

Directional Coupler, 0.5-20GHz, 6dB, SMA Female

WMC-0.5-20-6dB-S

Description

Model WMC-0.5-20-6dB-S is a wideband directional coupler that provides a flat nominal 6dB coupling value (units measure near 7.5dB) over the continuous bandwidth of 500MHz to 20GHz. Made in the USA.

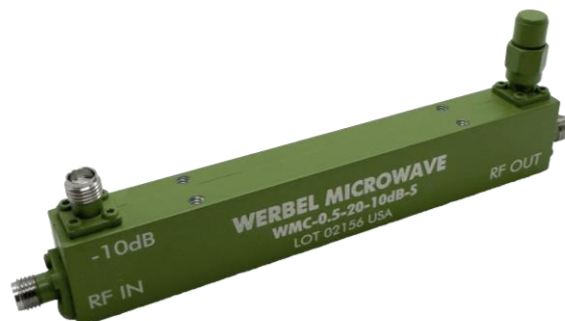


Photo is representative.

Specifications	Min.	Typ.	Max.	Units
Frequency	500	-	20000	MHz
Impedance	-	50	-	Ohm
Coupling	-	7.0	-	dB
Frequency Sensitivity (Flatness)	-	±0.72	±1.80	dB
Mainline Loss ¹	-	2.67	3.50	dB
Directivity	12	15.9	-	dB
Return Loss (In and Out)	12.7	15.5	-	dB
Return Loss (Coupling)	12.7	15.6	-	dB
Isolation	-	23.4	-	dB
Forward Power (CW) ²	-	-	20	Watts
Reverse Power (CW) ²	-	-	4	Watts

Mechanical

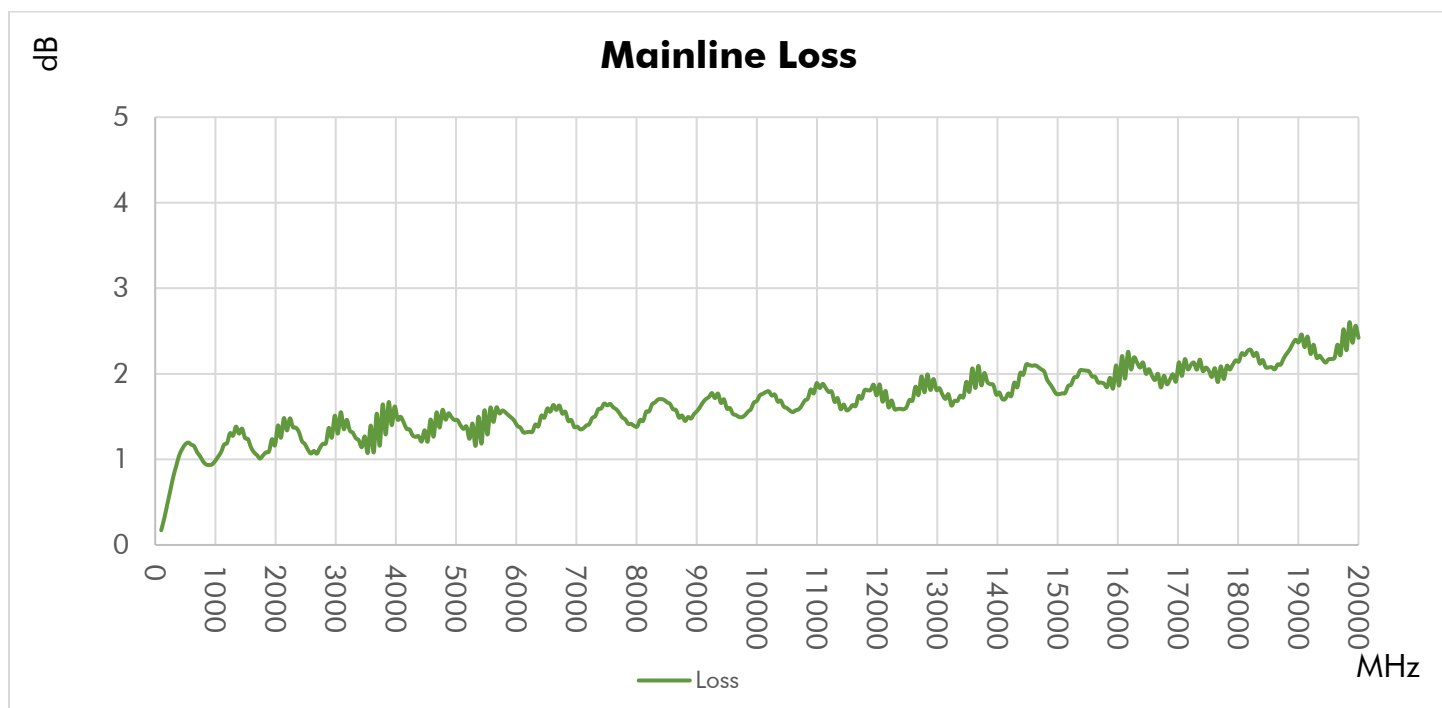
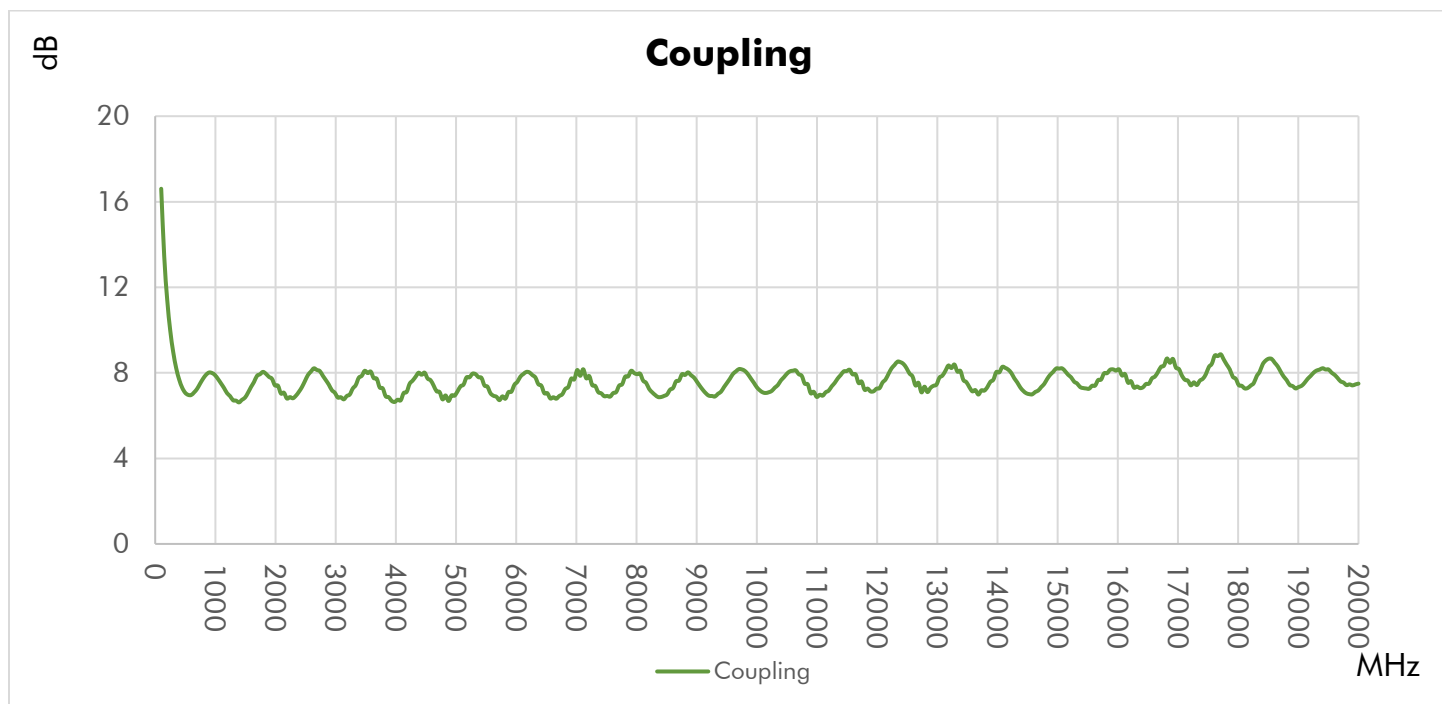
Connector Interface	SMA-Female
Operating Temperature ³	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	3.5 oz (86 g)
Humidity	10-90% non-condensing
Environment	Indoors Use Only

