

Directional Coupler, 2-18GHz, 15dB, SMA Female

WMC-2-18-15dB-S

Description

Model WMC-2-18-15dB-S+ is a directional coupler that covers 2-18GHz with a flat response over the band. Features 15dB coupling response with broadband flat coupling response, high directivity, and excellent return loss performance. Designed, assembled, and tested in USA with lead free solder making it RoHS compliant, however if you require, they may be specially ordered with lead solder for military applications. Coupling flatness ± 0.35 typical. Insertion loss 0.8dB typical. Directivity 17dB typical. Return loss 19dB typical.



Photo is representative.

Specifications	Min.	Typ.	Max.	Units
Frequency	2	--	18	GHz
Impedance	--	50	--	Ohm
Coupling	--	15 $\pm$ 1.0	--	dB
Frequency Sensitivity (Flatness)	--	$\pm$ 0.35	$\pm$ 1.0	dB
Mainline Loss ¹	--	0.8	1.4	dB
Directivity	15	17	--	dB
Return Loss (In and Out)	14	19	--	dB
Return Loss (Coupling)	14	16	--	dB
Isolation	--	32	--	dB
Input Power (CW) ²	--	--	20	Watts

Mechanical

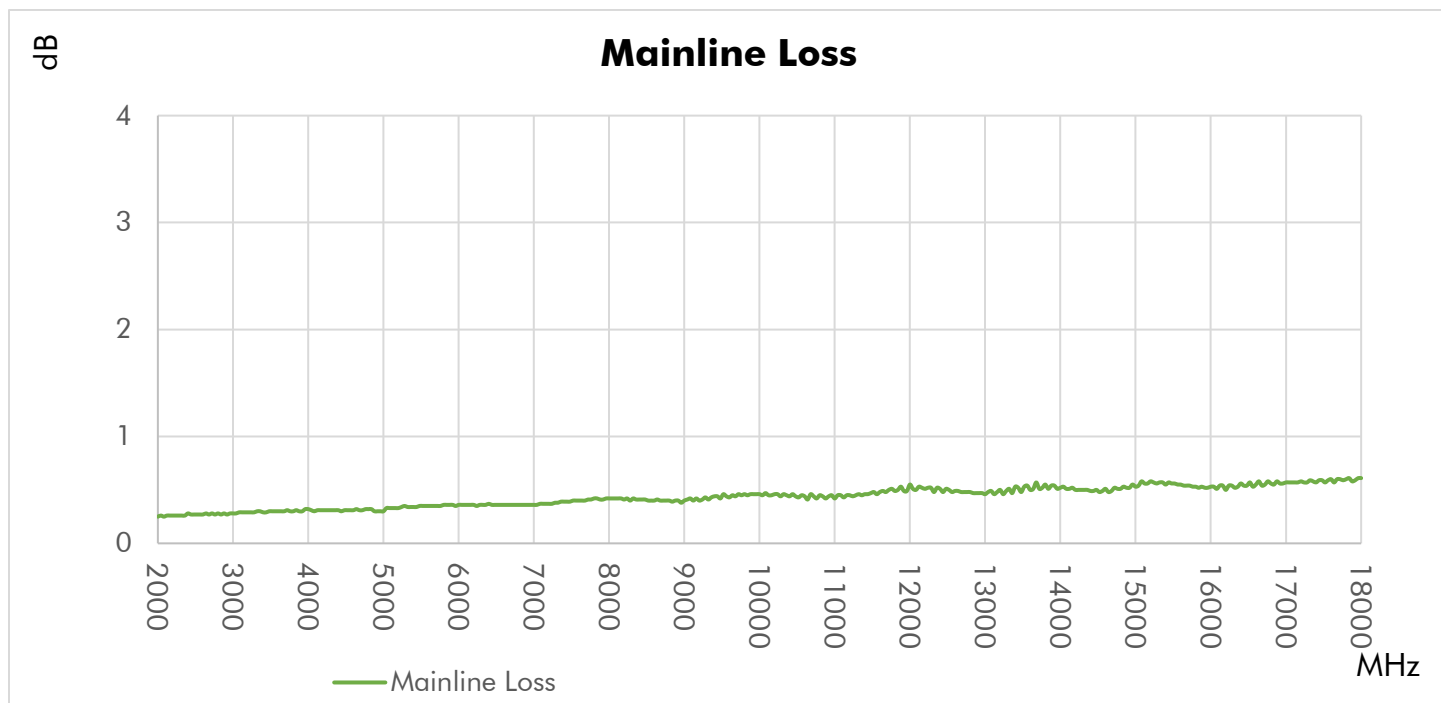
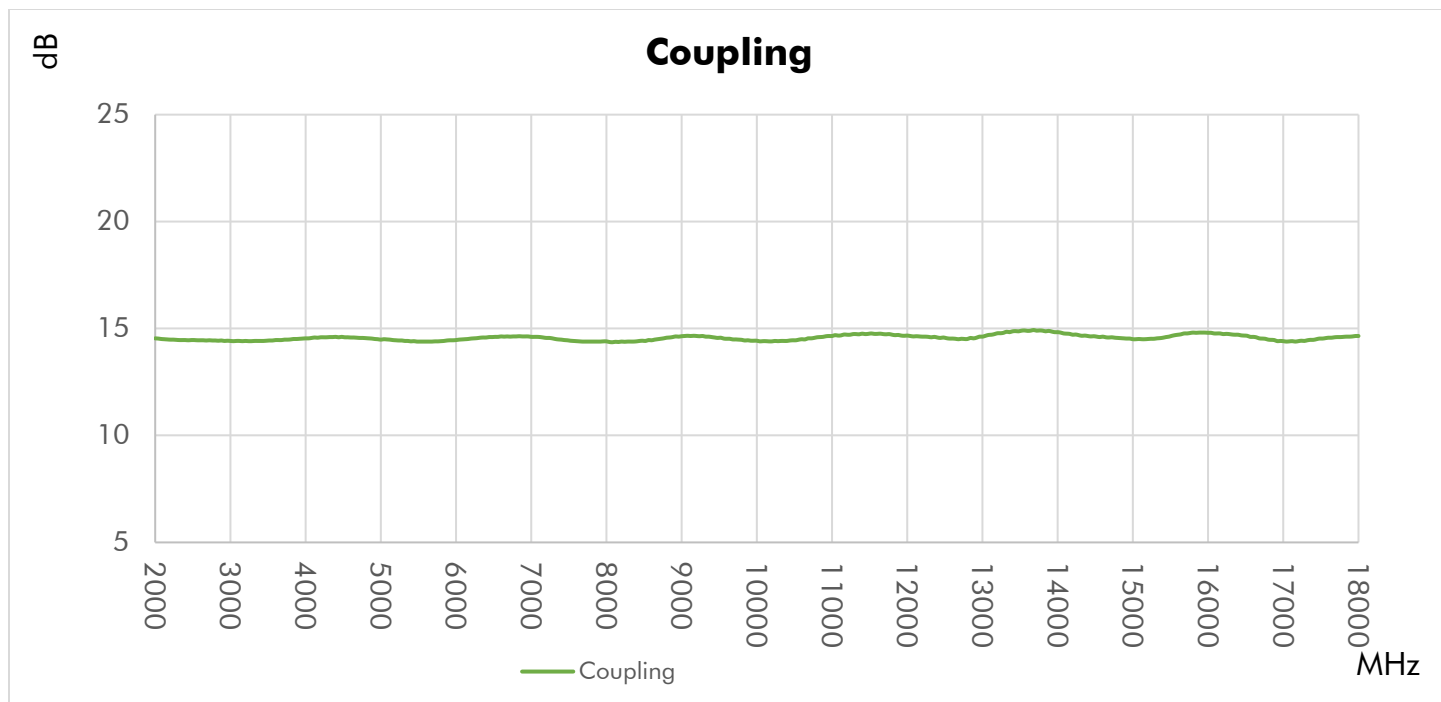
Connector Interface	SMA-Female
Operating Temperature ³	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	1.4 oz (40 g)
Humidity	10-90% non-condensing
Environment	Indoor Use Only

