

## Directional Coupler, 0.3-8GHz, 30dB, SMA Female

## WMC-0.3-8-30dB-S

### Description

Model WMC-0.3-8-30dB-S from Werbel Microwave is a directional coupler that covers 300 MHz to 8 GHz with broadband flat coupling response, high directivity, and excellent return loss performance. The very wideband response covers the upper portion of UHF, L, S and C bands making it very useful in test and measurement applications. The enclosure measures 6.00 x 0.73 x 0.50 inches with threaded mounting holes on both sides for support. Typical coupling flatness  $\pm 0.6$ dB. Directivity 23dB typical. Return loss 25dB typical. Insertion loss 0.5dB typical. Rugged stainless-steel connectors and aluminum enclosure. Designed, tested, and assembled in the USA.

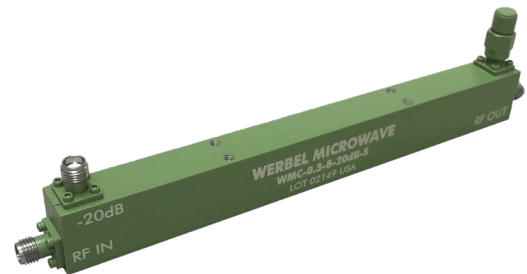


Photo is representative.

Specifications		Min.	Typ.	Max.	Units
Frequency		300	--	8000	MHz
Impedance		--	50	--	Ohm
Coupling		--	30 $\pm$ 2.0	--	dB
Frequency Sensitivity (Flatness)		--	$\pm$ 0.6	$\pm$ 1.2	dB
Mainline Loss <sup>1</sup>		--	0.5	1.0	dB
Directivity	300-6000MHz	16	23		dB
	6000-8000MHz	14	19	--	dB
Return Loss (In and Out)	300-6000MHz	16	27		dB
	6000-8000MHz	15	25	--	dB
Return Loss (Coupling)	300-6000MHz	16	23		dB
	6000-8000MHz	15	21	--	dB
Input Power (CW) <sup>2</sup>		--	--	50	Watts

