

**WR-28 Magic Tee Waveguide Using UG-599/U
 Square Cover Flange and Operating from 26.5 GHz to
 40 GHz**

Fairview's FMWMT1005 is a magic, or hybrid tee that operates from 26.5 GHz to 40 GHz, Ka band. It is a 4 port device that is internally tuned to optimize matching, balance, and isolation. Magic tees have an H-plane (sum) port, an E-plane (difference) port, and two collinear ports. A signal applied to the H port will be equally divided between the two collinear ports. A signal applied to the E port will be divided between the two collinear ports but with a 180 degree phase difference. Similarly, when two in-phase signals of equal amplitude are applied to the collinear ports, these will be added together at the H-plane (sum) port and subtracted from one another at the E-plane (difference) port.

Electrical Specifications

| Description | Min | Typ | Max | Units |
|--|------|-----|-----|-------|
| Frequency Range | 26.5 | | 40 | GHz |
| Insertion Loss | | | 0.5 | dB |
| Isolation, E-H (Δ - Σ) Ports | 25 | | | dB |
| Isolation, Collinear Ports | 15 | | | dB |

Mechanical Specifications

Size

| | |
|----------------------------|--------------------|
| Weight | 0.12 lbs [54.43 g] |
| Waveguide Size | WR-28 |
| Flange Type | Square Cover |
| Flange Designation | UG-599/U |
| Body Material and Plating | Aluminum, Gold |
| Body Plating Specification | ASTMB488 |

Environmental Specifications

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

Plotted and Other Data

Notes:



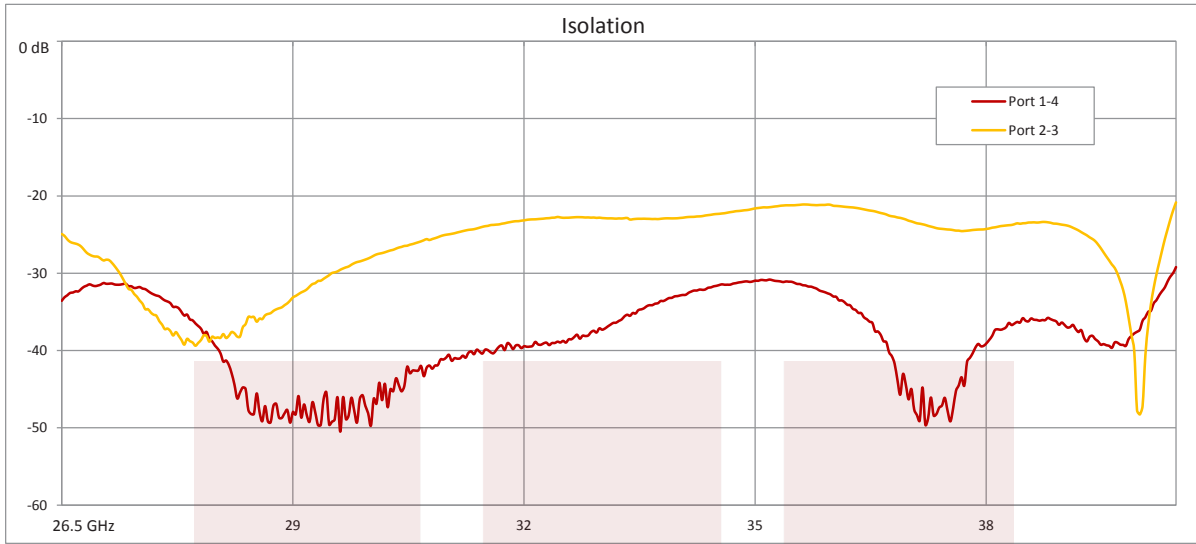
Features:

- 26.5 to 40 GHz Frequency Range
- E to H Port Isolation 25 dB Min
- Collinear Port Isolation 15 dB Min
- 0.5 dB Insertion loss
- Ka Band

Applications:

- Test and Measurement
- Military Communications
- Commercial Communications
- Wireless Communications
- SATCOM

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WR-28 Magic Tee Waveguide Using UG-599/U Square Cover Flange and Operating from 26.5 GHz to 40 GHz 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 Allen, Texas. Fairview Microwave is RF on-demand.