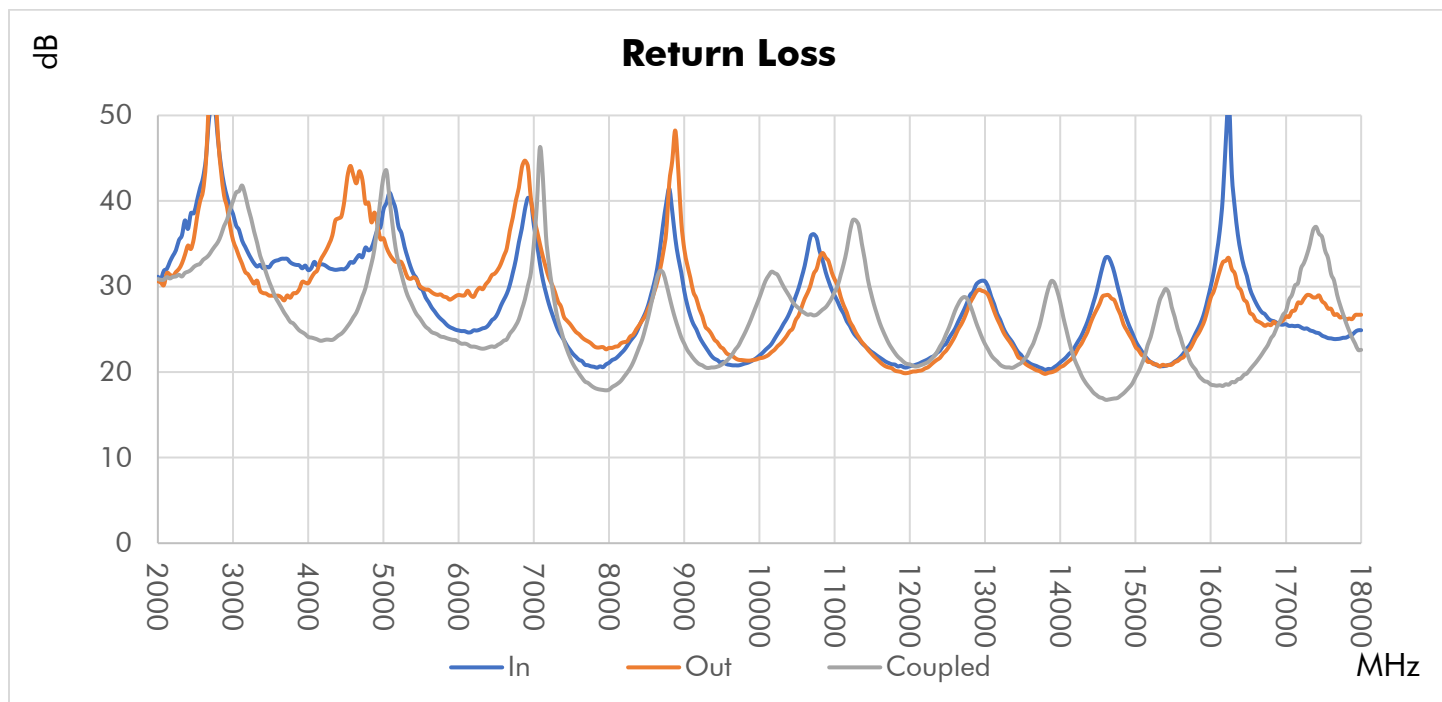
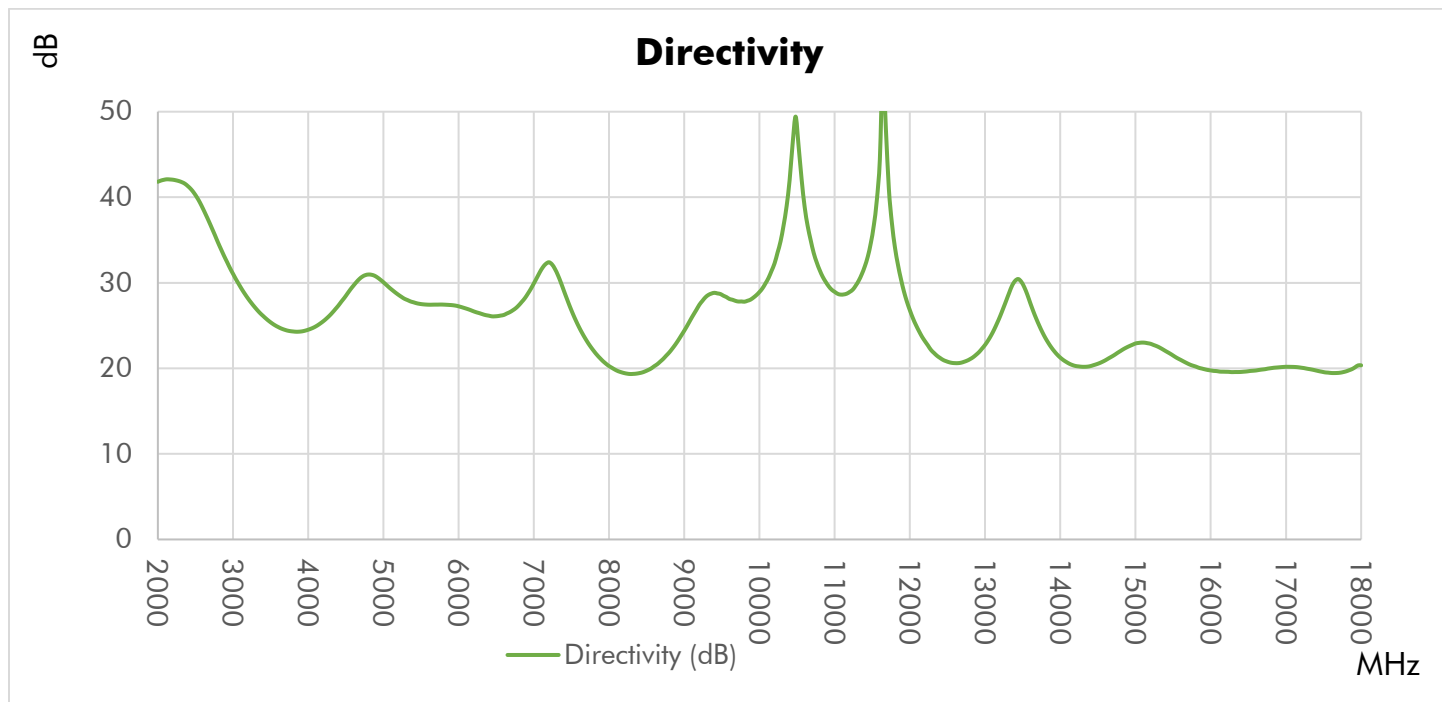
1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load 1.2:1 max VSWR.
3. Electrical specifications at +25 °C.
4. To the best of our knowledge at the time of publication.

