WERBEL MICROWAVE LLC
19 West Street, Unit A
East Hanover, N.J. 07936
www.WerbelMicrowave.com

Power Divider, 4-way, 2-8 GHz, SMA Female, 50 Ω

WM4PD-2-8-S



This 4-way power divider provides reliable broadband signal splitting from 2 to 8 GHz for general-purpose RF and microwave applications. Designed to offer a practical balance of electrical performance and cost, it is well suited for Wi-Fi and WLAN systems, UAV and drone communications, ISM-band equipment, radar and sensing systems, wireless infrastructure, laboratory test setups, and general signal distribution. The divider provides good isolation, amplitude and phase balance, and impedance match across the operating band, making it an economical choice for everyday RF system integration where metrology-grade performance is not required.

Parameter	Min	Typ.	Max	Unit
Frequency Range	2	-	8	GHz
Impedance	-	50	-	Ω
Return Loss (Port S)	11	16	-	dB
Return Loss (Port 1-2)	14	18	-	dB
Insertion Loss (above 3.0 dB)	-	0.7	1.2	dB
Isolation	18	23	-	dB
Amplitude Unbalance (±)[1]	-	0.2	0.8	dB
Phase Unbalance (±)[1]	-	1	6	Degree
Input Power (CW)[2]	-	-	30	W

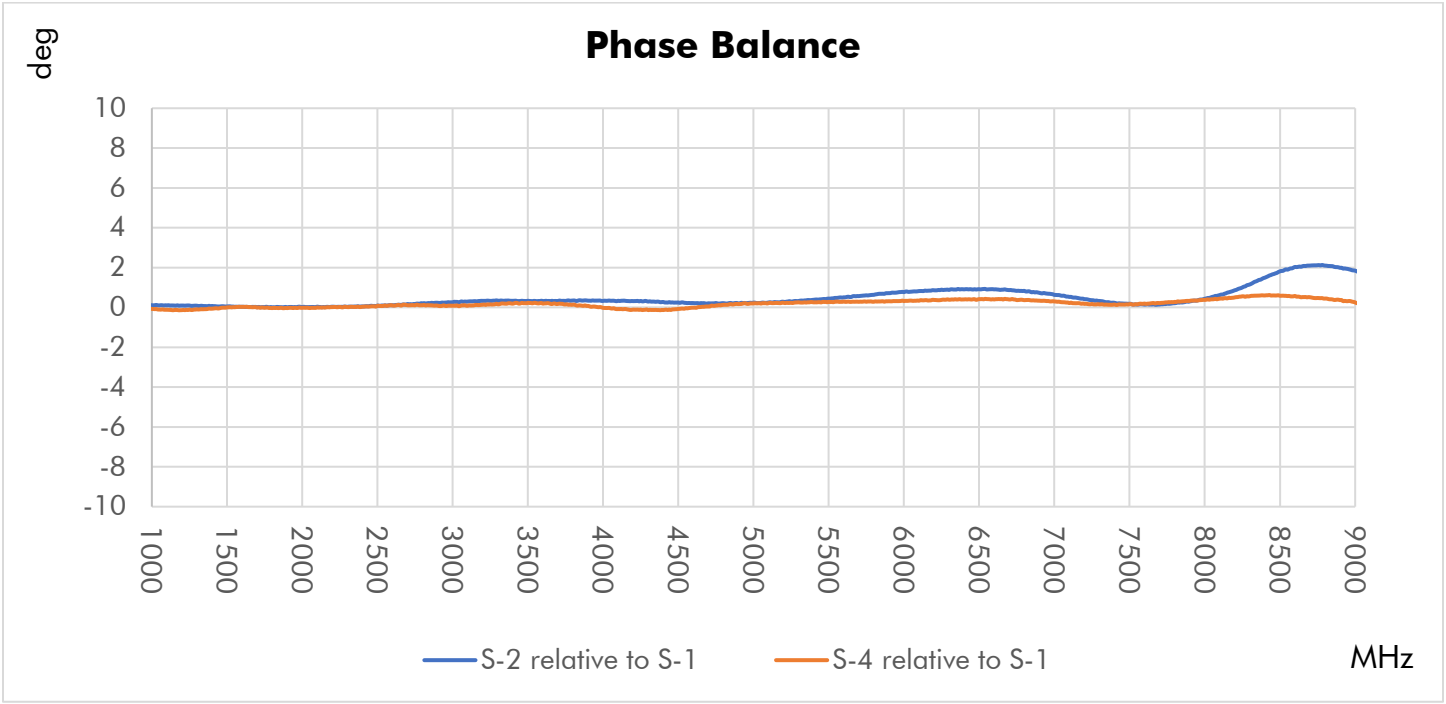
Mechanical and Environmental Specifications