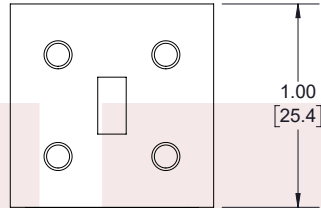
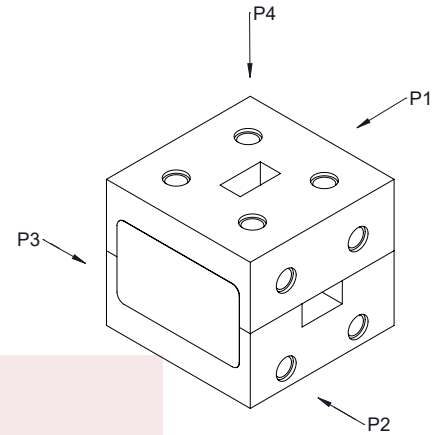
For additional information on this product, please click the following link: [WR-28 Magic Tee Waveguide Using UG-599/U Square Cover Flange and Operating from 26.5 GHz to 40 GHz FMWMT1005](https://www.fairviewmicrowave.com/wr-28-magic-tee-waveguide-ug599-square-40-ghz-fmwmt1005-p.aspx)

URL: <https://www.fairviewmicrowave.com/wr-28-magic-tee-waveguide-ug599-square-40-ghz-fmwmt1005-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.

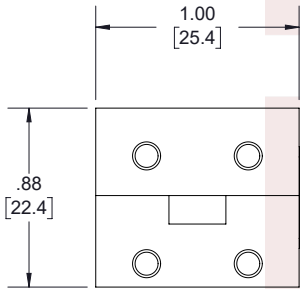
LABEL:

| | |
|---------------------------|----|
| P4 | |
| FAIRVIEW MICROWAVE | |
| FMWMT1005 | |
| P3 | P2 |
| V001186MDDYYYY | |
| www.FAIRVIEWMICROWAVE.com | |
| P1(B. SIDE) | |

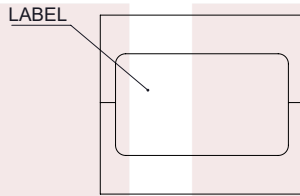


PORT 4
"DIFFERENCE"

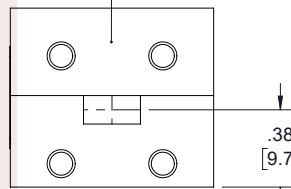
WR-28 WAVEGUIDE
 UG599/U COVER FLANGE
 (4 PLACES)



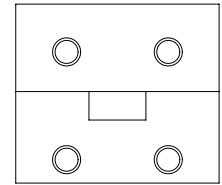
PORT 3
"COLLINEAR"



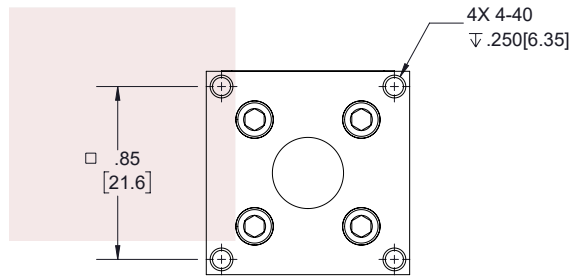
FRONT



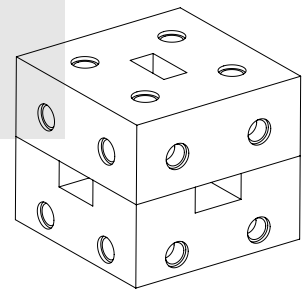
PORT 2
"COLLINEAR"



PORT 1
"SUM"



BOTTOM



| STANDARD TOLERANCES | |
|---------------------|--------|
| .X | ±0.2 |
| .XX | ±0.01 |
| .XXX | ±0.005 |

*STANDARD TOLERANCES APPLY
 ONLY TO DIMENSIONS IN INCHES

| | | | | | |
|---|--------|---|--------|--------------------|------|
| FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM | | NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm]. | | | |
| TITLE WR-28 Magic Tee Waveguide Using UG-599/U Square Cover Flange and Operating from 26.5 GHz to 40 GHz | | DWG NO FMWMT1005 | | CAGE CODE 3FKR5 | |
| CAD FILE | 111417 | SHEET | 1 OF 1 | SCALE | N/A |
| | | SIZE | A | | 7361 |