

Power Divider, 2-way, 20-530 MHz, N Female

ESAT-2PD20530MN



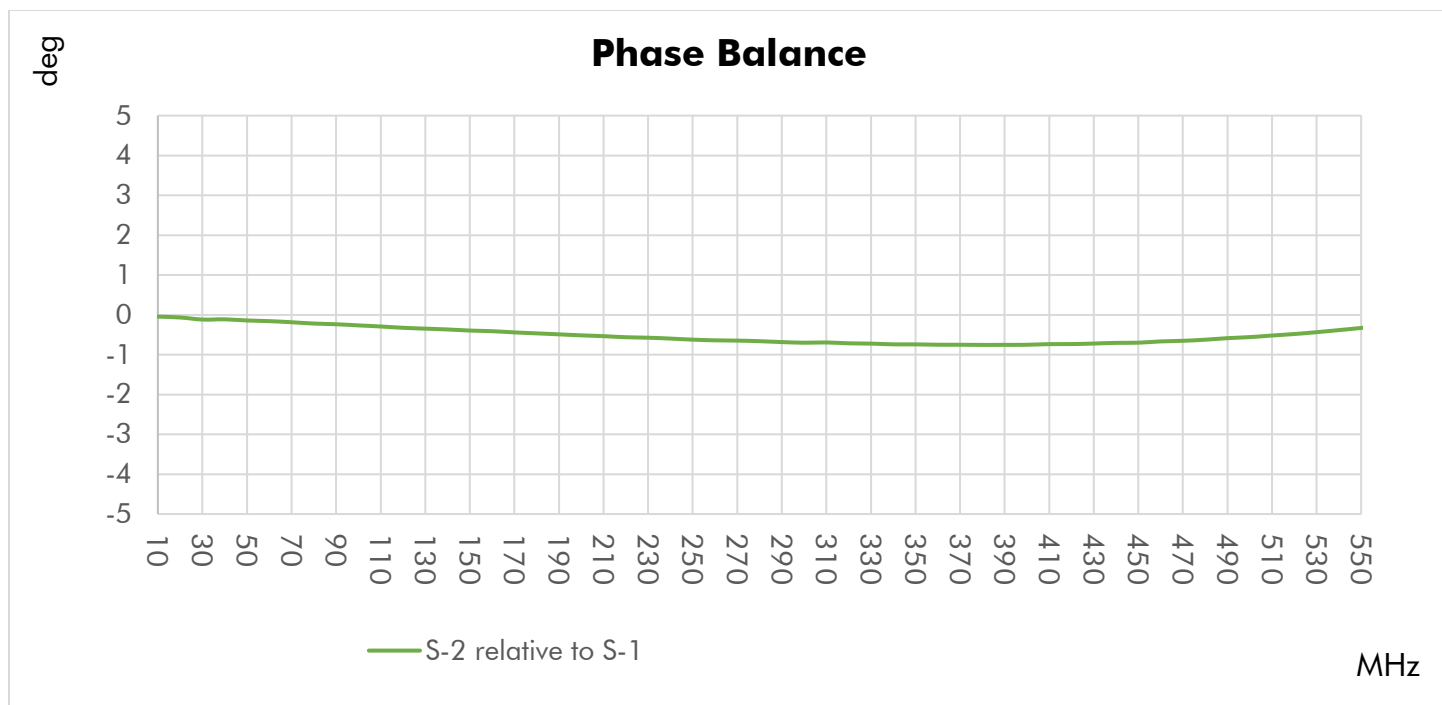
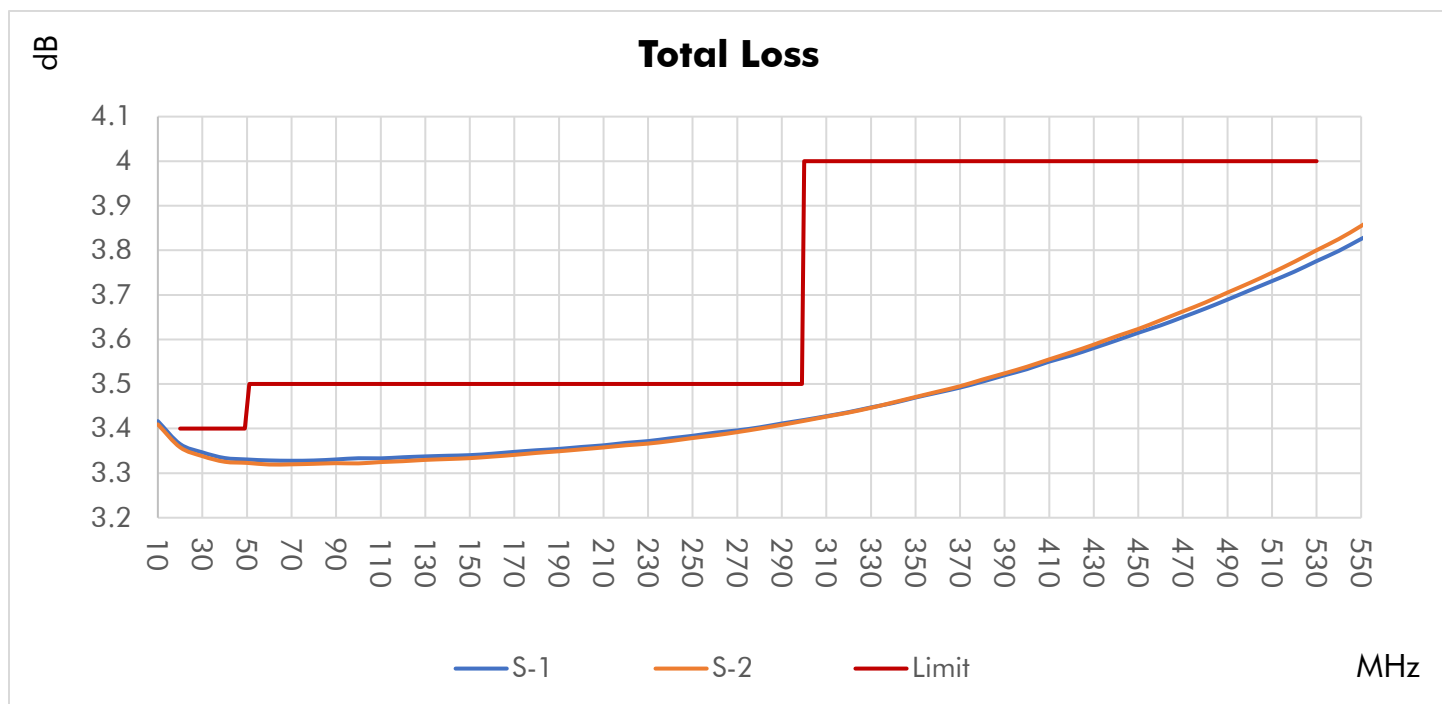
Parameter	Low Band	Mid Band	High Band	Unit
Frequency Range	20-50	50-300	300-530	MHz
Impedance	50			Ω
Return Loss (Port S)	20	20	14	dB, min.
Return Loss (Port 1-2)	17	20	14	dB, min.
Insertion Loss Above 3.0dB (at +25 °C; extrapolate to 0.15dB additional at +100 °C)	0.4	0.5	1.0	dB, max.
Isolation	22	24	18	dB, min.
Amplitude Unbalance ($\pm$) ¹	0.1	0.1	0.2	dB, max.
Phase Unbalance ($\pm$) ¹	1	2	3	Degree, max.
Input Power (CW) ² as a Splitter	50			W, max.
Combining Power (CW) ²	5			W/port, max.
Internal Dissipation	50			W, max.
DC Current	Not applicable.			

