

Multi-Output Wideband Directional Coupler 8.5 dB SMA Female Four Bands from 4 to 18 GHz

Directional Couplers Technical Data Sheet

C-9001-8.5

Description

Model C-9001-8.5 from Werbel Microwave is a multi-output quad directional coupler that operates up to 18 GHz with four separate output bands. The product is customizable in terms of dB value(s) and multiplexed frequency bands. Made in USA.



Photo is representative.

Specifications	A	B	C	D	Units
Frequency	14-18	11-15	7-12	4-8	GHz
Impedance			50		Ohm
Coupling	8.5	8.5	8.5	8.5	dB, typ.
Mainline Loss ¹			5.2		dB
Directivity			10		dB
Return Loss (In and Out)			10		dB
Return Loss (Coupling)			10		dB
Input Power (CW) ²			10		Watts

Mechanical

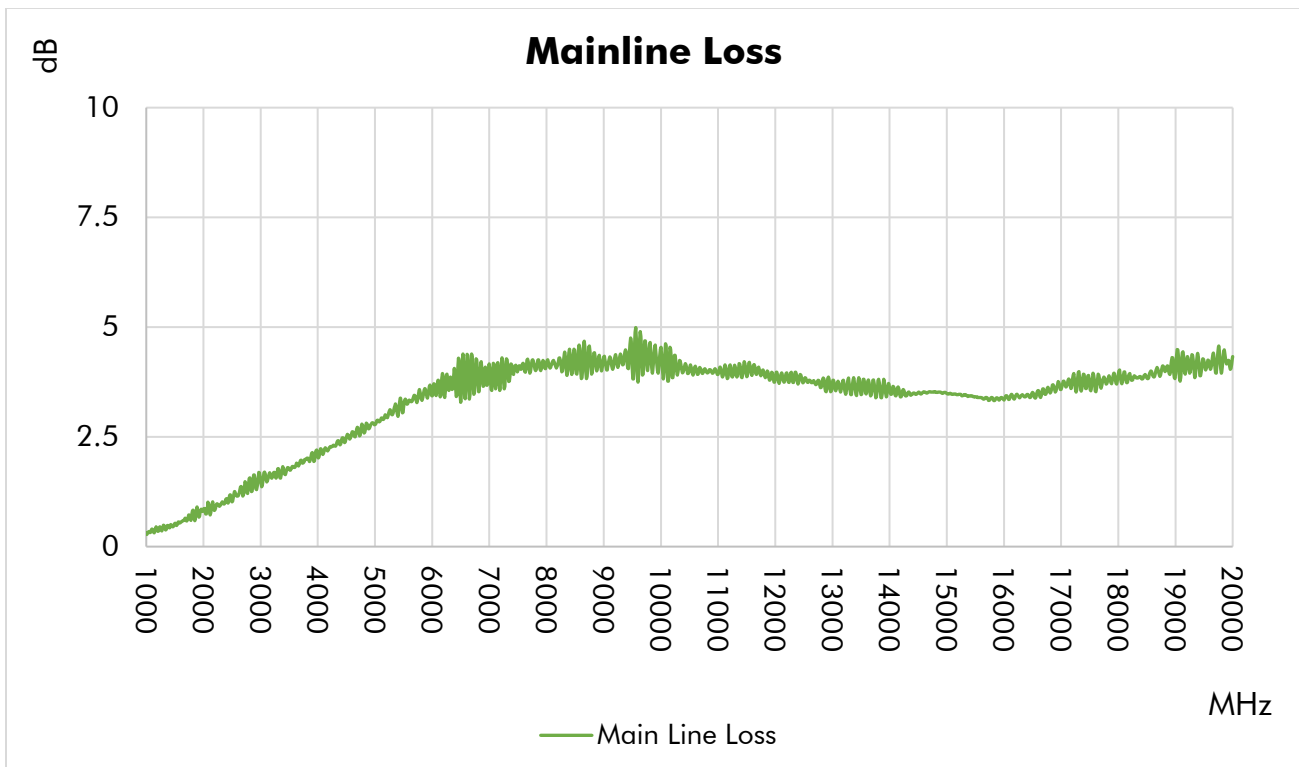
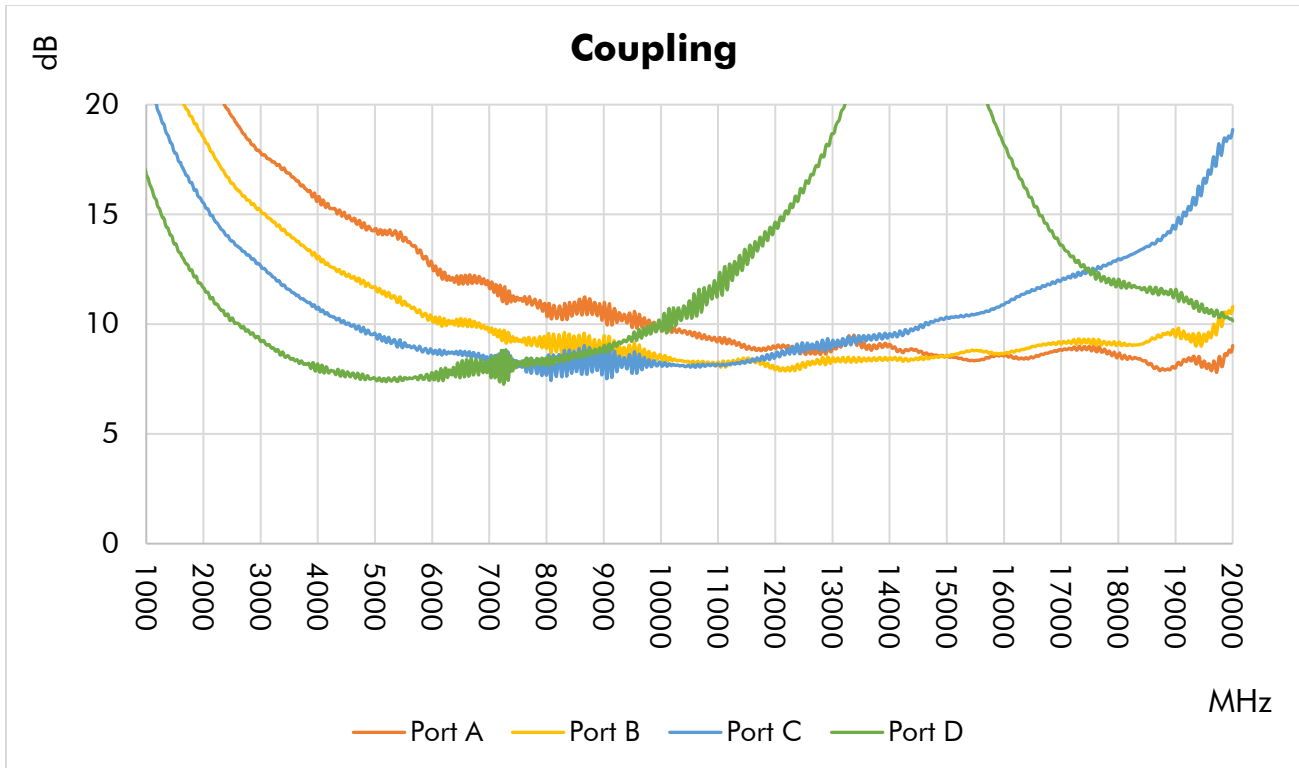
Connector Interface	SMA-Female
Operating Temperature ³	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	3.5 oz (86 g)
Humidity	10-90% non-condensing
Environment	Indoor Use Only