### Mechanical

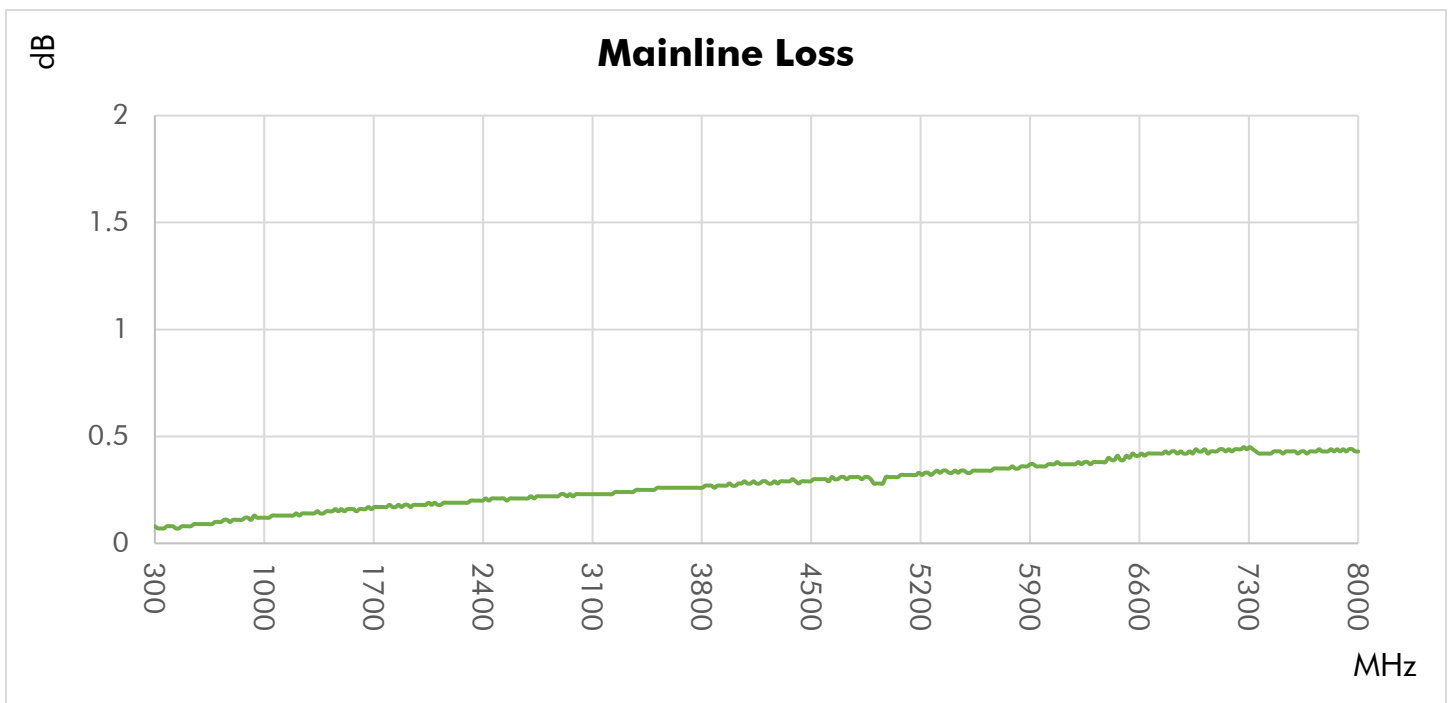
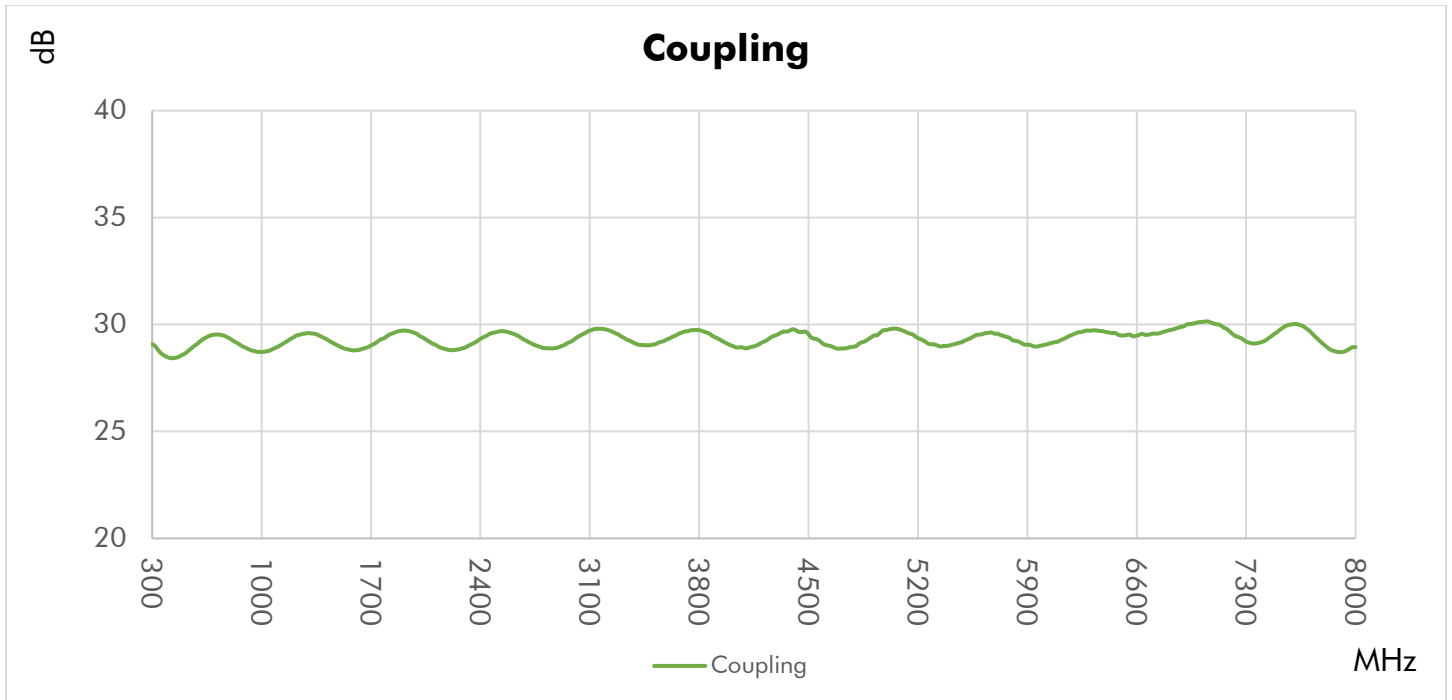
Connector Interface	SMA-Female
Operating Temperature <sup>3</sup>	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	3.5 oz (86 g)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	78YZ0

