

High Power Directional Coupler, 80-520MHz

WMHPC-80-520M-10dB-N

Description

Werbel Microwave Model WMHPC-80-520M-10dB-N is a high-power coupler that operates over the 80-520MHz band, covering FM radio, upper VHF and lower UHF applications. Rated for 200 watts CW. Useful for amplification and signal distribution applications including radio and television broadcasting, public safety and emergency broadcasting and distributed antenna systems. There exists a roll down of 2dB at the low frequency, making the nominal coupling value 12dB within the FM radio band. Mainline loss 1.2dB typical which includes the loss due to coupling. Typical return loss 33.2dB. Typical directivity 28.3dB.



Photo is representative.

Specifications		Min.	Typ.	Max.	Units
Frequency		80	--	520	MHz
Impedance		--	50	--	Ohm
Coupling	80-130MHz	--	12.0±2.0	--	dB
	130-520MHz	--	10.0±1.4	--	
Frequency Sensitivity (Flatness) within 130-520MHz		--	±0.6	±1.4	dB
Mainline Loss ¹		--	0.6	0.8	dB
Directivity		19.0	28.3	--	dB
Return Loss (All Ports)		19.1	33.2	--	dB
Input Power (CW) ²		--	--	200	Watts

Mechanical

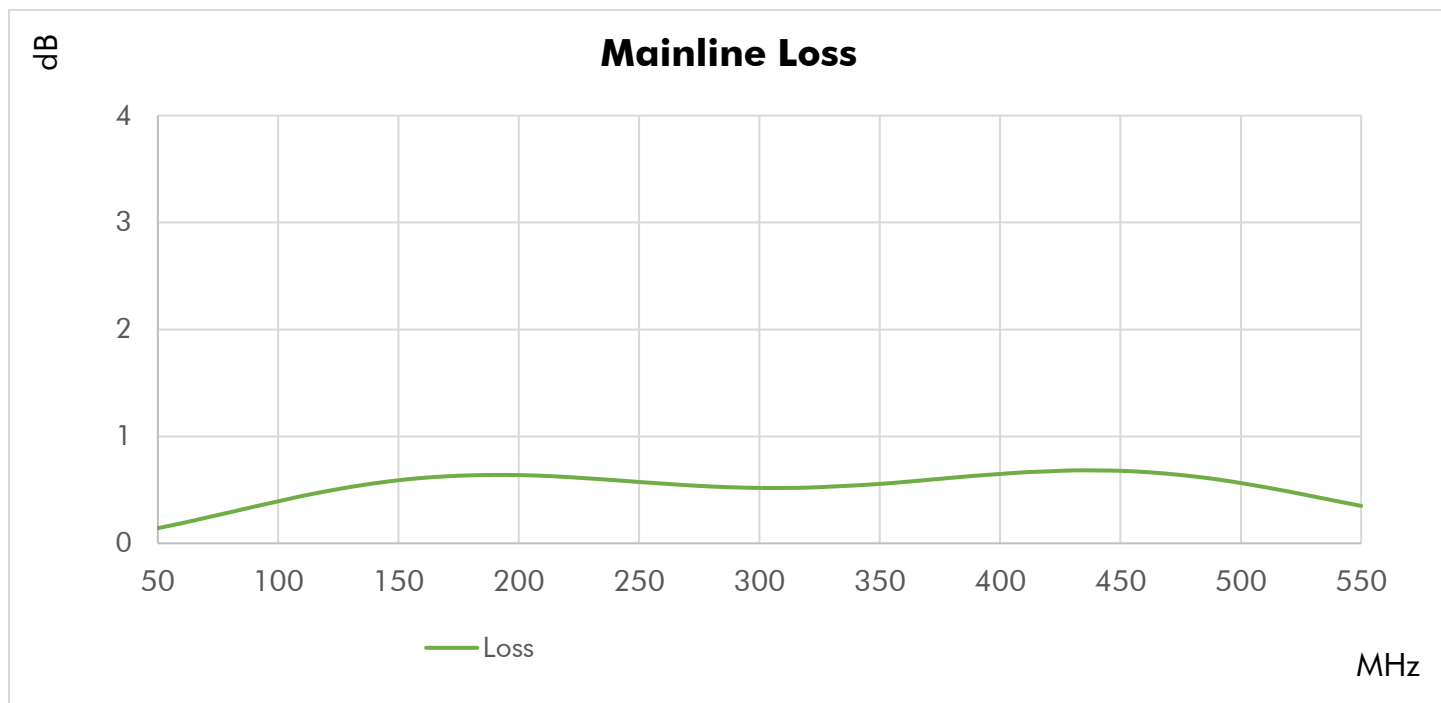
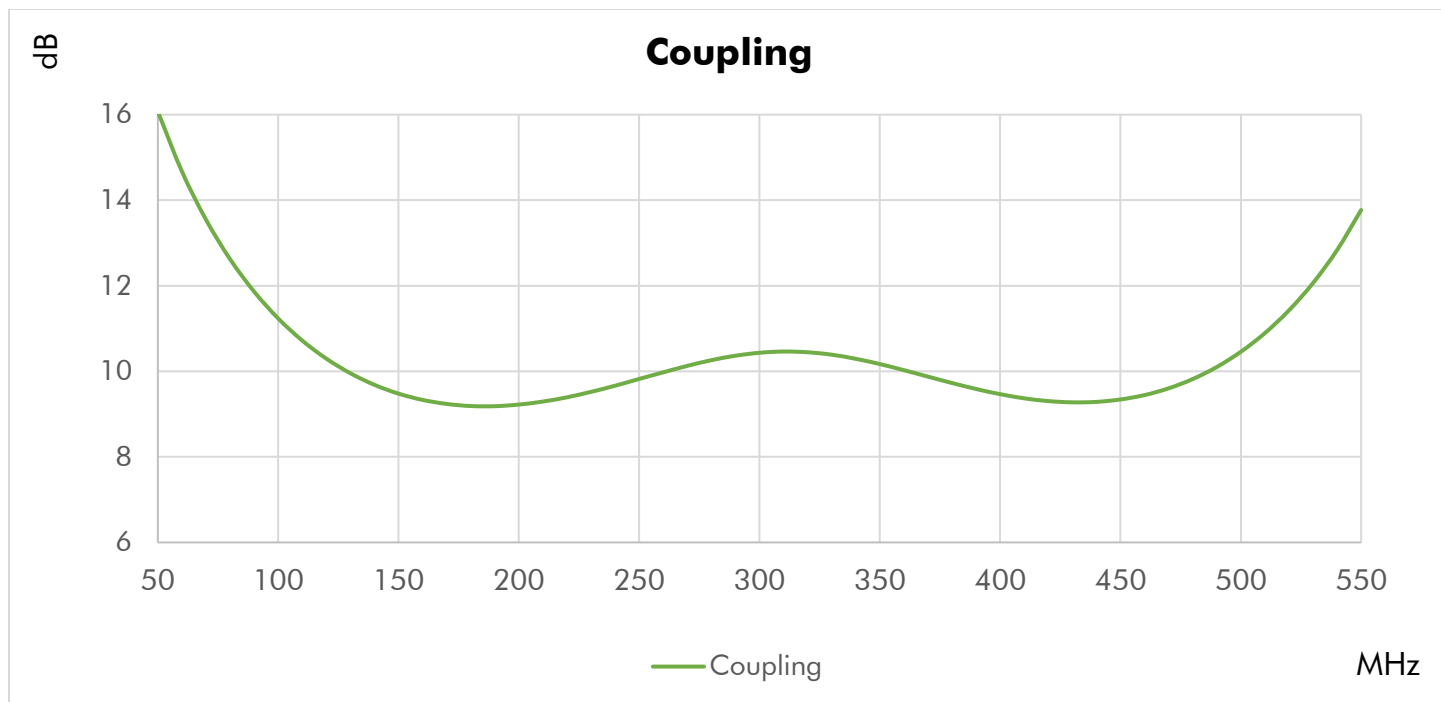
Connector Interface	N-Female
Operating Temperature ³	-40 to +65 °C
Storage Temperature	-55 to +100 °C
Weight	570g (20 oz)
Humidity	10-90% non-condensing
Environment	Indoors Use Only

