SWD-1025H-05-BB-WP

Rev 1.0

G-Band Waveguide Bi-Directional Coupler, 10 dB

Description:

Model SWD-1025H-05-BB-WP is a G band, four-port waveguide bi-directional coupler that delivers a 10 dB nominal coupling level and 25 dB nominal directivity across the full waveguide band from 140 to 220 GHz. The four-port coupler uses a traditional multi-hole and split block design to achieve a flat coupling level, high directivity, and low insertion loss. The interfaces of the coupler are WR-05 waveguides with UG-387/U-M anti-cocking flanges. Custom coupling levels are available under different model numbers.

Features:

- Full Band Operation
- Low Insertion Loss
- High Directivity

Applications:

- Test Labs
- Instrumentation
- Sub-assemblies

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	140 GHz		220 GHz
Insertion Loss @ 140 GHz to 175 GHz		9 dB	
Insertion Loss @ 175 GHz to 220 GHz		5 dB	
Coupling*		10 dB	
Directivity*		25 dB	
Return Loss		20 dB	
Specification Temperature		+25 ˚C	
Operating Temperature	-40 ˚C		+85 ˚C

*The definition of the insertion loss, coupling and directivity is show as following. The required termination on the waveguide port is 30 dB or better for accurate measurement.

Mechanical Specifications:

Item	Specification
Waveguide Ports	WR-05 Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	6 Oz
Outline	WD-BB-G-A

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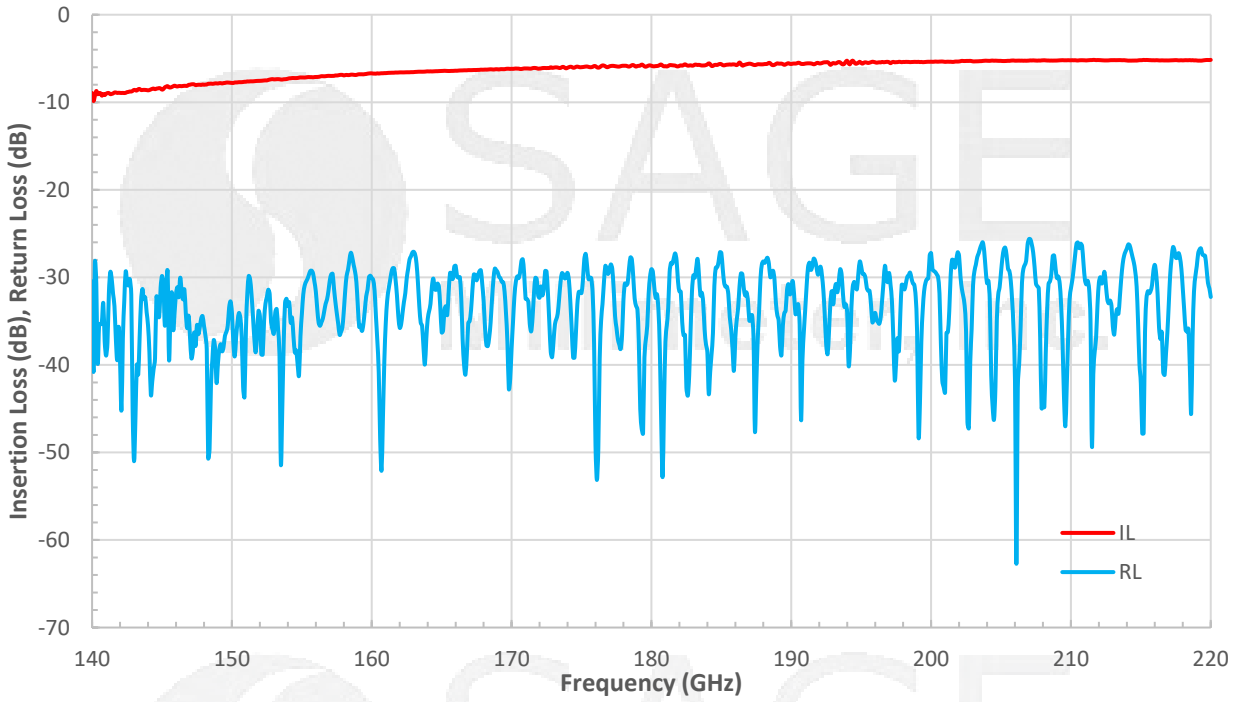
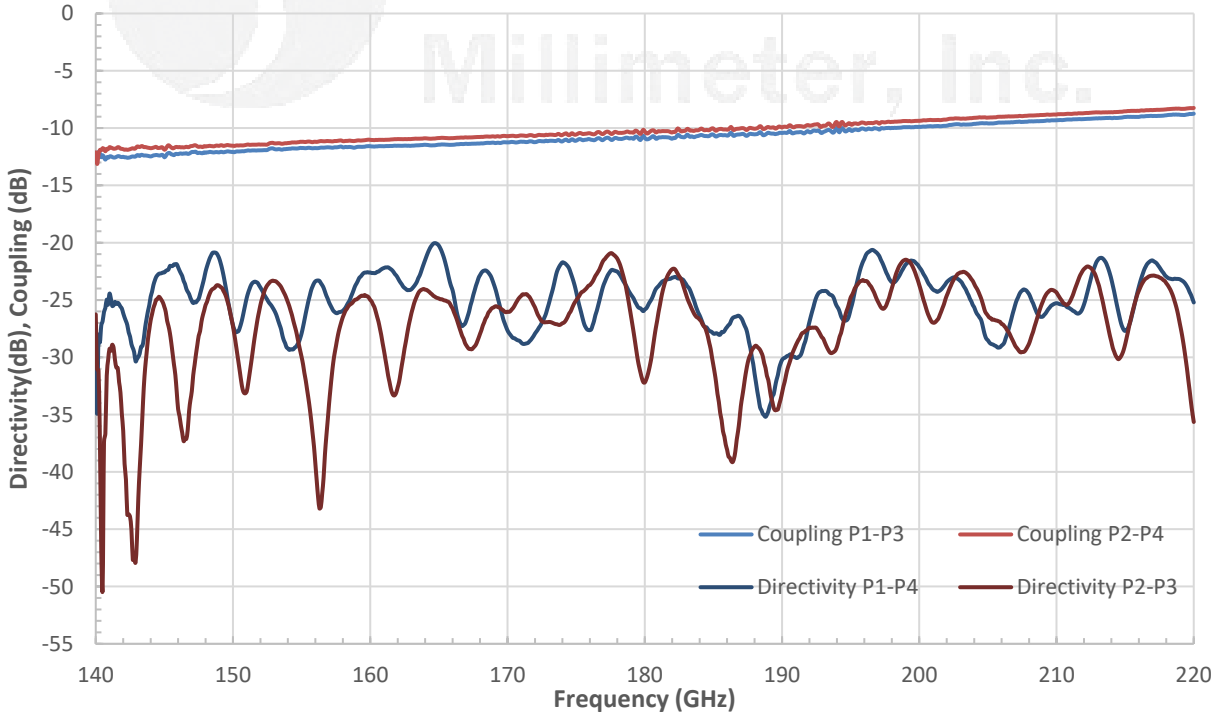
G-Band Waveguide Bi-Directional Coupler, 10 dB

