

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

## WM2PD-20-530M-N



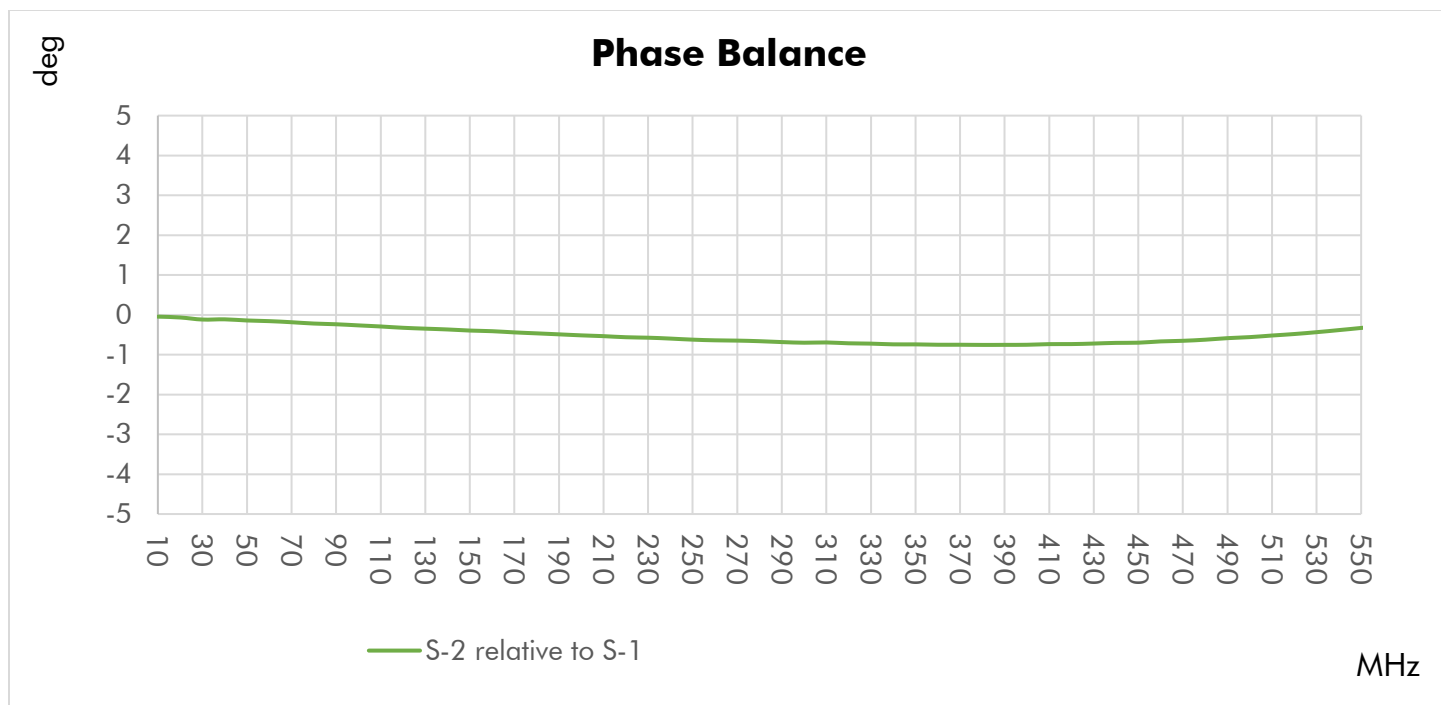
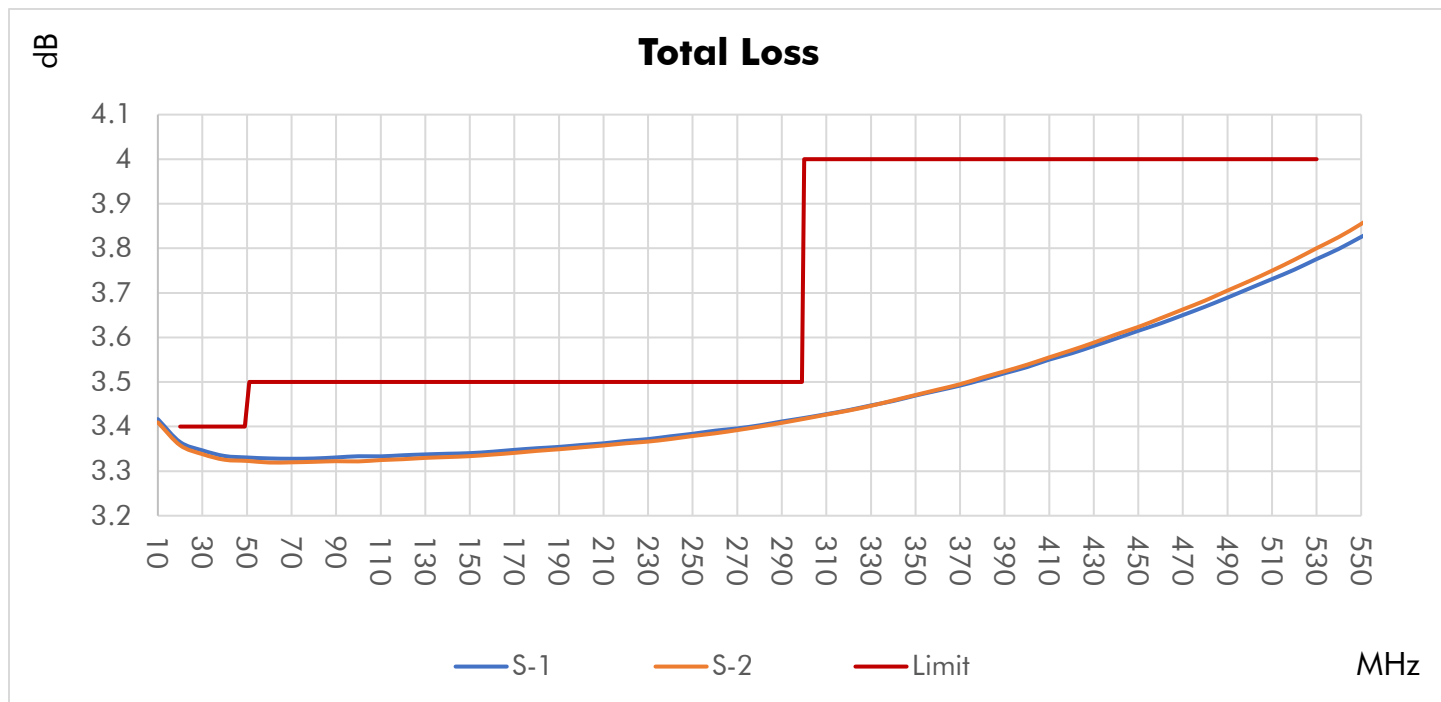
| Parameter                                                                              | Low Band        | Mid Band | High Band | Unit         |
|----------------------------------------------------------------------