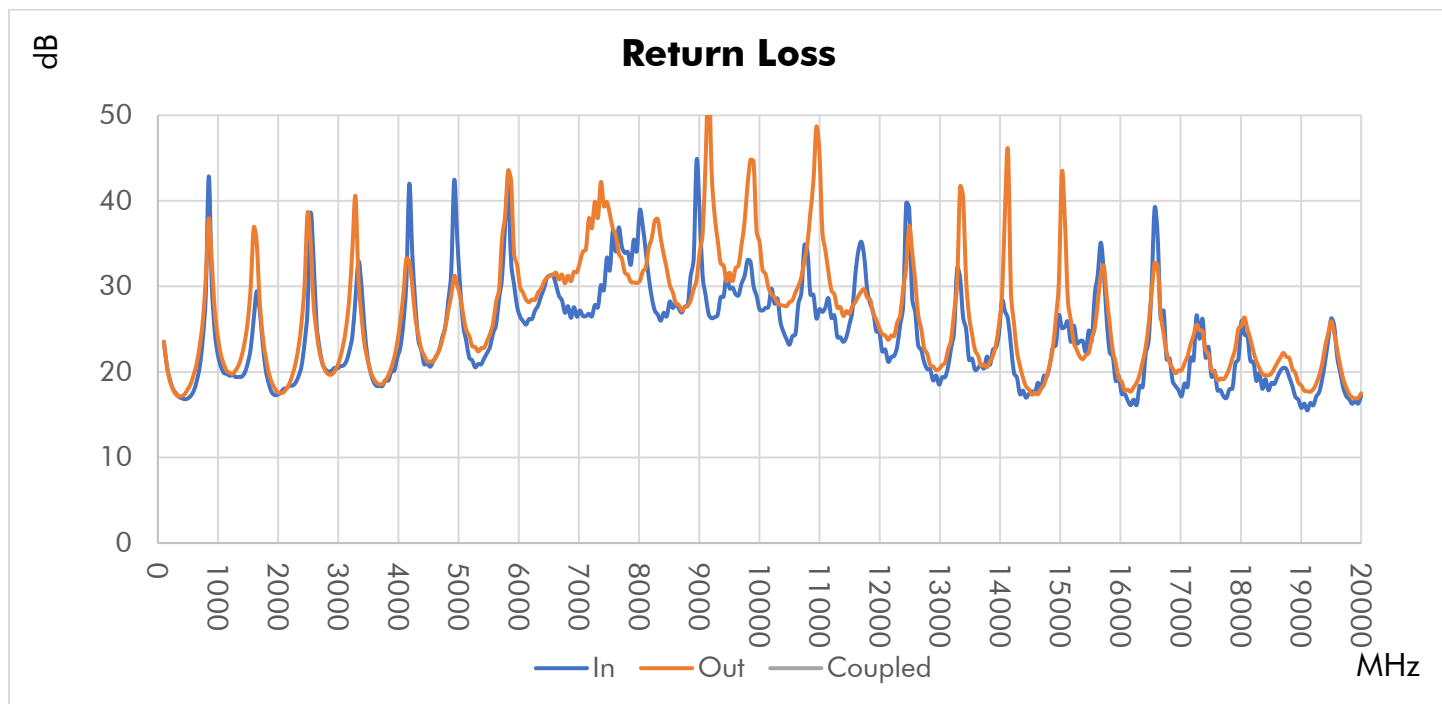
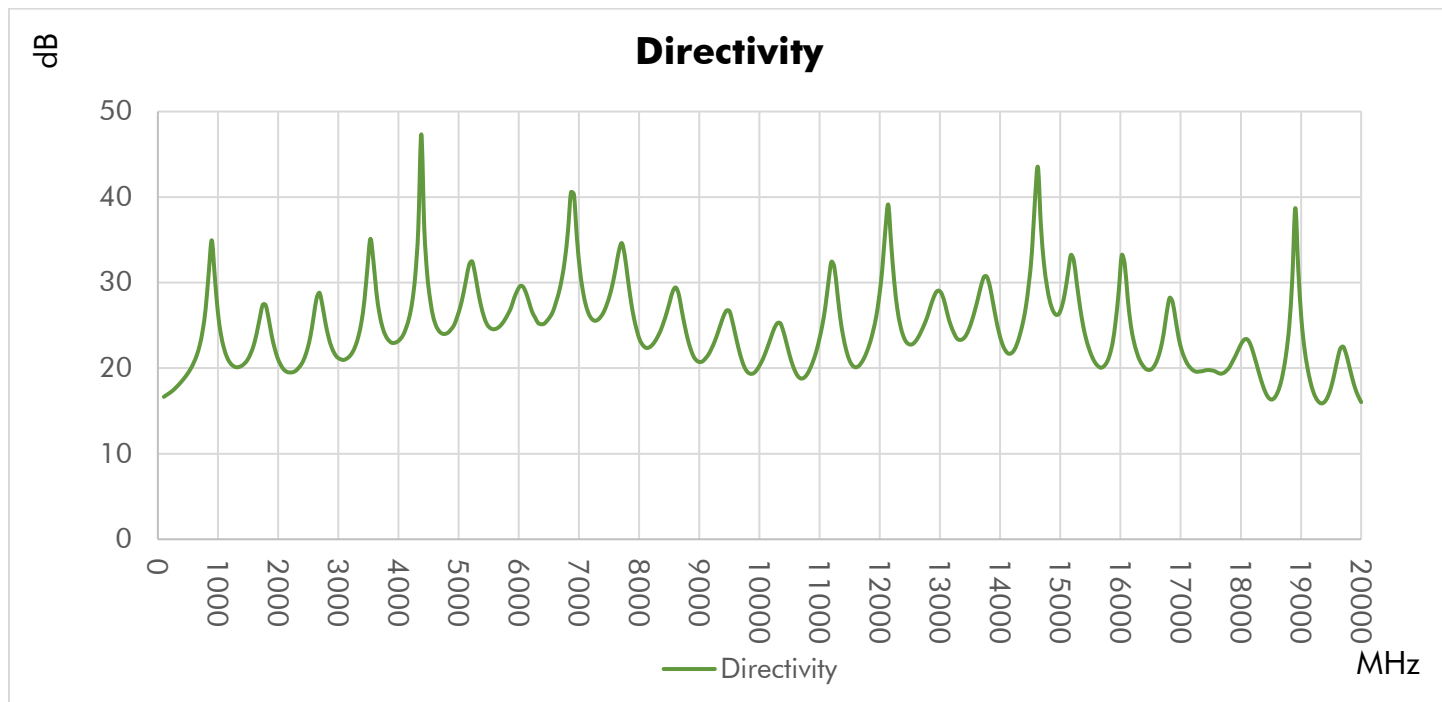
1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications at +25 °C only.
4. To the best of our knowledge at the time of publication.

