

2.92mm 90 Degree Hybrid Coupler from 20 GHz to 40 GHz Rated to 20 Watts

The FMCP1148 is a high power 90 degree hybrid coupler that operates from 20 to 40 GHz and can handle 20 Watts (CW) with 12 dB isolation minimum and 1.8:1 VSWR maximum. The package interface uses 2.92mm Female connectors.

The FMCP1148 is part of Fairview Microwave's family of 90 degree hybrid couplers that offer excellent performance featuring high isolation, low insertion loss and VSWR while maintaining great amplitude/phase balance over the entire operating frequency range. They are available in both narrow and broad bandwidths and can be used in a wide variety of applications including signal sampling, phased array radar, and any application that requires even power distribution with a 90 degree difference in phase.

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	20		40	GHz
Impedance		50		Ohms
Phase Difference		90		Degrees
Coupling		3		dB
Insertion Loss		1.6	2	dB
Isolation	12	15		dB
VSWR		1.6:1	1.8:1	
Amplitude Balance		±0.5	±0.7	dB
Phase Balance		±6	±10	Degrees
Input Power (CW)			20	Watts
Input Power (Peak)			300	Watts

Mechanical Specifications

Size

Length	1 in [25.4 mm]
Width	0.43 in [10.92 mm]
Height	0.63 in [16 mm]
Weight	0.15 lbs [68.04 g]

Configuration

RF Connector Type	2.92mm Female
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Environmental Specifications

Temperature

Operating Range	-45 to +85 deg C
Storage Range	-55 to +125 deg C

Humidity	100% RH at 35°C, 95% RH at 40°C
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Shock	20G for 11msec half sine wave, 3 axis both directions
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Vibration	25gRMS (15 degrees 2KHz) endurance, 1 hour per axis
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Altitude	30,000 ft.
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Features:

- 90° Phase Shift Between Output Ports
- High power handling of 20 Watts CW
- 20 to 40 GHz Frequency Range
- VSWR 1.6:1 Typical
- High Isolation of 12 dB Minimum
- Low 1.6 dB Insertion Loss Typical
- 2.92mm Female Connectors
- Stable performance over Operating Temperature Range

Applications:

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

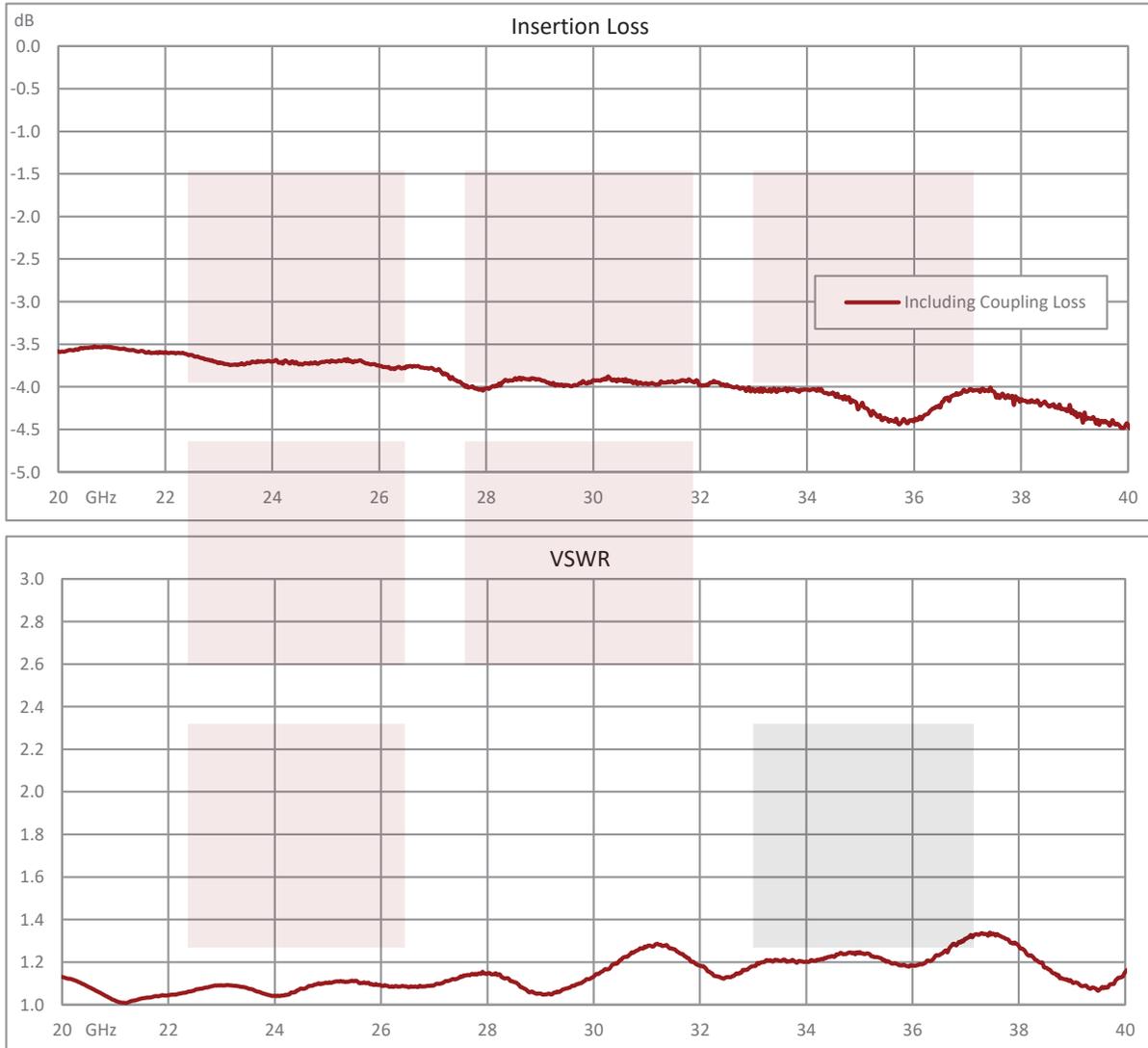
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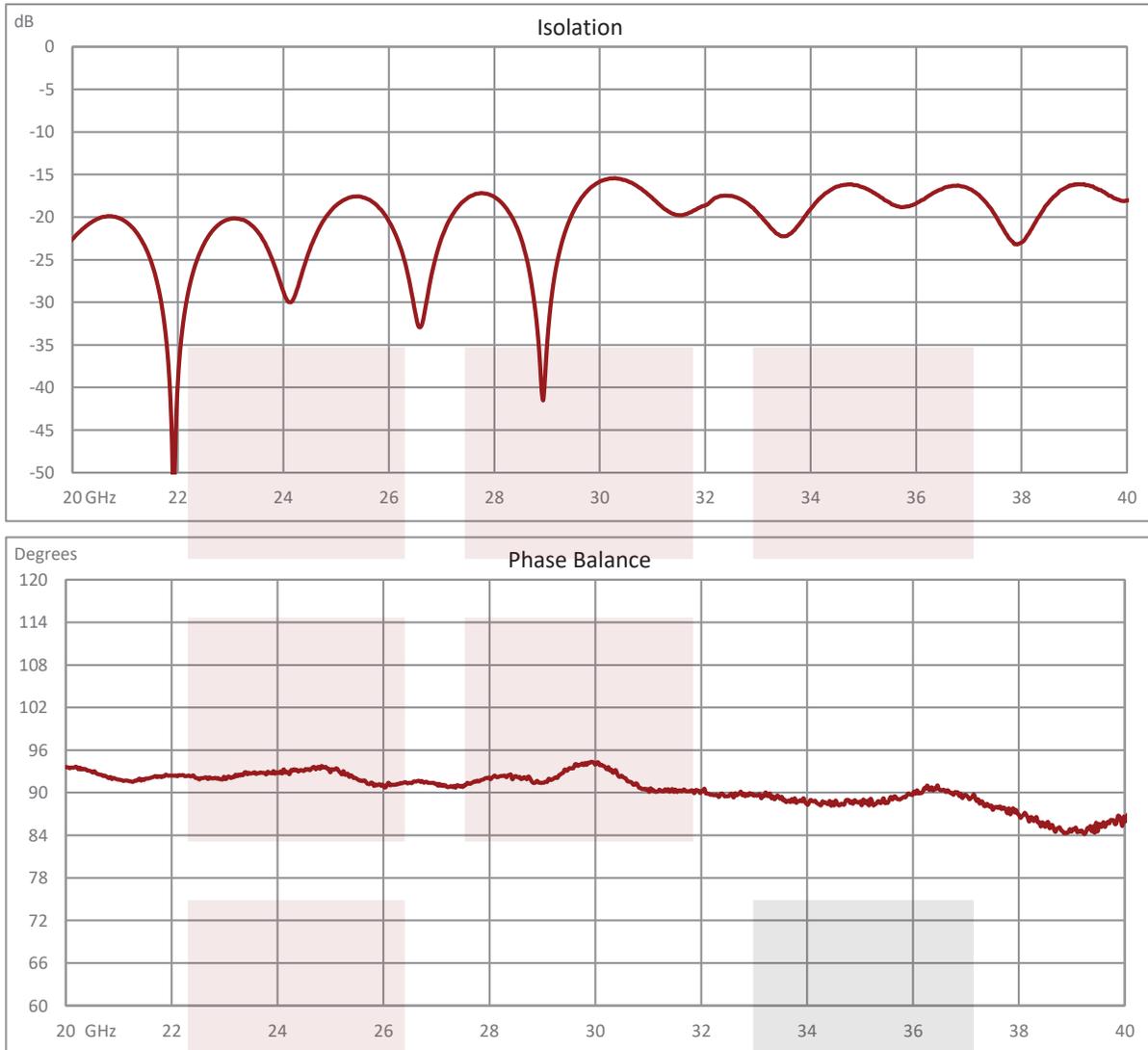
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data