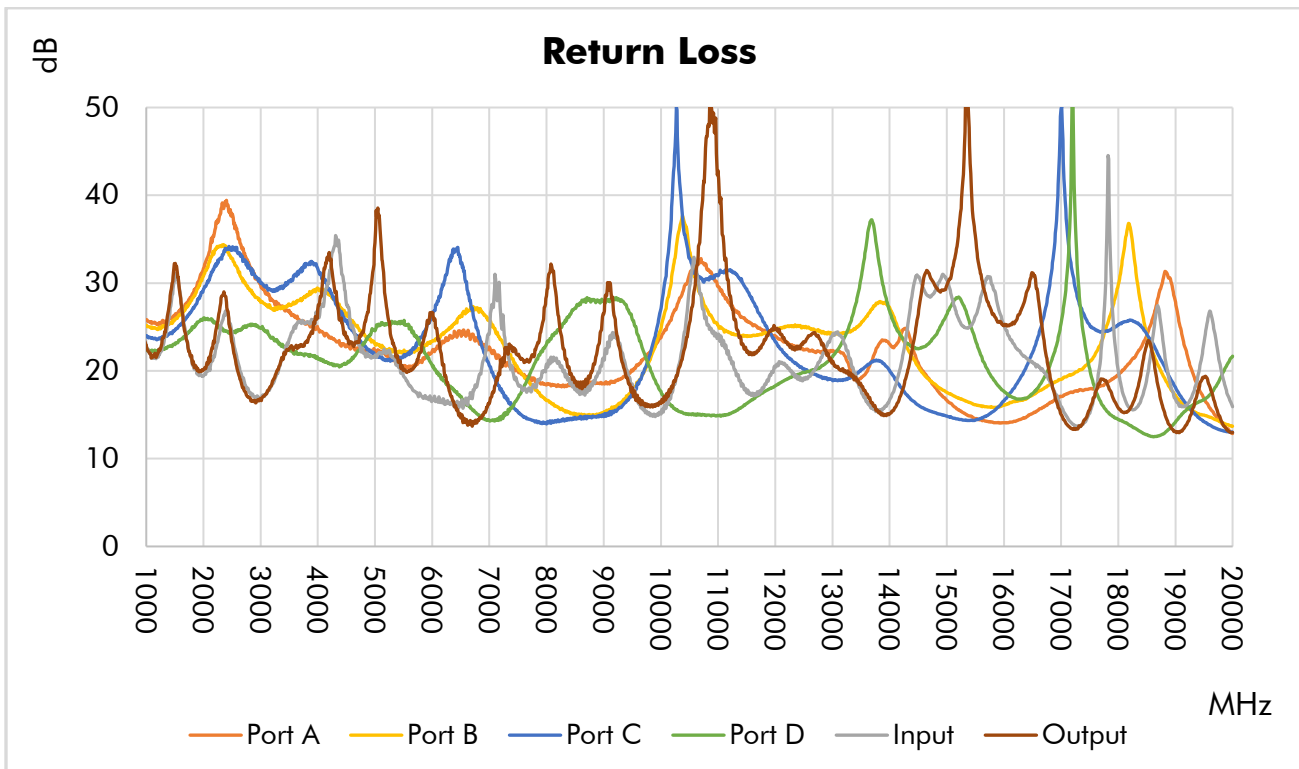
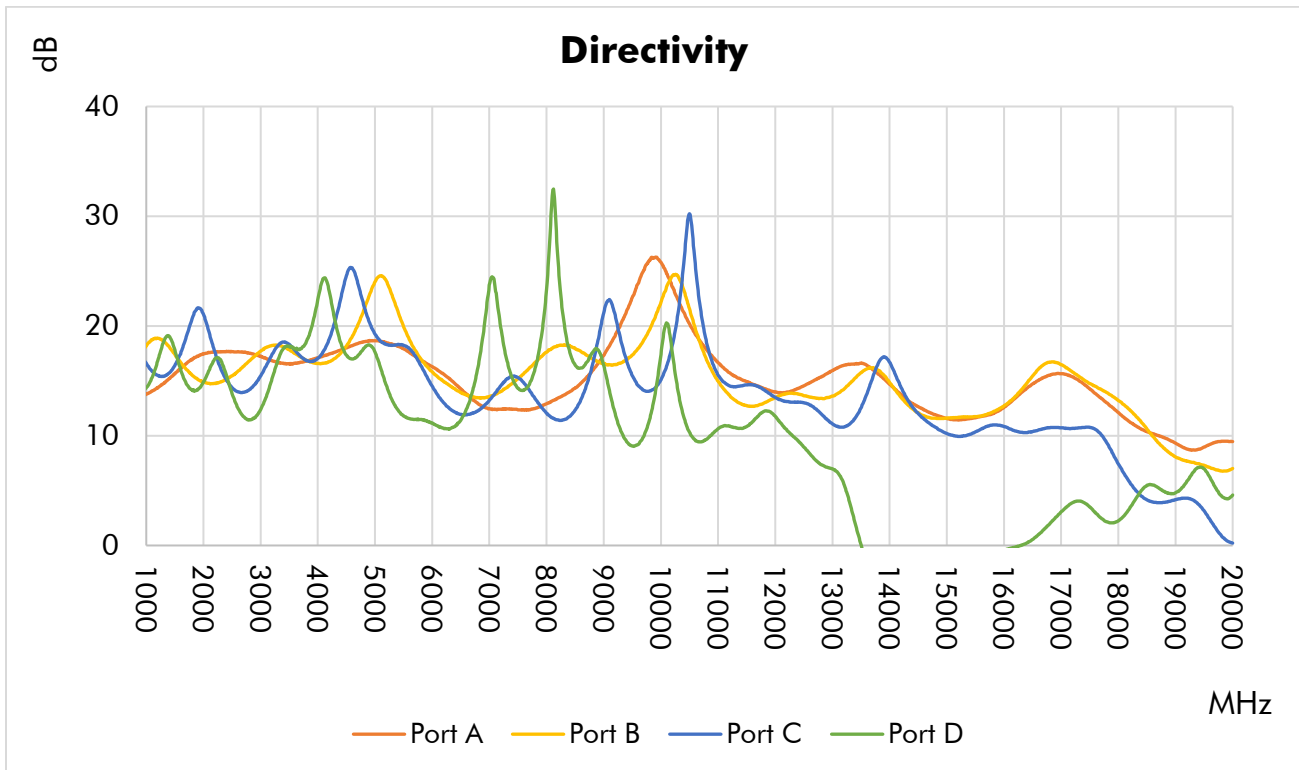
Materials