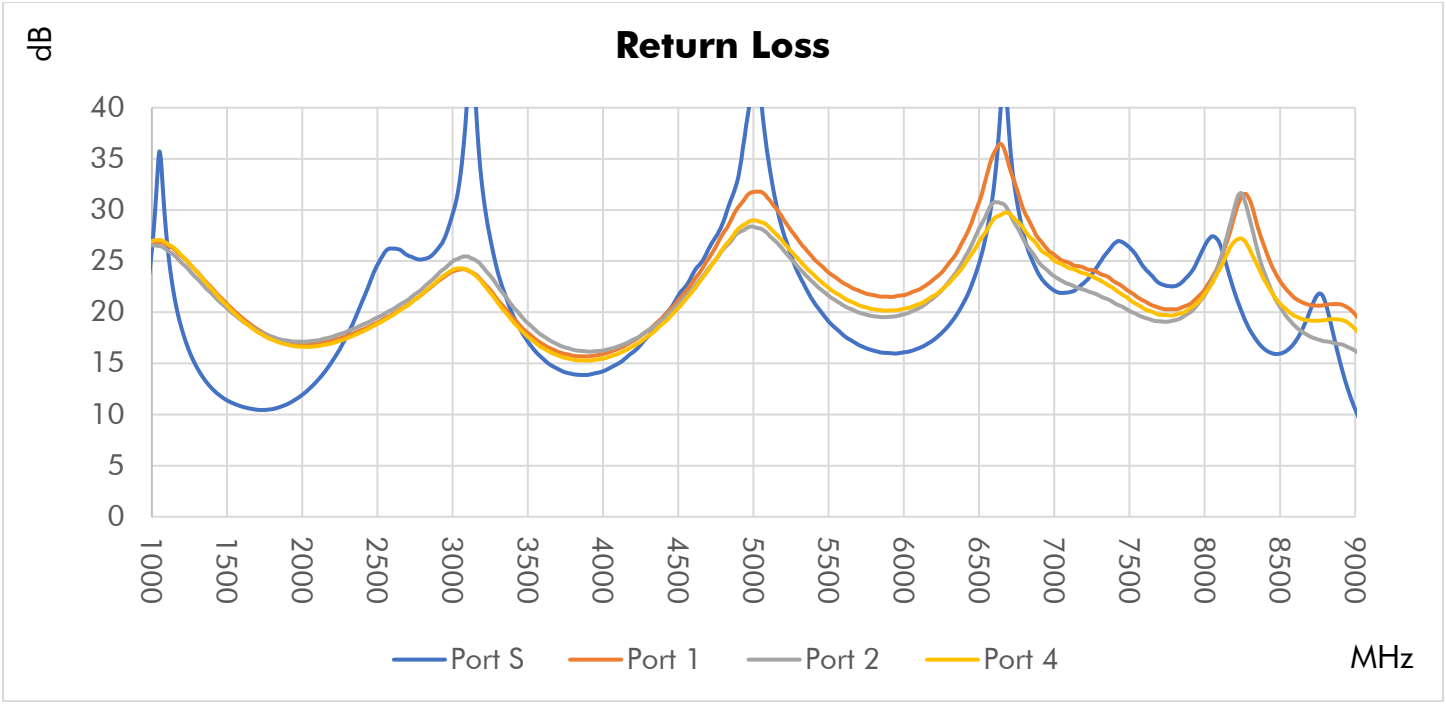
Connector Interface	SMA Female	RoHS Status[4]	RoHS3 Compliant
Operating Temperature[3]	-55 to +85 °C	REACH Status[4]	REACH Unaffected
Storage Temperature	-55 to +100 °C	Enclosure Material	Aluminum
Nominal Weight	63 g (2.2 oz)	Connectors Material	Brass, Gold Plated
Operating Humidity	10-90% (non-condensing)	Contacts Material	Beryllium Copper, Gold Plated
Operating Environment	Indoor Use Only	Insulators Material	Virgin PTFE
HTSUS Code	8548.00.0000	Finish	Green Paint
ECCN	EAR99	Country of Origin	United States of America

