

## Coupler, 2-8GHz, 30dB, SMA Female

## WMC-2-8-30dB-S

### Description

Model WMC-2-8-30dB-S from Werbel Microwave is a directional coupler that covers 2 GHz to 8 GHz with broadband flat coupling response, high directivity, and excellent return loss performance. Typical coupling ripple flatness is  $\pm 0.5$ dB. Directivity 23dB typical. Return loss 25dB typical. The frequency range is used extensively in Wi-Fi testing and covers both S band and C band in one package. Assembled and tested in USA. Enclosure measures 2.00 x 0.69 x 0.38 inches and has SMA female connectors. The device is RoHS compliant.



Photo is representative.

Specifications	Min.	Typ.	Max.	Units
Frequency	2	--	8	GHz
Impedance	--	50	--	Ohm
Coupling	--	30 $\pm$ 2.0	--	dB
Frequency Sensitivity (Flatness)	--	$\pm$ 0.76	$\pm$ 1.60	dB
Mainline Loss <sup>1</sup>	--	0.37	0.50	dB
Directivity	18	23	--	dB
Isolation	--	53	--	dB
Return Loss (In and Out)	19	23	--	dB
Return Loss (Coupling)	19	25	--	dB
Input Power (CW) <sup>2</sup>	--	--	50	Watts