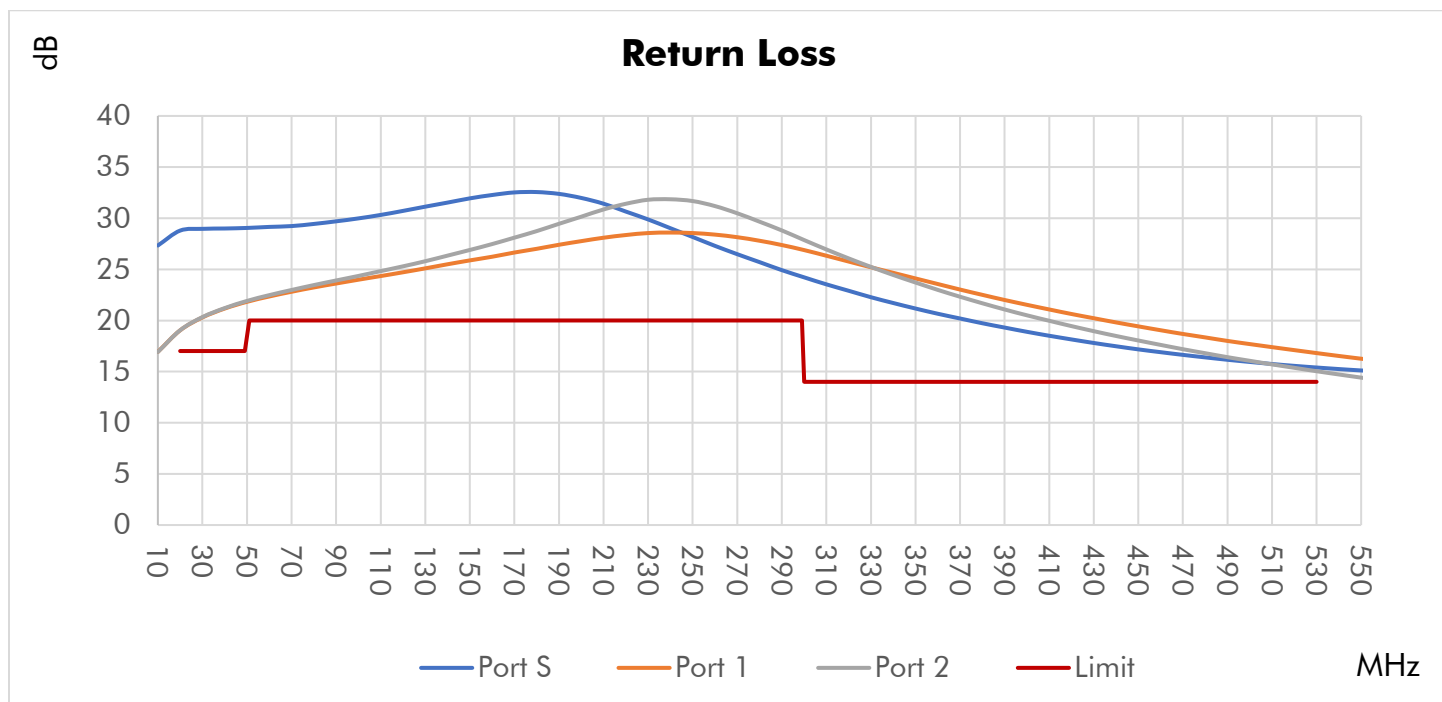
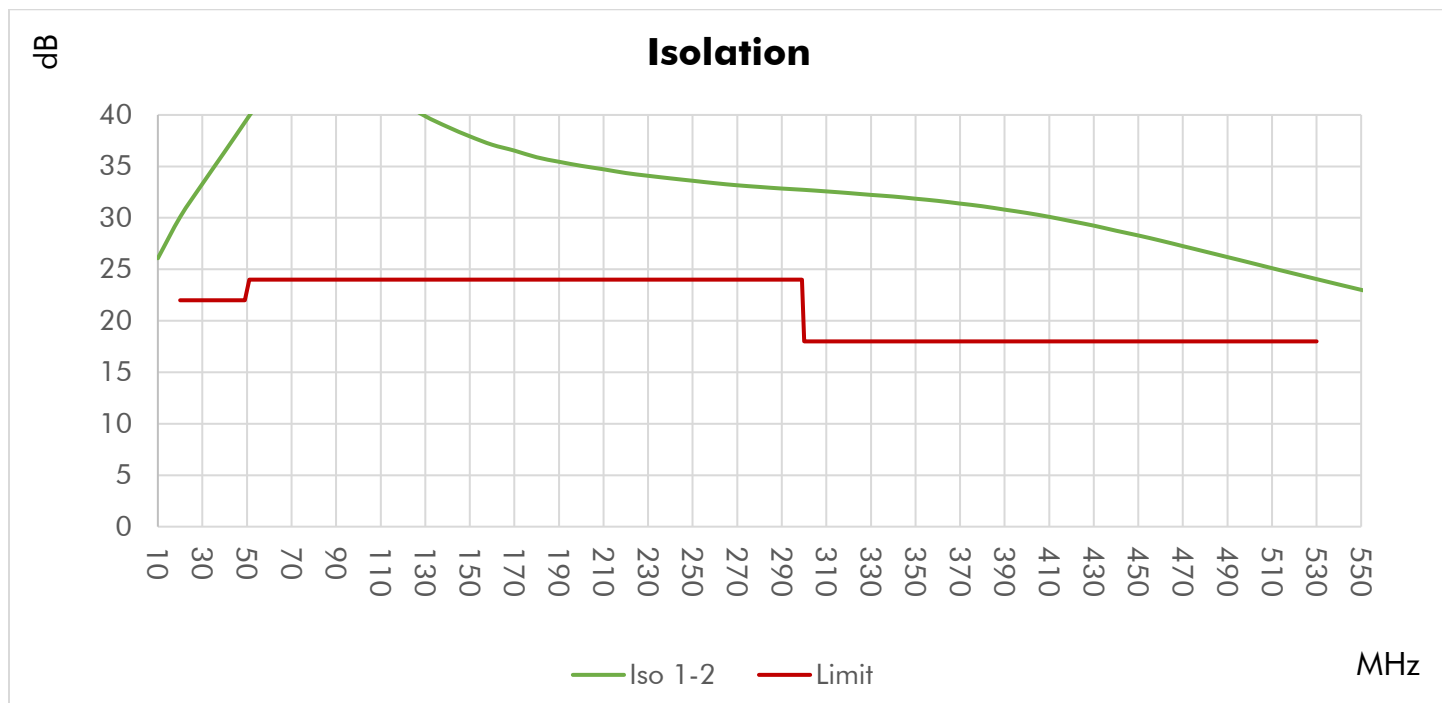
Connector Interface	N Female
Operating Temperature ³	-40 to +50 °C
Storage Temperature	-55 to +80 °C
Nominal Weight	508 g (17.9 oz)
Operating Humidity	10-90% (non-condensing)
Operating Environment	Indoor Use Only
HTSUS Code	8548.00.0000
ECCN	EAR99