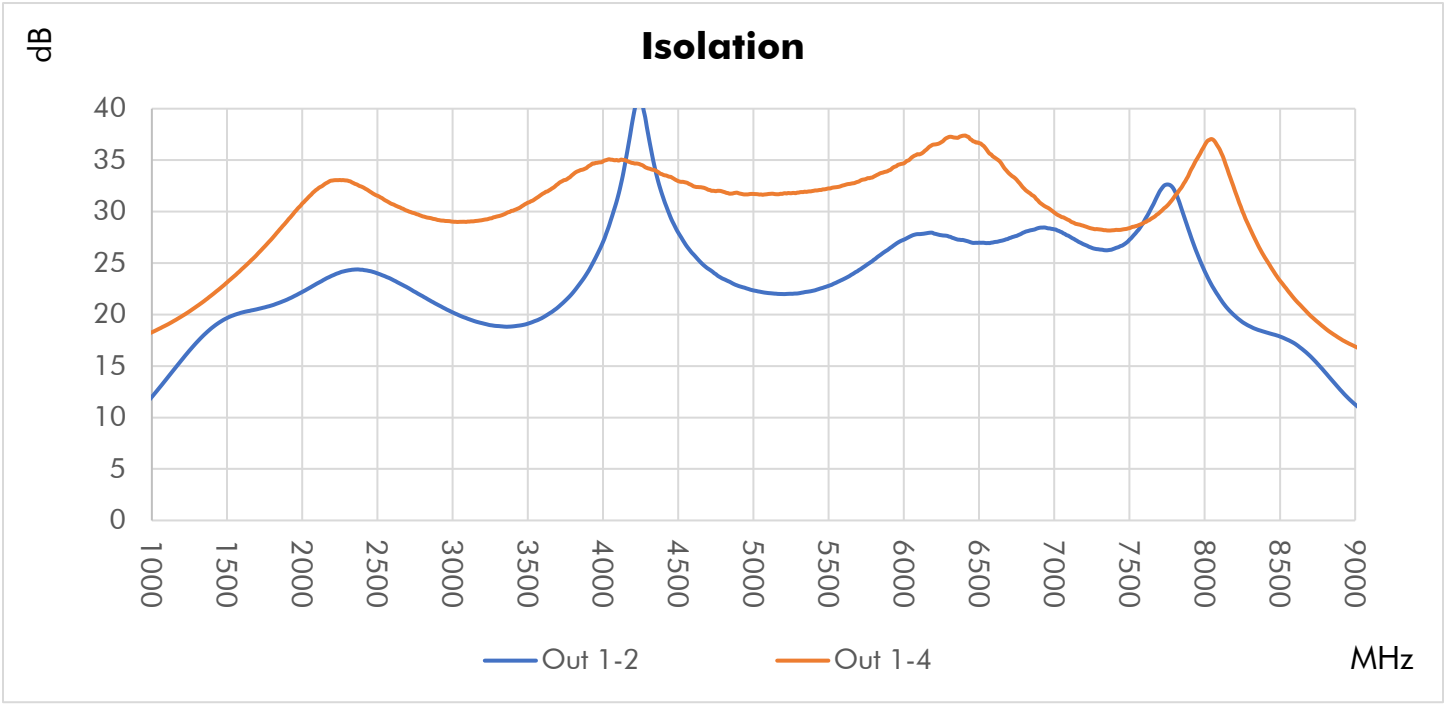
1. With reference to average.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications are tested at +25 °C.
4. To the best of our knowledge at the time of publication.

