

**WR-28 Waveguide Voltage Variable Attenuator,  
Ka Band, 26.5 GHz to 40 GHz, 0 dB to 30 dB  
Attenuation, 1.8 dB Loss, UG-599/U Flange**

The FMWGA3210 is a WR-28 Waveguide Voltage Variable Attenuator, operating across the Ka Band from 26.5 GHz to 40 GHz. This 50 Ohm design has 1.8 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-599/U waveguide flange pattern at 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           | 26.5 |     | 40  | GHz   |
| Typical Attenuation Value | 0    |     | 30  | dB    |
| Insertion Loss            | 1.5  | 1.8 | 2.7 | 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-599/U

**Waveguide**

Interface WR-28  
Material Aluminum  
Plating Gold

**Flange 2**

Interface UG-599/U

**Temperature**

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

**Size**

Length 1.5 in [38.1 mm]

**Features:**

- WR-28 Waveguide Voltage Variable Attenuator
- 26.5 GHz to 40 GHz
- Ka Band
- Insertion Loss: 1.8 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-599/U
- 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

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Width 1.5 in [38.1 mm]  
 Height 0.937 in [23.8 mm]  
 Weight 0.241 lbs [109.32 g]

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

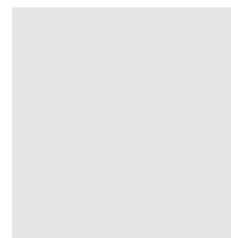
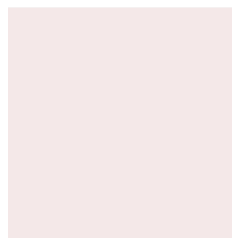
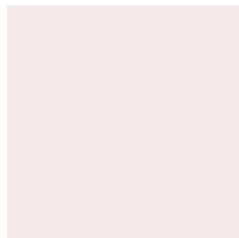
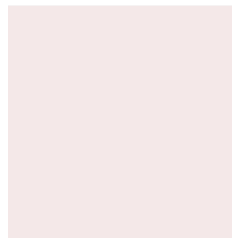
**Plotted and Other Data**

Notes:

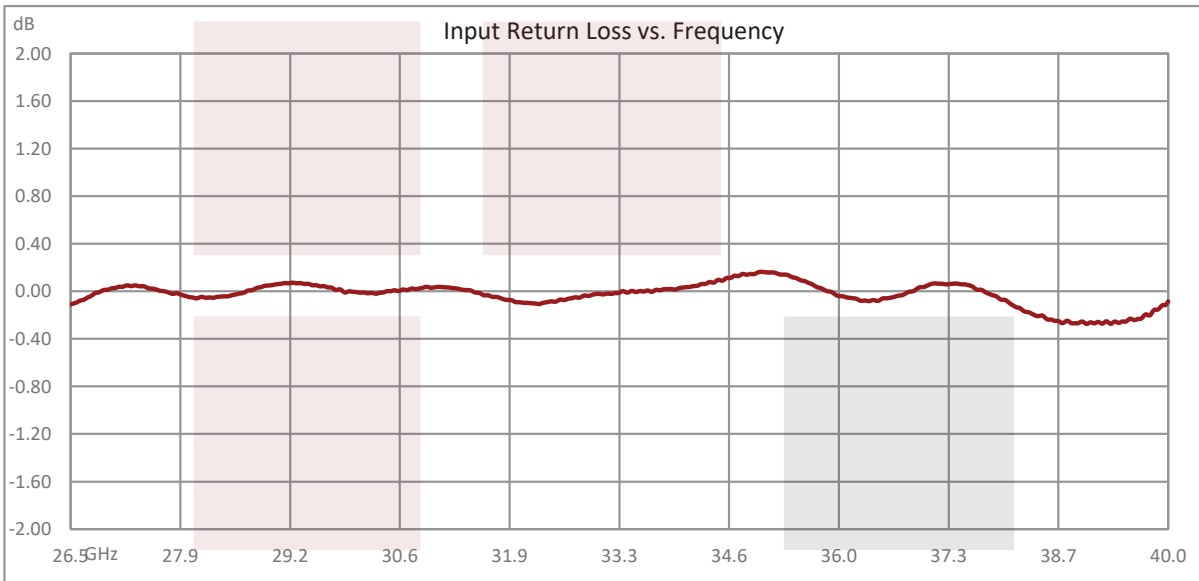
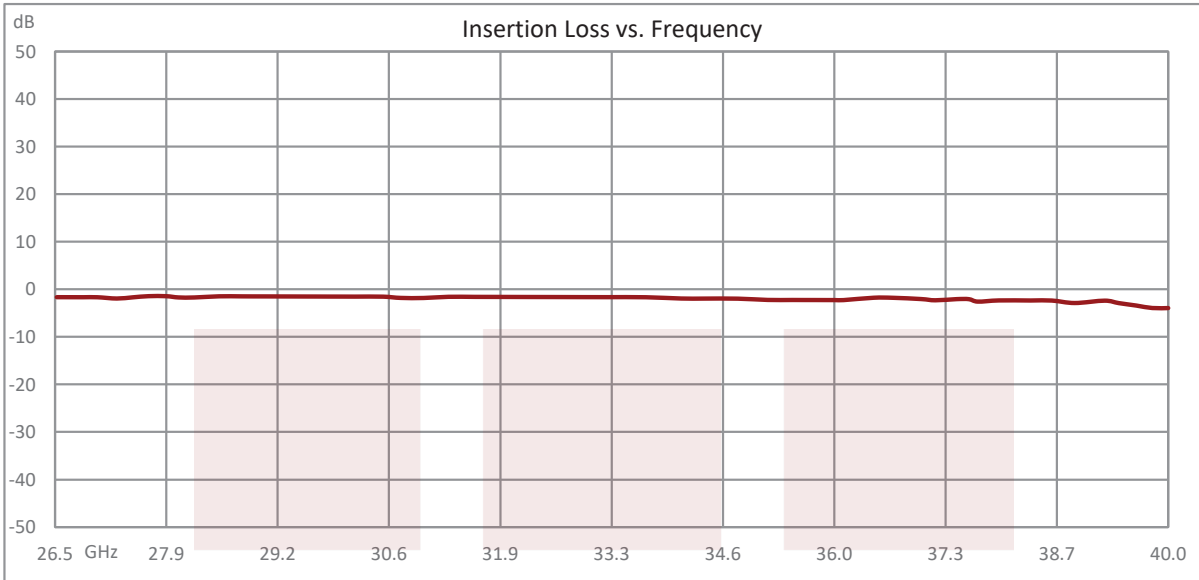
- Values at 25 °C, sea level

