

SMA Directional Coupler 20 dB Coupled Port From 2 GHz to 8 GHz Rated To 50 Watts

Directional couplers are indispensable components for isolating, separating and combining signals. For example, they provide a simple way of sampling microwave signals. They also can make accurate attenuator measurements since reflections are eliminated. The MC2047-20 is a 20 dB directional coupler that operates from 2 to 8 GHz with 20 dB directivity minimum and 1.25:1 VSWR maximum. The package interface uses SMA female connectors, and is also RoHS compliant.

The MC2047-20 is part of Fairview Microwave's family of directional/dual-directional couplers that offer coupling ratio up to 50 dB with excellent performance featuring high directivity, low insertion loss and VSWR. They are available in both narrow and broad bandwidths and can be used in a wide variety of applications including signal sampling, VSWR measurements, power combining and distribution.

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	2		8	GHz
Impedance		50		Ohms
Coupling		20 ±1		dB
Freq. Sensitivity			±1	dB
Insertion Loss		0.4		dB
Directivity	20			dB
Main Line VSWR			1.25:1	
Input Power (CW)			50	Watts

Electrical Specification Notes:
Values at 25°C, sea level.

Mechanical Specifications

Size	
Length	1.69 in [42.93 mm]
Width/Dia.	0.59 in [14.99 mm]
Height	0.43 in [10.92 mm]
Weight	0.074 lbs [33.57 g]

Configuration

Package Type	Connectorized
Input Connector	SMA Female
Output Connector	SMA Female
Coupled Connectors	SMA Female

Environmental Specifications

Temperature	
Operating Range	-55 to +85 deg C
Storage Range	-55 to +100 deg C

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:



Features:

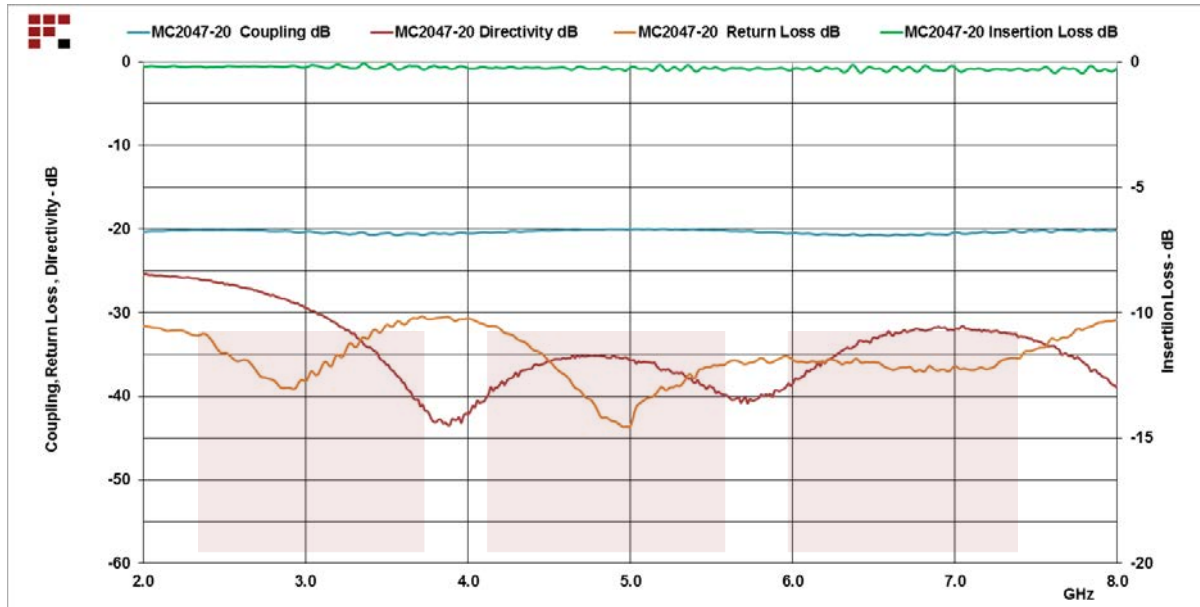
- Directional Coupler
- 2 to 8 GHz Frequency Range
- Coupling 20±1 dB
- Directivity > 20 dB
- VSWR < 1.25:1
- Max Power 50 Watts (CW)

Applications:

- Test and Measurement
- Military Communications
- Commercial Communications
- Wireless Communications
- SATCOM

