

## F-Band Waveguide Dual-Directional Coupler, 20 dB

**SWD-2030H-08-DB** is a F-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 90 to 140 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-08 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	90 GHz		140 GHz
Insertion Loss*		2.5 dB	
Coupling*		20 dB	
Directivity*		30 dB	
Main Line Return Loss		20 dB	
Coupling Port Return Loss		20 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

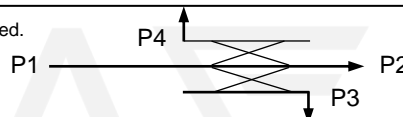
\*The definition of the insertion loss, coupling and directivity is shown as following. The required termination on the waveguide port is 30 dB or better for accurate measurement.

\*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.

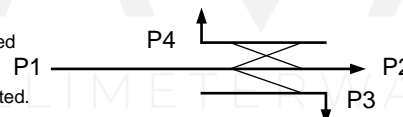
Coupling Value =  $-10 \log_{10} [P3/P1]$  when P4 is terminated.

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 P3 are terminated.



### ECCN

EAR99

### FEATURES

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

### APPLICATIONS

- Test Labs
- Instrumentations
- Sub-assemblies

### SUPPLEMENTAL DETAILS

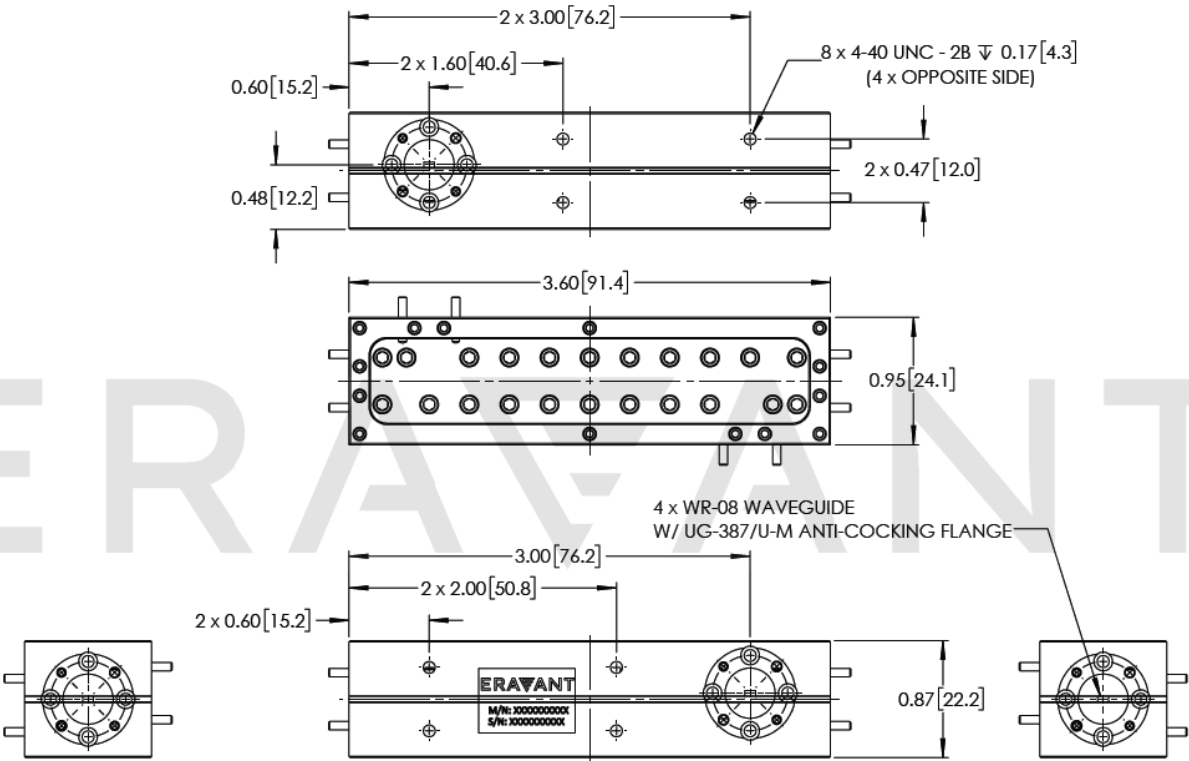


SWD-2030H-08-DB

Mechanical Specifications:

Item	Specification
Waveguide Ports	WR-08 Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	9.0 Oz
Outline	WD-DB-F-A

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



NOTE:

- 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.