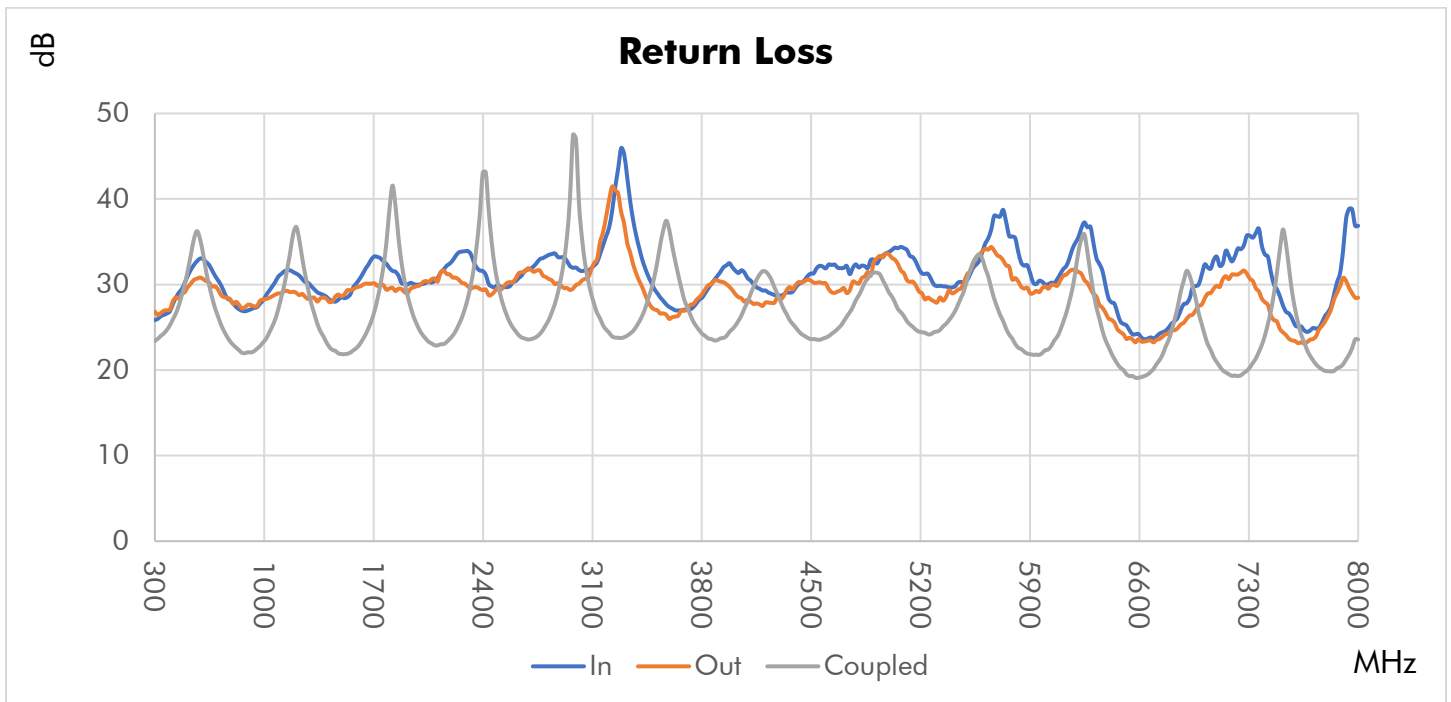