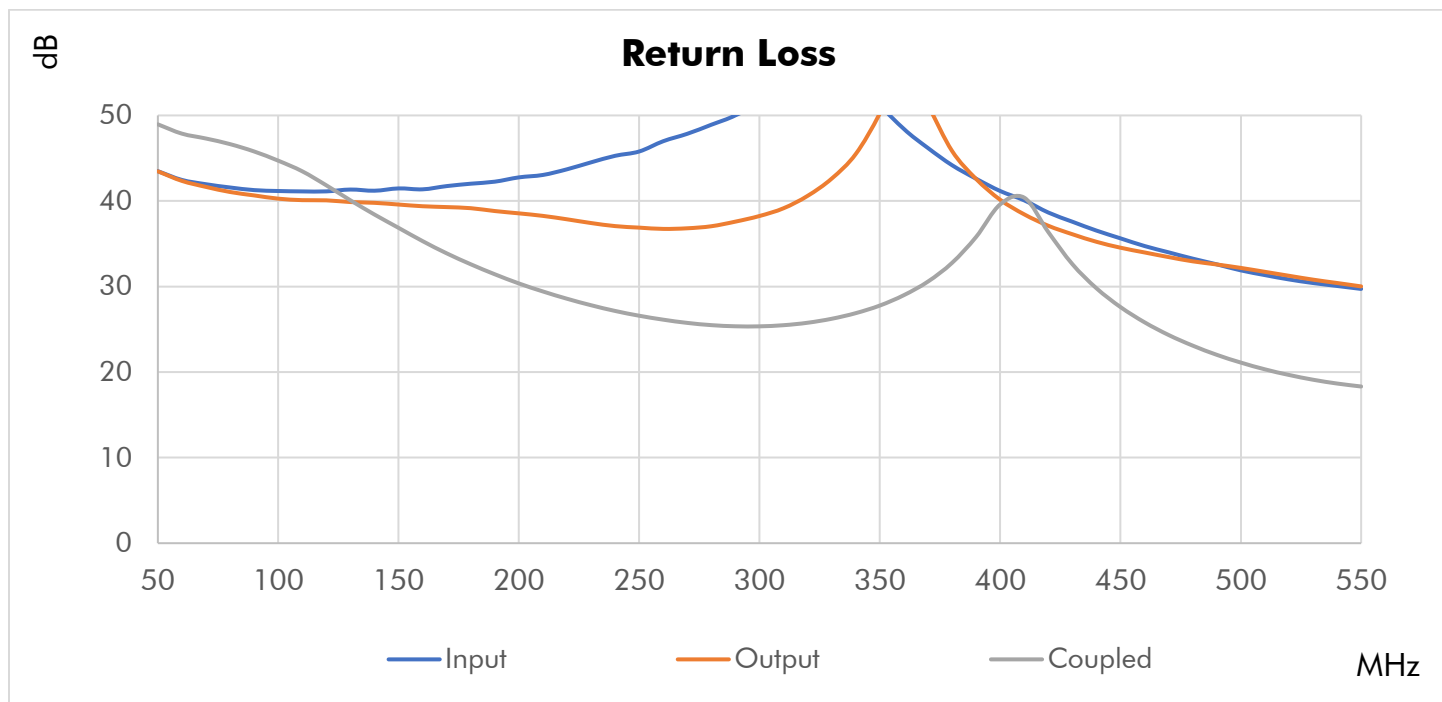
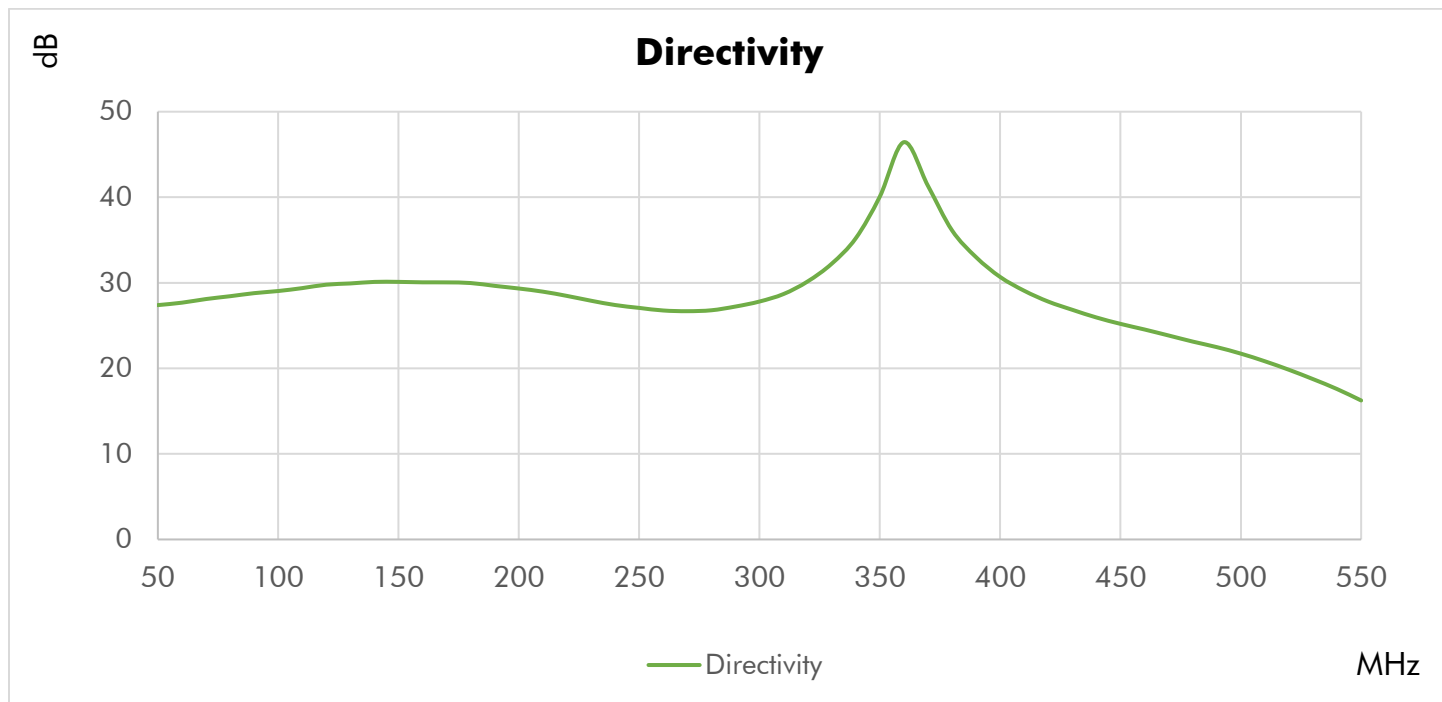
1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications at +25 °C.
4. To the best of our knowledge at time of publication.