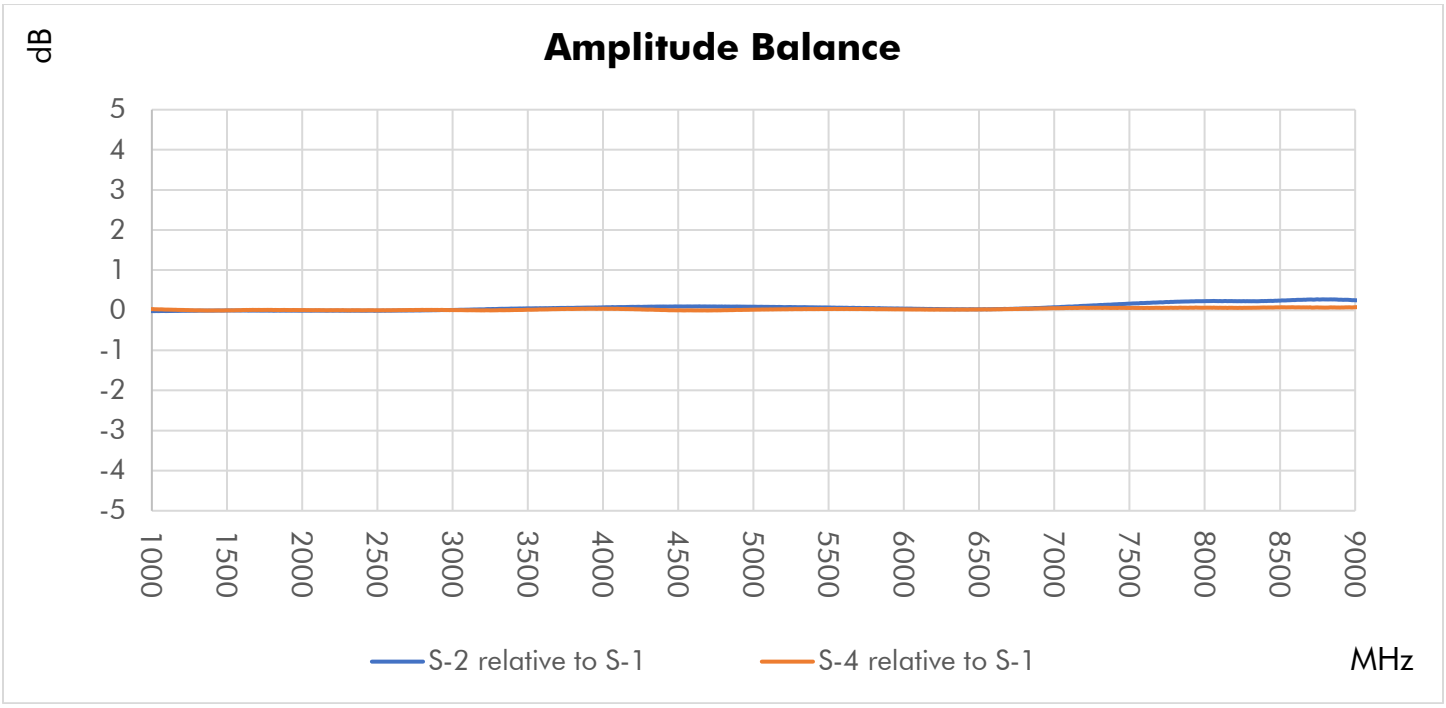
Typical Performance at +25 °C



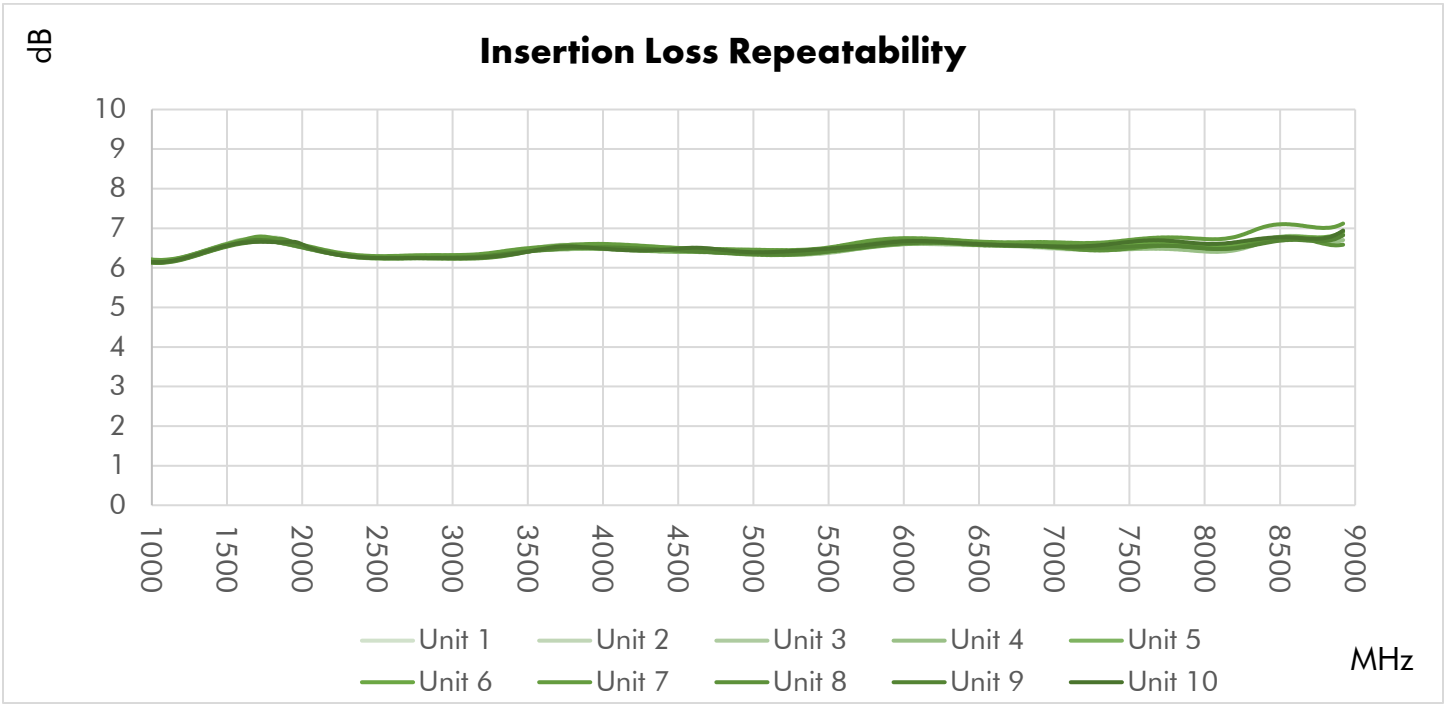


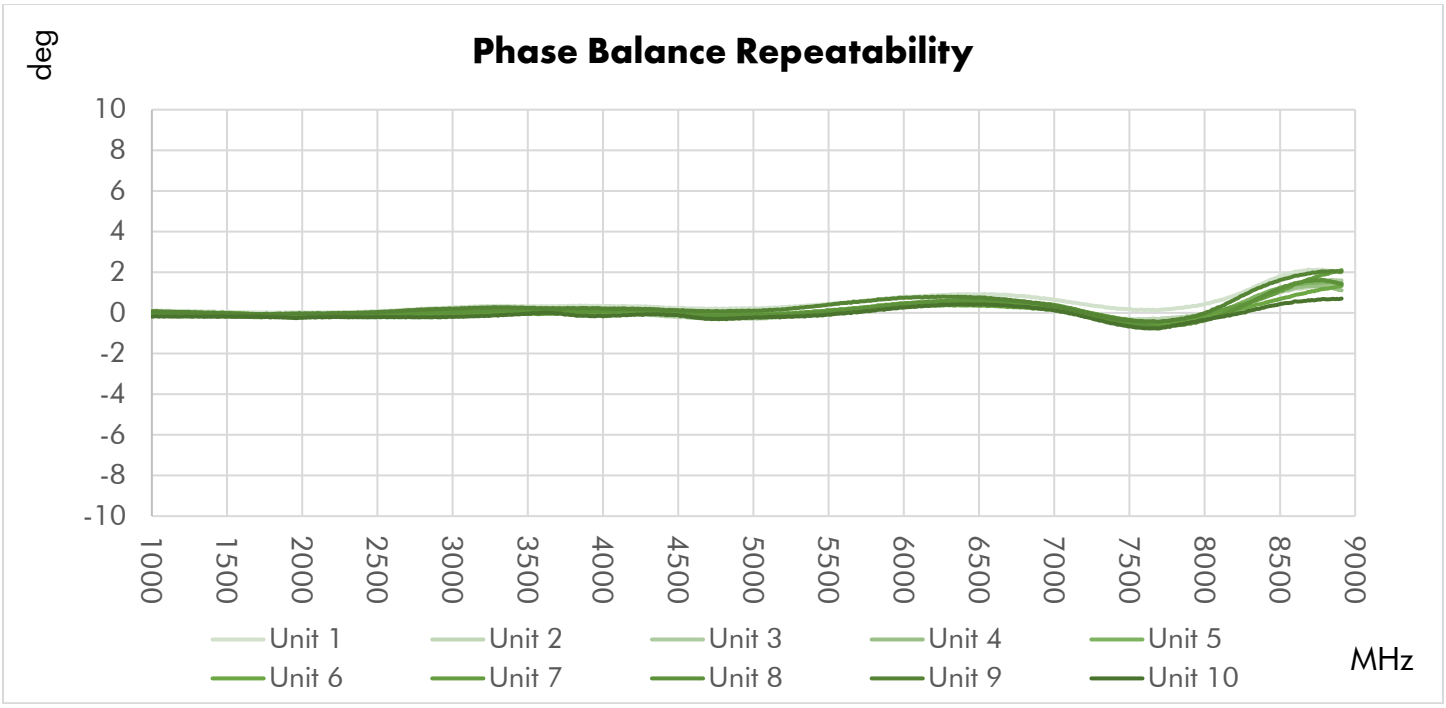

Return Loss
dB
40
35
30
25
20
15
10
5
0
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500
