ERAVANT

W-Band Waveguide Directional Coupler, 7 dB

SWD-0640H-10-SB-WP is a W band, three-port waveguide directional coupler that delivers a 7 dB nominal coupling level and 30 dB minimum directivity across the full waveguide band from 75 to 110 GHz. The three-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-10 waveguides with UG-387/U-M anti-cocking flanges. Custom coupling levels are available under different model numbers.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz		110 GHz
Insertion Loss*		3 dB	
Coupling Level*		7 dB	
Directivity*	30 dB	40 dB	
Main Line 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

EAR99

FEATURES

- Full Band Operation
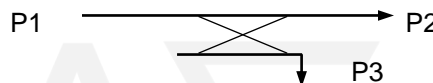- Low Insertion Loss
- High Directivity

APPLICATIONS
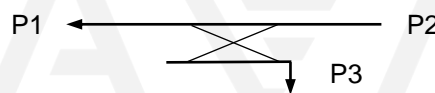
- Test Labs
- Instrumentations
- Sub-assemblies

SUPPLEMENTAL DETAILS

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

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

P1 → P2

P3

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

P1 ← P2

P3

RoHS

Mechanical Specifications:

Item	Specification
Through Ports	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Coupled Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Size	3.60" (L) X 0.95" (W) x 0.83" (H)
Material	Brass
Finish	Gold Plated
Weight	7.7 Oz
Outline	WD-SB-W-A