Materials

RoHS and REACH Compliant ⁴	
Enclosure	Aluminum
Connectors	Brass, Tri-Alloy Plate
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

Typical Performance at +25 °C

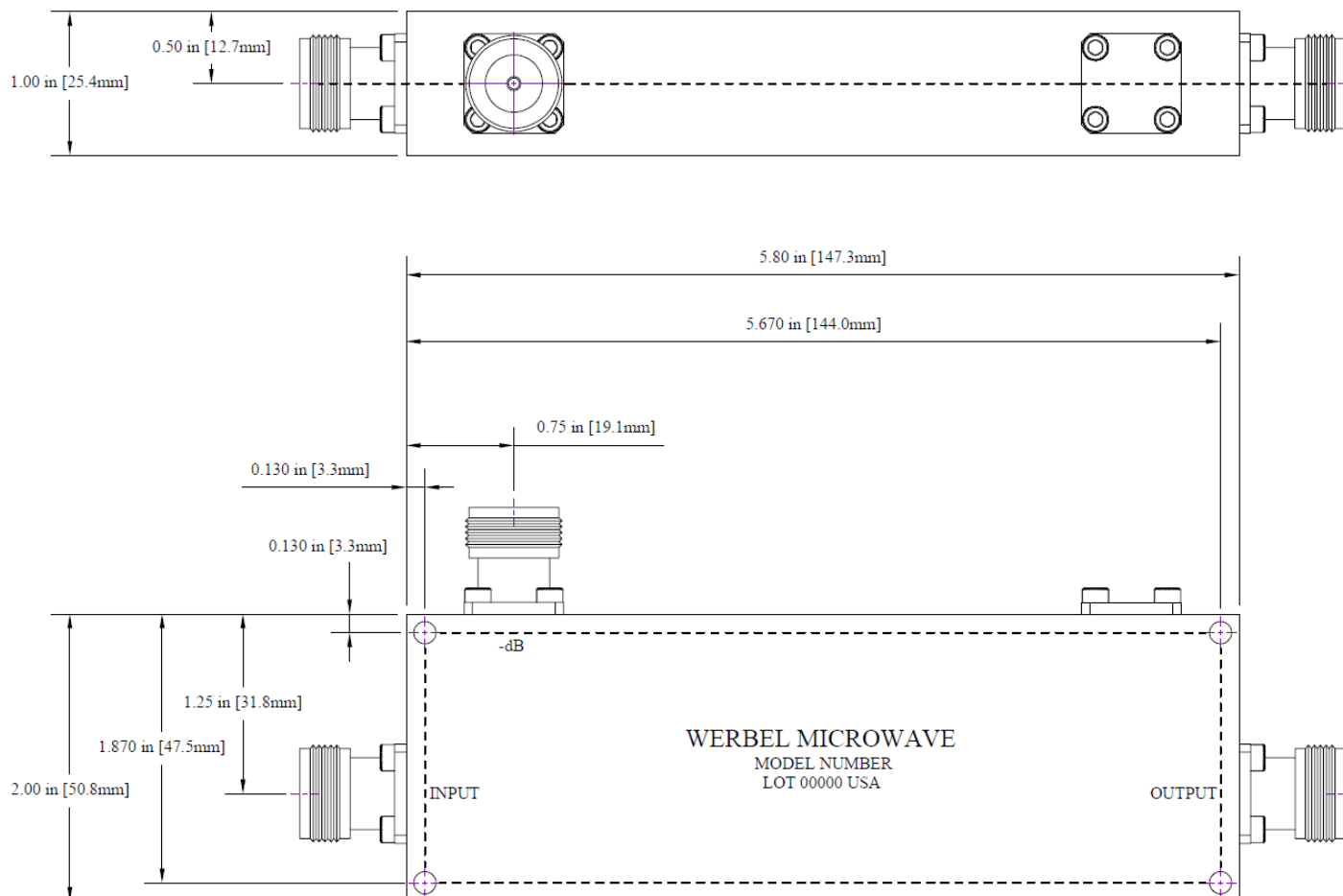




Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Mainline Loss (dB)	Coupling (dB)	Directivity (dB)
	In	Out	Cpl.	In-Out	In-Cpl.	
80	41.58	41.05	46.65	0.29	12.62	41.05
90	41.27	40.65	45.79	0.34	11.86	40.65
100	41.17	40.27	44.71	0.39	11.24	40.27
110	41.12	40.10	43.47	0.44	10.72	40.10
120	41.12	40.08	41.83	0.49	10.30	40.08
130	41.34	39.88	40.08	0.53	9.95	39.88
140	41.20	39.79	38.42	0.56	9.68	39.79
150	41.47	39.59	36.86	0.59	9.48	39.59
160	41.36	39.39	35.31	0.61	9.33	39.39
170	41.74	39.29	33.88	0.63	9.24	39.29
180	42.02	39.16	32.60	0.64	9.19	39.16
190	42.26	38.83	31.44	0.64	9.18	38.83
200	42.76	38.55	30.36	0.64	9.22	38.55
210	43.04	38.26	29.42	0.63	9.29	38.26
220	43.70	37.86	28.57	0.62	9.39	37.86
230	44.52	37.42	27.82	0.61	9.52	37.42
240	45.28	37.06	27.15	0.59	9.66	37.06
250	45.79	36.89	26.59	0.57	9.82	36.89
260	46.99	36.74	26.13	0.56	9.98	36.74
270	47.86	36.81	25.75	0.54	10.13	36.81
280	48.91	37.05	25.49	0.53	10.26	37.05
