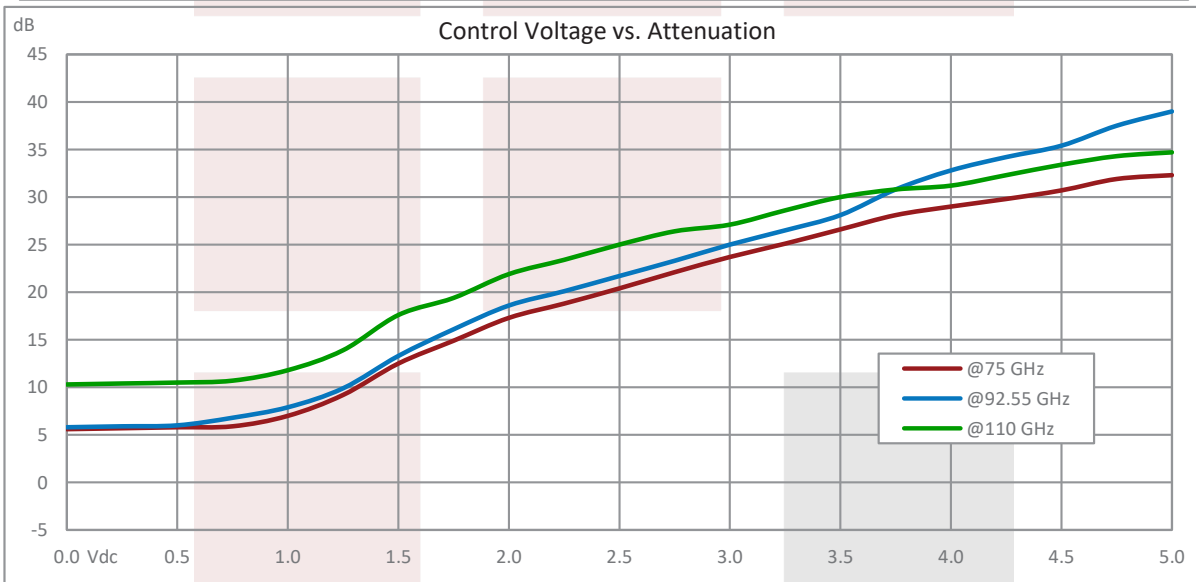
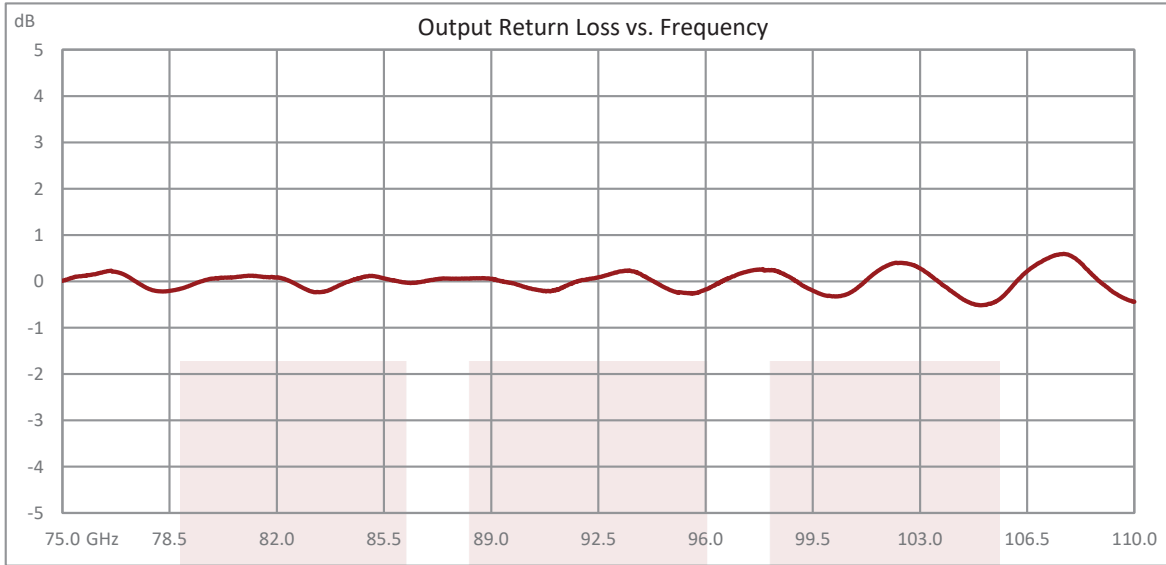
**Absolute Maximum Rating**