8000
8500
9000
Port S
Port 1
Port 2
Port 4
MHz

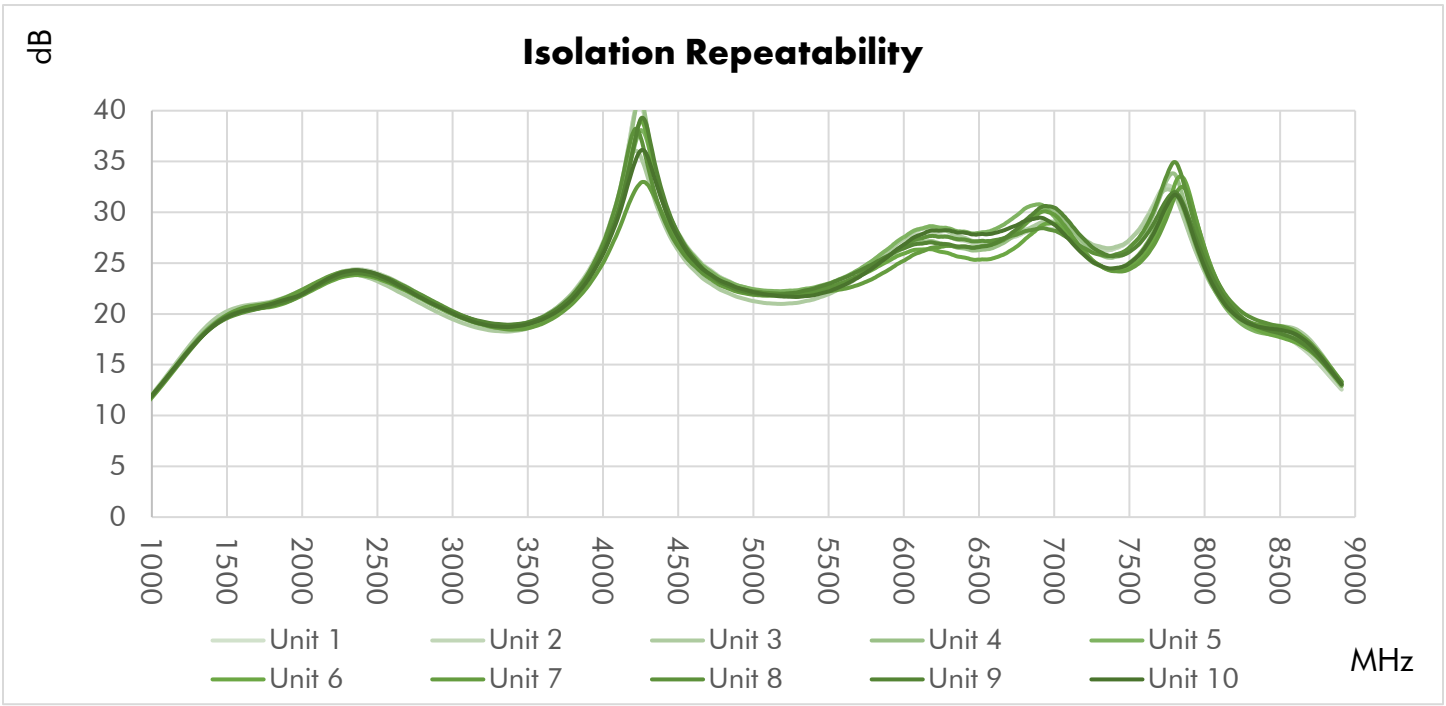

Isolation
dB
40
35
30
25
20
15
10
5
0
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500
8000
8500
9000
Out 1-2
Out 1-4
MHz

