

WR-06 Waveguide Dual-Directional Coupler, 20 dB

SWD-2020H-06-DB-C-1.8 is a WR-06, four-port waveguide dual-directional coupler that delivers a 20 dB nominal coupling level and 20 dB typical directivity across the full waveguide band from 110 to 170 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-06 waveguides with UG-387/U-M anti-cocking flanges. Other coupling levels including custom coupling levels and asymmetrical forward/reverse coupling levels are available under different model numbers.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	110 GHz		170 GHz
Insertion Loss*		2.0 dB	
Coupling*		20 dB	
Directivity*		20 dB	
Main Line Return Loss		20 dB	
Coupling Port Return Loss		20 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

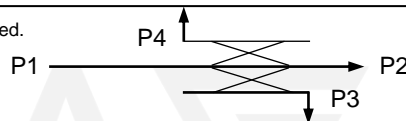
*The definition of the insertion loss, coupling and directivity is shown as following. The required termination on the waveguide port is 30 dB or better for accurate measurement.

*The actual directivity and return loss are higher than shown due to the limitations of the network analyzer's dynamic range.

Insertion Loss = $-10 \log_{10} [(P2+P3)/P1]$ when P4 is terminated.

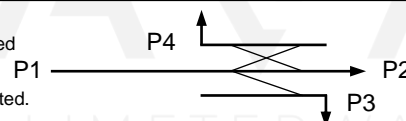
Coupling Value = $-10 \log_{10} [P3/P1]$ when P4 is terminated.

or $-10 \log_{10} [P4/P2]$ when P3 is terminated.



Directivity = $-10 \log_{10} [P3/P2]$ when P1 and P4 are terminated

Directivity = $-10 \log_{10} [P4/P1]$ when P2 and P4 are terminated.



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FEATURES

- Full Band Coverage
- Low Insertion Loss
- High Directivity
- Flat Coupling Level Across the Band

APPLICATIONS

- Test Labs
- Instrumentations
- Sub-assemblies

SUPPLEMENTAL DETAILS

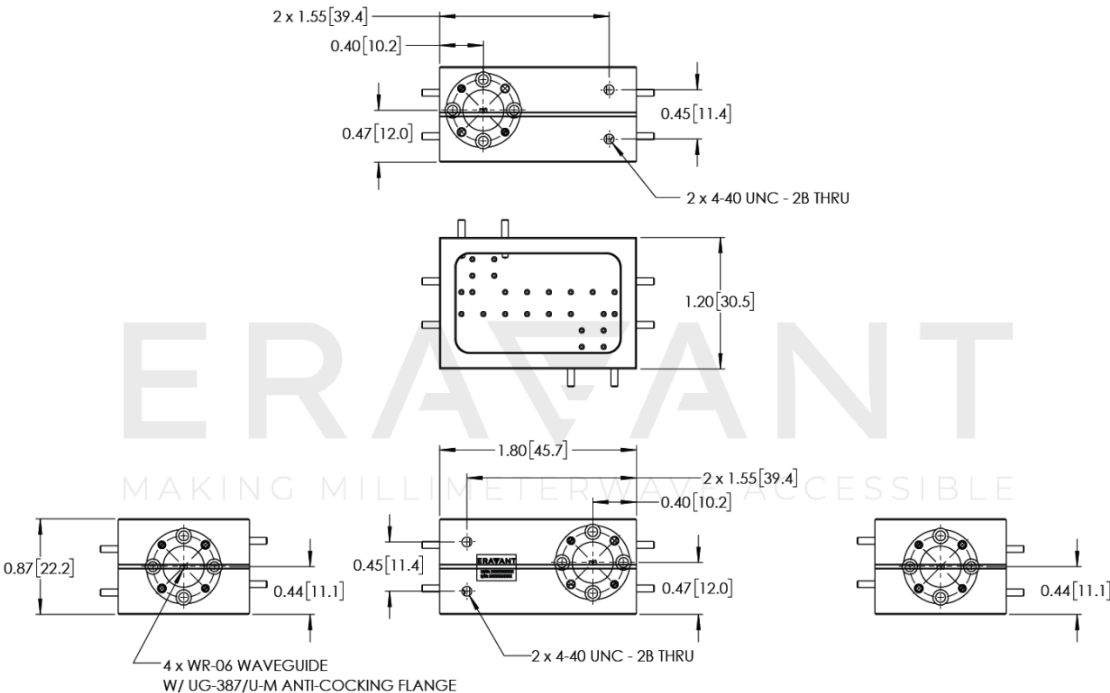


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Mechanical Specifications:

Item	Specification
Waveguide Ports	WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	4.9 Oz
Outline	WD-DB-D-A-C-1.8

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



NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.