### Mechanical

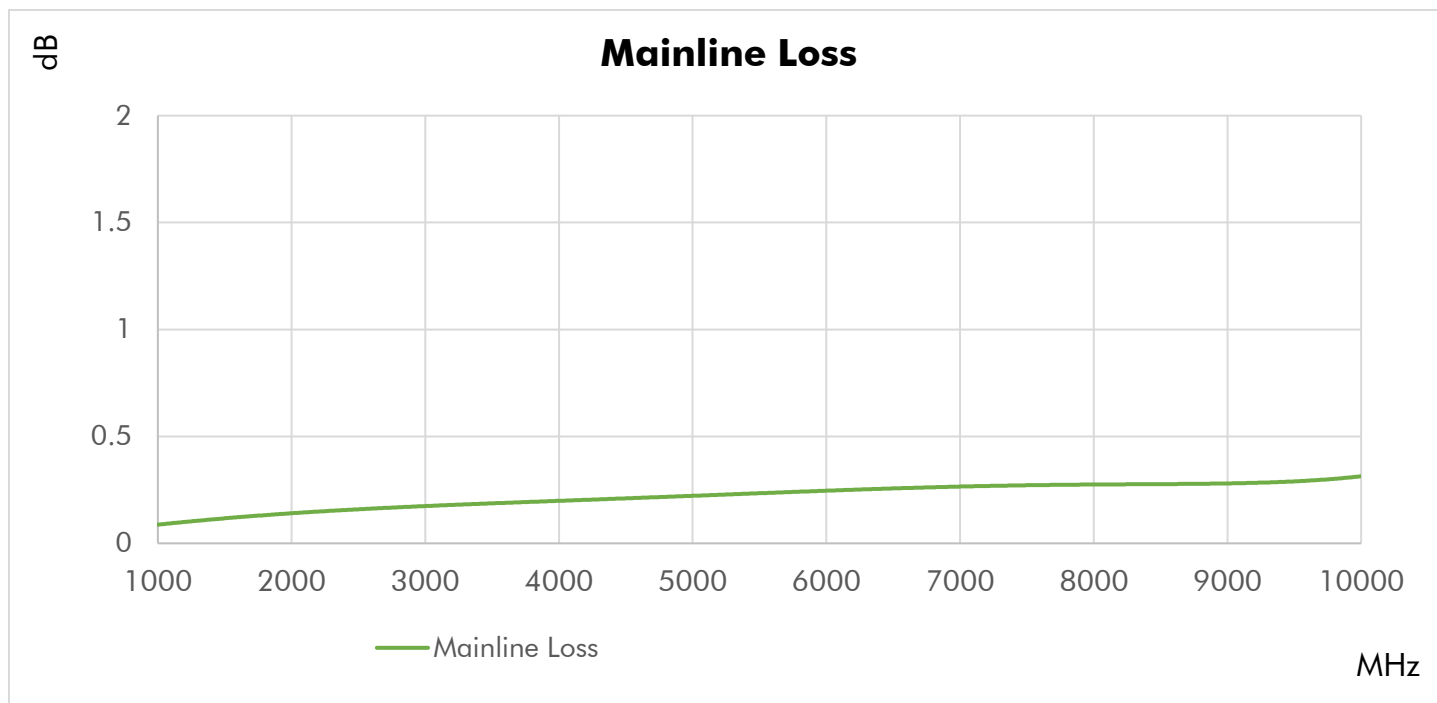
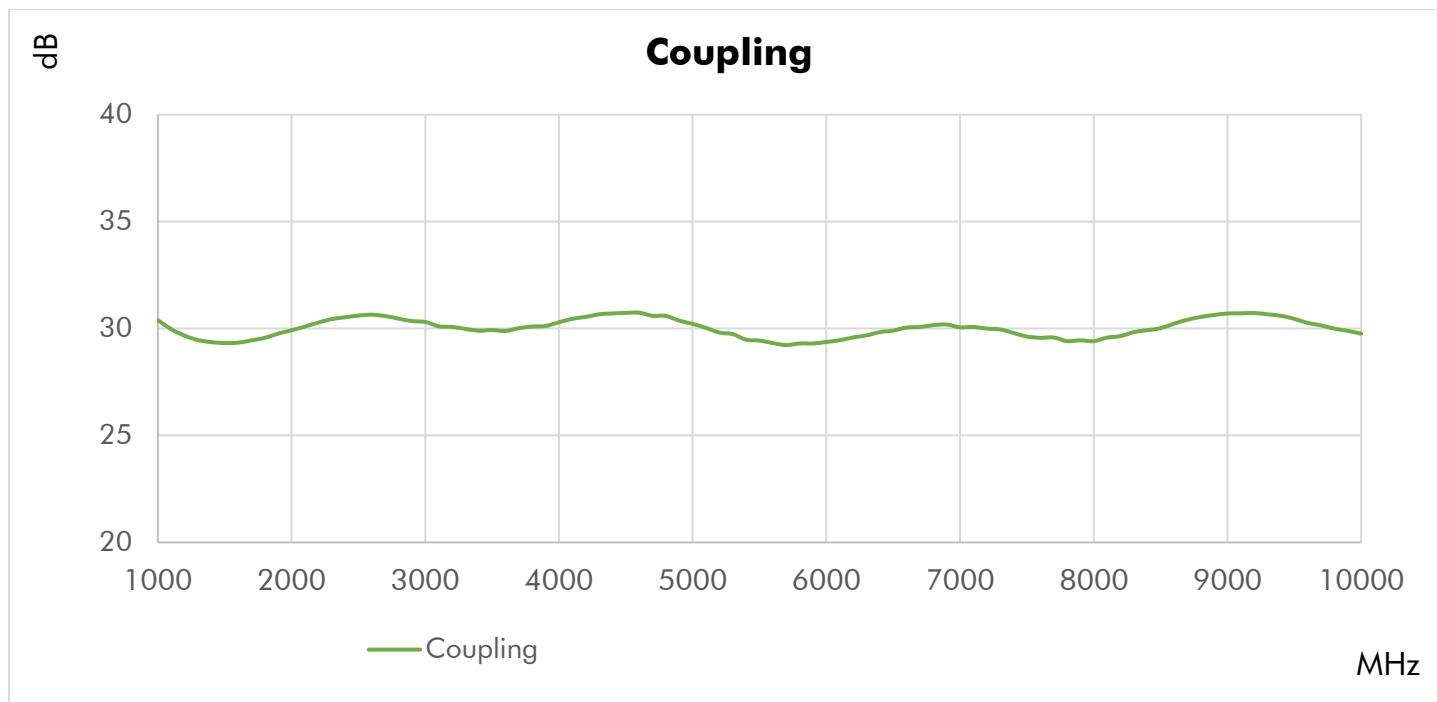
Connector Interface	SMA-Female
Operating Temperature <sup>3</sup>	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	1 oz (28 g)
Humidity	10-90% non-condensing
Environment	Indoor Use Only