------------------|-----------------|----------|-----------|--------------|
| Frequency Range                                                                        | 20-50           | 50-300   | 300-530   | MHz          |
| Impedance                                                                              | 50              |          |           | $\Omega$     |
| Return Loss (Port S)                                                                   | 20              | 20       | 14        | dB, min.     |
| Return Loss (Port 1-2)                                                                 | 17              | 20       | 14        | dB, min.     |
| Insertion Loss Above 3.0dB<br>(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 ( $\pm$ ) <sup>1</sup>                                             | 0.1             | 0.1      | 0.2       | dB, max.     |
| Phase Unbalance ( $\pm$ ) <sup>1</sup>                                                 | 1               | 2        | 3         | Degree, max. |
| Input Power (CW) <sup>2</sup> as a Splitter                                            | 50              |          |           | W, max.      |
| Combining Power (CW) <sup>2</sup>                                                      | 5               |          |           | W/port, max. |
| Internal Dissipation                                                                   | 50              |          |           | W, max.      |
| DC Current                                                                             | Not applicable. |          |           |              |

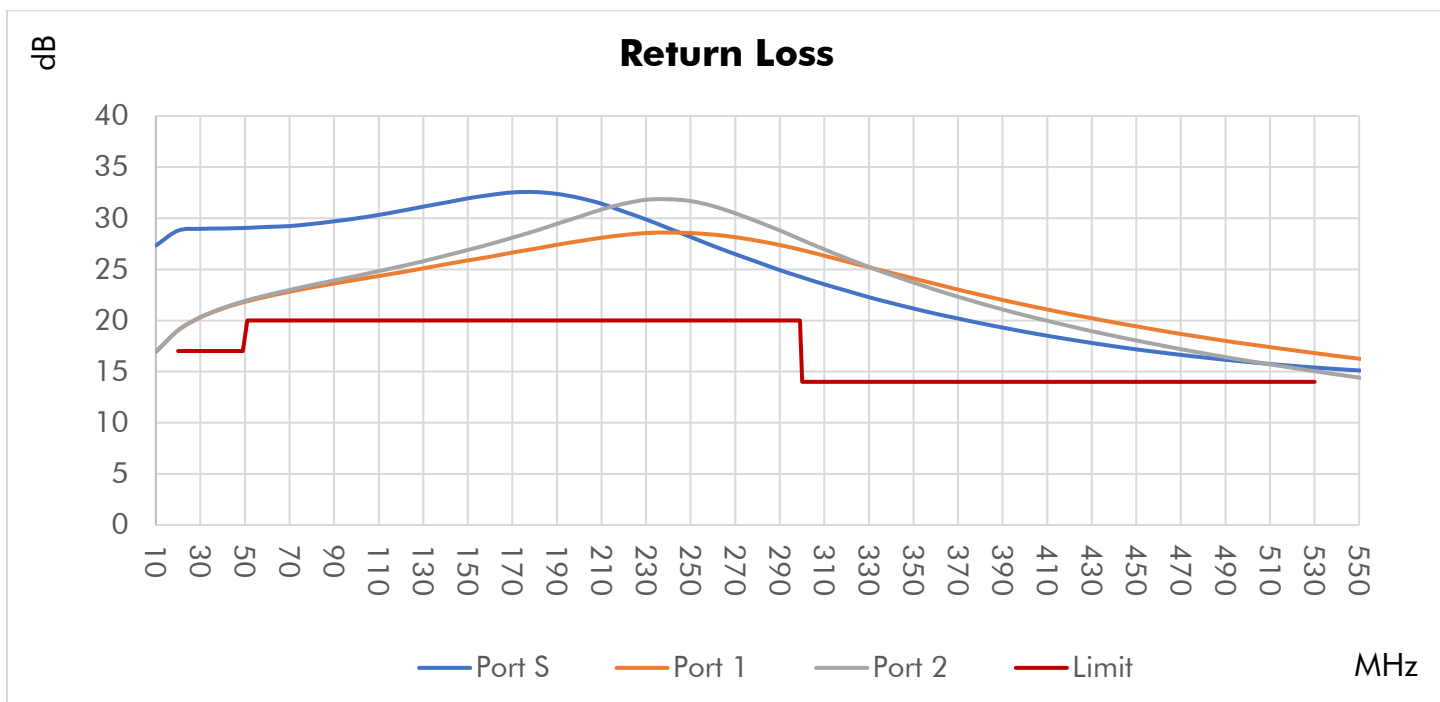
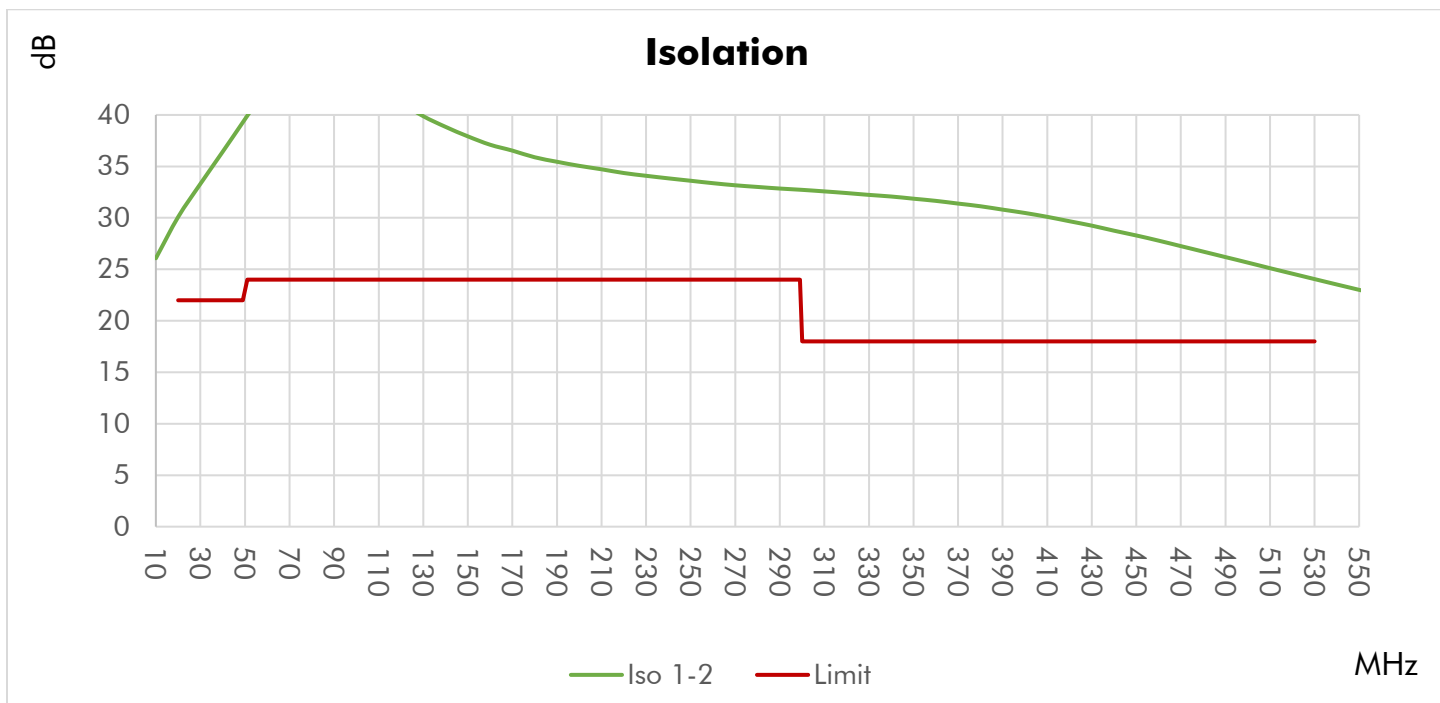
|                                    |                         |
|------------------------------------|-------------------------|
| Connector Interface                | N Female                |