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Typical Performance Data



Insertion loss includes coupled power

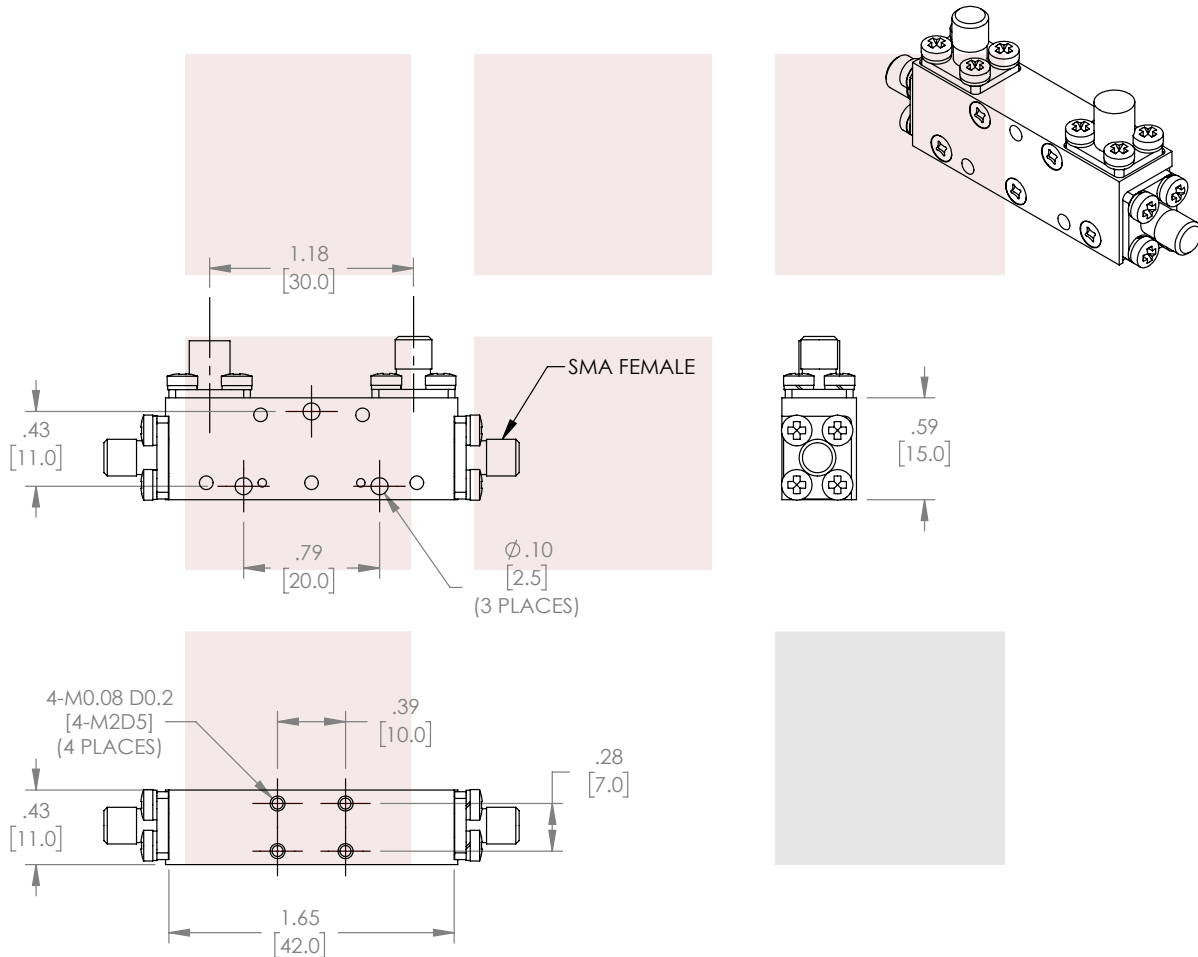
SMA Directional Coupler 20 dB Coupled Port From 2 GHz to 8 GHz Rated To 50 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SMA Directional Coupler 20 dB Coupled Port From 2 GHz to 8 GHz Rated To 50 Watts MC2047-20](https://www.fairviewmicrowave.com/sma-directional-coupler-20-db-8-ghz-50-watts-mc2047-20-p.aspx)

URL: <https://www.fairviewmicrowave.com/sma-directional-coupler-20-db-8-ghz-50-watts-mc2047-20-p.aspx>

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE		
B	PCR	08/02/2021	DR



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TITLE

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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

.X = ±.2 [5.08] FRACTIONS ± 1/32
.XX = ±.02 [.51] ANGLES ± 1°
.XXX = ±.005 [.13]

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305] = +1 [25] / -0
12 [305] < L ≤ 60 [1524] = +2 [51] / -0
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY PD	ITEM NO. MC2047-20	REV B
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T-Rev.D