

N Directional Coupler 20 dB from 500 MHz to 1000 MHz Rated to 500 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 FMCP1142-20 is a 20 dB directional coupler that operates from 500 to 1000 MHz and can handle up to 500 Watts (CW) with 20 dB directivity minimum and 1.2:1 VSWR maximum. The package interface uses N female connectors.

The FMCP1142-20 is part of Fairview Microwave's family of directional/dual-directional couplers that offer coupling ratios 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.



Features:

- Directional Coupler
- N Female Connectorized Design
- 500 to 1000 MHz Frequency Range
- Coupling 20±0.8 dB
- Directivity > 20 dB
- VSWR < 1.2:1
- Max Power 500 Watts (CW)

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	500		1,000	MHz
Impedance		50		Ohms
Coupling	19.2	20	20.8	dB
Freq. Sensitivity		±0.3	±0.5	dB
Insertion Loss		0.1	0.3	dB
Directivity	20	22		dB
Main Line VSWR		1.1:1	1.2:1	
Sec. Line VSWR		1.1:1	1.2:1	
Input Power (CW)			500	Watts
Input Power (Peak) 10% Duty Cycle, 10us PW			3	kWatts

Applications:

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

Mechanical Specifications

Size

Length	9.75 in [247.65 mm]
Width/Dia.	2.067 in [52.5 mm]
Height	1.092 in [27.74 mm]
Weight	1.83 lbs [830.07 g]
Housing Material and Plating	Aluminum

Configuration

Input Connector	N Female
Output Connector	N Female
Coupled Connectors	N Female

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-50 to +105 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
Vibration 25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Altitude 30,000 ft.

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

Plotted and Other Data

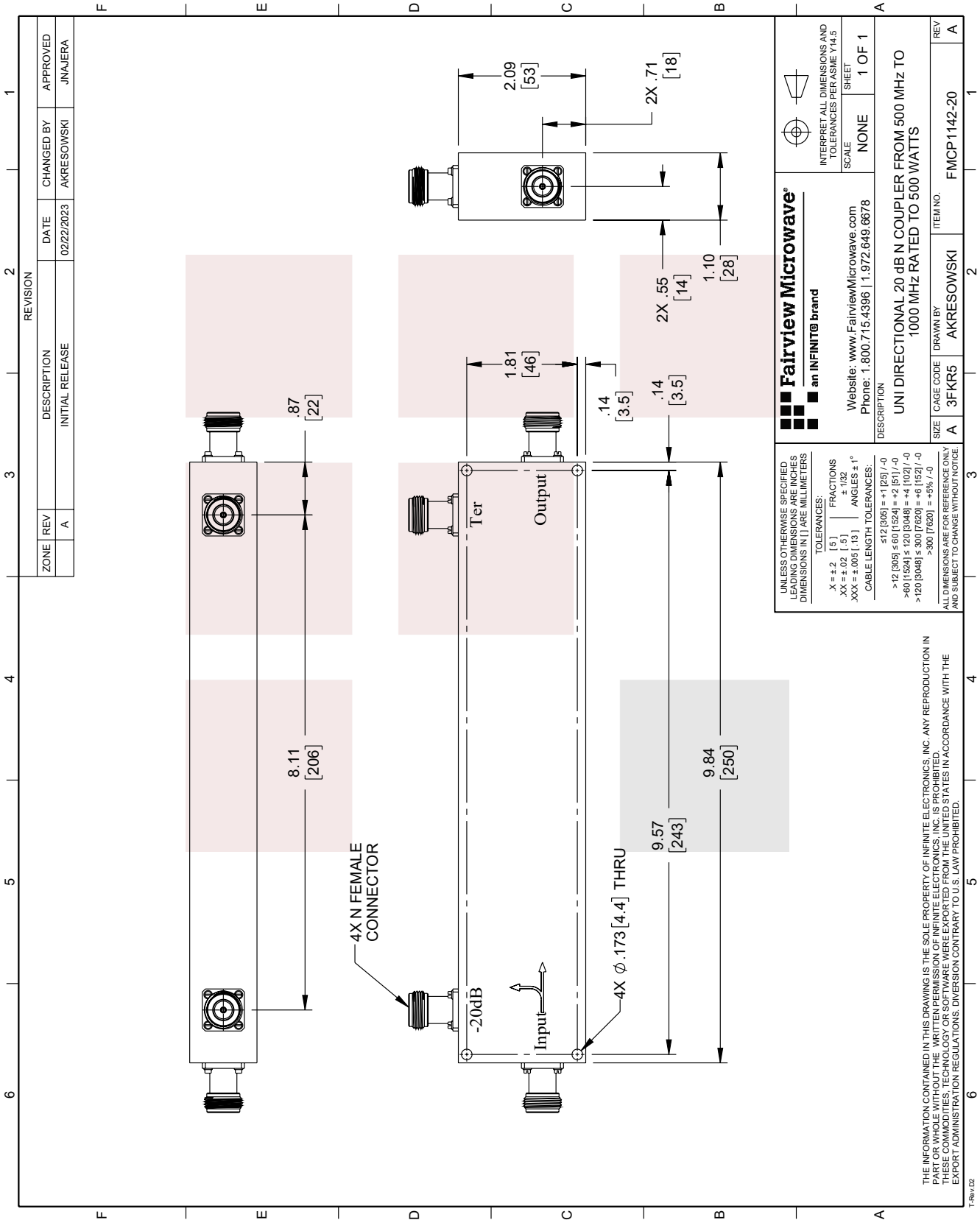
Notes:

N Directional Coupler 20 dB from 500 MHz to 1000 MHz Rated to 500 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: [N Directional Coupler 20 dB from 500 MHz to 1000 MHz Rated to 500 Watts FMCP1142-20](#)

URL: <https://www.fairviewmicrowave.com/directional-standard-20-db-500-mhz-to-1-ghz-fmcp1142-20-p.aspx>

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REVISION		DATE	CHANGED BY	APPROVED
ZONE	REV			
	A	02/22/2023	AKRESOWSKI	JNAJERA
DESCRIPTION				
INITIAL RELEASE				

<p>Fairview Microwave an INFINIT[®] brand</p> <p>Website: www.FairviewMicrowave.com Phone: 1.800.715.4396 1.972.649.6678</p>	<p>INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5</p>
	<p>SCALE: NONE</p> <p>SHEET: 1 OF 1</p>
<p>DESCRIPTION</p> <p>UNI DIRECTIONAL 20 dB N COUPLER FROM 500 MHZ TO 1000 MHZ RATED TO 500 WATTS</p>	
<p>SIZE: A</p> <p>CAGE CODE: 3FKR5</p> <p>DRAWN BY: AKRESOWSKI</p>	<p>ITEM NO.: FMCP1142-20</p> <p>REV: A</p>

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES AND DIMENSIONS IN LARGE MILLIMETERS.

TOLERANCES:

.X = ±.2 (5) FRACTIONS
 .XX = ±.02 (.5) ± .032
 .XXX = ±.005 (.13) ANGLES ± 1°

CABLE LENGTH TOLERANCES:

≤ 12 (305) = ±.125 (/ 0)
 > 12 (305) ≤ 60 (1524) = ±.2 (5) (/ 0)
 > 60 (1524) ≤ 120 (3048) = ±.4 (102) (/ 0)
 > 120 (3048) ≤ 300 (7620) = ±.6 (152) (/ 0)
 > 300 (7620) = ±.8% (/ 0)

ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE.

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