

# C20-1500WG

## WR-15 High Directivity Waveguide Coupler, 20 dB, 50-75 GHz

### DEVICE OVERVIEW

#### General Description

The C20-1500WG is a WR-15 20 dB waveguide coupler featuring high 41 dB directivity over a 50-75GHz operational bandwidth. These waveguide components are built with high precision and then gold plated for high corrosion resistance. They have very low 0.9 dB loss and excellent 32 dB. Manufactured to rigid specifications, these transmission line components provide minimum detrimental effects on overall system VSWR.



[Download s-parameters here](#)

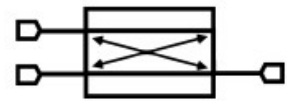
#### Features

- 19 dB Coupling
- Low 0.9 dB Insertion Loss
- High 41 dB Directivity
- WR-15 Waveguide
- UG-385/U Input and Output Flanges

#### Applications

- mmWave Applications

#### Functional Block Diagram



#### Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
C20-1500WG	WR-15 High Directivity Waveguide Coupler, 20 dB, 50-75 GHz	WR-15	RoHS	Released	EAR99

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### Revision History

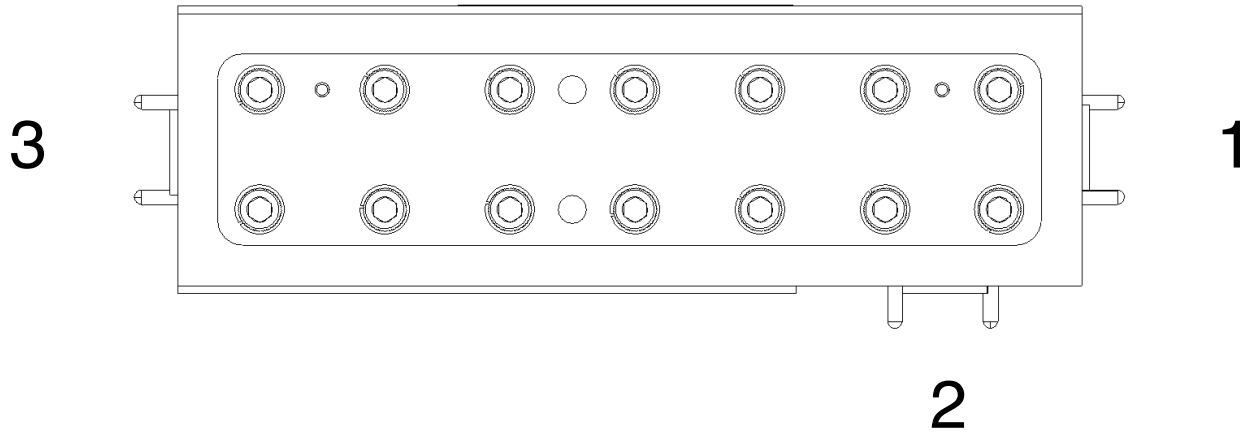
Revision Code	Revision Date	Comment
-	2025-08-11	Initial Release

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### Port Configuration and Functions

#### Port Diagram



#### Port Functions

Port	Function	Connector Type	Description	Equivalent Circuit for Package
Port 1	Input	WR-15-UG-385/U	-	-
Port 2	Coupled	WR-15-UG-385/U	-20dB coupled output port	-
Port 3	Output	WR-15-UG-385/U	-	-

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### Specifications

#### Absolute Maximum Ratings

The Absolute Maximum Ratings indicate limits beyond which damage may occur to the device. If these limits are exceeded, the device may be inoperable or have a reduced lifetime.

Parameter	Maximum Rating	Unit
Maximum Operating Temperature	85	°C
Maximum Storage Temperature	125	°C
Minimum Operating Temperature	-40	°C
Minimum Storage Temperature	-55	°C

#### Package Information

Parameter	Details	Rating
ESD	This device is not sensitive to ESD.	N/A
Dimensions	-	97.28 x 30.48 x 21.84 mm

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### Electrical Specifications

Min and Max limits are guaranteed at Ta = 25°C

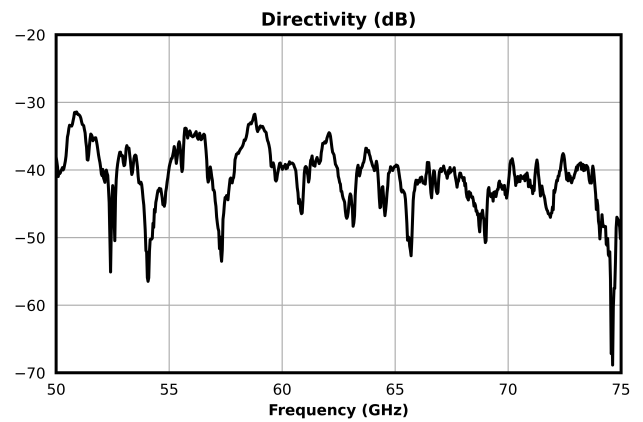
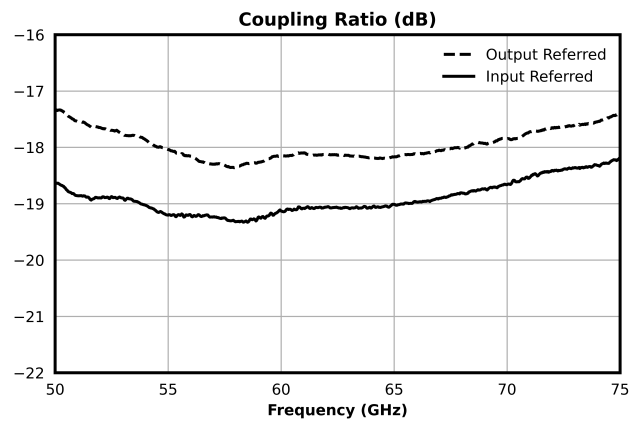
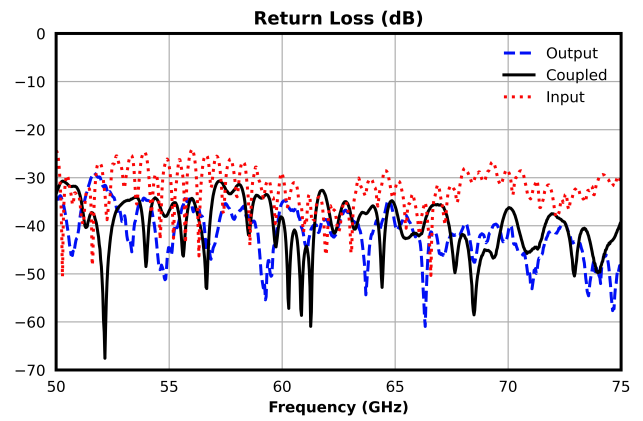
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Coupling Ratio	Configuration A, Temp = 25°C	50	75	-	18.96	-	dB
Direct Line Insertion Loss	Configuration A, Temp = 25°C	50	75	-	0.9	-	dB
Directivity	Configuration A, Temp = 25°C	50	75	-	41	-	dB
Coupled Port Return Loss	Configuration A, Temp = 25°C	50	75	-	39	-	dB
Frequency Sensitivity	Configuration A, Temp = 25°C	50	75	-	1.14	-	dB
Amplitude Flatness <sup>1</sup>	Configuration A, Temp = 25°C	50	75	-	0.19	-	dB

<sup>[1]</sup> Amplitude Flatness = Median value of ABS(Measured Coupling Power – Average Coupling Factor)

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### Typical Performance Plots





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