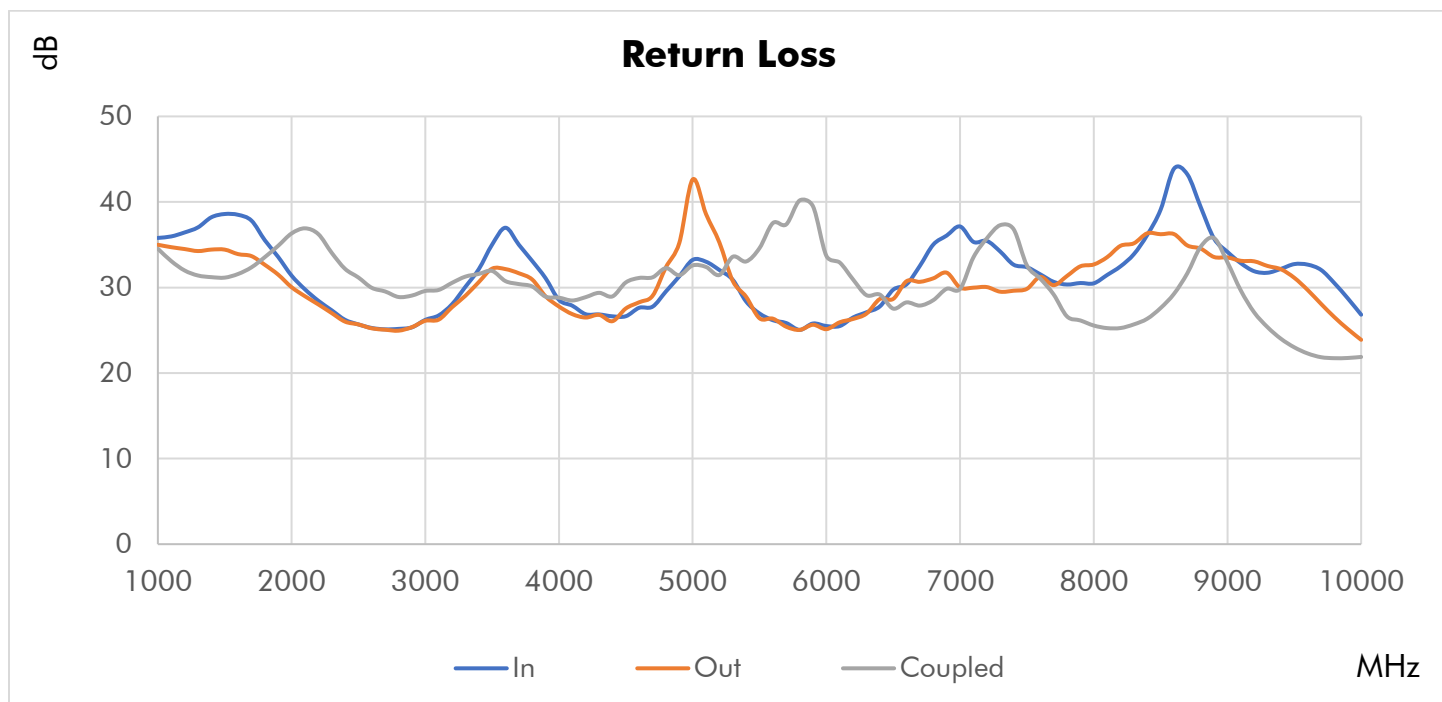
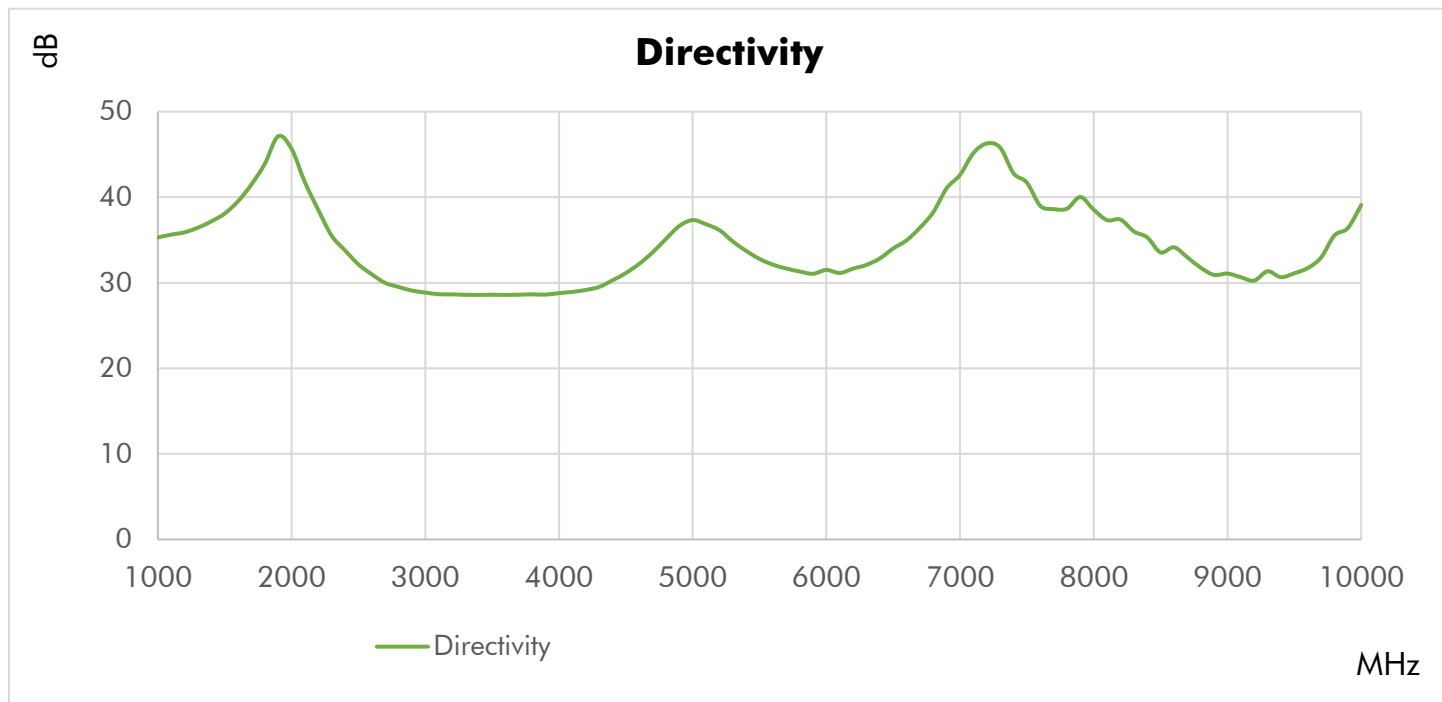
1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specification at +25 °C.
4. To the best of our knowledge at the time of publication