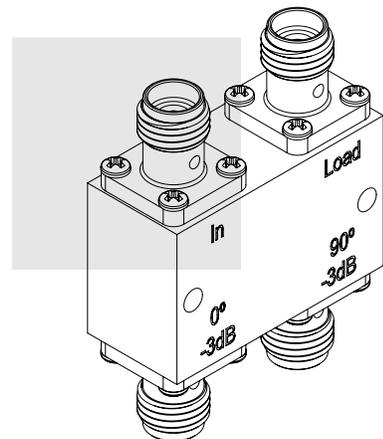
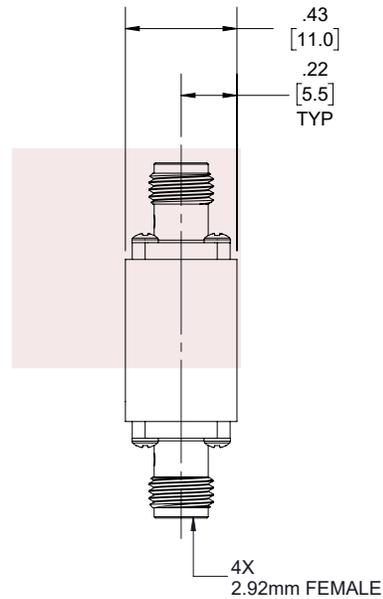
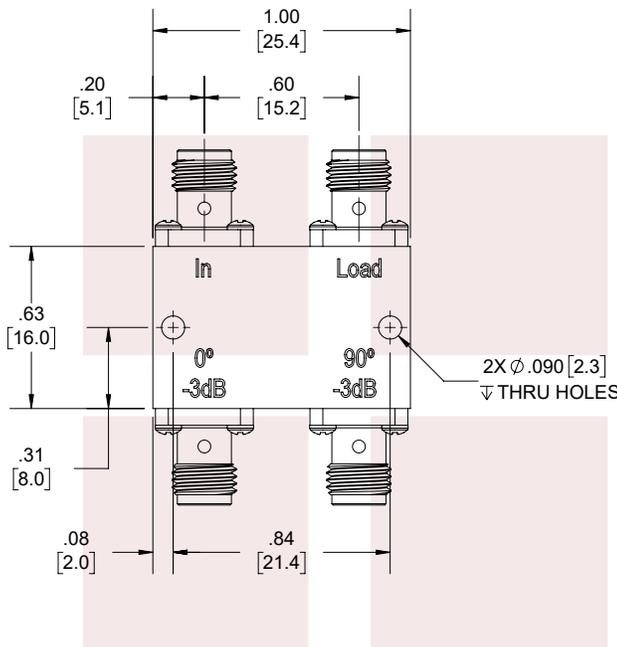
2.92mm 90 Degree Hybrid Coupler from 20 GHz to 40 GHz Rated to 20 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [2.92mm 90 Degree Hybrid Coupler from 20 GHz to 40 GHz Rated to 20 Watts FMCP1148](https://www.fairviewmicrowave.com/2.92mm-90-degree-hybrid-coupler-20-40-ghz-20-watts-fmcp1148)

URL: <https://www.fairviewmicrowave.com/2.92mm-90-degree-hybrid-coupler-20-40-ghz-20-watts-fmcp1148-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	1/20/2020	S.PONG



LABEL:

FAIRVIEW MICROWAVE
FMCP1148
D/C: YYWW

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TITLE
2.92mm 90 Degree Hybrid Coupler from 20 GHz to 40 GHz Rated to 20 Watts

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

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0
.XX = ±.02 [.51]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0
.XXX = ±.005 [.13]	ANGLES ± 1°	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 K.DANG	ITEM NO. FMCP1148	REV A
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T-Rev.D