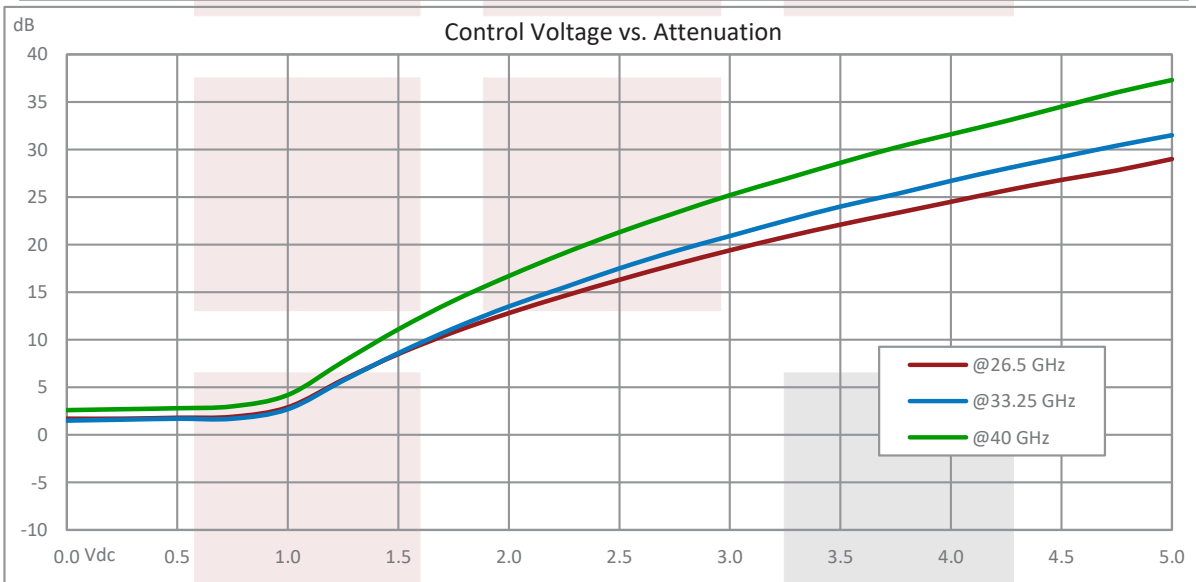
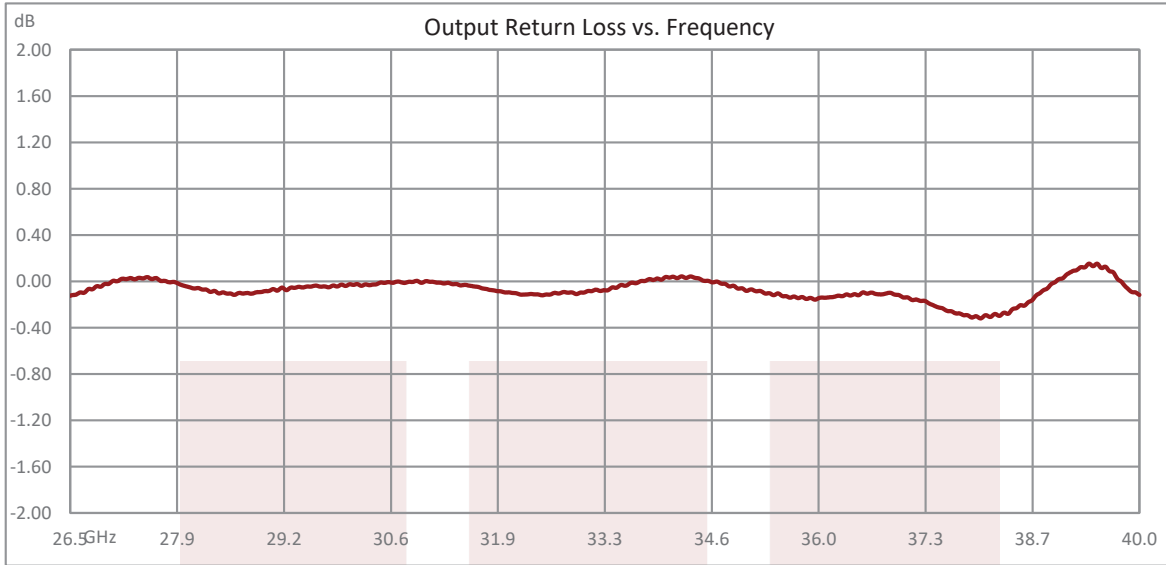
**Absolute Maximum Rating**

