



V-Band Waveguide Dual-Directional Coupler, 20 dB

Description:

Model SWD-2040H-15-DB is a V band, four-port waveguide dual-directional coupler that delivers a 20 dB nominal coupling level and 30 dB typical directivity across the full waveguide band from 50 to 75 GHz. The dual-directional coupler uses a traditional multi-hole and split block design to achieve a flat coupling level, high directivity, and low insertion loss. The waveguide interface of the coupler is WR-15 waveguides with UG-385/U flanges. Custom coupling levels are available under different model numbers.



Features:

- Full Band Operation
- Low Insertion Loss
- High Directivity
- Flat Coupling Level Cross the Band

Applications:

- Test Labs
- Instrumentations
- Sub-assemblies

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	50 GHz		75 GHz
Insertion Loss*		1.1 dB	
Coupling*		20.0 dB	
Directivity*		40 dB	
VSWR		1.1:1	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

* The definition of the insertion loss, coupling and directivity is show as following.

<p>Insertion Loss = $-10 \log_{10} [(P2+P3)/P1]$ when P4 is terminated.</p> <p>Coupling Value = $-10 \log_{10} [P3/P1]$ when P4 is terminated. or $-10 \log_{10} [P4/P2]$ when P3 is terminated.</p>	
<p>Directivity = $-10 \log_{10} [P3/P2]$ when P1 and P4 are terminated.</p> <p>Directivity = $-10 \log_{10} [P4/P1]$ when P2 and P4 are terminated.</p>	

Mechanical Specifications:

Item	Specification
Through Ports	WR-15 Waveguide with UG-385/U Flange
Coupled Port	WR-15 Waveguide with UG-385/U Flange
Size	5.20" (L) X 1.50" (W) x 1.00" (H)
Housing Material	Aluminum
Finish	Gold Plated
Weight	20.0 Oz
Outline	WD-DB-V

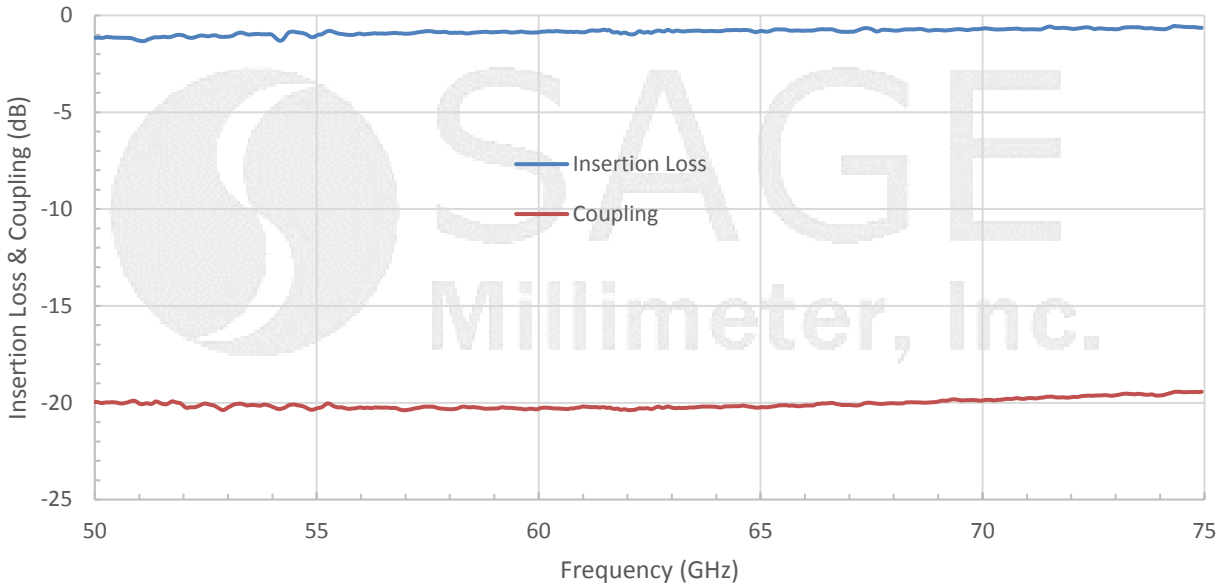


www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
 Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

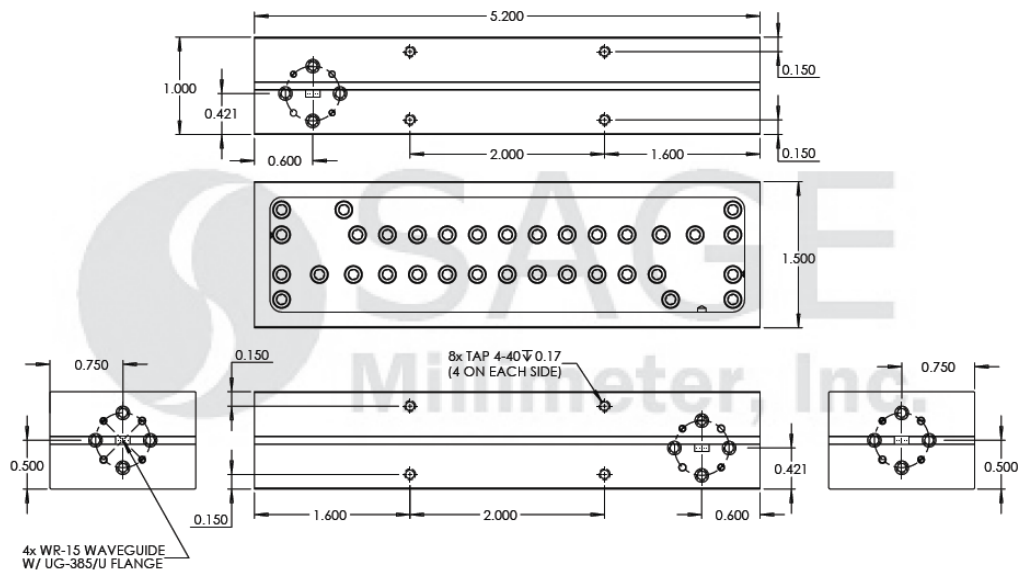


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Typical Insertion Loss & Coupling vs. Frequency



Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



Note:

- All data was presented using a limited sample lot. Actual data may vary unit to unit.
- The insertion loss shown includes the loss due to coupling.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Any foreign objects in the waveguide will degrade performance and/or damage the device.



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