Materials

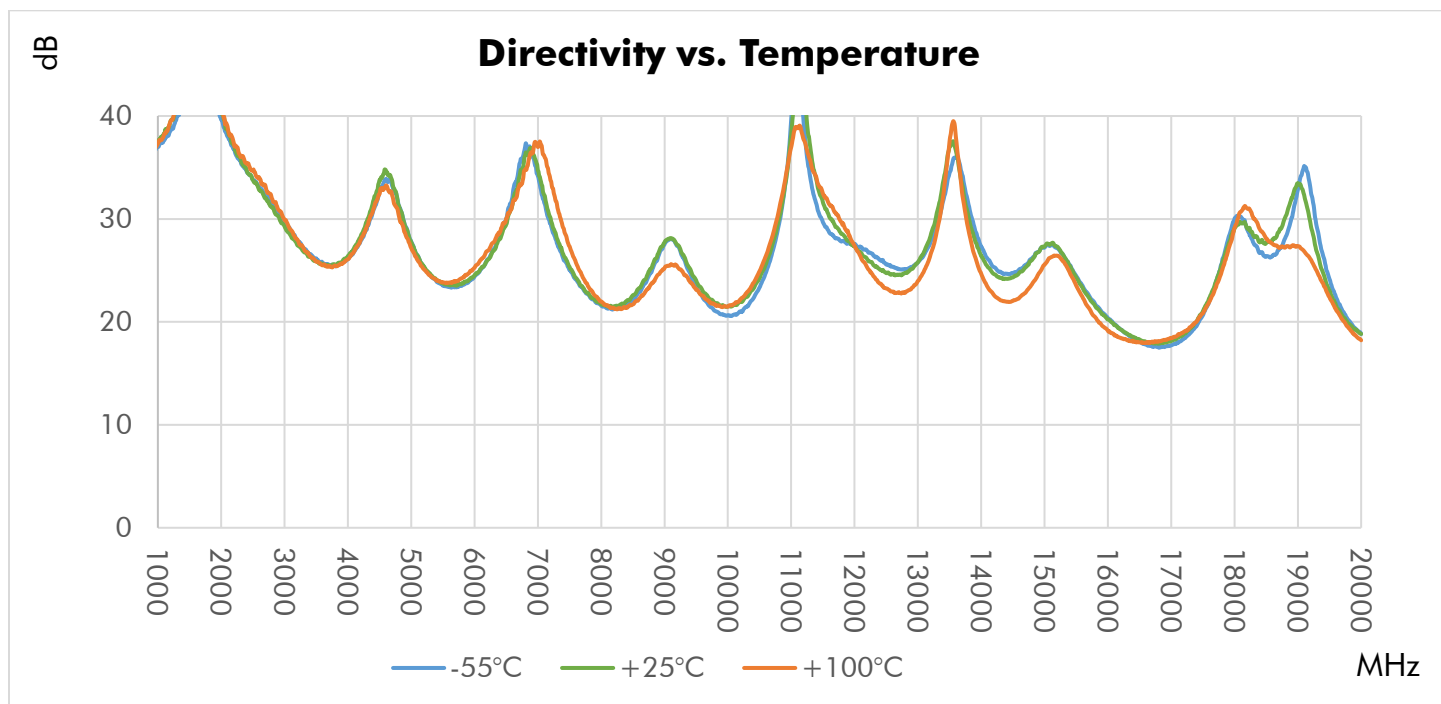
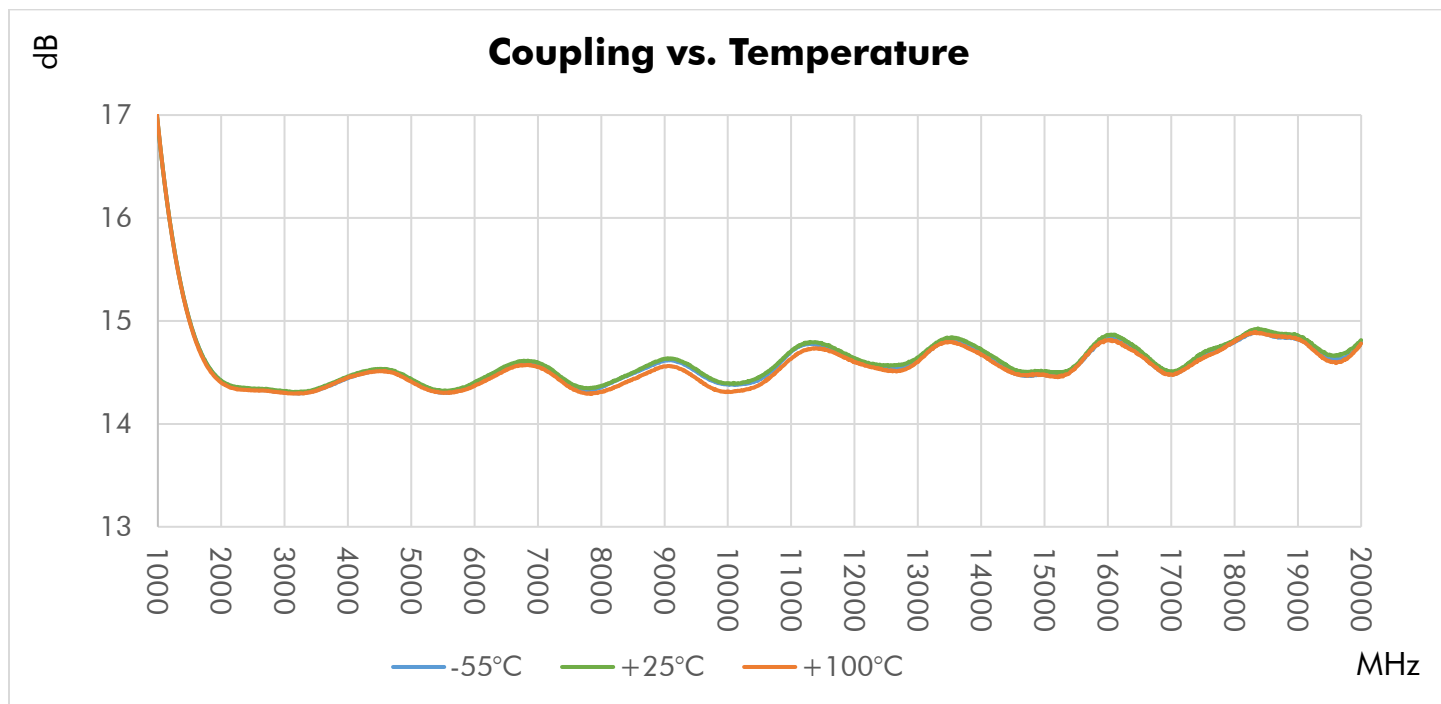
RoHS and REACH Compliant ⁴	
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