RoHS Status ⁴	RoHS3 Compliant
REACH Status ⁴	REACH Unaffected
Enclosure Material	Aluminum
Connectors Material	Stainless Steel
Contacts Material	Beryllium Copper, Gold Plated
Insulators Material	Virgin PTFE
Finish	Green Paint
	Except Mounting Service

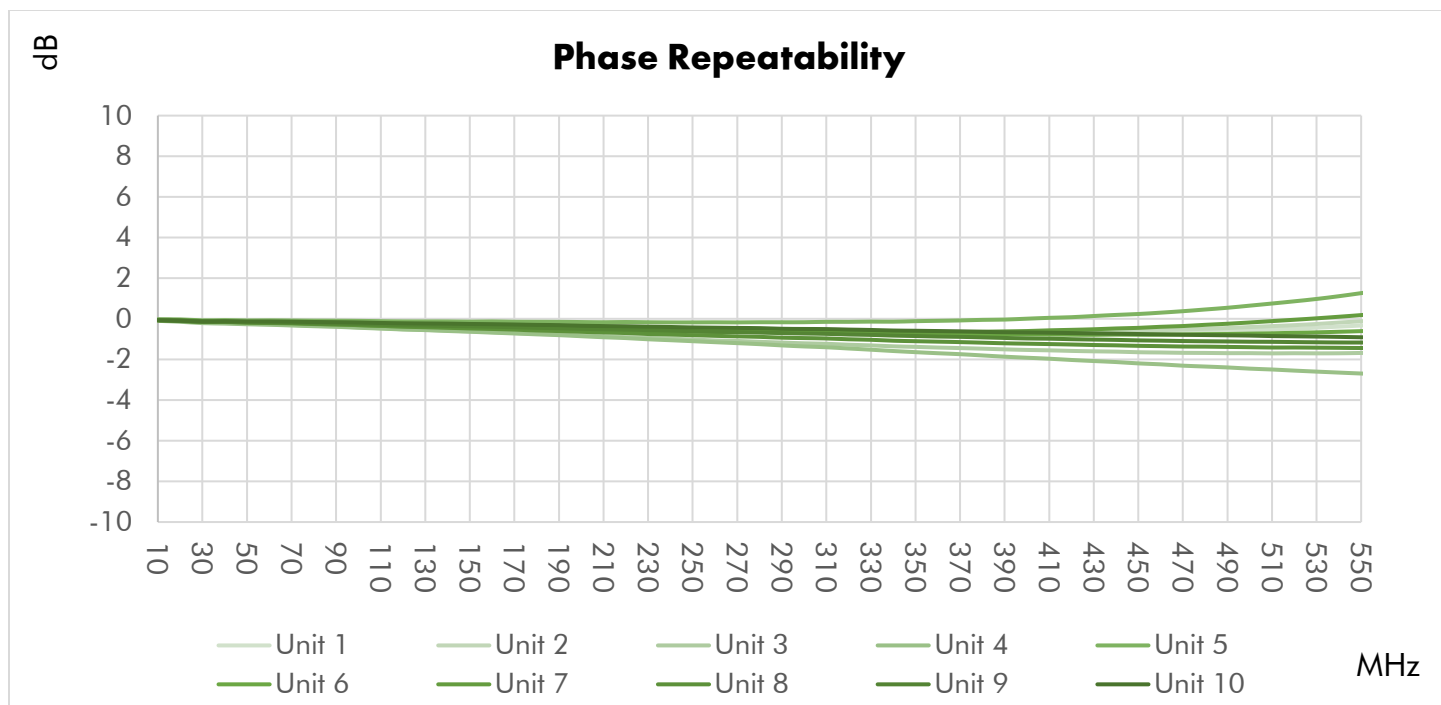
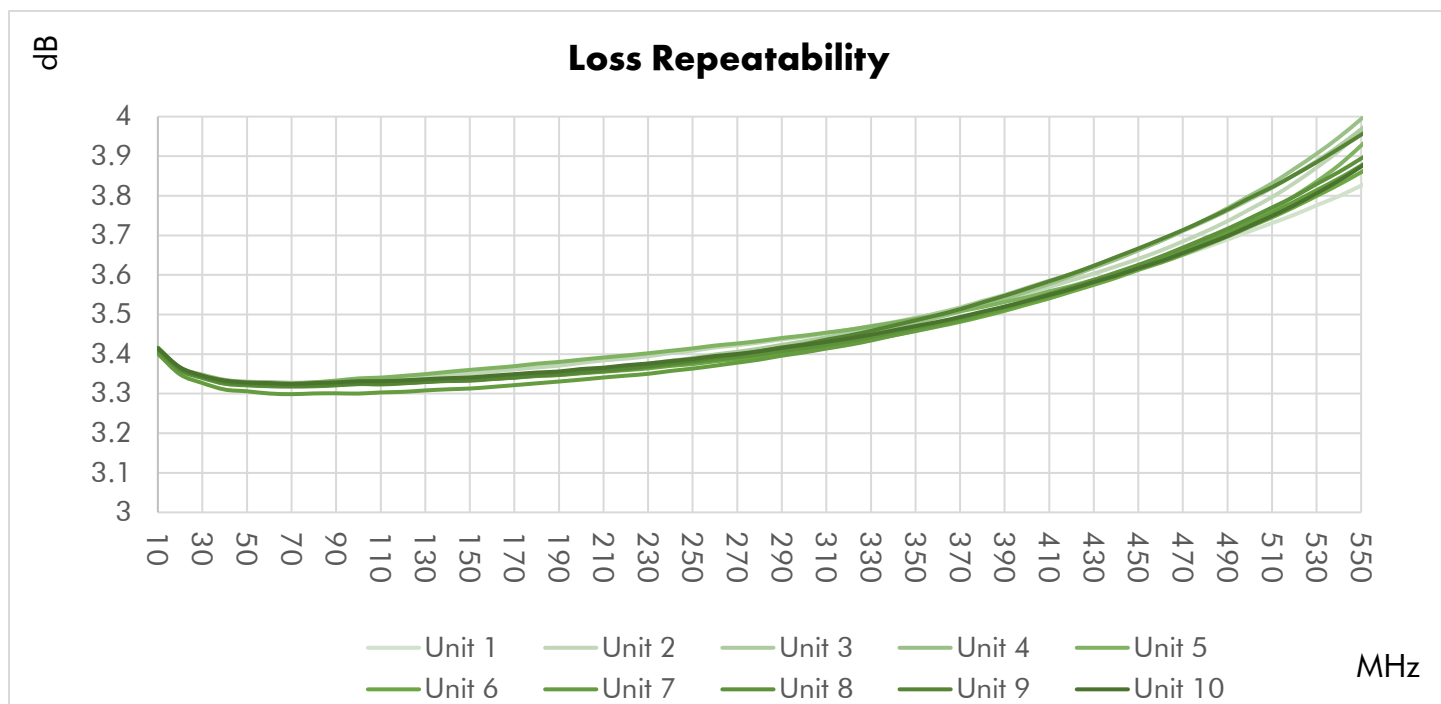
1. With reference to average.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications are tested at +25 °C.
4. To the best of our knowledge at the time of publication.