### Materials

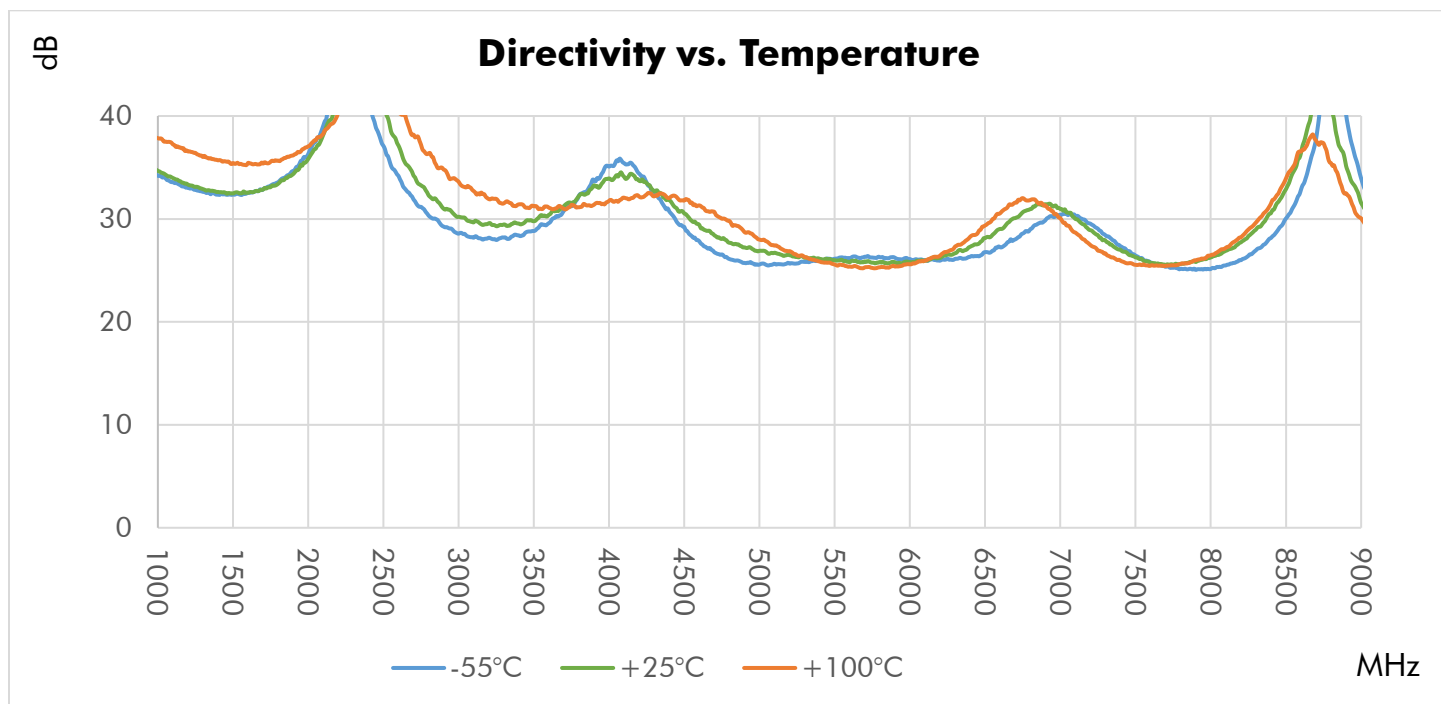
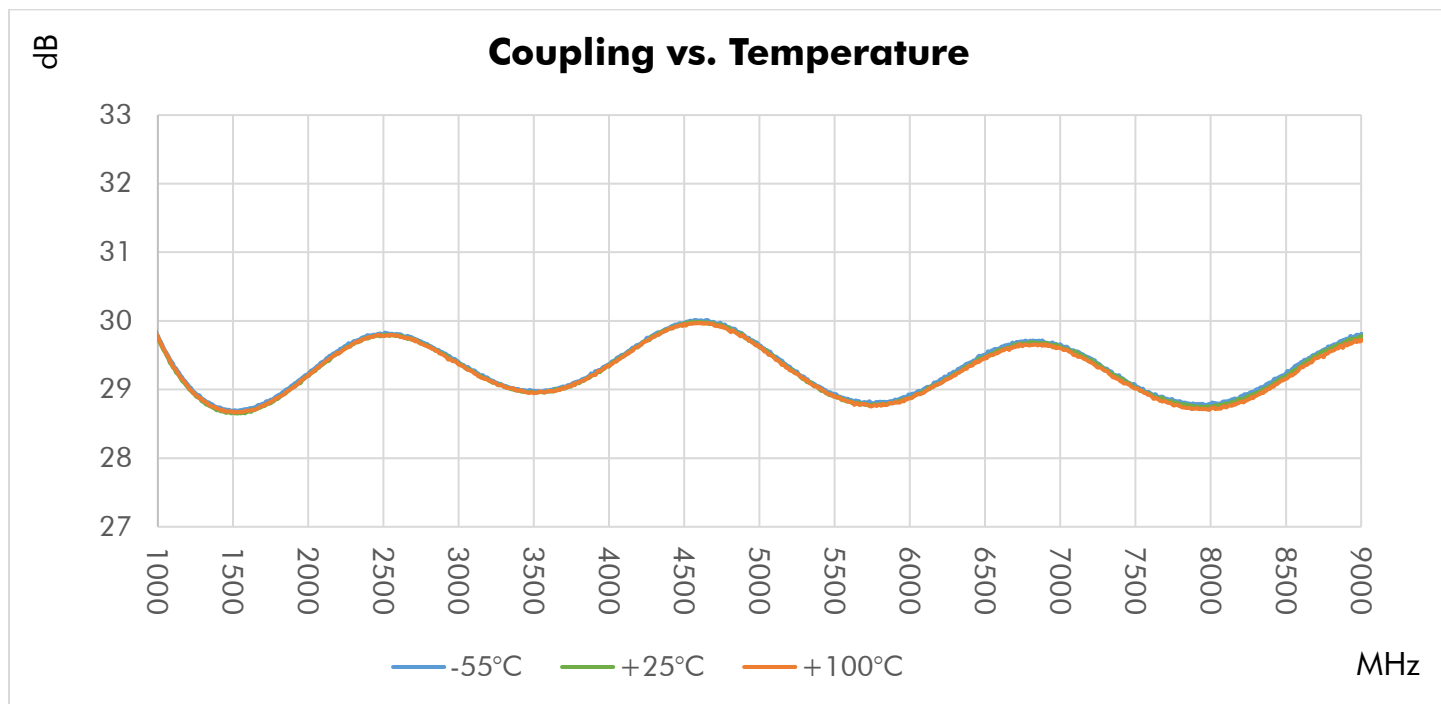
RoHS and REACH Compliant <sup>4</sup>	
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

