

F-Band Waveguide Dual-Directional Coupler, 30 dB

SWD-3030H-08-DB is a F-band, four-port waveguide dual-directional coupler that delivers a 30 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*		30 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

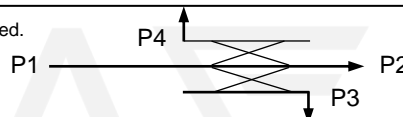
*The definition of the insertion loss, coupling and directivity is shown as following. The required termination on the waveguide port is 30 dB or better for accurate measurement.

*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.

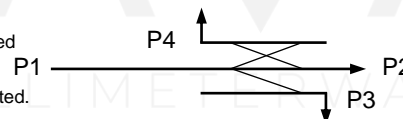
Coupling Value = $-10 \log_{10} [P3/P1]$ when P4 is terminated.

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 P4 are terminated.



ECCN

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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



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

Technical drawing of the ERAYANT 1000000000X 1000000000X antenna, showing three views: top, front, and side.

Top View:

- Overall dimensions: 2×3.00 [76.2]
- Internal dimensions: 2×1.60 [40.6]
- Mounting holes: $8 \times 4-40 \text{ UNC} - 2B \nabla 0.17$ [4.3] (4 x OPPOSITE SIDE)
- Central circular flange with 8 holes.
- Dimensions: 0.60 [15.2] and 0.48 [12.2]

Front View:

- Overall dimensions: 3.60 [91.4] and 0.95 [24.1]
- Mounting holes: $4 \times \text{WR-08 WAVEGUIDE}$ and $4 \times \text{UG-387/U-M ANTI-COCKING FLANGE}$

Side View:

- Overall dimensions: 2×0.60 [15.2] and 2×2.00 [50.8]
- Central circular flange with 8 holes.
- Dimensions: 0.87 [22.2]

Label:

ERAYANT
M/N: 1000000000X
S/N: 1000000000X

- Eravant reserves the right to change the information presented without notice.

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