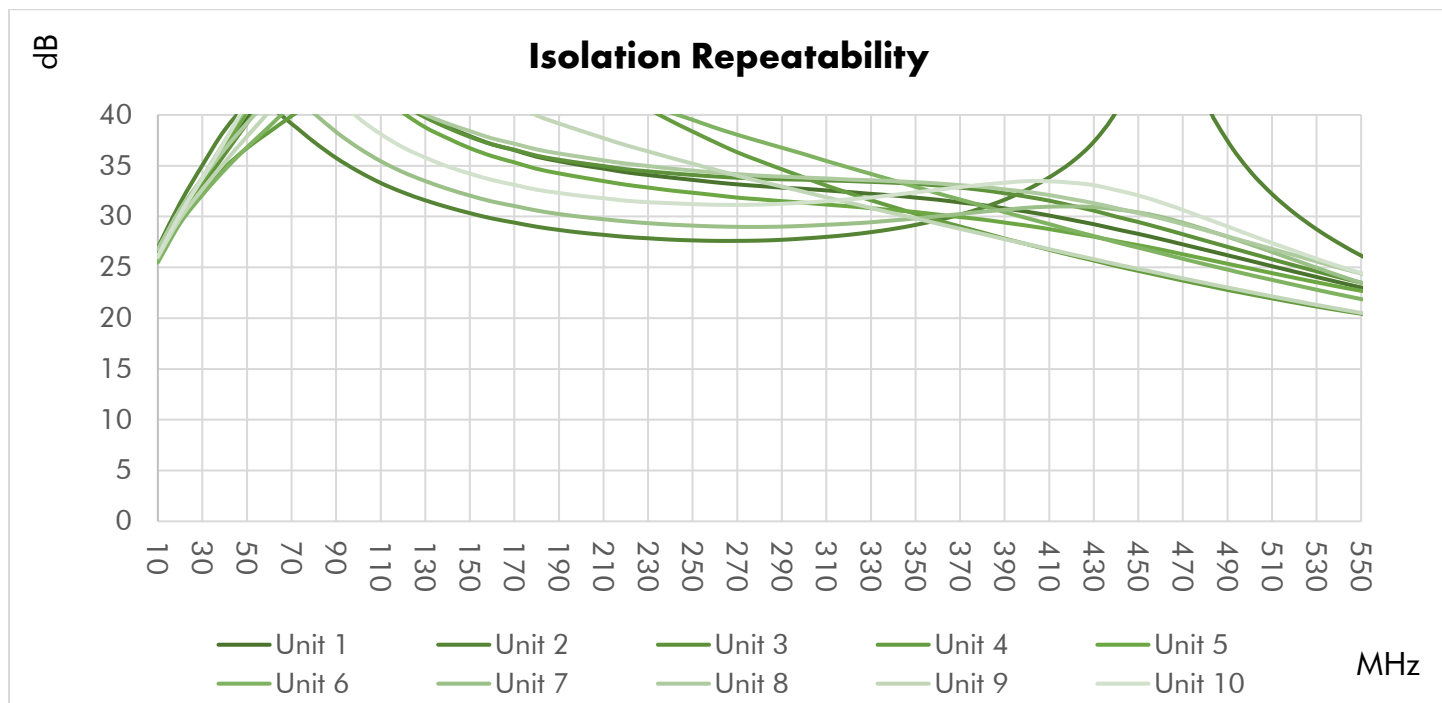
Typical Performance at +25 °C



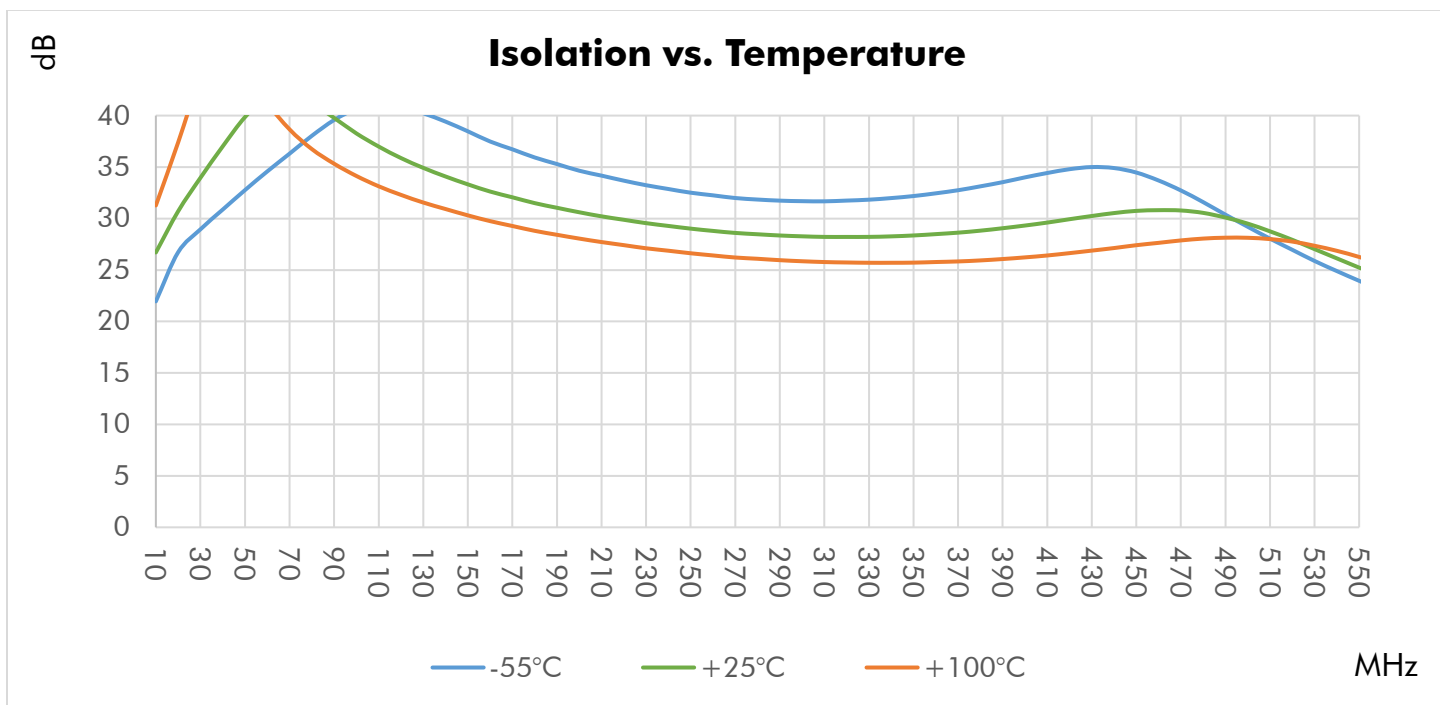
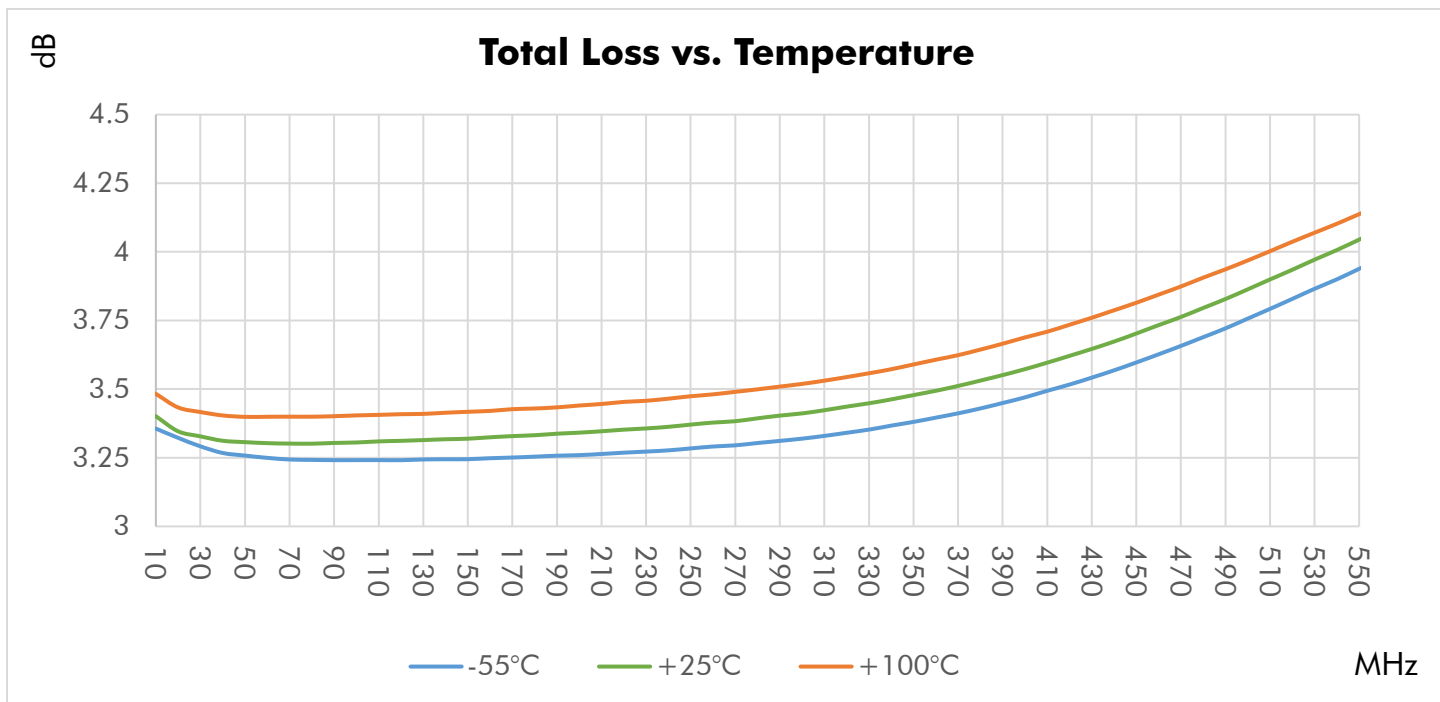