Measured Insertion Loss, Return Loss Vs Frequency



Measured Directivity and Coupling Vs Frequency



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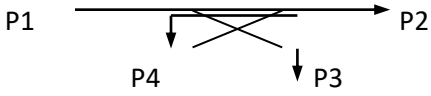
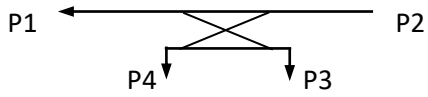
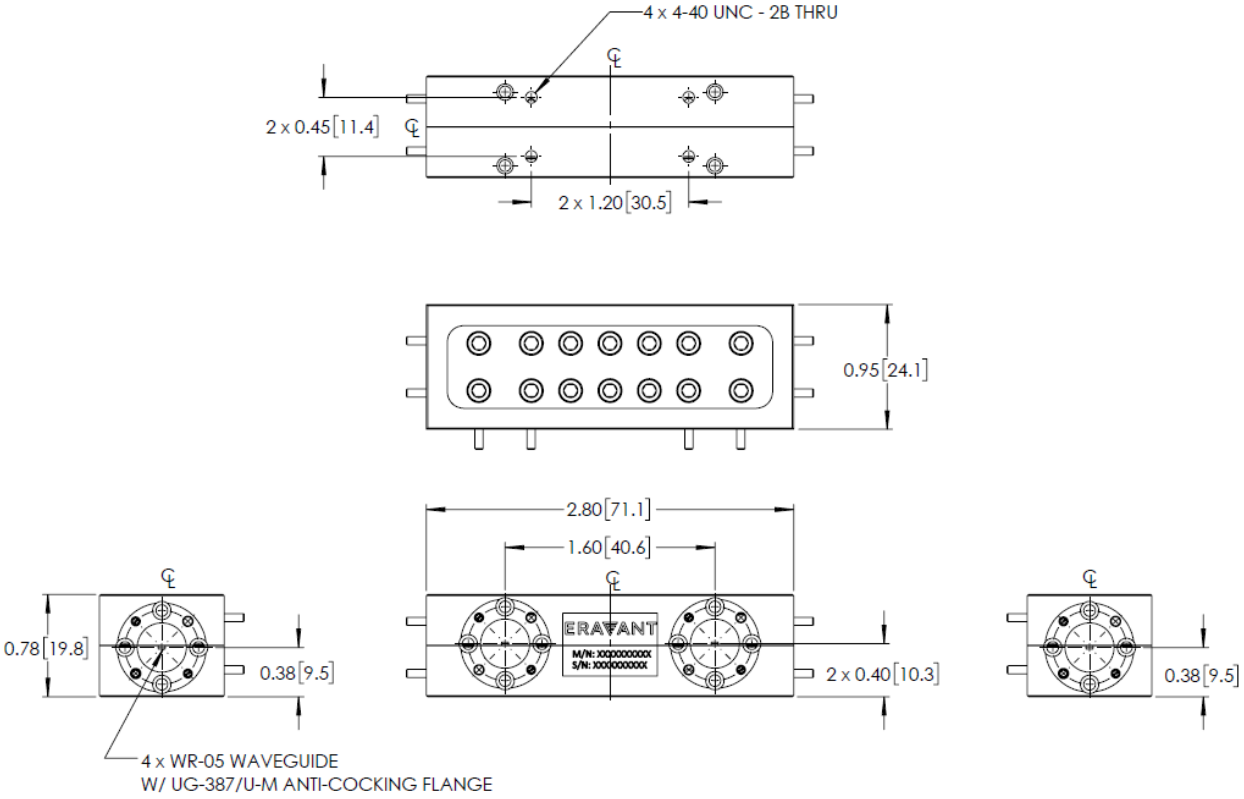
G-Band Waveguide Bi-Directional Coupler, 10 dB

Insertion Loss = -10 $\log_{10}$ [(P2+P3)/P1] Coupling Value = -10 $\log_{10}$ [P3/P1]	
Isolation = -10 $\log_{10}$ [P3/P2] Directivity = Isolation – Coupling Value	

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



Note:

- Eravant 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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