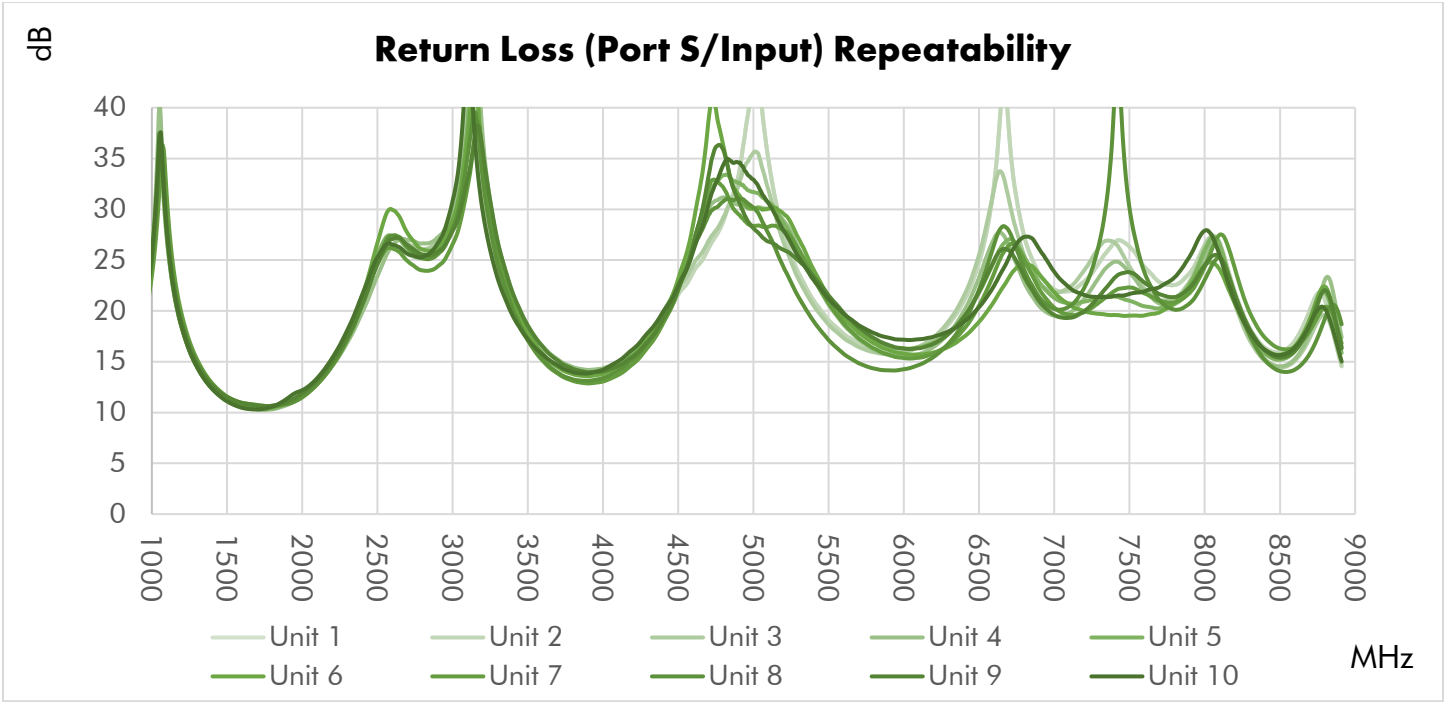


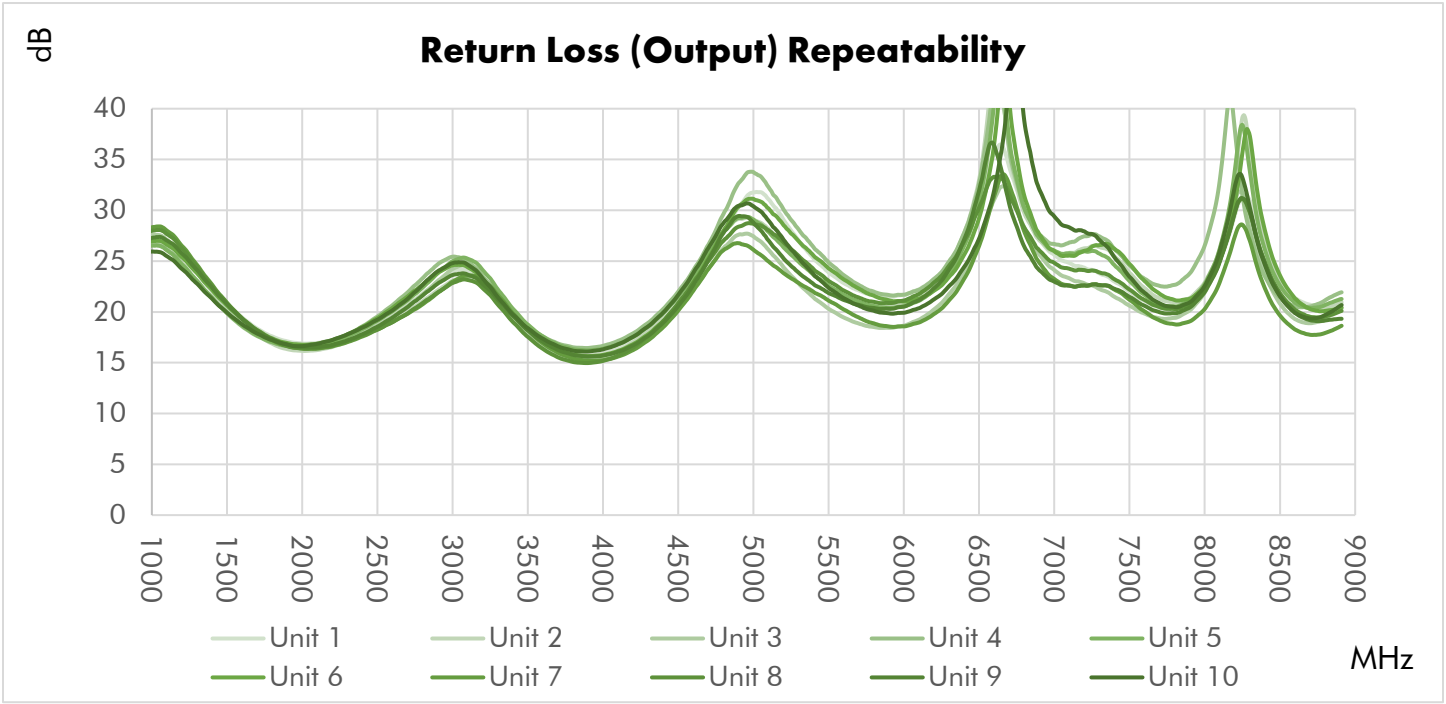
Repeatability in Production




Phase Balance Repeatability
deg
10
8
6
4
2
0
-2
-4
-6
-8
-10
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500
8000
8500
9000
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
Unit 7
Unit 8
Unit 9
Unit 10
MHz


Isolation Repeatability
dB
40
35
30
25
20
15
10
5
0
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500
8000
8500
9000
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
Unit 7