Materials

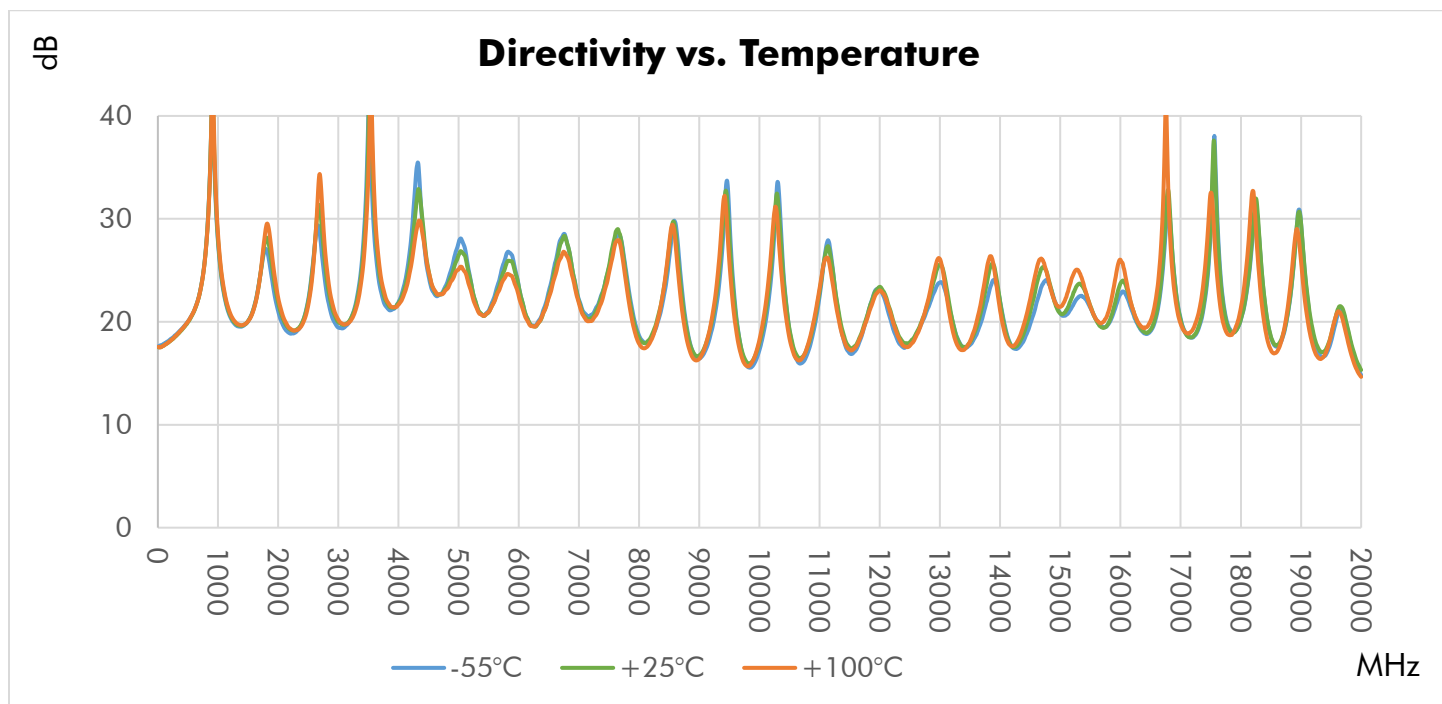
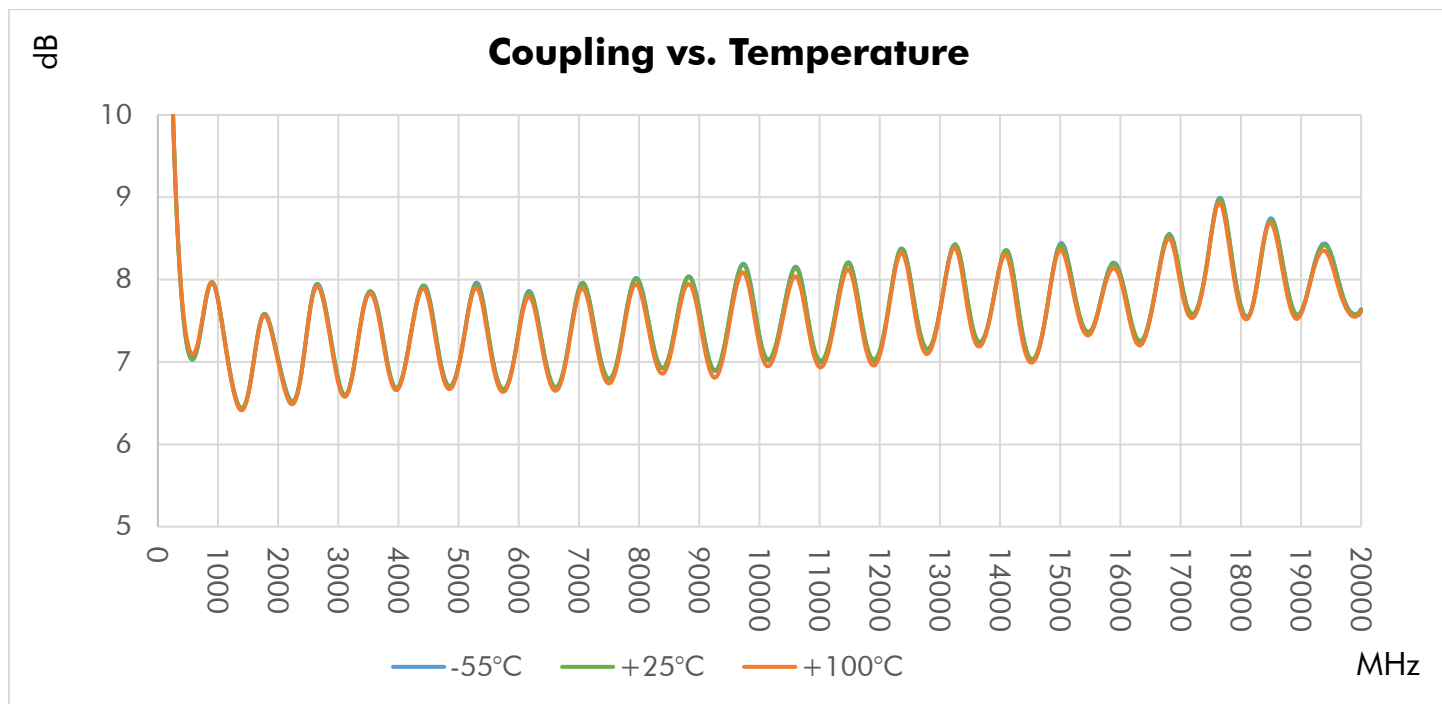
RoHS and REACH Compliant ⁴	
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