| Operating Temperature <sup>3</sup> | -40 to +50 °C           |
| Storage Temperature                | -55 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 <sup>4</sup>  | RoHS3 Compliant               |
| REACH Status <sup>4</sup> | 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       |

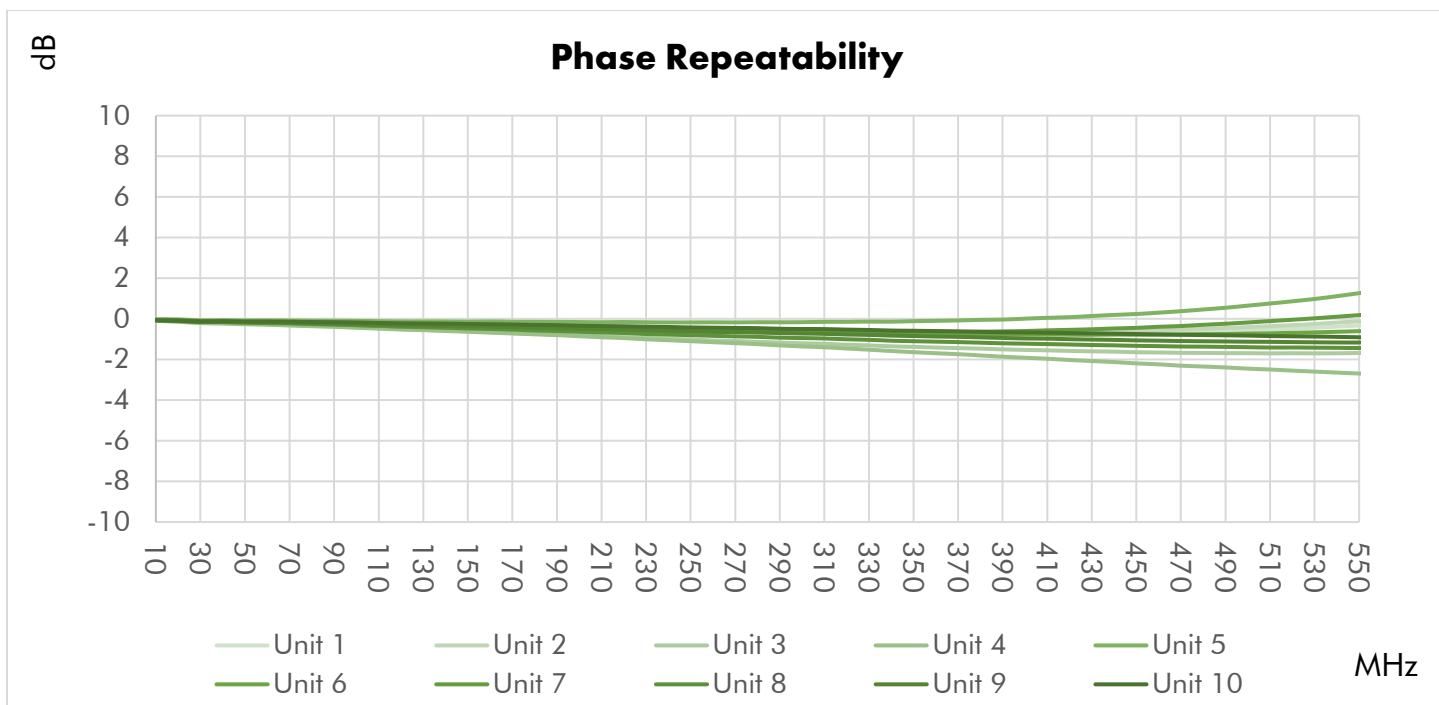