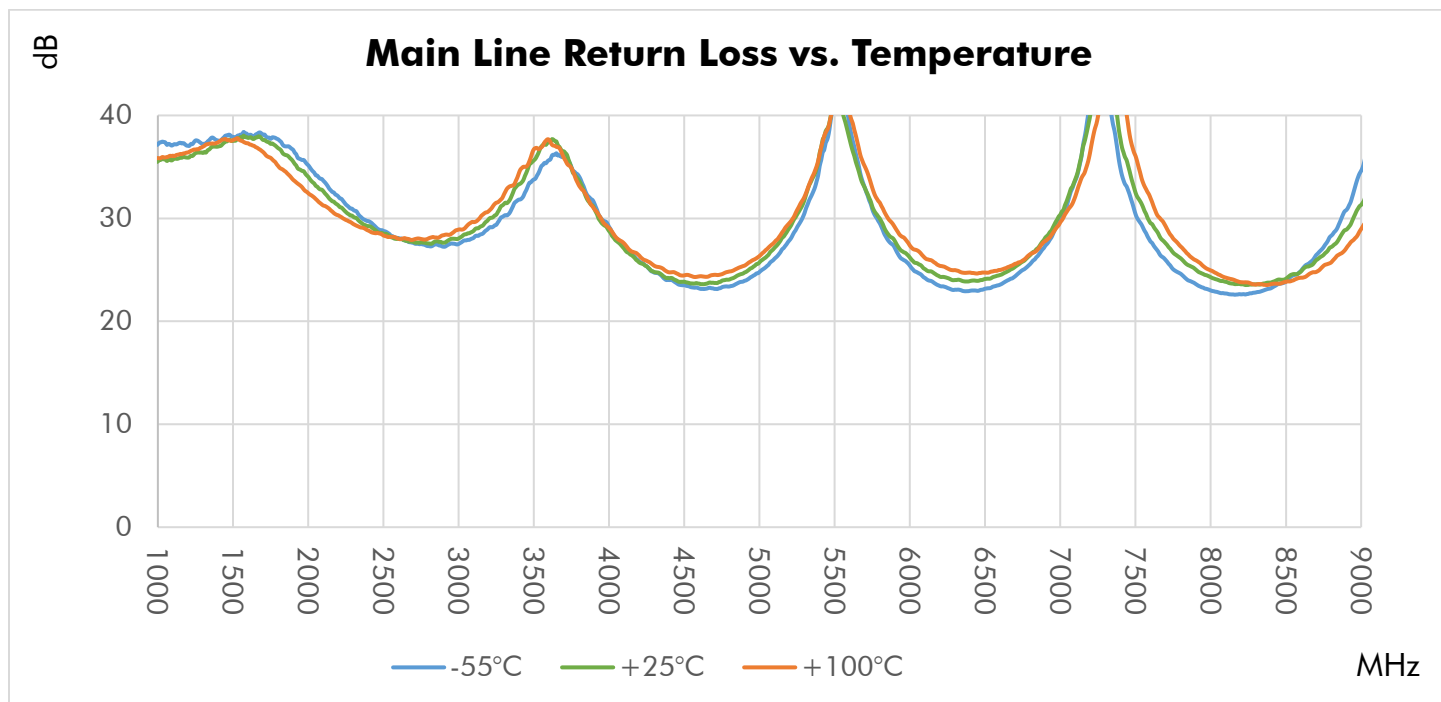
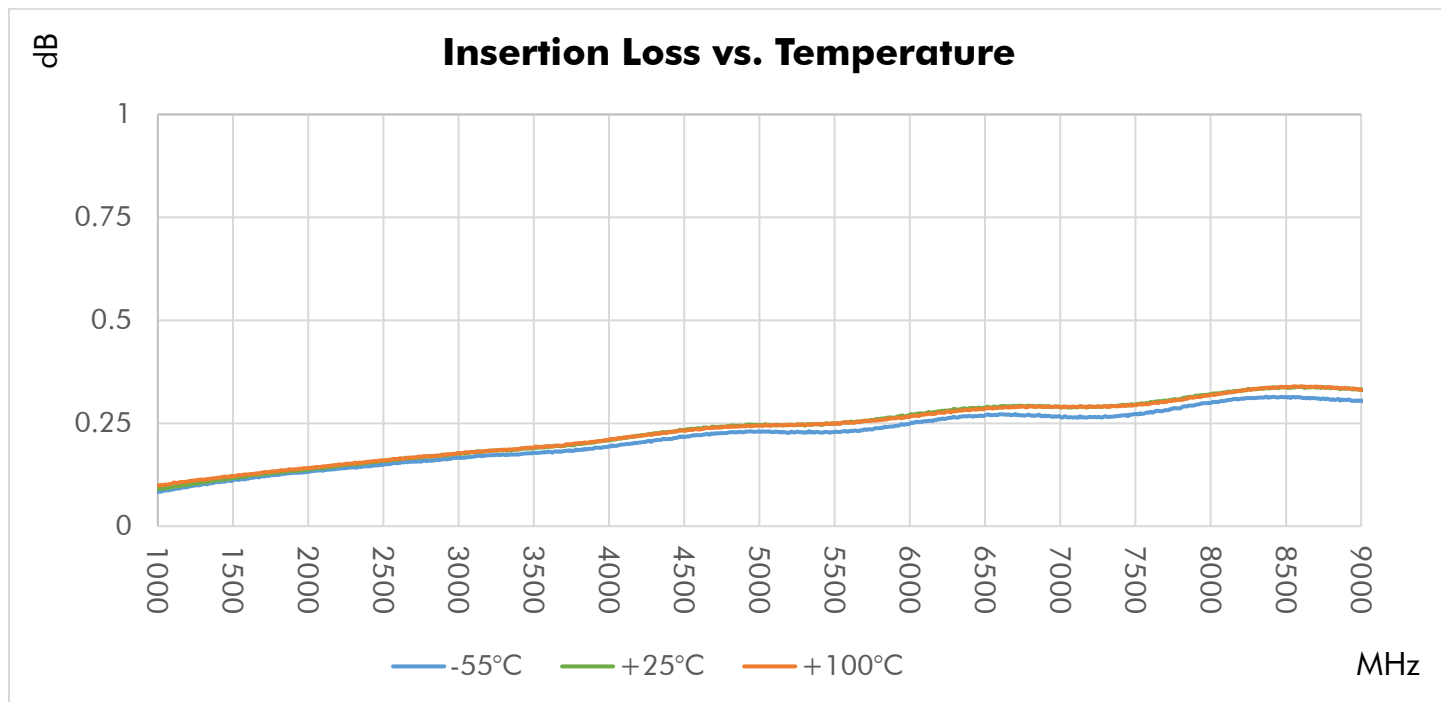
## Typical Performance at +25 °C