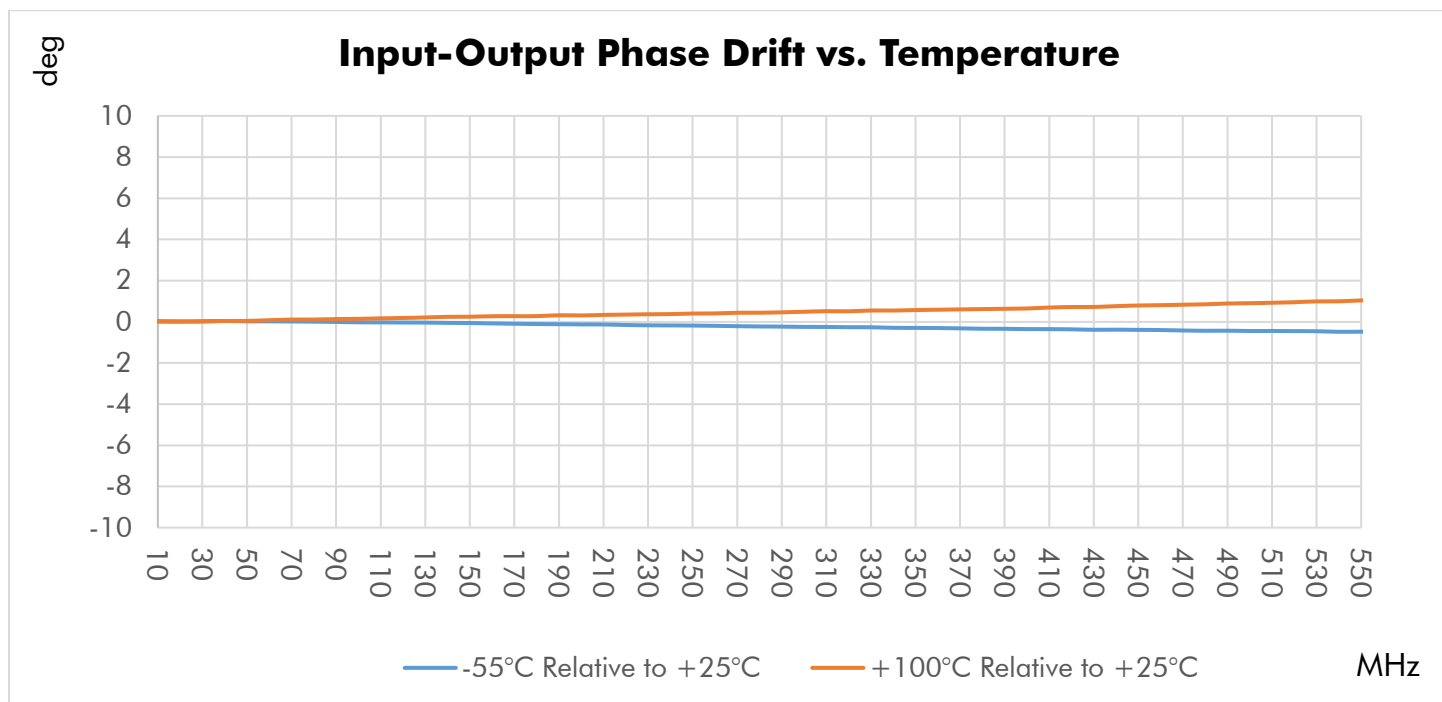
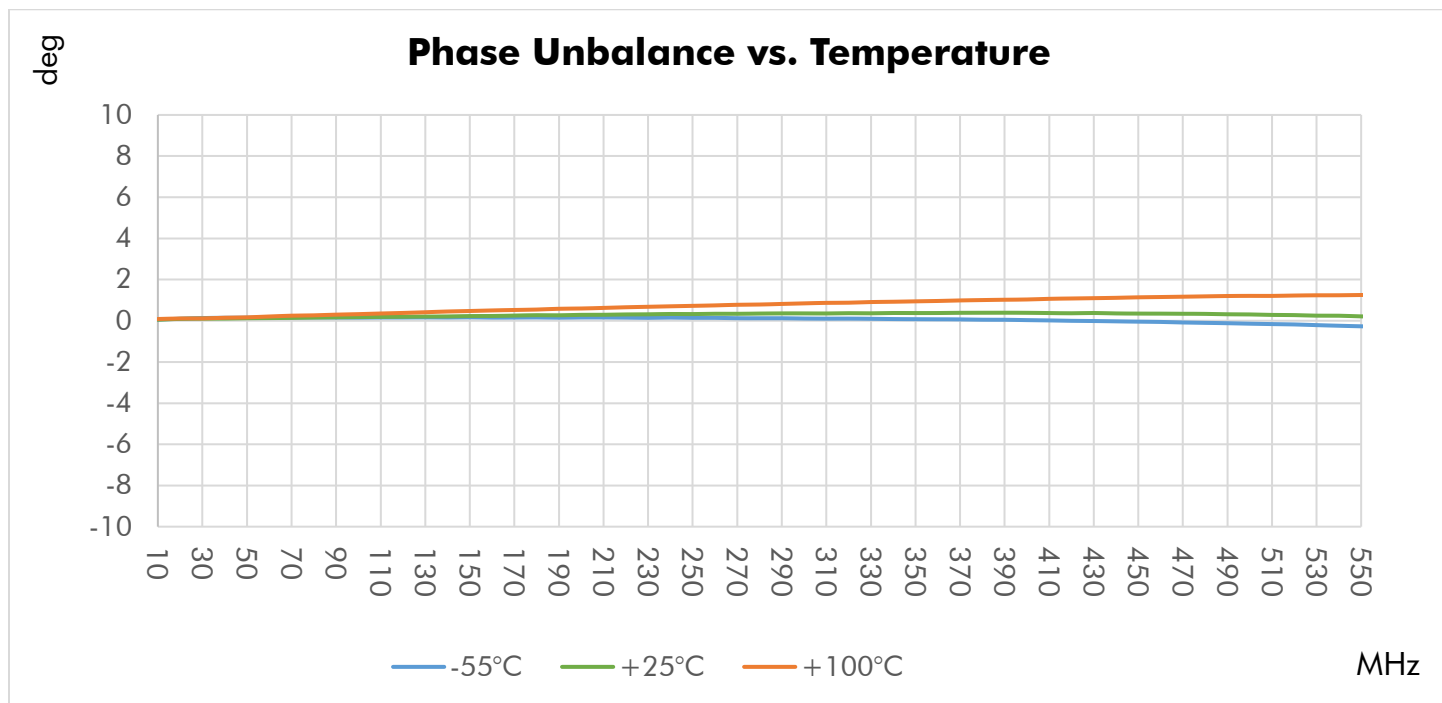
Repeatability in Production