Unit 8
Unit 9
Unit 10
MHz

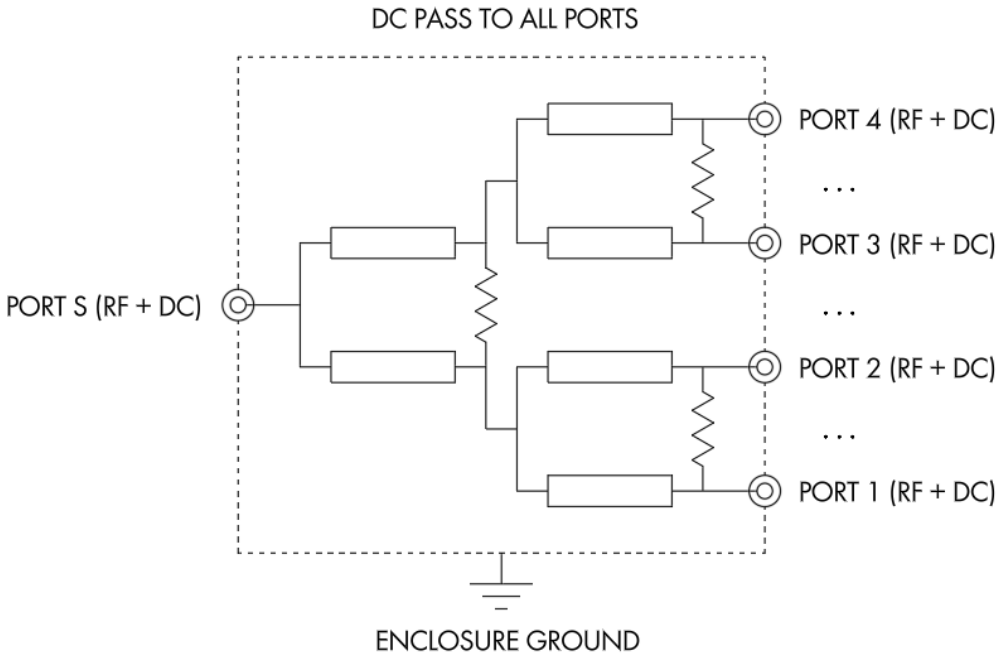

Return Loss (Port S/Input) Repeatability
dB
40
35
30
25
20
15
10
5
0
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500
8000
8500
9000
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
Unit 7
Unit 8
Unit 9
Unit 10
MHz


Return Loss (Output) Repeatability
dB
40
35
30
25
20
15
10
5
0
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500
8000
8500
9000
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
Unit 7
Unit 8
Unit 9
Unit 10
MHz