## Typical Performance Over Temperature

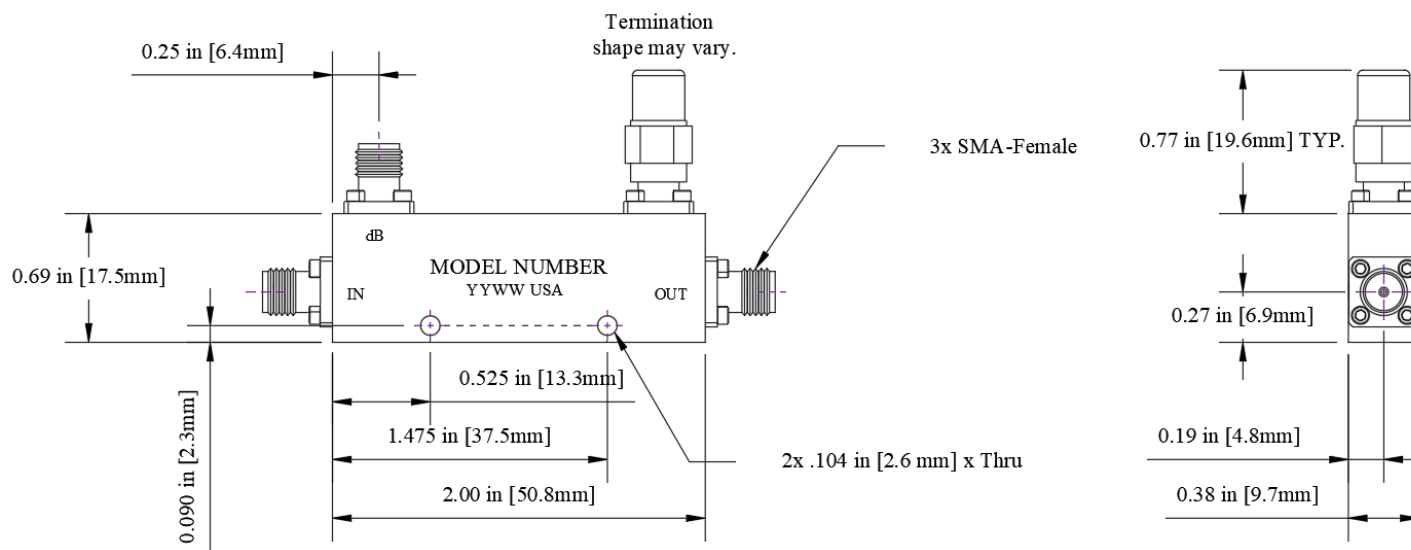




## Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Mainline Loss (dB)	Coupling (dB)	Directivity (dB)
	In	Out	Cpl.	In-Out	In-Cpl.	
1000	35.79	35.00	34.53	0.09	30.40	35.29
1500	38.59	34.43	31.16	0.11	29.32	38.09
2000	31.39	30.04	36.32	0.11	29.92	45.65
2500	25.69	25.68	31.17	0.20	30.61	32.15
3000	26.22	26.11	29.60	0.28	30.31	28.86
3500	35.01	32.20	31.94	0.19	29.93	28.60
4000	28.55	27.78	28.81	0.17	30.29	28.79
4500	26.64	27.55	30.59	0.26	30.73	31.13
5000	33.23	42.63	32.58	0.23	30.22	37.33
5500	26.96	26.40	34.60	0.09	29.44	32.79
6000	25.50	25.13	33.70	0.25	29.37	31.50
6500	29.75	28.67	27.53	0.23	29.90	34.01
7000	37.14	29.99	29.84	0.20	30.06	42.61
7500	32.37	29.84	32.58	0.26	29.63	41.71
8000	30.49	32.69	25.56	0.28	29.41	38.53
8500	39.10	36.23	27.60	0.28	30.02	33.54
9000	34.16	33.51	32.94	0.29	30.70	31.08
9500	32.74	31.13	23.01	0.29	30.45	31.11
10000	26.82	23.89	21.88	0.31	29.76	39.08

## Outline Dimensions



### Outline # OL-1305

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

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

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