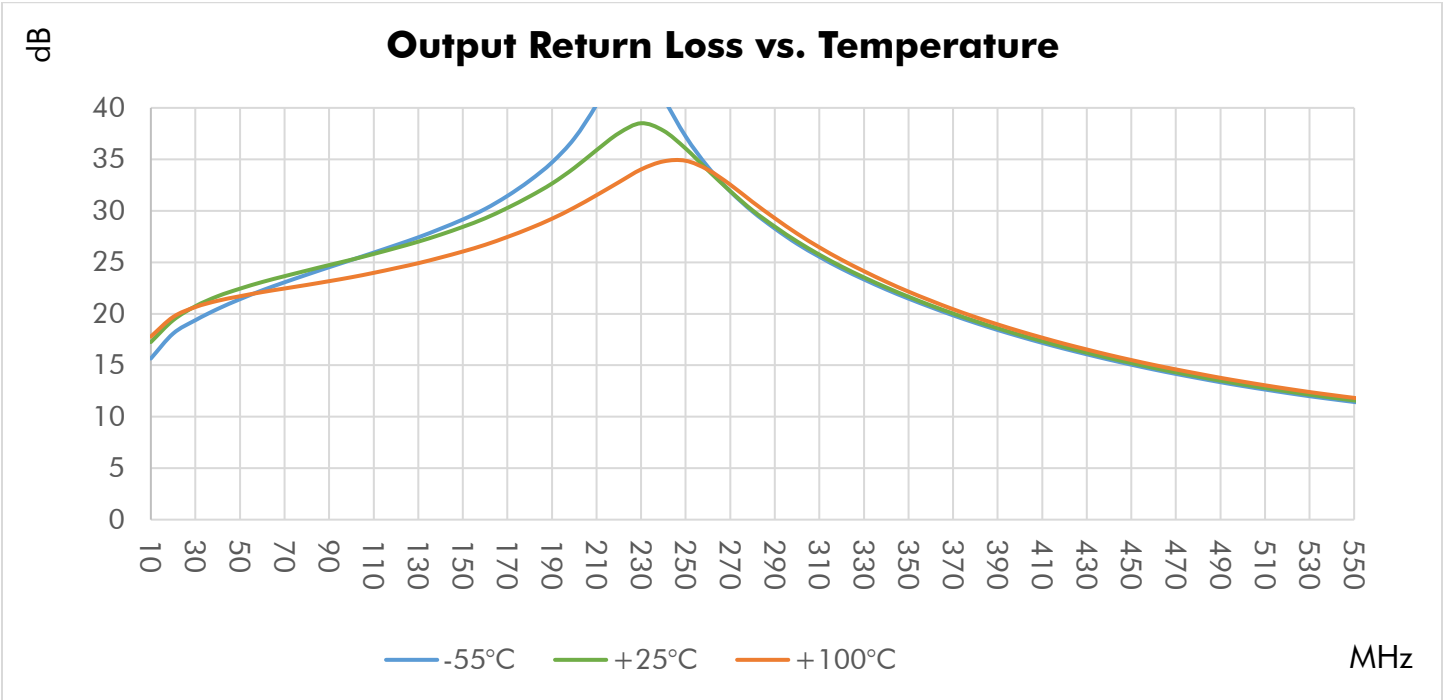
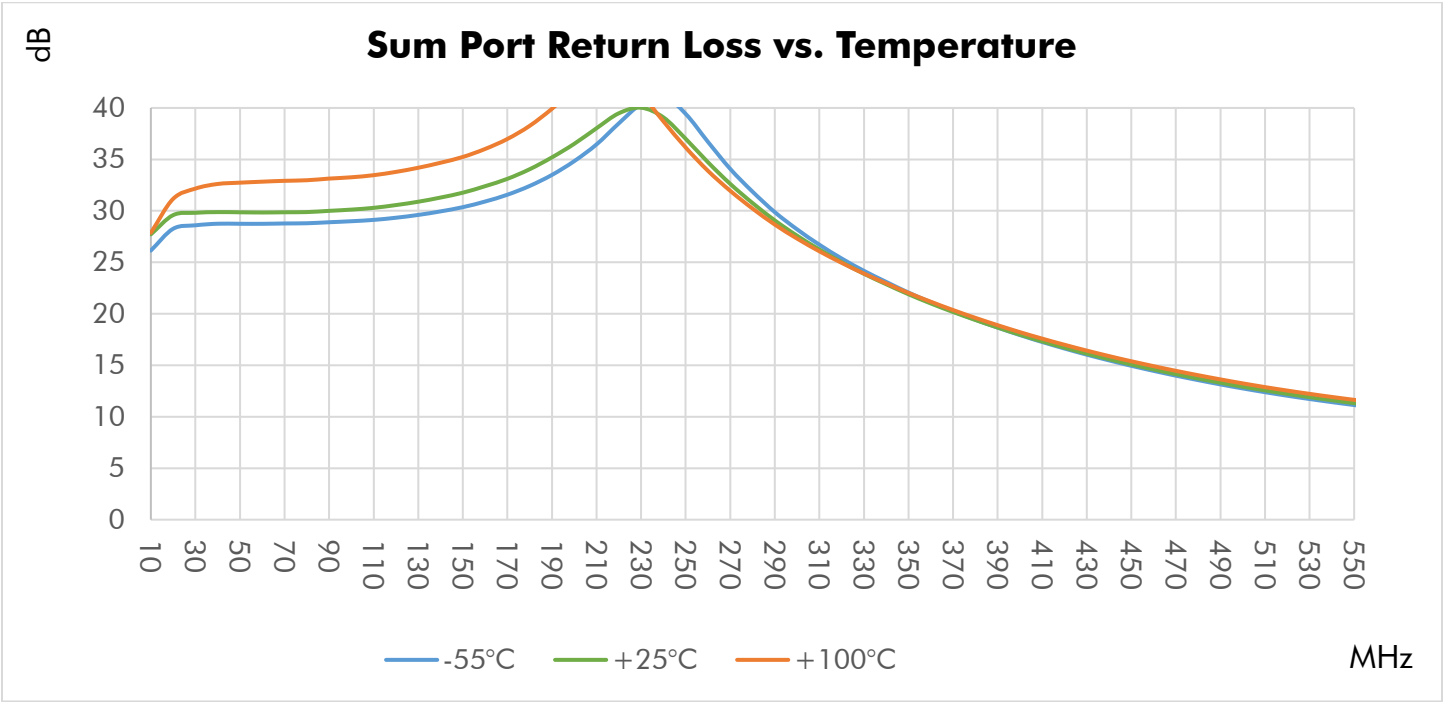