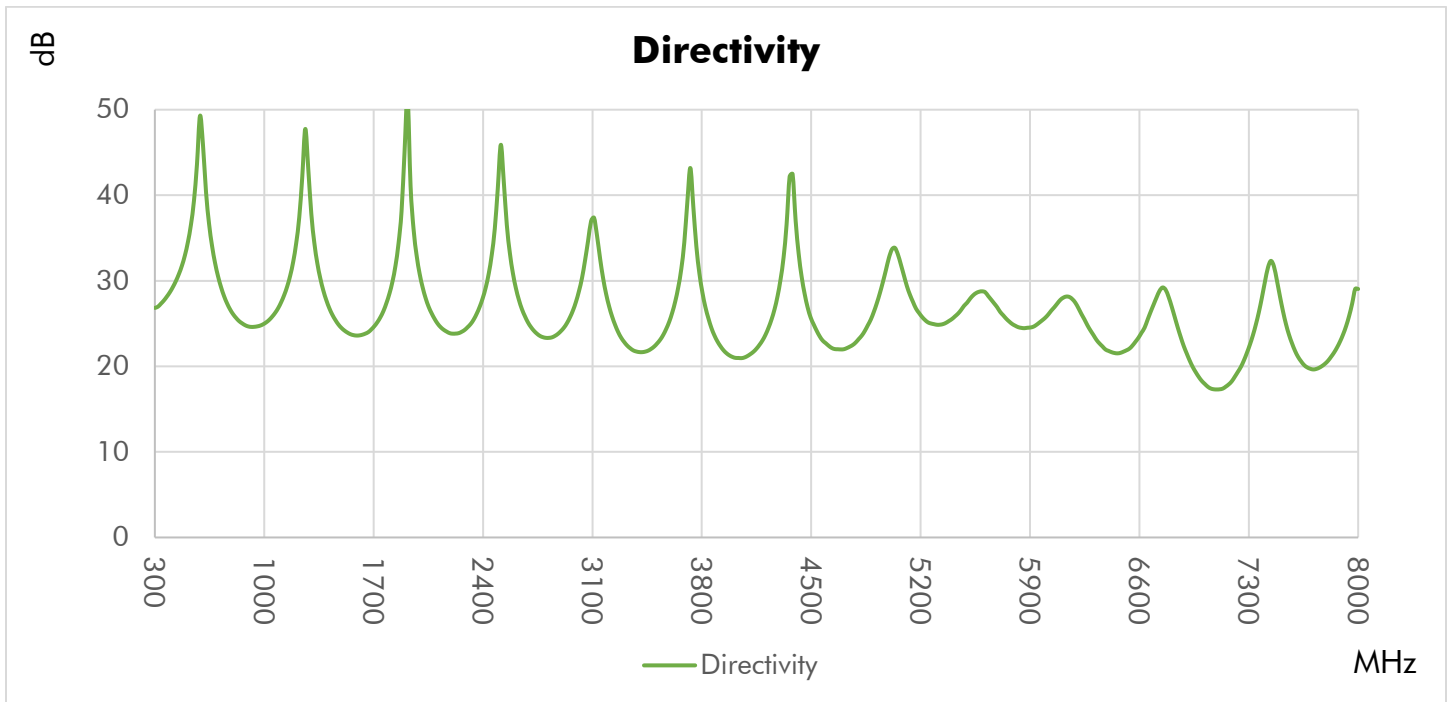
### Materials