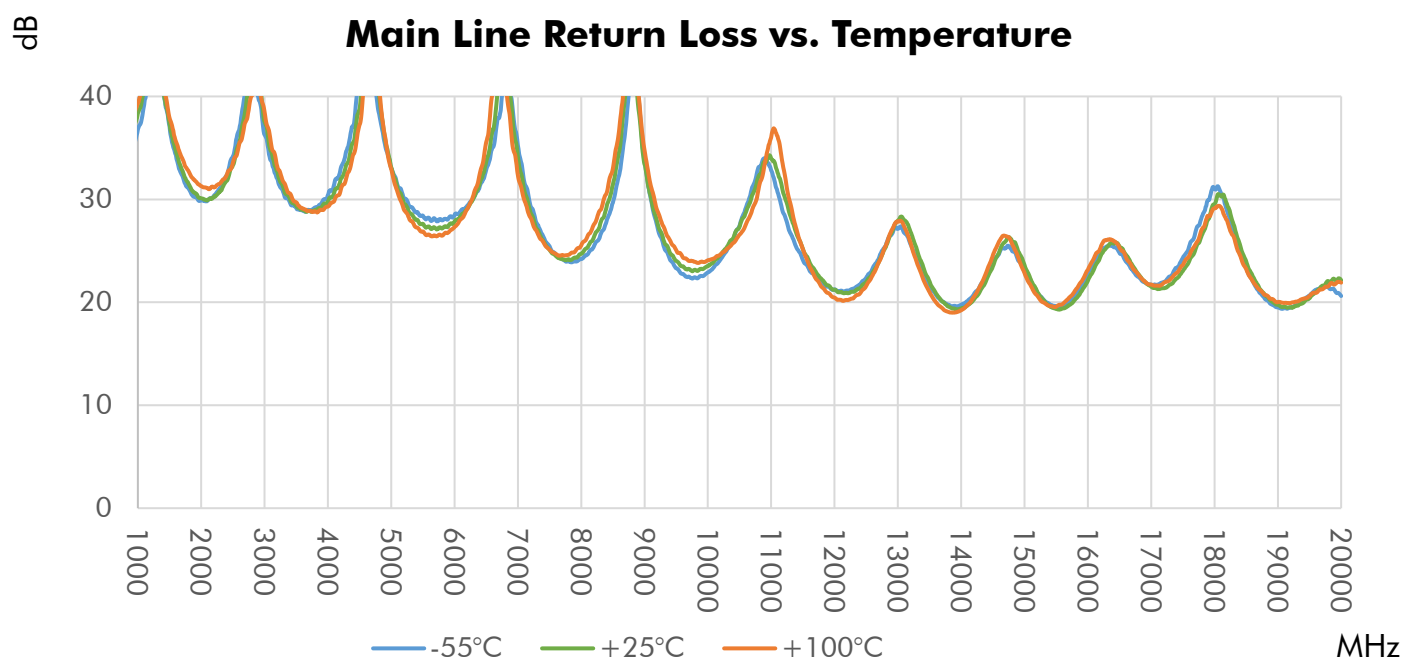
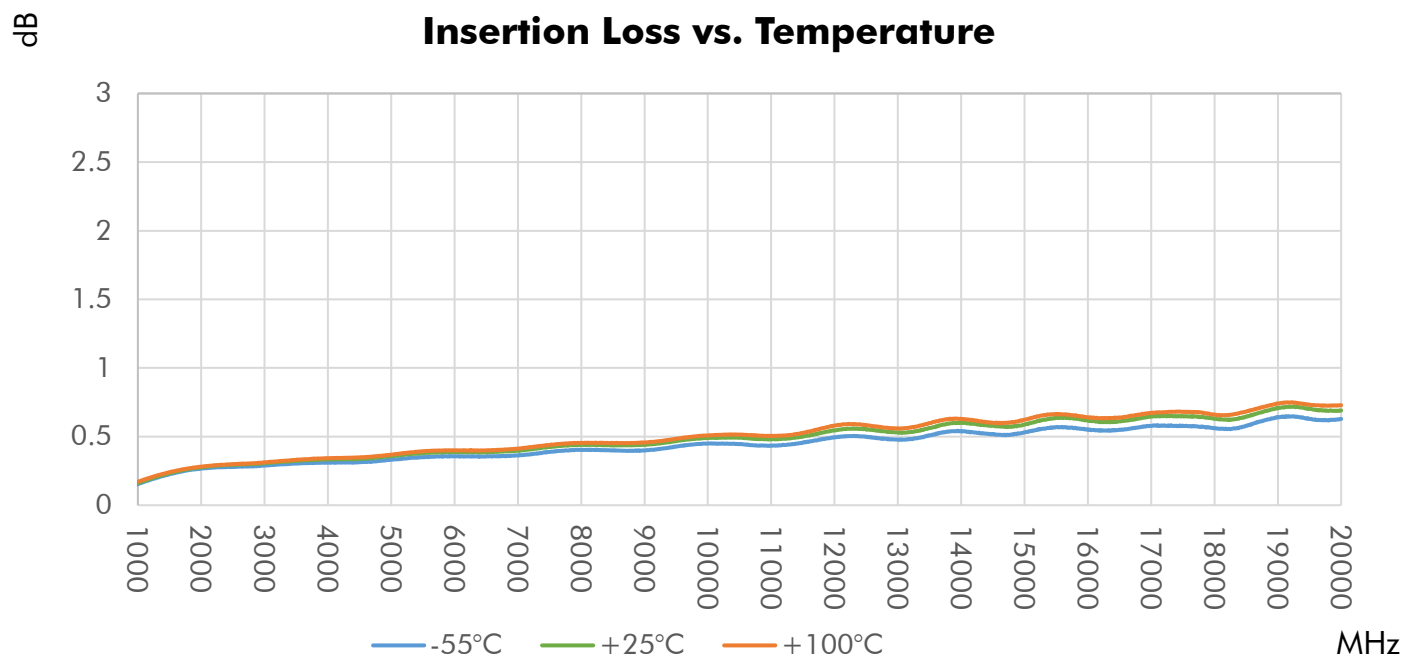
Typical Performance at +25 °C