| 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-28 Waveguide Voltage Variable Attenuator, Ka Band, 26.5 GHz to 40 GHz, 0 dB to 30 dB Attenuation, 1.8 dB Loss, UG-599/U Flange

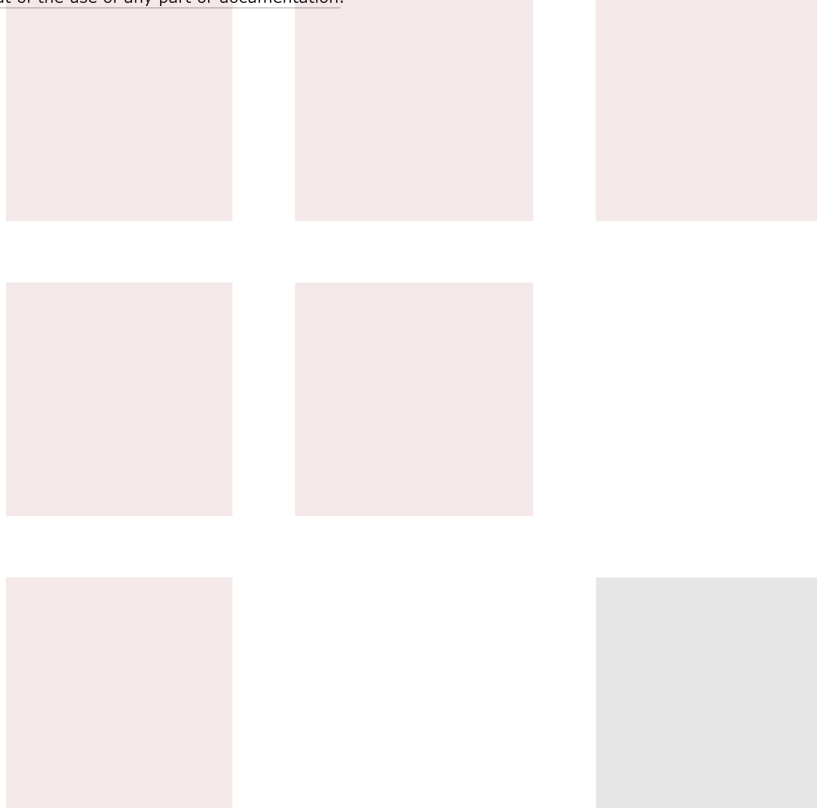
WR-28 Waveguide Voltage Variable Attenuator, Ka Band, 26.5 GHz to 40 GHz, 0 dB to 30 dB Attenuation, 1.8 dB Loss, UG-599/U Flange from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-

demand.