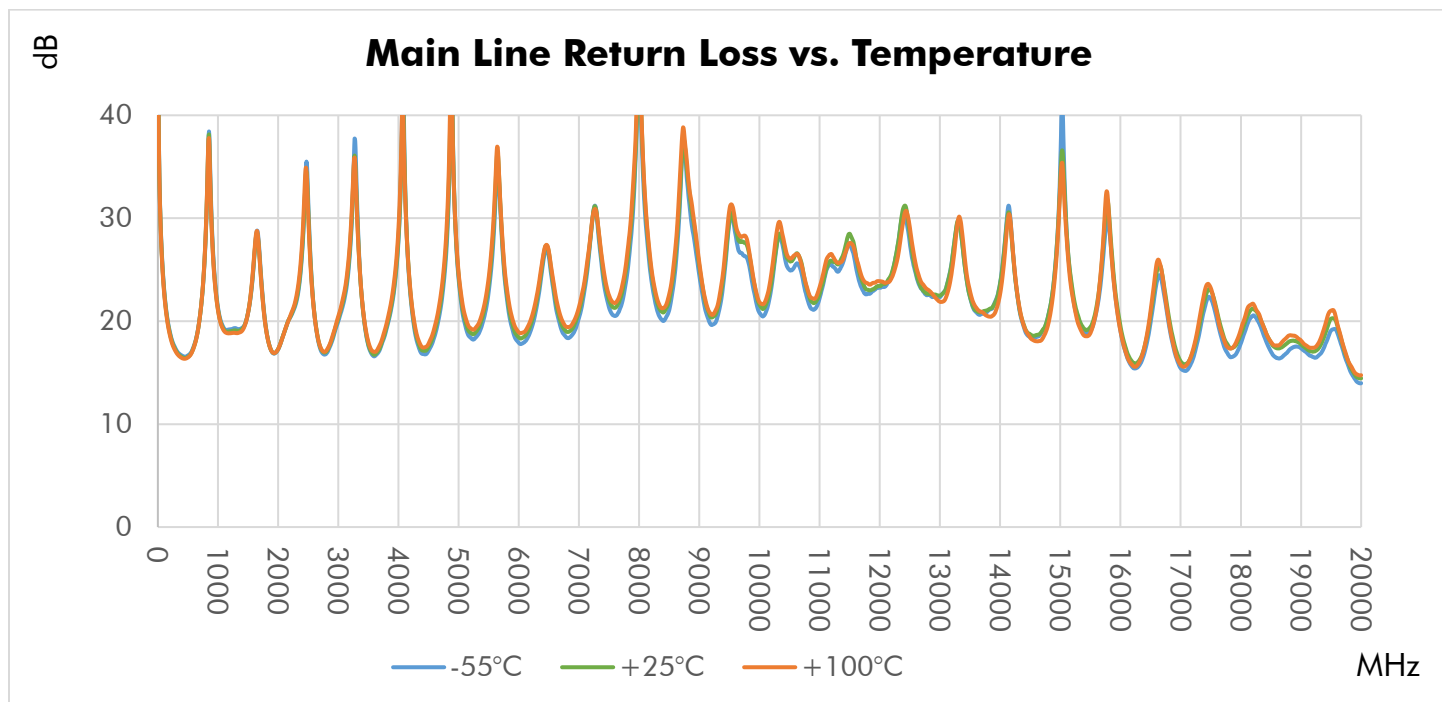
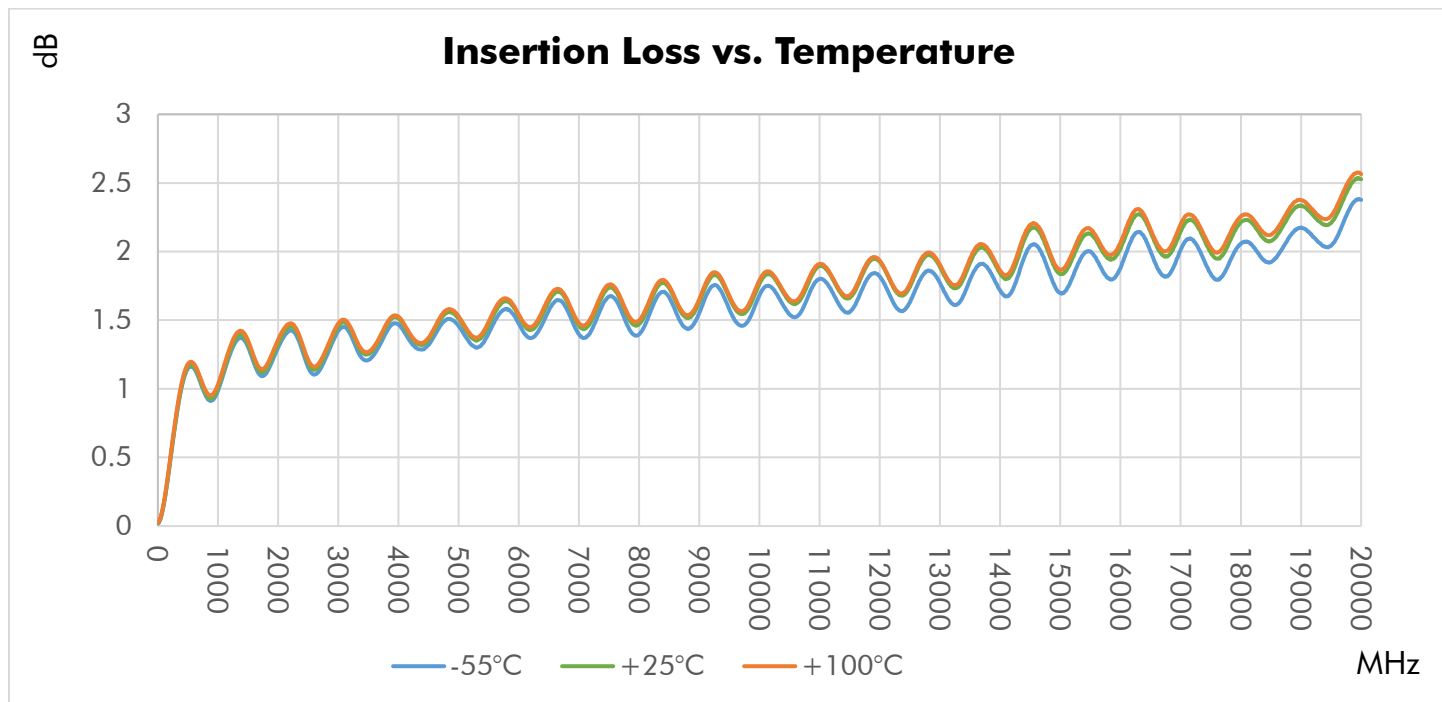
Typical Performance at +25 °C