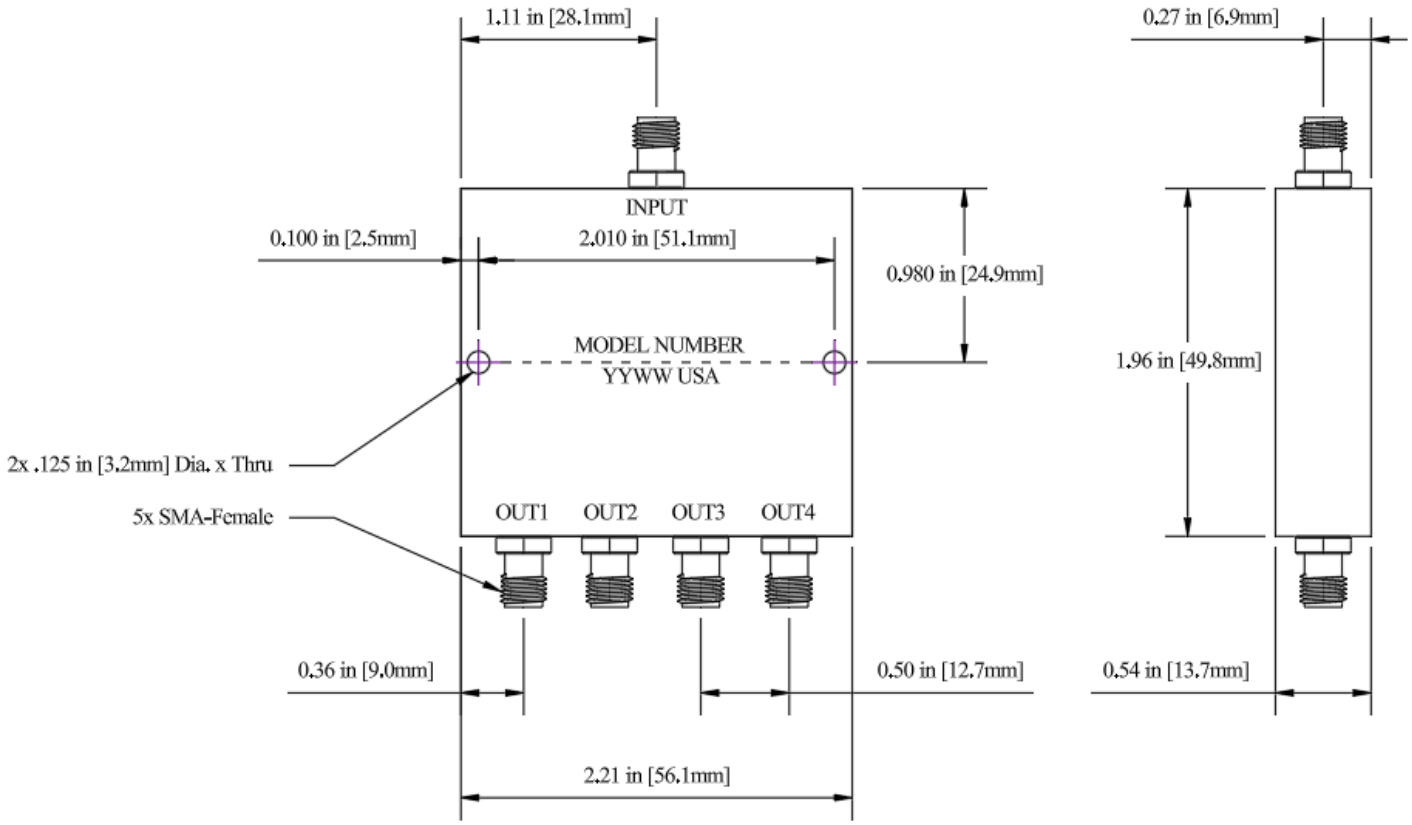
Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)		Isolation (dB)	
	Port S	Port 1	Port 4	S-1	S-4	1-2	1-4
1000	26.07	26.80	26.97	6.16	6.19	12.00	18.28
1500	11.38	20.80	20.63	6.58	6.57	19.66	23.13
2000	11.92	16.89	16.62	6.52	6.52	22.20	30.79
2500	24.63	19.00	18.86	6.25	6.25	24.00	31.54
3000	29.62	23.99	24.15	6.27	6.27	20.21	29.03
3500	17.11	17.96	17.59	6.41	6.43	19.12	30.87
4000	14.23	15.91	15.47	6.47	6.51	27.07	34.89
4500	21.63	21.16	20.41	6.41	6.41	27.95	32.96
5000	44.84	31.77	28.97	6.35	6.36	22.34	31.72
5500	19.08	23.87	22.37	6.42	6.45	22.79	32.26
6000	16.08	21.67	20.34	6.62	6.64	27.28	34.70
6500	24.80	30.77	26.90	6.58	6.60	26.98	36.65
7000	22.11	25.61	25.04	6.48	6.53	28.27	29.90
7500	26.33	22.01	21.23	6.47	6.53	27.28	28.40
8000	26.51	22.22	21.81	6.47	6.54	24.20	36.46
8500	15.95	23.05	20.85	6.75	6.82	17.87	23.29
9000	10.51	19.78	18.37	7.08	7.16	11.26	16.89

Simplified Electrical Schematic



Outline Dimensions



Dimensions are in inches, [mm] shown for convenience.
Tolerances on 2-pl decimals: ±.03. 3-pl decimals: ± .015.

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Reliability testing was performed as an internal requalification of the product to substantiate the published specifications, which were previously arrived at by calculation and/or similarity to existing products. The results of these tests are provided as a courtesy and shall not form part of a contract or warranty. While reliability tests may depict the product being tested beyond the published specification ratings for the purpose of stress testing the product, this does not imply that the product should be operating above the rated limits for any length of time. Specifications related to reliability (e.g., performance over temperature, power handling, DC current, HI-POT) are "designed to meet" and are not individually tested in production of commercially available products. Please contact a Werbel Microwave LLC Applications Engineer if specific reliability testing is needed on a particular product.