RoHS and REACH Compliant ⁴	
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Gray Paint

1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical Specifications at +25 °C only.
4. To the best of our knowledge at the time of publication.

Typical Performance at +25 °C

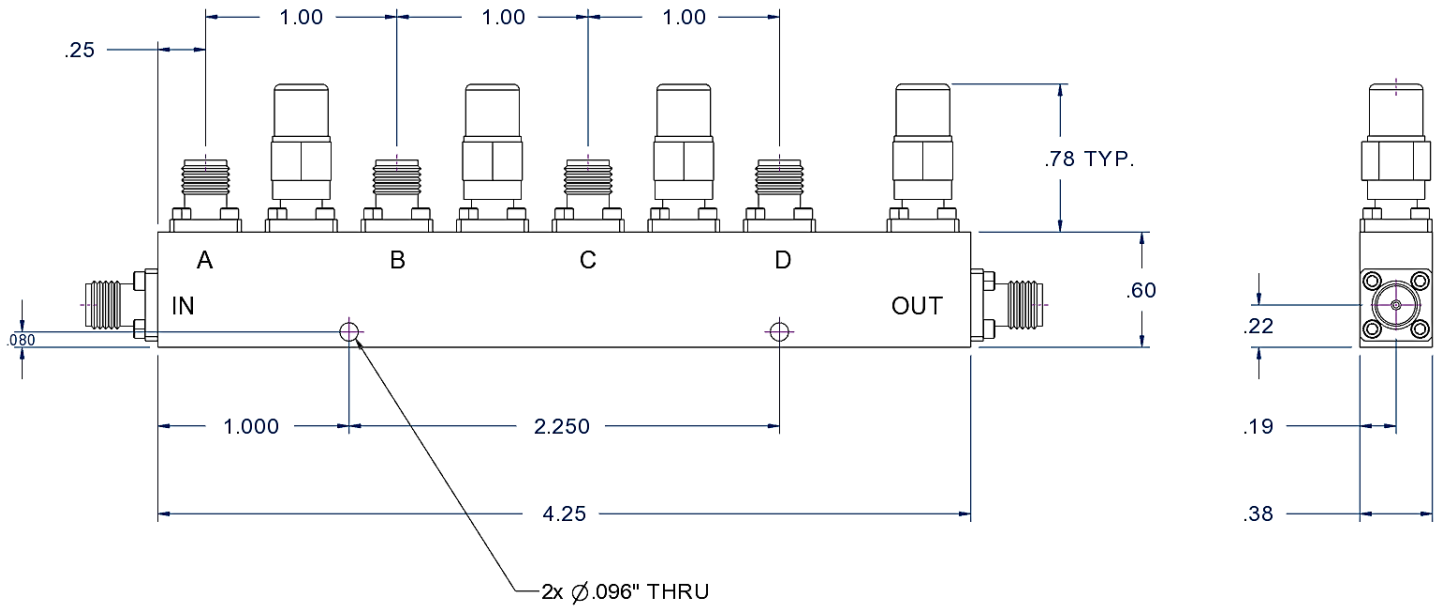




Typical Performance Data

Frequency (MHz)	Return Loss (dB) In	Mainline Loss (dB) In-Out	Coupling (dB)			
			A	B	C	D
1000	22.71	0.3	27.1	24.1	21.3	16.8
1500	30.39	0.5	23.8	20.7	17.8	13.6
2000	19.43	0.9	21.3	18.5	15.5	11.7
2500	24.30	1.0	19.5	16.4	13.8	10.3
3000	16.91	1.5	17.8	15.2	12.7	9.2
3500	23.62	1.8	16.9	14.1	11.6	8.5
4000	26.65	2.1	15.7	13.0	10.8	<u>8.2</u>
4500	27.59	2.5	14.8	12.2	10.0	<u>7.7</u>
5000	21.75	2.8	14.4	11.7	9.6	<u>7.5</u>
5500	19.41	3.2	13.8	11.0	9.1	<u>7.5</u>
6000	16.86	3.4	12.7	10.2	8.7	<u>7.8</u>
6500	16.07	3.3	12.2	10.3	8.8	<u>7.8</u>
7000	24.18	4.2	11.7	9.6	<u>8.3</u>	<u>8.4</u>
7500	18.43	4.0	11.2	9.3	<u>8.1</u>	<u>8.3</u>
8000	20.78	4.1	10.5	8.9	<u>7.7</u>	<u>8.5</u>
8500	17.84	4.3	10.9	9.1	<u>8.4</u>	8.7
9000	21.19	4.3	10.8	9.4	<u>8.8</u>	9.0