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

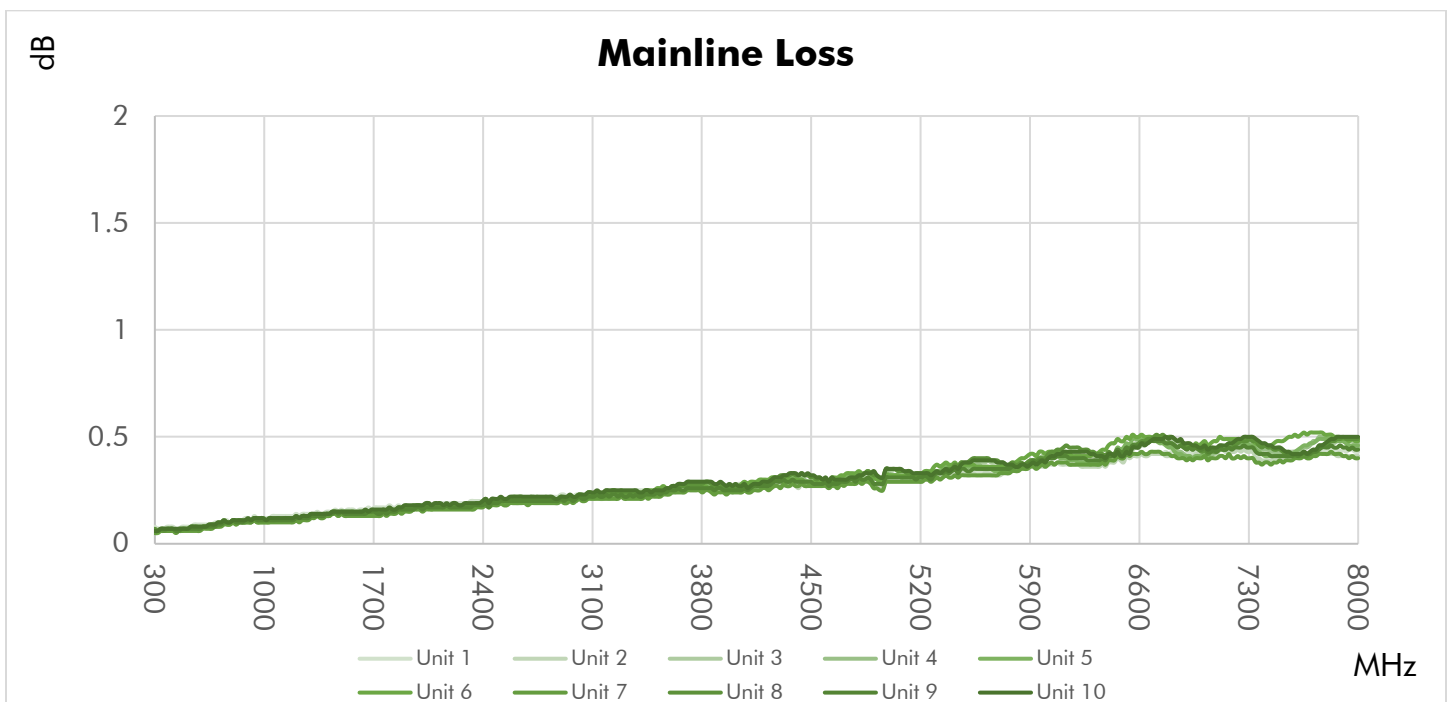
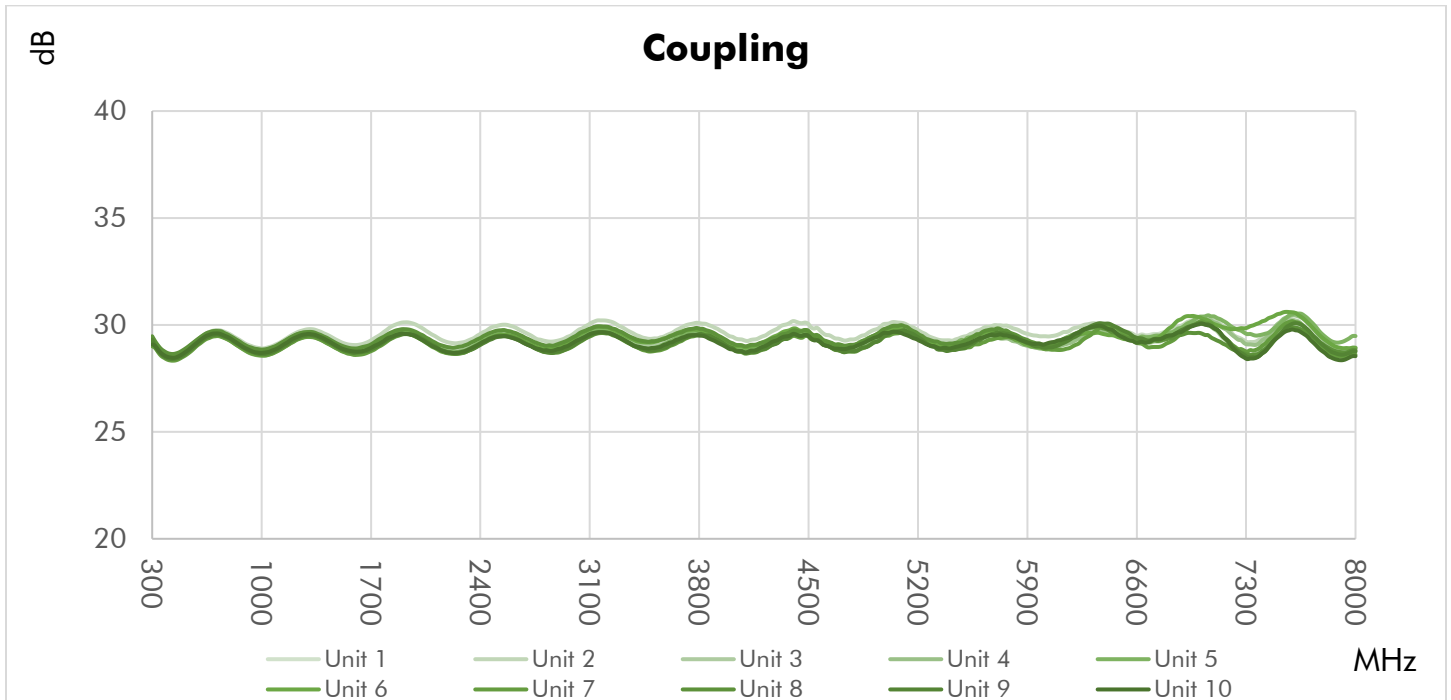
1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications at +25 °C only.
4. To the best of our knowledge at time of publication.

