

K-Band Waveguide Bi-Directional Coupler, 20 dB

SWD-2040H-42-BB is a K-Band, four-port waveguide bi-directional coupler that delivers a 20 dB nominal coupling level and 40 dB nominal directivity across the full waveguide band from 18 to 26.5 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-42 waveguides with UG-595/U-M compatible flanges. Custom coupling levels are available under different model numbers..



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	18 GHz		26.5 GHz
Insertion Loss		0.5 dB	
Coupling		20 dB	
Directivity		40 dB	
Return Loss		25 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.

ECCN

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FEATURES

- Full Band Operation
- Low Insertion Loss
- High Directivity

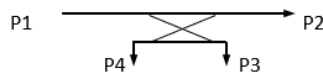
APPLICATIONS

- Test Lab
- Instrumentations
- Sub-assemblies

SUPPLEMENTAL DETAILS

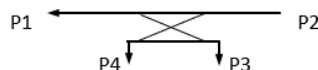
$$\text{Insertion Loss} = -10 \log_{10} [(P2+P3)/P1]$$

$$\text{Coupling Value} = -10 \log_{10} [P3/P1]$$



$$\text{Isolation} = -10 \log_{10} [P3/P2]$$

$$\text{Directivity} = \text{Isolation} - \text{Coupling Value}$$

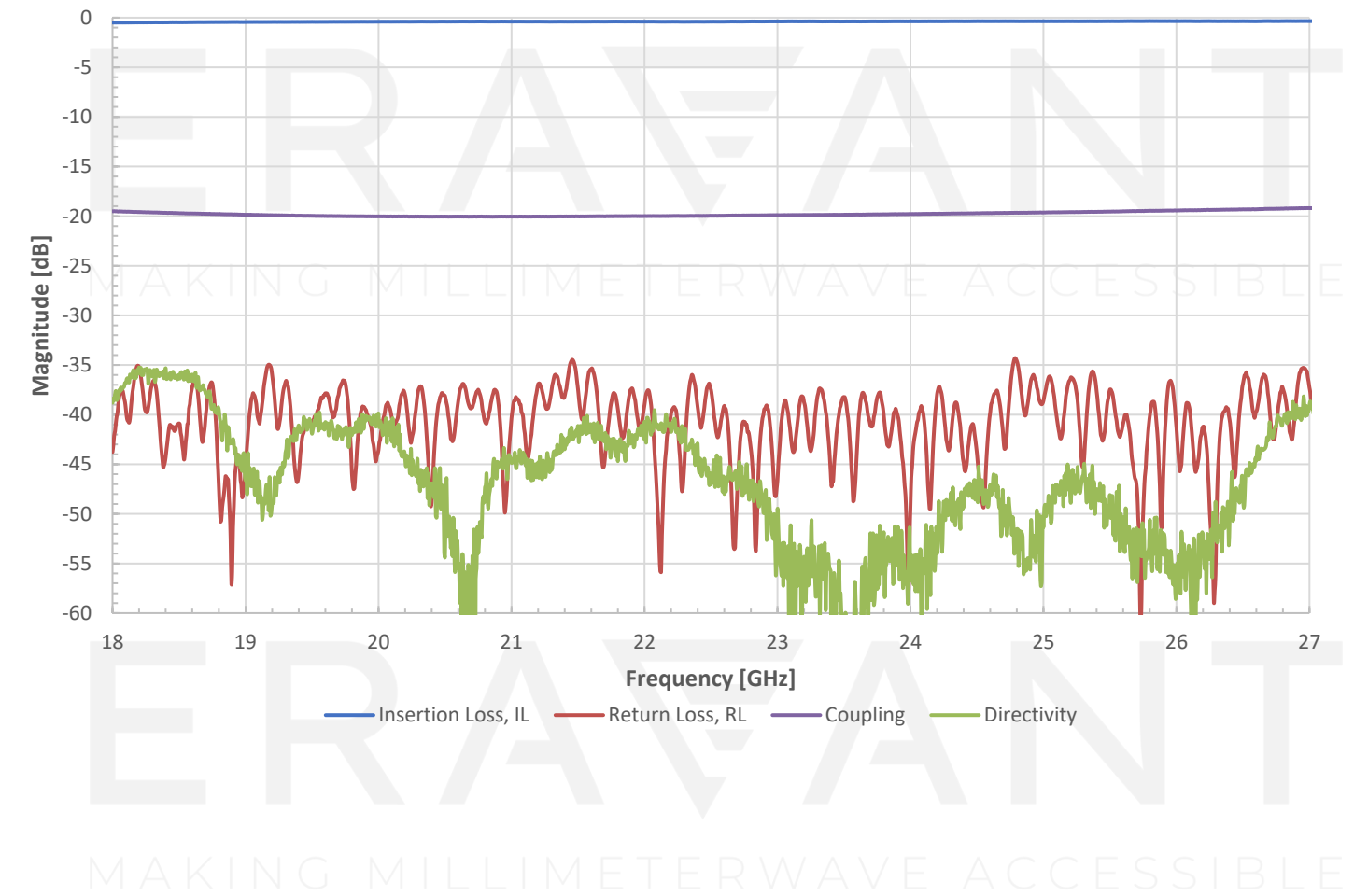


SWD-2040H-42-BB

Mechanical Specifications:

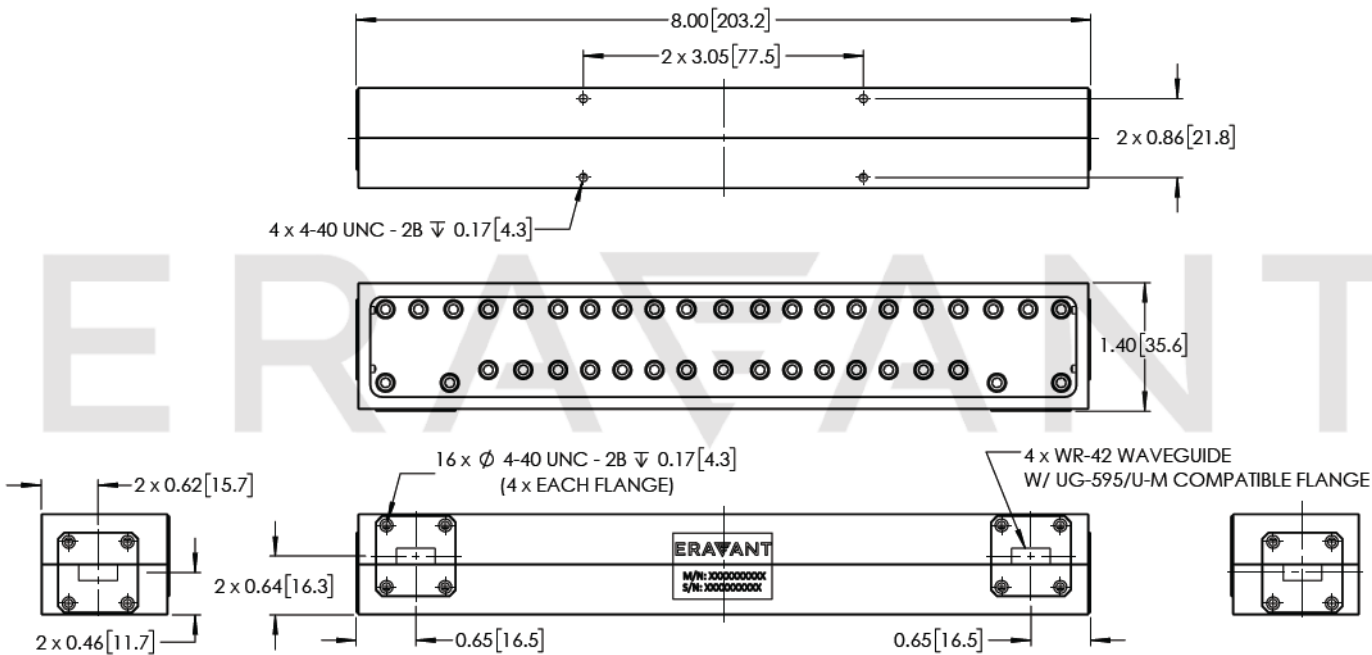
Item	Specification
Waveguide Ports	WR-42 Waveguide with UG-595/U-M Compatible Flange
Material	Brass
Finish	Gold Plated
Weight	1.9 lbs
Outline	WD-BB-K-A

Typical Performance Vs. Frequency



SWD-2040H-42-BB

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 antenna will cause performance degradation and possible device damage.