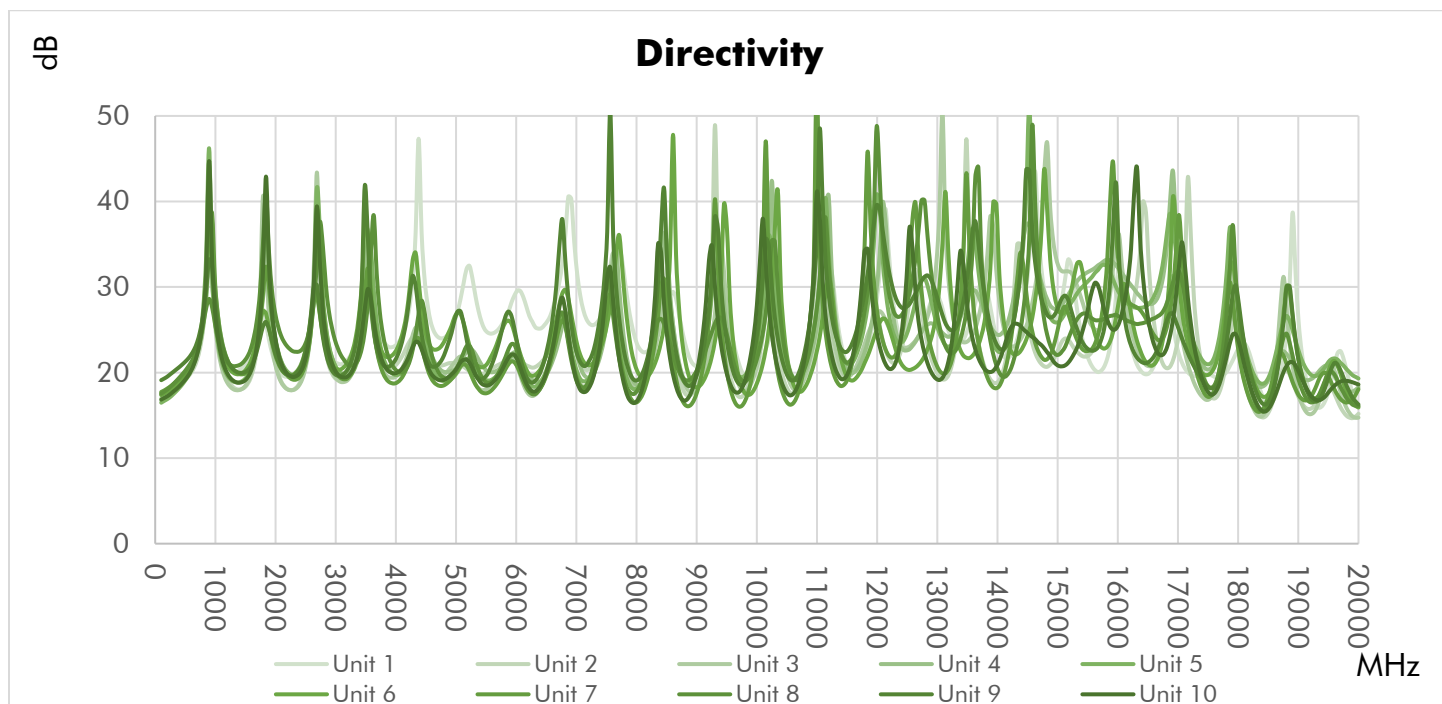
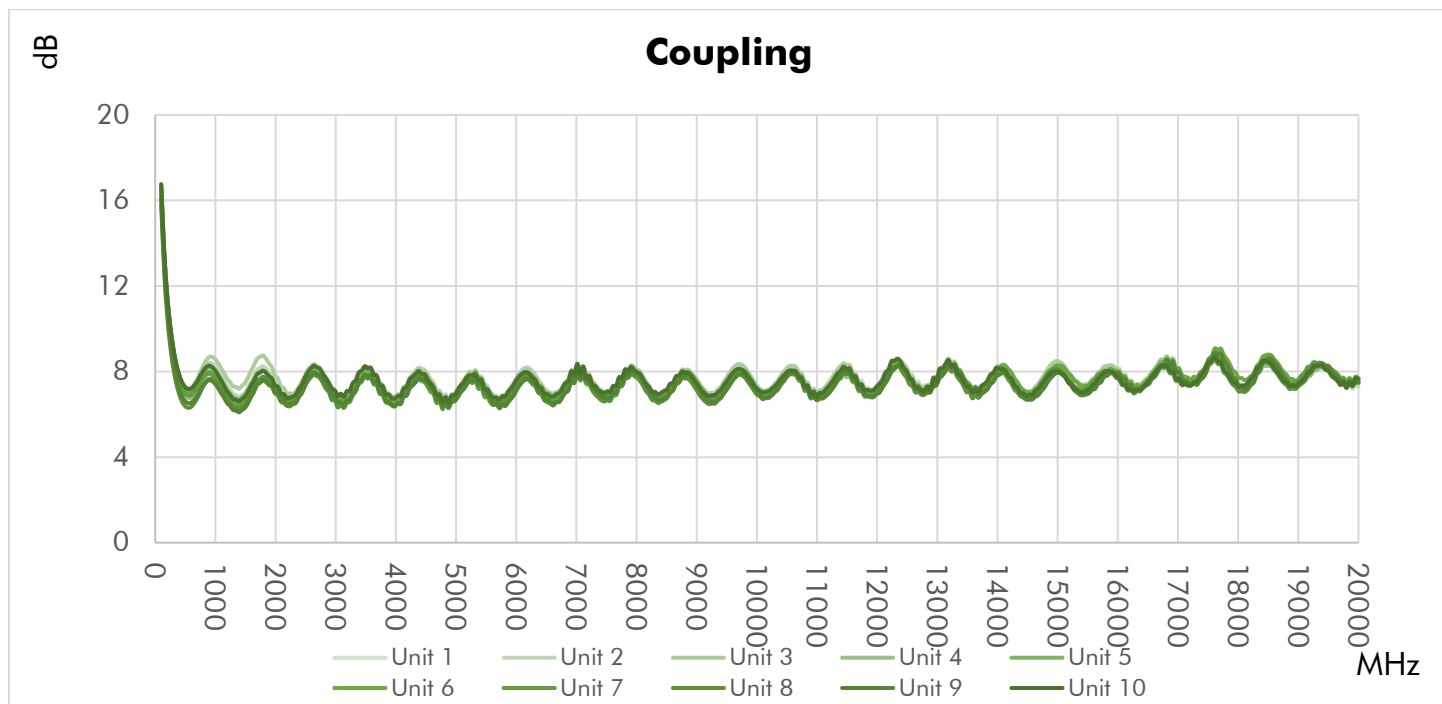