Typical Performance Over Temperature

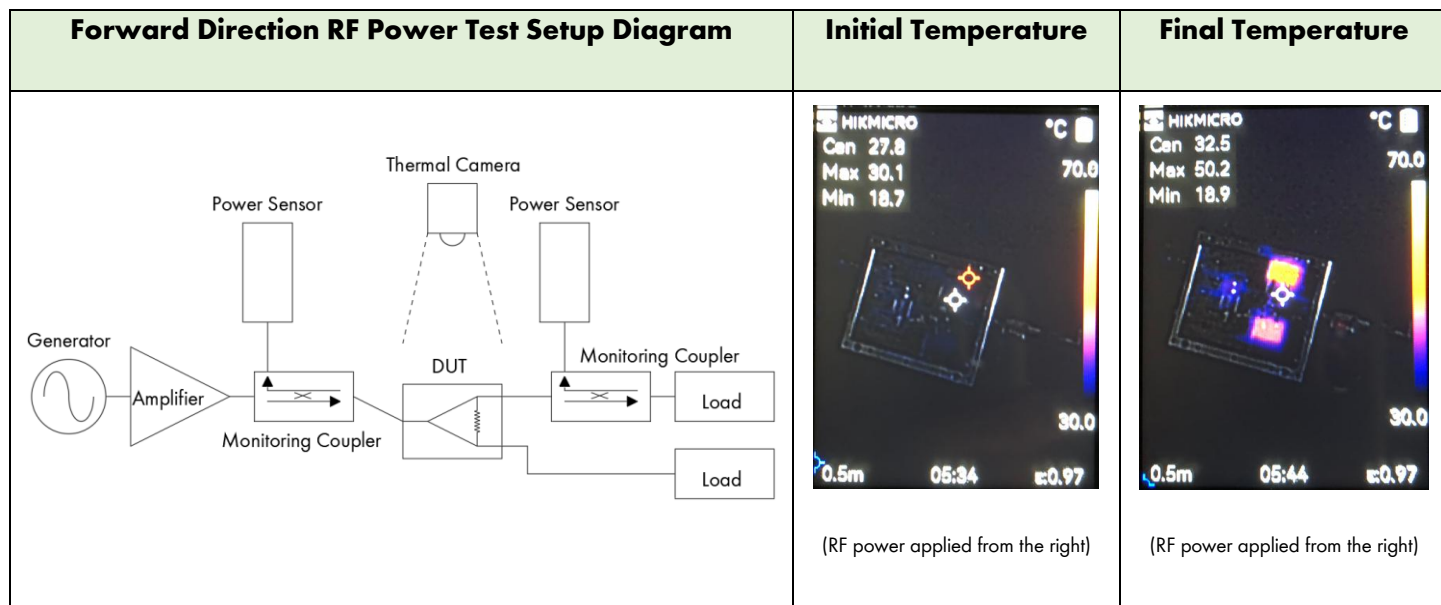




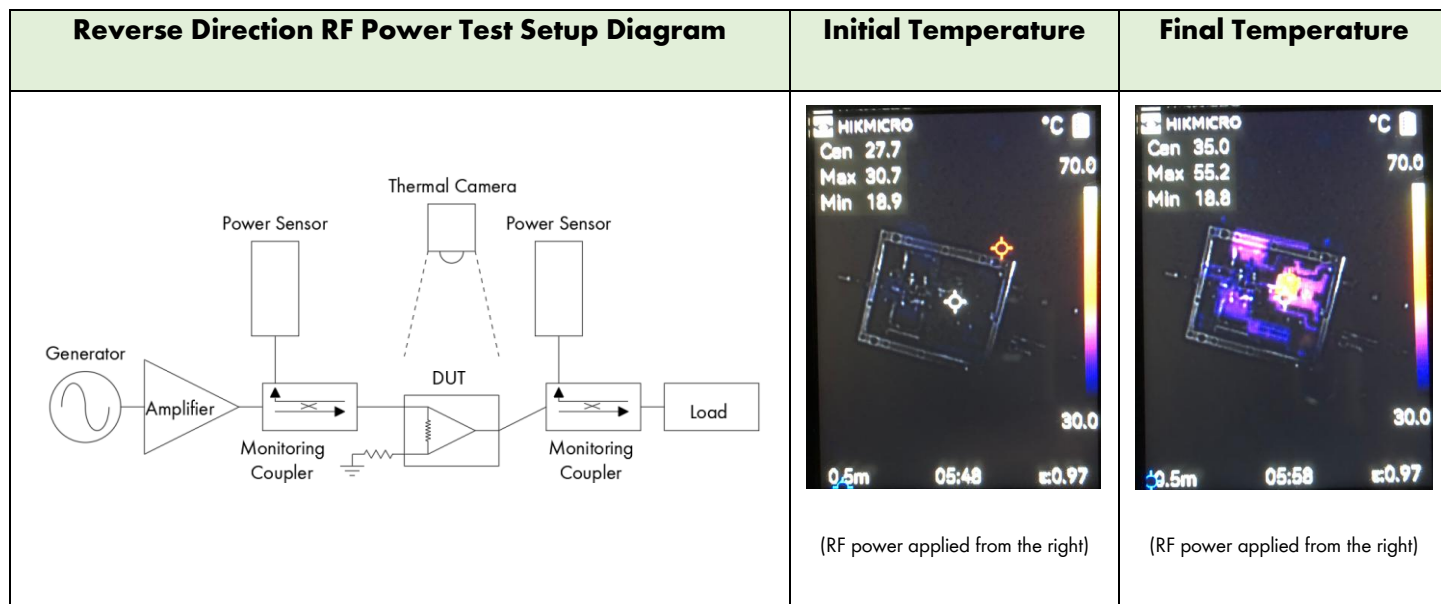


Power and Reliability

RF power test was performed at room temperature without forced air. A heatsink was not used unless it came standard with the product.