Parameter	Rating
Operating Temperature	-40°C to +80°C
Storage Temperature	-40°C to +100°C
Total Power Dissipation	0.1W
Power Handling (CW)	+23dBm
Control Voltage	+10V



**Typical Performance Data**





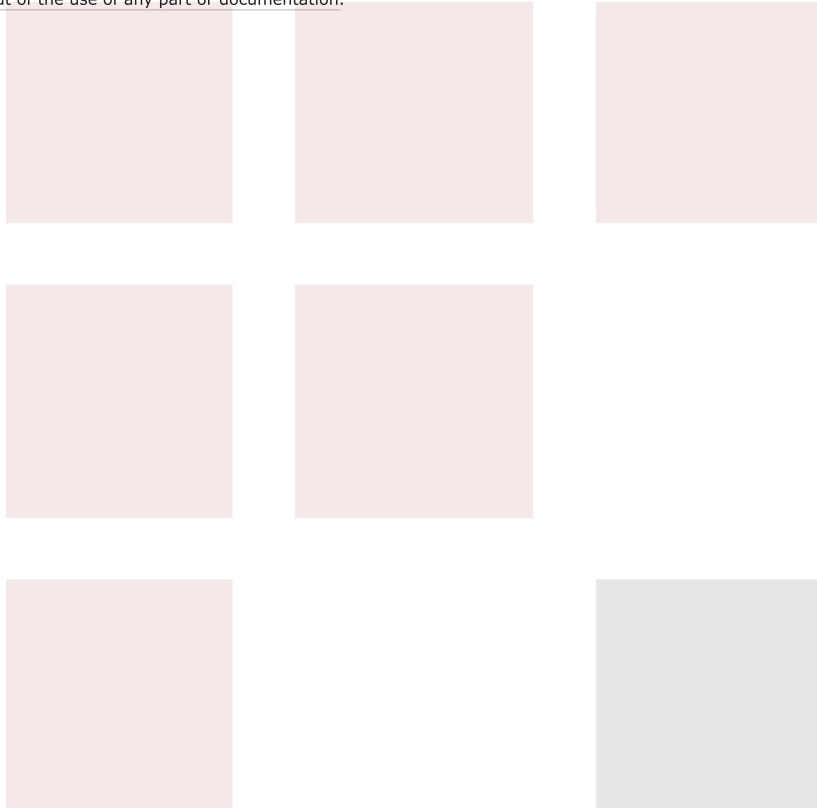
WR-10 Waveguide Voltage Variable Attenuator, W Band, 75 GHz to 110 GHz, 30 dB Gain, 8 dB Loss, UG-387/U-M Flange  
 WR-10 Waveguide Voltage Variable Attenuator, W Band, 75 GHz to 110 GHz, 30 dB Gain, 8 dB Loss, UG-387/U-M Flange  
 from Fairview Microwave is in-stock and available to ship same-day. All 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.