## Typical Performance at +25 °C





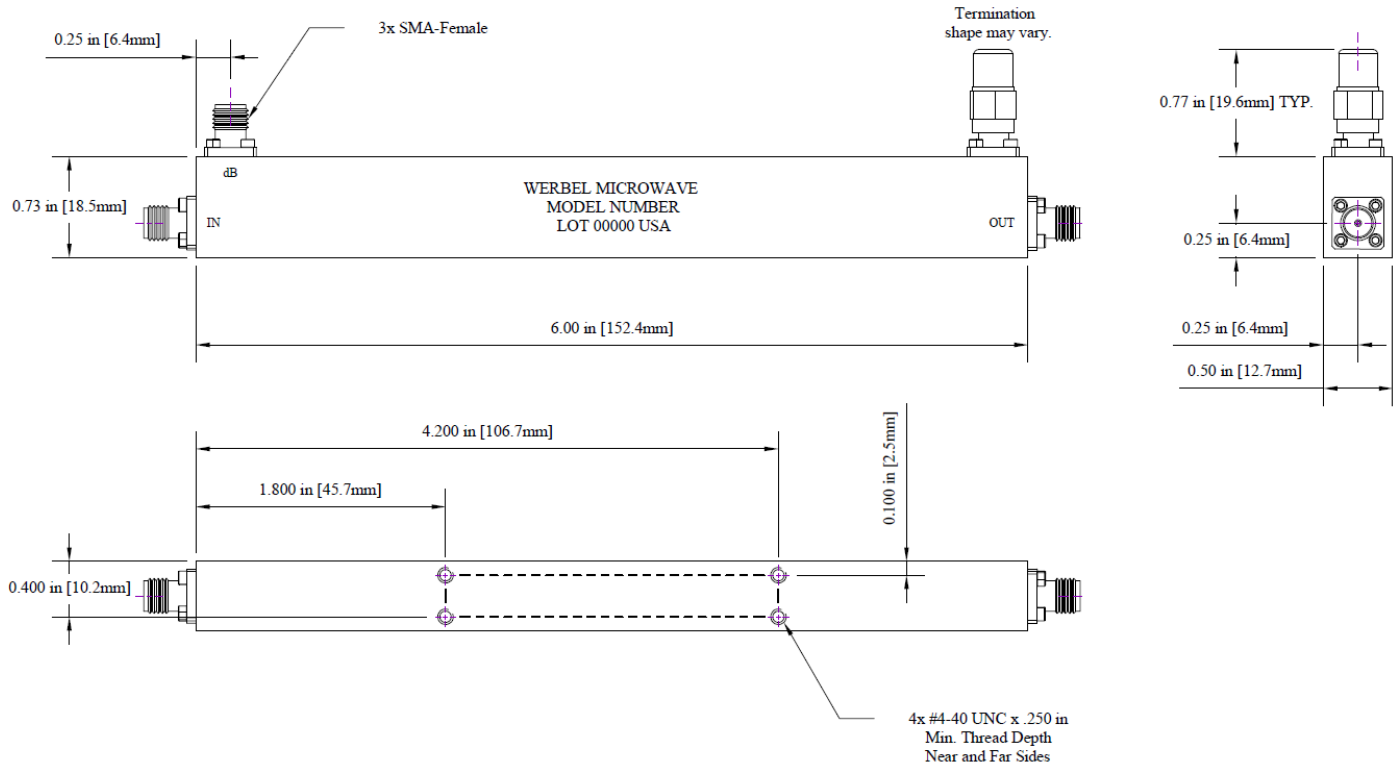
## Repeatability in Production



## Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Mainline Loss (dB)	Coupling (dB)	Directivity (dB)
	In	Out	Cpl.	In-Out	In-Cpl.	
300	26.7	26.8	25.2	0.1	29.2	28.1
608	34.5	31.5	34.2	0.1	29.1	38.6
916	26.8	27.3	24.9	0.1	28.7	27.0
1224	34.9	31.4	39.1	0.1	29.3	28.9
1532	28.2	28.8	26.0	0.2	28.8	27.9
1840	37.9	33.9	37.9	0.2	29.5	26.3
2148	30.2	30.6	29.0	0.2	28.8	25.9
2456	38.8	39.0	32.6	0.2	29.4	25.8
2764	29.8	30.0	30.5	0.2	28.9	24.7
3072	38.8	36.0	29.9	0.2	29.5	24.7
3380	35.3	48.1	42.7	0.2	29.0	21.7
3688	27.8	28.2	27.0	0.2	29.5	24.7
3996	29.7	30.5	32.8	0.3	28.9	19.7
4304	32.5	33.3	25.3	0.3	29.4	25.0
4612	27.9	31.7	27.4	0.3	28.9	18.3
4920	34.2	34.9	25.5	0.3	29.4	24.6
5228	27.9	30.8	23.3	0.3	29.0	17.7
5536	40.6	41.9	25.4	0.3	29.3	26.6
5844	23.8	24.9	21.1	0.4	29.0	18.2
6152	42.9	35.0	26.1	0.4	29.3	29.2
6460	20.1	21.8	18.5	0.4	29.3	19.3
6768	25.5	25.5	23.2	0.4	29.5	30.4
7076	22.6	25.9	18.1	0.4	29.5	24.1
7384	27.3	27.3	24.3	0.5	29.3	19.7
7692	21.3	22.9	16.8	0.4	29.8	19.9
8000	25.3	25.6	27.4	0.4	28.6	17.6

## Outline Dimensions



Outline # OL-1830

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

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

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