290	50.02	37.59	25.36	0.52	10.36	37.59
300	51.76	38.24	25.35	0.52	10.43	38.24
310	56.41	39.15	25.48	0.52	10.46	39.15
320	62.98	40.60	25.77	0.52	10.44	40.60
330	68.32	42.62	26.23	0.53	10.39	42.62
340	56.98	45.50	26.89	0.54	10.29	45.50
350	51.47	50.25	27.78	0.56	10.17	50.25
360	48.42	56.46	28.99	0.57	10.03	56.46
370	46.19	51.20	30.58	0.59	9.88	51.20
380	44.19	45.85	32.76	0.61	9.73	45.85
390	42.60	42.57	35.80	0.63	9.59	42.57
400	41.17	40.15	39.60	0.65	9.47	40.15
410	40.07	38.44	40.39	0.66	9.37	38.44
420	38.65	37.11	36.37	0.67	9.30	37.11
430	37.58	36.11	32.62	0.68	9.27	36.11
440	36.54	35.23	29.80	0.68	9.29	35.23
450	35.63	34.54	27.60	0.68	9.34	34.54
460	34.73	33.98	25.82	0.67	9.44	33.98
470	34.00	33.44	24.33	0.65	9.60	33.44
480	33.26	32.95	23.09	0.63	9.82	32.95
490	32.59	32.58	22.02	0.60	10.10	32.58
500	31.89	32.18	21.11	0.56	10.46	32.18
510	31.34	31.72	20.32	0.53	10.89	31.72
520	30.83	31.26	19.66	0.48	11.42	31.26

Outline Dimensions



Outline # OL-1352

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

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

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