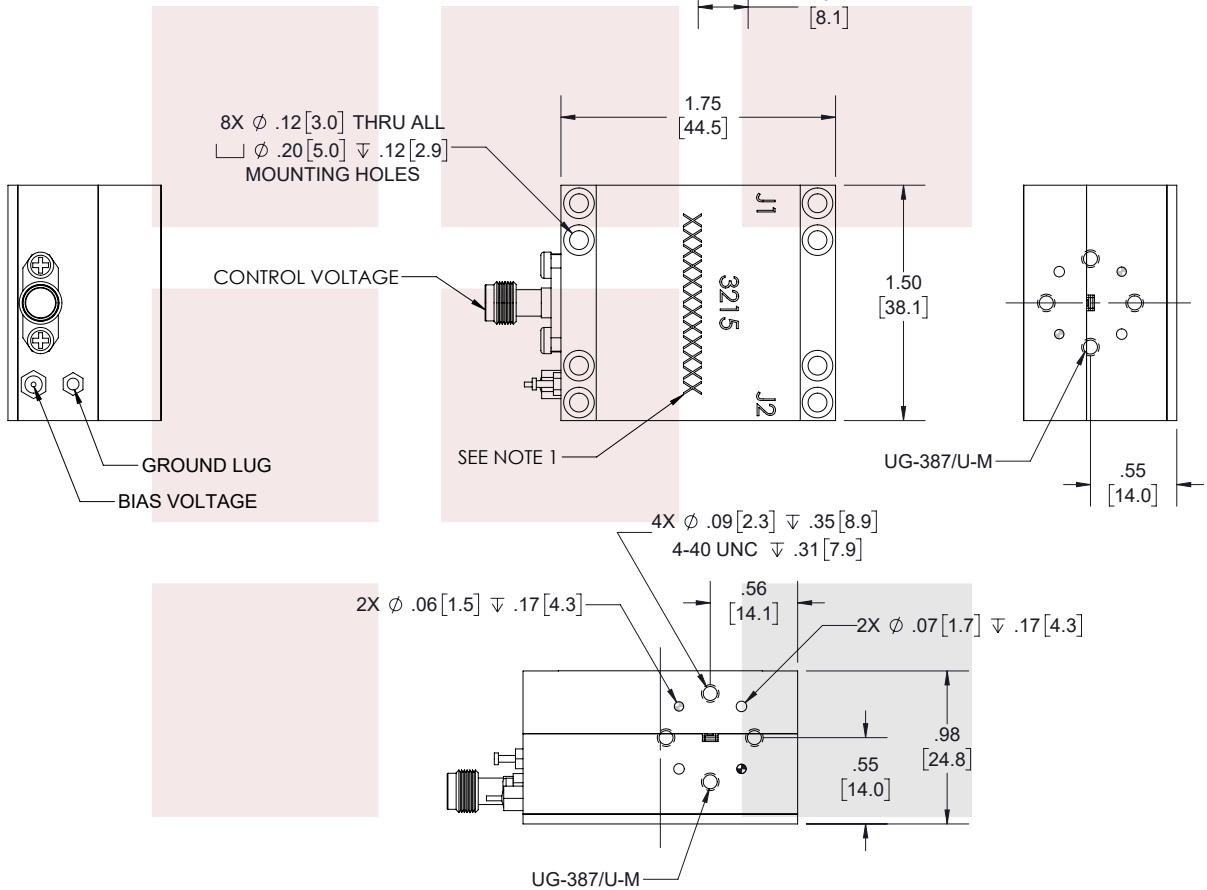
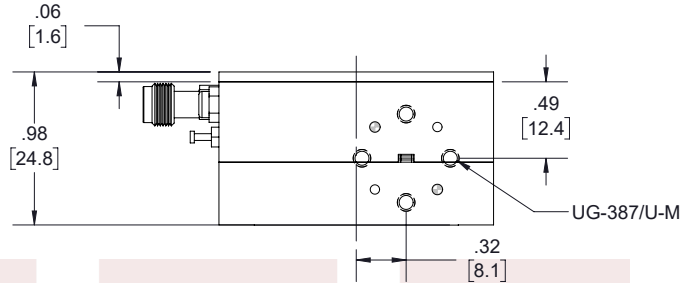
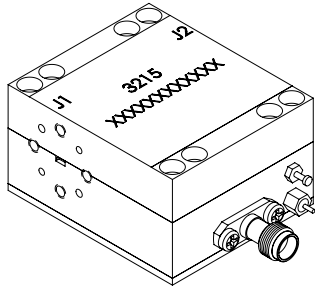
For additional information on this product, please click the following link: [WR-10 Waveguide Voltage Variable Attenuator, W Band, 75 GHz to 110 GHz, 30 dB Gain, 8 dB Loss, UG-387/U-M Flange FMWGA3215](#)

URL: <https://www.fairviewmicrowave.com/undefined-url-for-pn-fmwga3215-fmwga3215-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	04/18/2022	TGALLA



**NOTES:**

- SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 202008280001.

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.

<p><b>Fairview Microwave</b>  an INFINIT® brand</p>	UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [ ] ARE MILLIMETERS		THIRD-ANGLE PROJECTION 		
	TOLERANCES:		CABLE LENGTH (L) TOLERANCES:		
TITLE WR-10 Waveguide Voltage Variable Attenuator, W Band, 75 GHz to 110 GHz, 30 dB Gain, 8 dB Loss, UG- 387/U-M Flange	.X = ±.2 [5.08] FRACTIONS .XX = ±.02 [.51] ± 1/32 .XXX = ±.005 [.13] ANGLES ± 1°		L ≤ 12 [305] = +1 [25] / -0 12 [305] < L ≤ 60 [1524] = +2 [51] / -0 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0 300 [7620] < L = +5%L / -0		THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED.
	ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.			SHEET 1 OF 1 SCALE N/A	
SIZE A	CAGE CODE 3FKR5	DRAWN BY VTHANGARAJ	ITEM NO. FMWGA3215	REV A	

T-Rev.D