Typical Performance Over Temperature





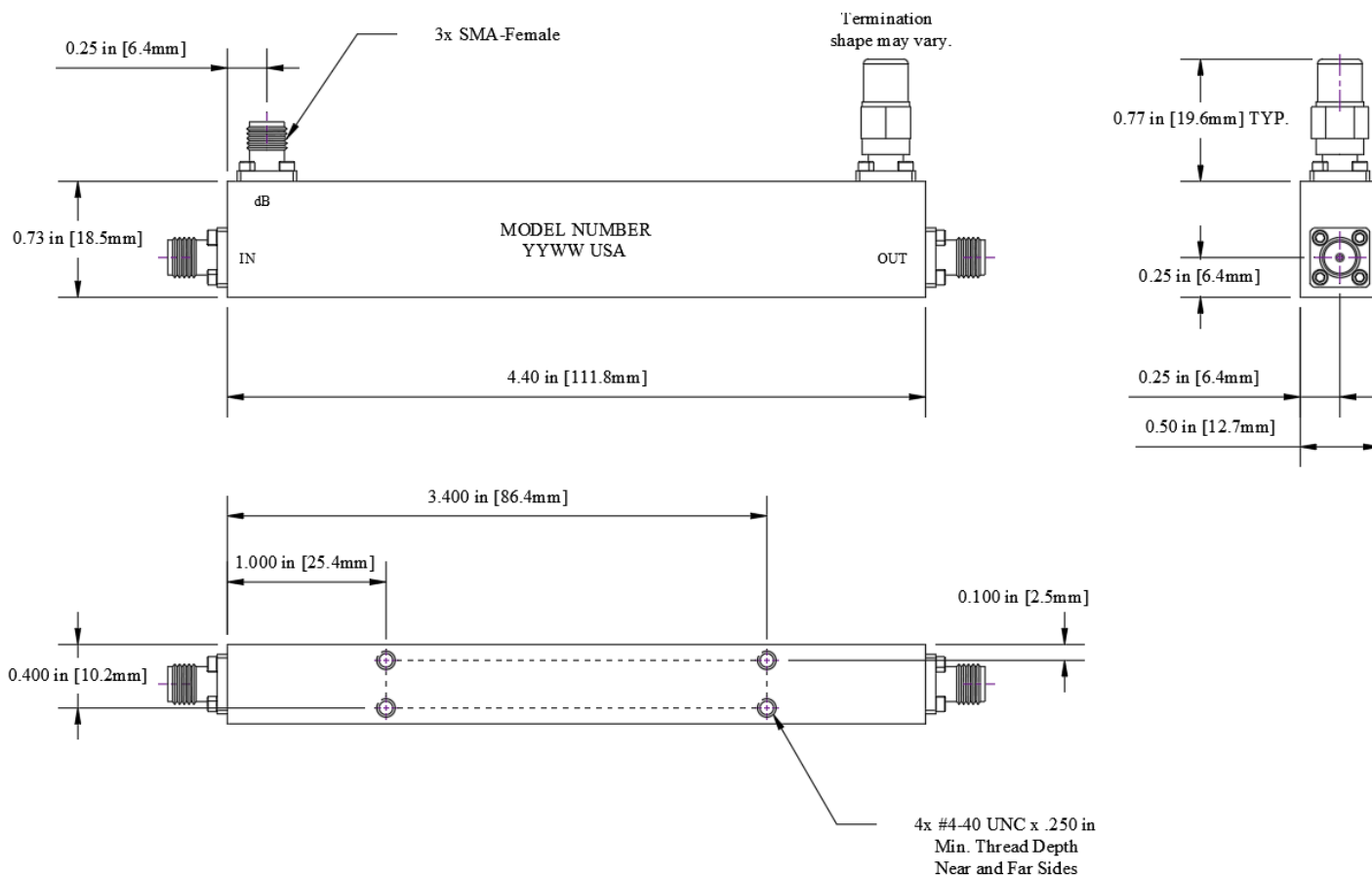
Repeatability in Production



Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Mainline Loss (dB)	Coupling (dB)	Directivity (dB)
	In	Out	Cpl.	In-Out	In-Cpl.	
100	23.52	23.55	22.87	0.17	16.61	16.65
200	19.11	18.99	18.45	0.47	11.43	17.12
300	17.54	17.38	16.93	0.79	8.98	17.73
400	16.94	17.20	16.87	1.05	7.69	18.49
500	16.91	18.00	17.88	1.17	7.07	19.40
600	17.82	19.74	20.05	1.17	6.96	20.66
700	20.67	23.16	24.43	1.08	7.25	22.72
800	28.94	30.97	38.14	0.98	7.73	27.09
900	30.29	33.01	28.71	0.93	8.02	34.95
1000	22.07	24.19	22.18	0.98	7.89	26.68
1500	21.00	25.85	31.26	1.25	6.84	21.01
2000	17.35	17.62	17.89	1.17	7.41	21.18
3000	20.68	21.82	28.62	1.30	6.84	21.05
4000	22.86	25.93	22.62	1.47	6.74	23.41
5000	29.89	28.83	22.32	1.46	7.14	27.13
6000	26.48	29.94	27.00	1.39	7.58	29.58
7000	27.18	32.85	22.33	1.38	8.13	31.47
8000	38.89	30.63	21.84	1.38	7.94	23.31
9000	38.55	34.07	34.29	1.56	7.58	20.72
10000	27.32	35.19	20.14	1.68	7.32	20.31
11000	27.02	36.38	20.99	1.83	6.97	25.06
12000	22.40	24.43	30.11	1.88	7.29	31.55
13000	19.38	20.79	22.89	1.83	7.78	28.58
14000	28.36	28.76	16.77	1.78	8.02	22.94
15000	25.15	43.33	19.54	1.76	8.20	27.21
16000	17.43	18.84	19.95	1.86	8.16	33.19
17000	17.16	20.19	15.36	2.14	8.18	22.15
18000	25.92	25.37	18.65	2.14	7.42	22.90
19000	15.80	18.41	26.68	2.37	7.34	25.88
20000	17.17	17.51	23.31	2.42	7.50	16.03

Outline Dimensions



Outline # OL-1185

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

Tolerances on 2-pl decimals: ± 0.03 . 3-pl decimals: ± 0.015 .

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