- 50 watts CW at 350MHz was applied to the DUT input for a duration of 10 minutes.
- The DUT temperature increased from 27.8°C (initial, center marker) to 50.2°C (final, max marker), resulting in a 22.4°C rise.

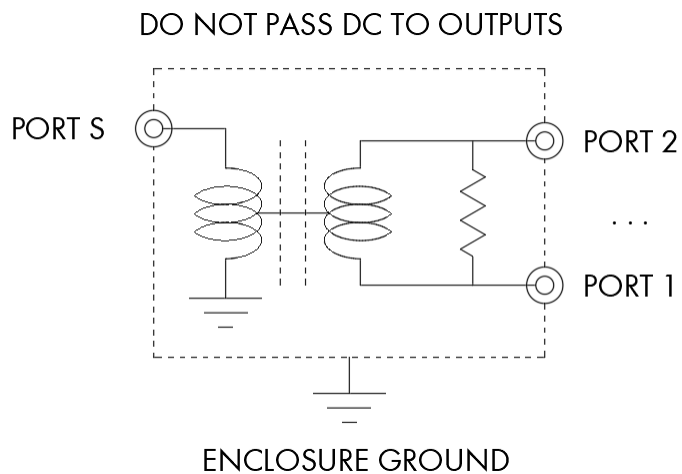


- 15 watts CW at 350MHz was applied to the DUT output for a duration of 10 minutes.
- The DUT temperature increased from 27.7°C (initial, center marker) to 55.2°C (final, max marker), resulting in a 27.5°C rise.

Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)		Isolation (dB)
	Port S	Port 1	Port 2	S-1	S-2	
10	27.33	16.93	16.92	3.42	3.41	26.08
20	28.79	19.04	19.04	3.37	3.36	30.09
30	28.96	20.30	20.33	3.35	3.34	33.31
40	28.99	21.17	21.21	3.33	3.33	36.43
50	29.05	21.83	21.91	3.33	3.32	39.59
60	29.15	22.35	22.48	3.33	3.32	42.78
70	29.23	22.81	22.98	3.33	3.32	46.10
80	29.44	23.23	23.46	3.33	3.32	47.93
90	29.69	23.61	23.91	3.33	3.32	47.01
100	29.98	23.99	24.36	3.33	3.32	44.92
110	30.32	24.34	24.83	3.33	3.32	42.83
120	30.71	24.71	25.29	3.34	3.33	41.21
130	31.13	25.09	25.79	3.34	3.33	39.88
140	31.53	25.50	26.34	3.34	3.33	38.84
150	31.94	25.88	26.90	3.34	3.33	37.92
160	32.27	26.23	27.47	3.34	3.34	37.11
170	32.52	26.64	28.10	3.35	3.34	36.53
180	32.56	27.01	28.74	3.35	3.35	35.89
190	32.38	27.40	29.45	3.35	3.35	35.45
200	31.98	27.76	30.15	3.36	3.35	35.05
210	31.42	28.09	30.86	3.36	3.36	34.72
220	30.65	28.36	31.41	3.37	3.36	34.36
230	29.88	28.55	31.80	3.37	3.37	34.09
240	29.02	28.60	31.85	3.38	3.37	33.84
250	28.16	28.55	31.68	3.38	3.38	33.60
260	27.30	28.40	31.19	3.39	3.38	33.37
270	26.48	28.14	30.48	3.40	3.39	33.17
280	25.71	27.80	29.66	3.40	3.40	33.00
290	24.92	27.38	28.81	3.41	3.41	32.85
300	24.22	26.88	27.87	3.42	3.42	32.72
310	23.53	26.33	26.95	3.43	3.43	32.57
320	22.91	25.76	26.07	3.44	3.44	32.41
330	22.28	25.20	25.24	3.45	3.45	32.23
340	21.71	24.66	24.45	3.46	3.46	32.08
350	21.17	24.11	23.71	3.47	3.47	31.86
360	20.66	23.57	22.99	3.48	3.48	31.65
370	20.19	23.02	22.32	3.49	3.50	31.39
380	19.73	22.51	21.68	3.51	3.51	31.13
390	19.31	22.00	21.08	3.52	3.52	30.80
400	18.89	21.53	20.51	3.53	3.54	30.48
410	18.51	21.08	19.97	3.55	3.56	30.10
420	18.15	20.63	19.45	3.56	3.57	29.67
430	17.80	20.22	18.96	3.58	3.59	29.25
440	17.48	19.81	18.48	3.60	3.61	28.75
450	17.18	19.42	18.04	3.62	3.62	28.29
460	16.90	19.05	17.61	3.63	3.64	27.79
470	16.64	18.68	17.19	3.65	3.66	27.25
480	16.39	18.35	16.80	3.67	3.68	26.72
490	16.16	18.00	16.41	3.69	3.71	26.19
500	15.95	17.69	16.06	3.71	3.73	25.66
510	15.75	17.39	15.71	3.73	3.75	25.11
520	15.56	17.10	15.37	3.75	3.77	24.58
530	15.40	16.81	15.04	3.78	3.80	24.05
540	15.25	16.53	14.72	3.80	3.83	23.53
550	15.11	16.26	14.41	3.83	3.85	23.01

Simplified Electrical Schematic



Technical drawing of the ESATCOM INC. ESAT-2PD20530MN connector, showing dimensions in inches and millimeters.

Top View Dimensions:

- Overall width: 3.36 in [85.3mm]
- Distance from left edge to center of top connector: 1.68 in [42.7mm]
- Distance from left edge to center of bottom connector: 2.43 in [61.7mm]
- Distance from left edge to center of right connector: 3.210 in [81.5mm]
- Distance from left edge to center of bottom connector: 0.93 in [23.6mm]
- Distance from left edge to center of top connector: 0.150 in [3.8mm]
- Distance from left edge to center of bottom connector: 3.460 in [87.9mm]
- Distance from left edge to center of bottom connector: 0.500 in [12.7mm]
- Distance from left edge to center of bottom connector: 0.50 in [12.7mm]

Side View Dimensions:

- Overall height: 1.08 in [27.4mm]
- Distance from top edge to center of connector: 0.50 in [12.7mm]

Detail View Dimensions:

- Distance from left edge to center of bottom connector: 0.93 in [23.6mm]
- Distance from left edge to center of bottom connector: 2.43 in [61.7mm]

Connector Details:

- ESATCOM INC. ESAT-2PD20530MN
- 4x .180 in [4.6 mm] x Thru
- 3x N-Female

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

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 Esatcom Inc. Applications Engineer if specific reliability testing is needed on a particular product.