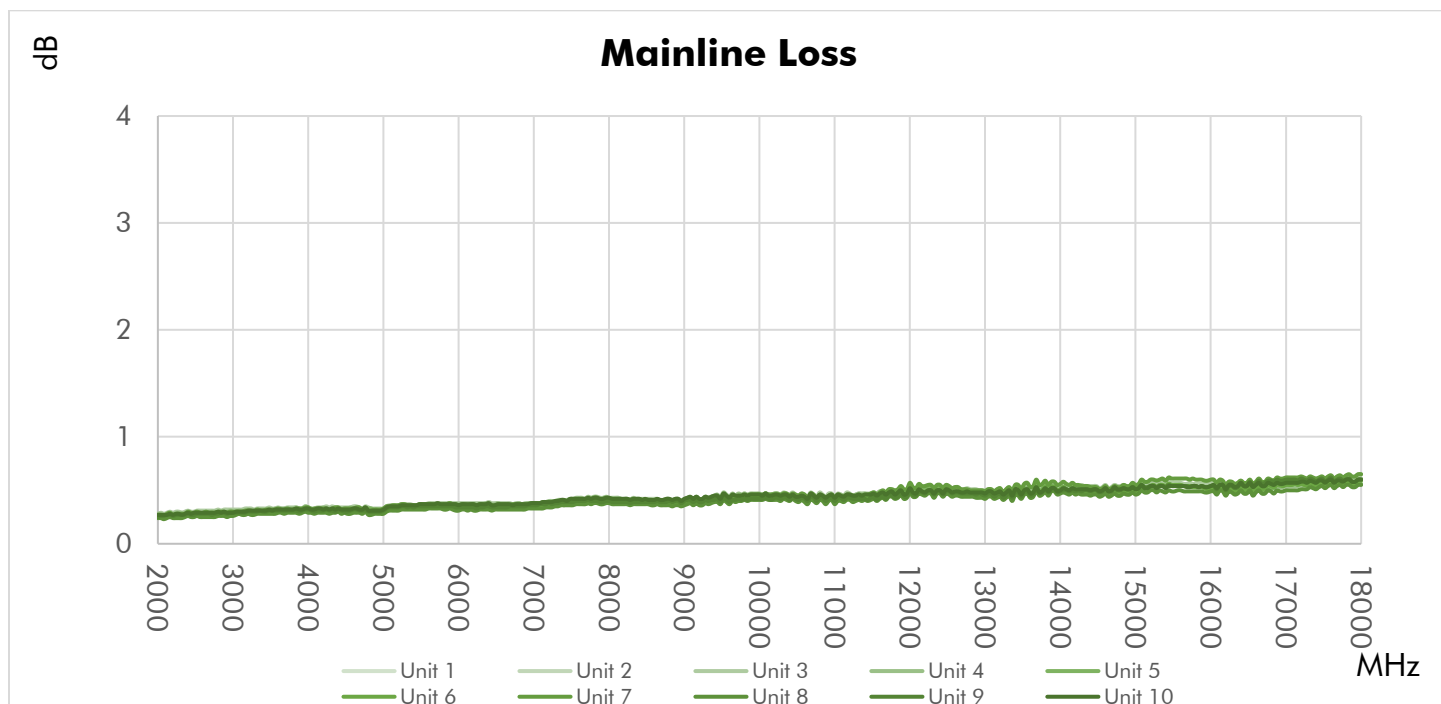
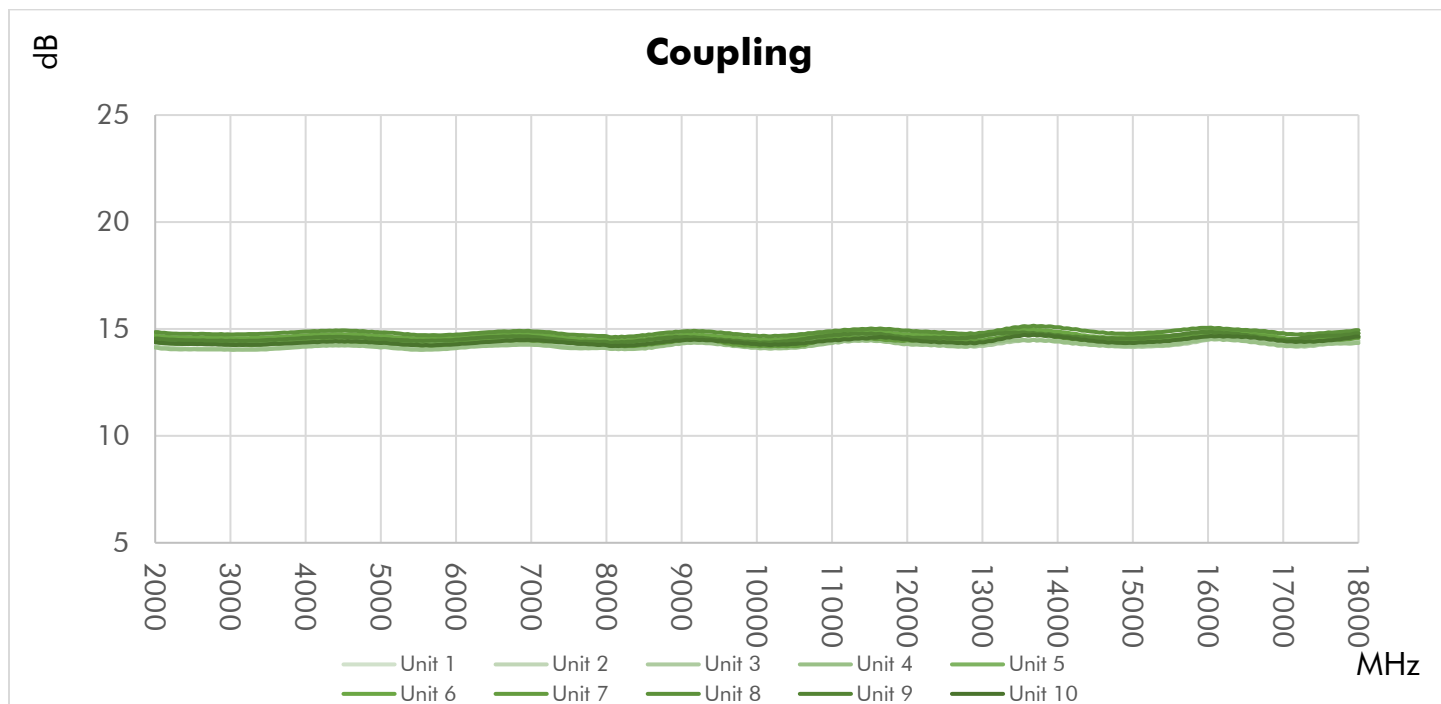


