

6 dB Low PIM Directional Coupler with 4.3-10 Female Connectors, 555 MHz to 6 GHz, IP65 Rated, 300 Watt Power Rating



FMCP1166-6

Features

- Broadband frequency coverage from 555 MHz to 6 GHz
- 6 dB coupling value
- Low PIM performance of ≈ -160 dBc (Typical = -168 dBc)
- Tested using two 43 dBm carriers
- Low insertion loss 1.85dB
- High directivity 20 dB typ
- Excellent VSWR performance 1.25:1
- 300 watt (CW) input power handling
- 3000 watt peak power handling
- 50 Ohm impedance
- DC pass capability up to 2 A
- IP65-rated weather-resistant enclosure
- Operating temperature range from -40°C to $+75^{\circ}\text{C}$
- 4.3-10 Female connectors

Applications

- Distributed Antenna Systems (DAS)
- Cellular base stations
- 4G LTE and 5G wireless infrastructure
- Public safety communication systems
- CBRS deployments
- Private LTE and private 5G networks
- In-building wireless coverage
- Small cell installations
- RF signal monitoring
- RF power sampling
- Test and measurement systems
- Indoor and outdoor RF distribution networks

Description

The FMCP1166-6 is a 6 dB Low PIM Directional Coupler designed for broadband wireless communication systems requiring precise signal monitoring and distribution with exceptional passive intermodulation performance. Operating from 555 MHz to 6 GHz, this directional coupler delivers accurate coupling, low insertion loss 1.85 dB, excellent VSWR 1.25:1, and 20 dB high directivity across multiple wireless frequency bands. With a Low PIM performance of -160 dBc maximum (-168 dBc typical) when tested with two 43 dBm carriers, it is ideally suited for modern cellular infrastructure, Distributed Antenna Systems (DAS), small cells, CBRS, and private wireless networks. The rugged IP65-rated enclosure, wide operating temperature range, and RoHS-compliant construction provide reliable performance in demanding indoor and outdoor environments.

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	0.555		6	GHz
Impedance		50		Ohms
Coupling		6 ± 1.2		
Insertion Loss			1.85	dB
Directivity	18	20		dB
Main Line VSWR			1.25:1	
Passive Intermodulation 2x43dBm		-168	-160	dBc
Input Power (CW)			300	Watts
Input Power (Peak)			3	kWatts

Mechanical Specifications

Size

Length	4.57 in [116.08 mm]
Width/Dia.	1.41 in [35.81 mm]
Height	0.86 in [21.84 mm]

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Weight	0.44 lbs [199.58 g]
Housing Material and Plating	Brass, Copper-Tin-Zinc

Configuration

Input Connector	4.3-10 Female
Output Connector	4.3-10 Female
Coupled Connectors	4.3-10 Female

Environmental Specifications

Temperature

Operating Range	-40 to +75 deg C
Storage Range	-50 to +85 deg C
Humidity	<95%
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6-Fc
Altitude	<5000m
Thermal Shock	IEC 60068-2-14-Na
Salt Spray	168 hours

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

Plotted and Other Data

Notes:

6 dB Low PIM Directional Coupler with 4.3-10 Female Connectors, 555 MHz to 6 GHz, IP65 Rated, 300 Watt Power Rating 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: [6 dB Low PIM Directional Coupler with 4.3-10 Female Connectors, 555 MHz to 6 GHz, IP65 Rated, 300 Watt Power Rating FMCP1166-6](#)

URL: <https://www.fairviewmicrowave.com/4.3-10-directional-low-pim-6-db-555-to-6-ghz-fmcp1166-6>

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FMCP1166-6 CAD Drawing

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