9500	18.52	4.1	9.8	8.3	<u>7.8</u>	9.3
10000	15.09	4.5	9.9	8.5	<u>8.2</u>	9.8
10500	29.54	4.1	9.7	8.3	<u>8.1</u>	11.1
11000	24.09	3.9	9.3	<u>8.3</u>	<u>8.2</u>	11.6
11500	17.47	3.9	8.9	<u>8.3</u>	<u>8.3</u>	12.9
12000	20.43	3.8	8.9	<u>7.9</u>	<u>8.5</u>	14.7
12500	19.19	3.8	8.8	<u>8.2</u>	8.9	16.1
13000	24.05	3.7	8.9	<u>8.4</u>	9.3	18.7
13500	17.77	3.5	9.0	<u>8.3</u>	9.2	22.3
14000	16.67	3.6	<u>9.1</u>	<u>8.5</u>	9.6	28.8
14500	30.76	3.5	<u>8.7</u>	<u>8.4</u>	9.8	39.7
15000	30.42	3.5	<u>8.6</u>	<u>8.6</u>	10.3	26.9
15500	26.23	3.4	<u>8.3</u>	8.8	10.5	21.6
16000	25.16	3.3	<u>8.6</u>	8.6	10.9	18.2
16500	21.01	3.5	<u>8.5</u>	9.0	11.6	15.6
17000	15.96	3.6	<u>8.8</u>	9.1	12.0	13.6
17500	15.19	3.7	<u>9.0</u>	9.2	12.4	12.4
18000	19.96	3.9	<u>8.6</u>	9.2	13.0	12.0
18500	19.14	3.8	8.2	9.2	13.5	11.5
19000	16.78	3.9	8.0	9.4	14.3	11.6
19500	23.29	4.2	8.3	9.6	16.7	10.6
20000	15.90	4.3	9.0	10.8	18.9	10.2

Outline Dimensions



Outline # OL-9001 rev A

Dimensions are in inches, [mm] shown for convenience.

Tolerances on 2-pl decimals: $\pm .03$. 3-pl decimals: $\pm .015$.

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