Typical Performance Over Temperature





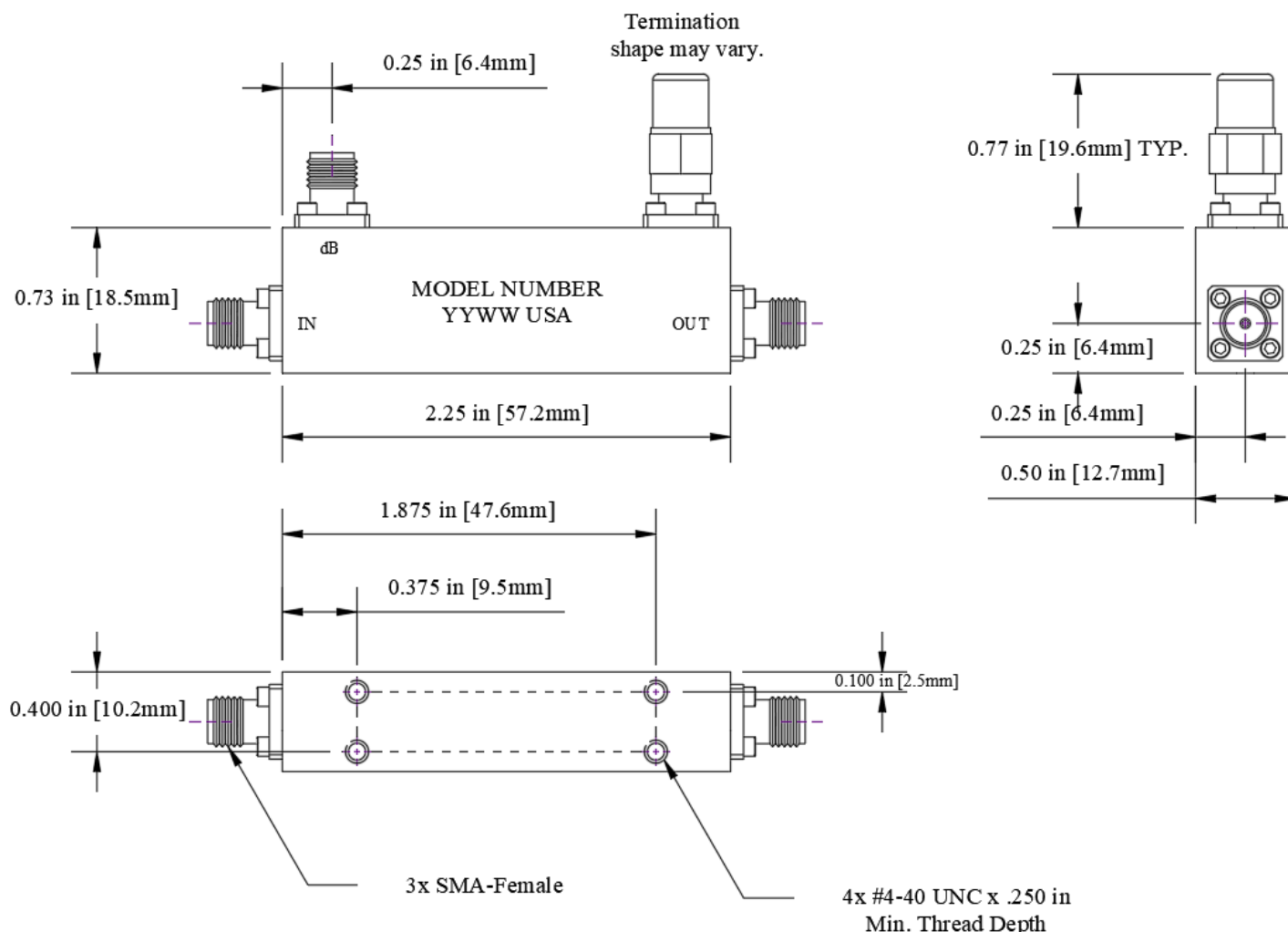
Repeatability in Production



Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Mainline Loss (dB)	Coupling (dB)	Directivity (dB)
	In	Out	Cpl.	In-Out	In-Cpl.	
1000	33.90	35.61	33.79	0.13	18.30	33.19
1500	31.01	30.64	30.01	0.18	16.37	31.94
2000	33.95	32.91	29.91	0.21	15.81	35.64
2500	36.90	37.17	40.78	0.21	15.75	31.43
3000	26.91	26.76	28.19	0.24	15.77	25.21
3500	25.96	25.77	24.46	0.26	15.83	24.24
4000	28.73	28.13	26.13	0.27	15.94	27.34
4500	27.09	28.33	30.29	0.27	16.02	32.76
5000	25.95	26.74	31.17	0.26	15.92	33.12
5500	27.76	27.48	27.12	0.29	15.79	27.46
6000	25.76	27.23	23.00	0.30	15.85	23.38
6500	25.36	26.97	23.55	0.30	16.03	23.68
7000	30.90	30.27	34.12	0.31	16.05	31.39
7500	26.09	26.96	24.73	0.33	15.88	28.27
8000	22.32	23.25	21.18	0.36	15.79	22.96
8500	24.14	23.66	23.57	0.35	15.86	22.55
9000	40.80	32.64	36.16	0.33	15.98	25.99
9500	24.89	25.85	28.25	0.36	15.91	40.58
10000	20.56	20.48	23.24	0.40	15.71	29.69
10500	22.51	21.58	23.34	0.41	15.74	24.97
11000	32.42	33.93	28.21	0.37	15.92	25.97
11500	24.21	23.81	33.28	0.40	16.05	42.70
12000	19.97	19.92	22.22	0.46	15.87	24.33
12500	21.88	21.69	20.95	0.44	15.77	19.11
13000	29.29	31.14	32.00	0.42	15.72	19.29
13500	22.30	22.47	24.66	0.45	16.05	26.33
14000	19.32	19.29	23.43	0.48	16.01	31.17
14500	24.76	25.27	30.66	0.46	15.74	26.70
15000	26.26	26.36	21.98	0.46	15.74	41.06
15500	19.45	19.50	28.47	0.52	15.85	21.42
16000	23.07	24.15	22.17	0.50	16.05	19.21
16500	30.86	29.14	20.35	0.46	16.00	22.30
17000	19.85	20.24	20.55	0.54	15.67	19.49
17500	20.19	21.49	21.07	0.55	15.81	18.66
18000	26.19	27.15	26.45	0.52	15.94	28.78
18500	22.50	24.21	24.46	0.54	16.07	23.96
19000	18.21	19.07	41.22	0.60	16.02	22.94
19500	20.07	19.92	21.03	0.58	15.92	29.42
20000	37.48	31.30	19.54	0.54	16.05	16.13

Outline Dimensions



Outline # OL-1182

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

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

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