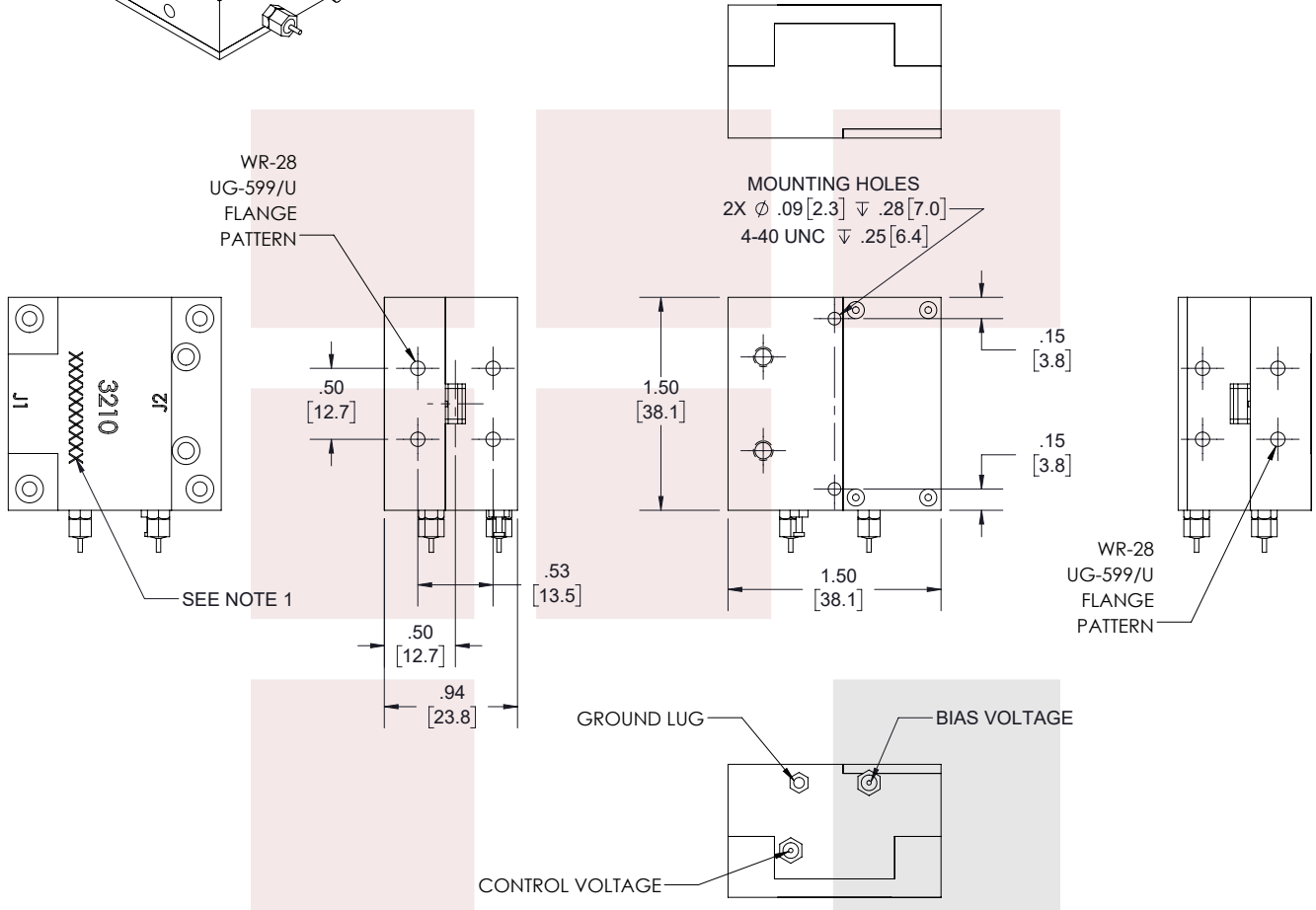
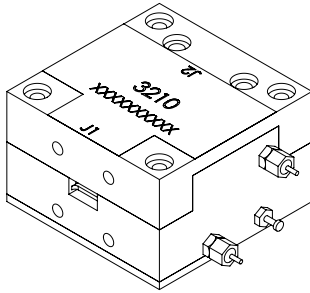
For additional information on this product, please click the following link: [WR-28 Waveguide Voltage Variable Attenuator, Ka Band, 26.5 GHz to 40 GHz, 0 dB to 30 dB Attenuation, 1.8 dB Loss, UG-599/U Flange FMWGA3210](#)

URL: <https://www.fairviewmicrowave.com/undefined-url-for-pn-fmwga3210-fmwga3210-p.aspx>

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| REVISIONS |                 |            |          |
|-----------|-----------------|------------|----------|
| REV.      | DESCRIPTION     | DATE       | APPROVED |
| A         | INITIAL RELEASE | 04/18/2022 | TGALLA   |



**NOTES:**

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

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|   | <b>TITLE</b><br>WR-28 Waveguide Voltage Variable Attenuator, Ka Band, 26.5 GHz to 40 GHz, 0 dB to 30 dB Attenuation, 1.8 dB Loss, UG-599/U Flange   |  | SHEET 1 OF 1<br>SCALE N/A   |
| ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.                    |   |  | SIZE A CAGE CODE 3FKR5 DRAWN BY VTHANGARAJ ITEM NO. FMWGA3210 REV A   |

T-Rev.D