Measured Performance vs Frequency
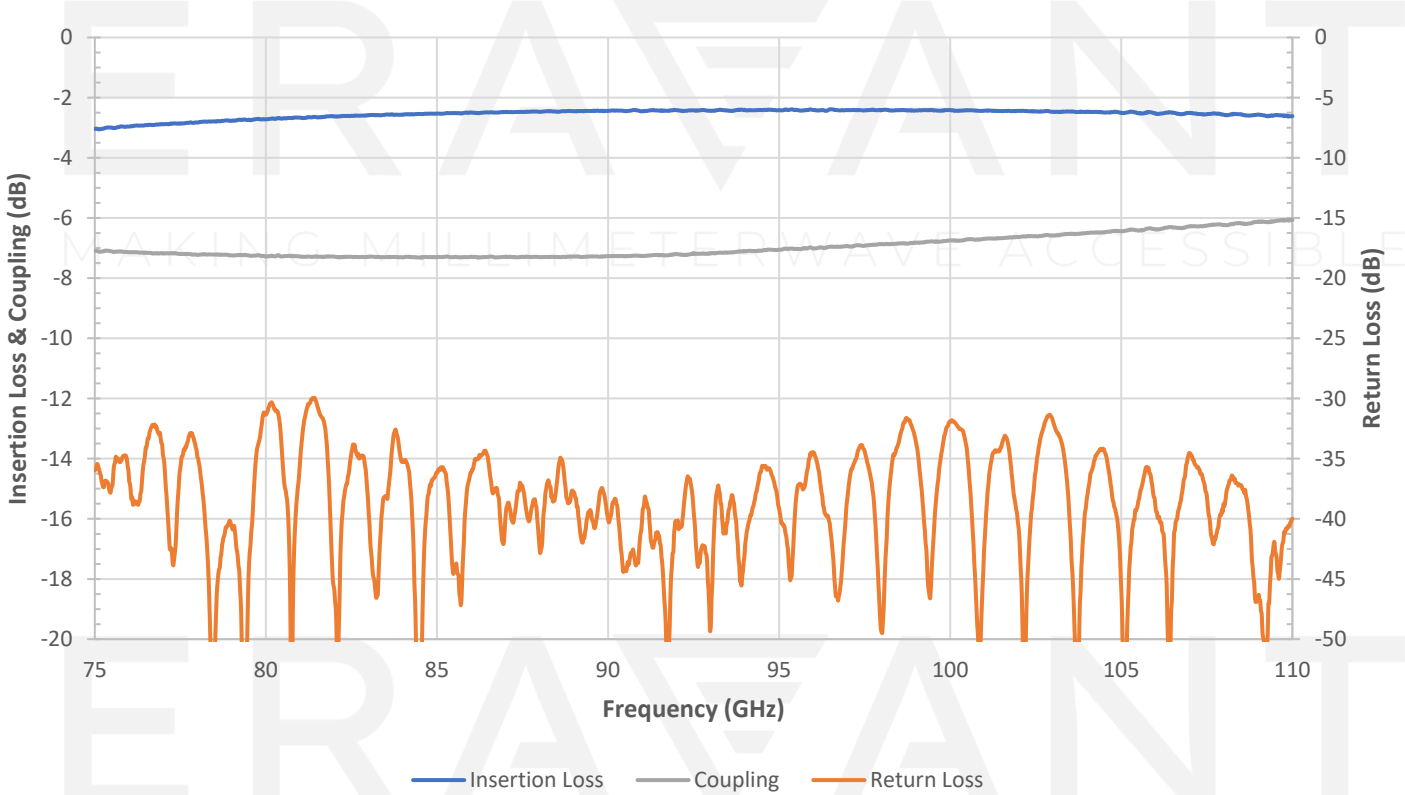
Mechanical Outline: Unless otherwise specified, all dimensions are in inches [millimeters])
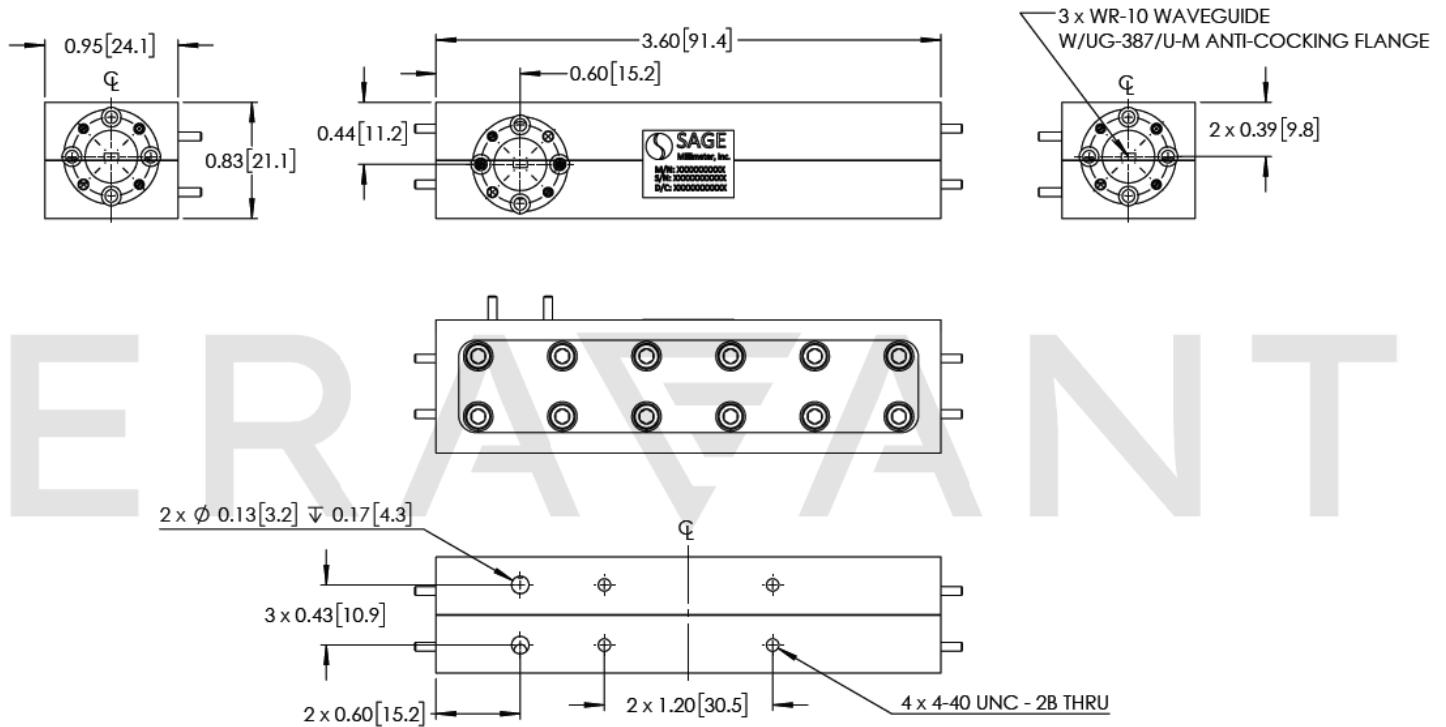
NOTE:
- All data was presented using a limited sample lot. Actual data may vary unit to unit.
- The insertion loss shown includes the loss due to coupling.
- Eravant reserves the right to change the information presented without notice.

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

Final Rev 1.1