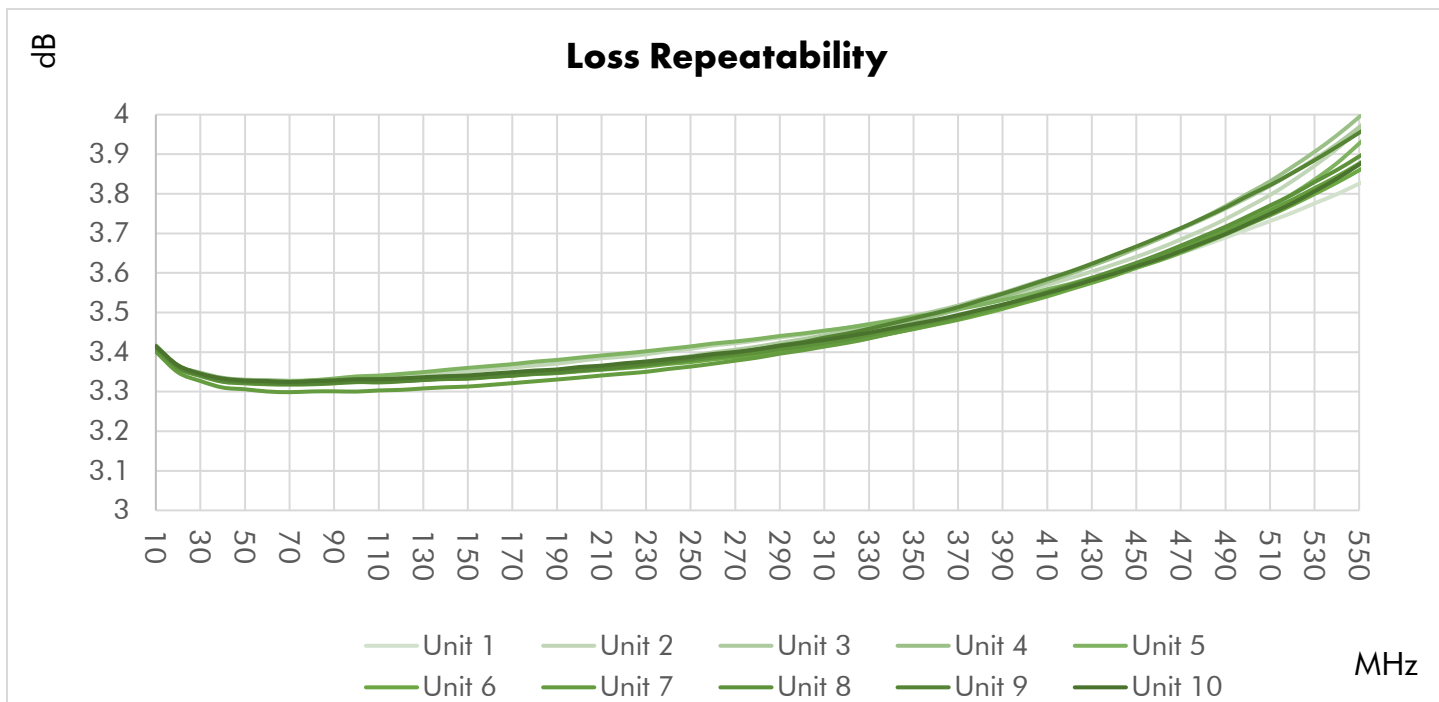
1. With reference to average.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications are tested at +25 °C.
4. To the best of our knowledge at the time of publication.

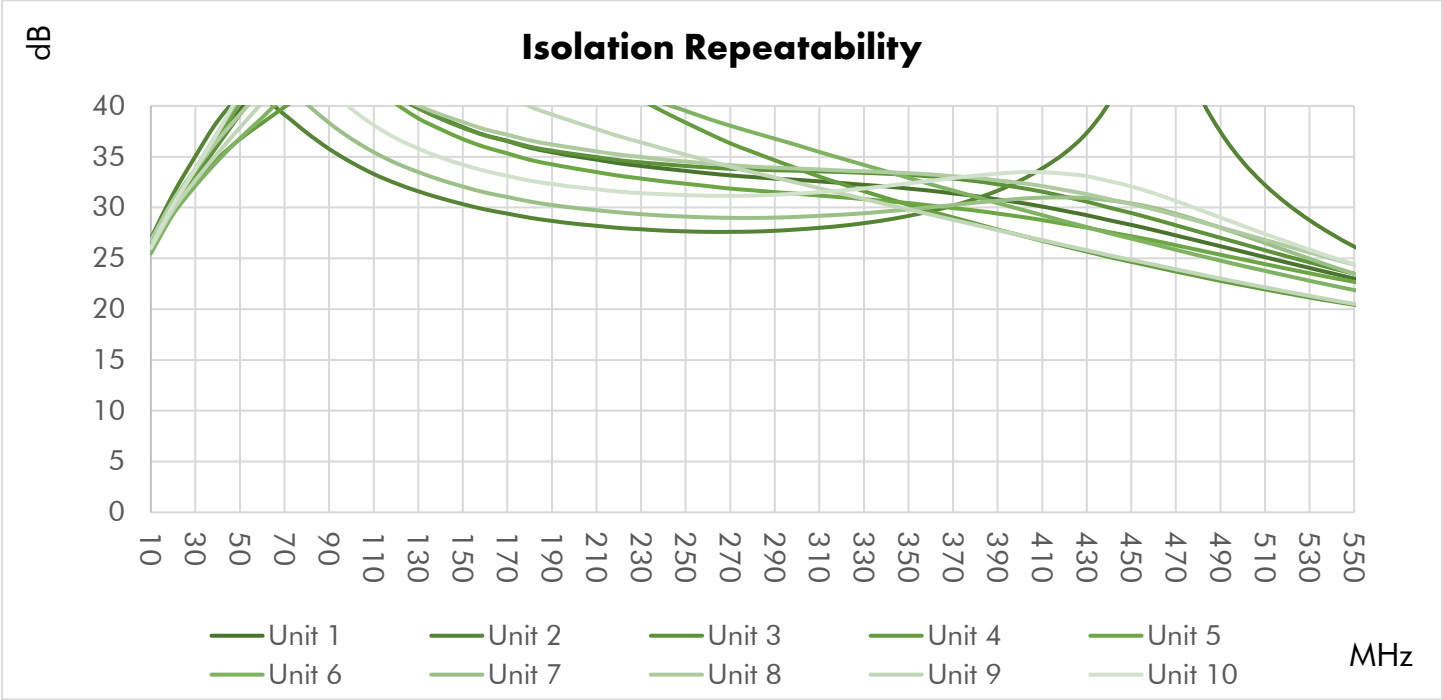
## Typical Performance at +25 °C



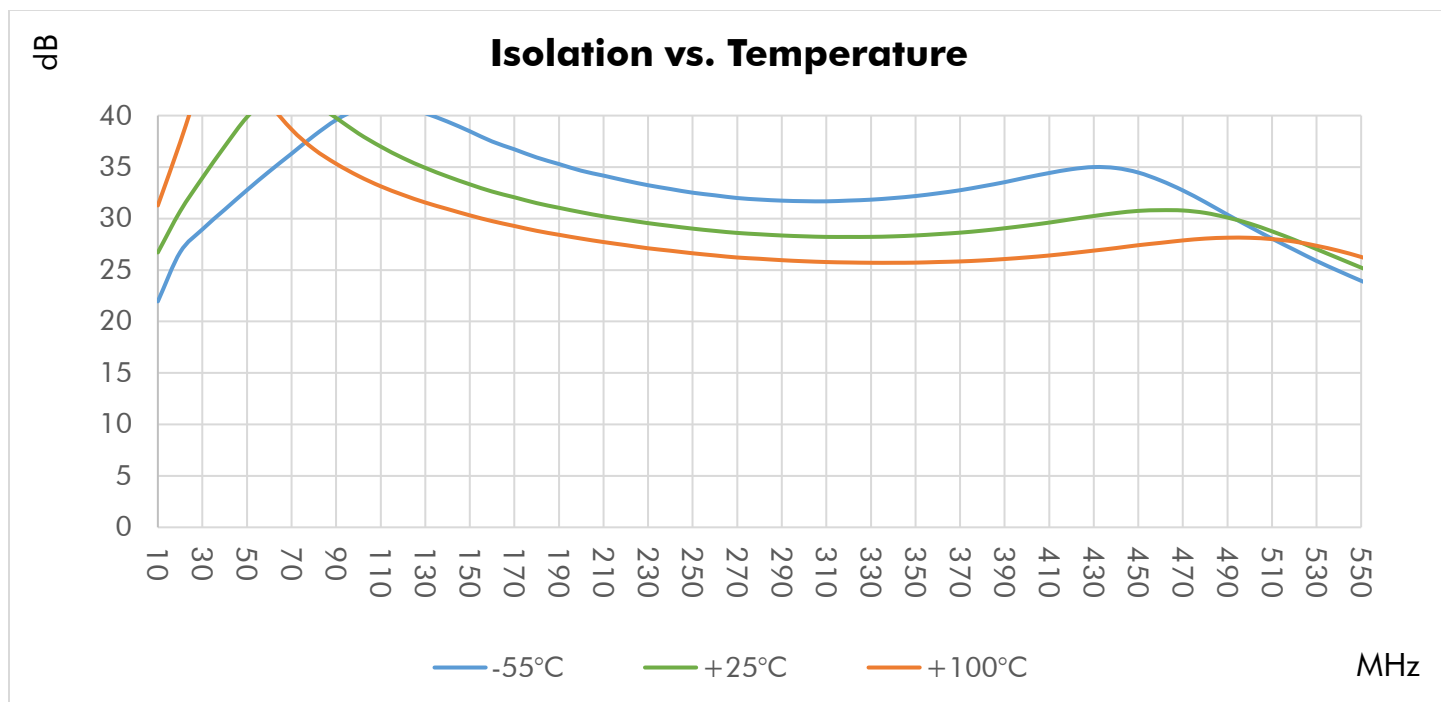
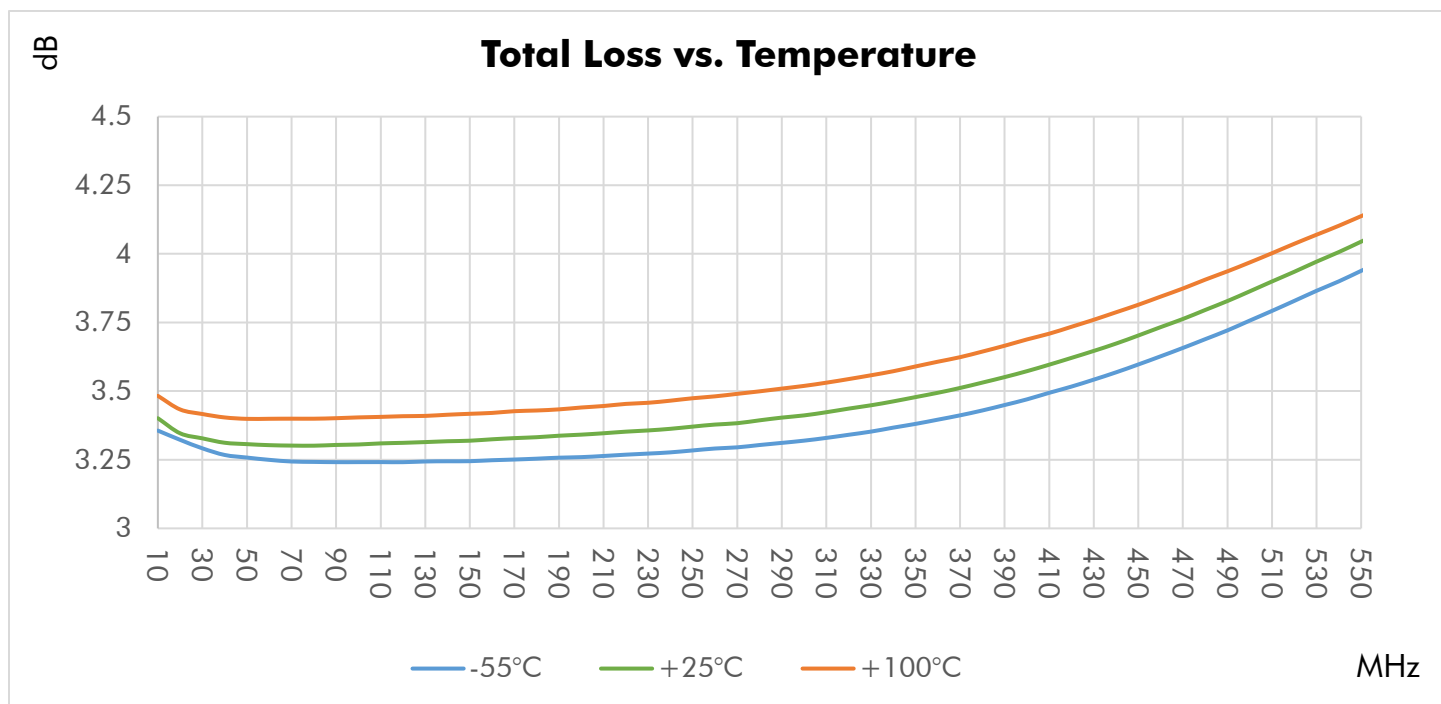


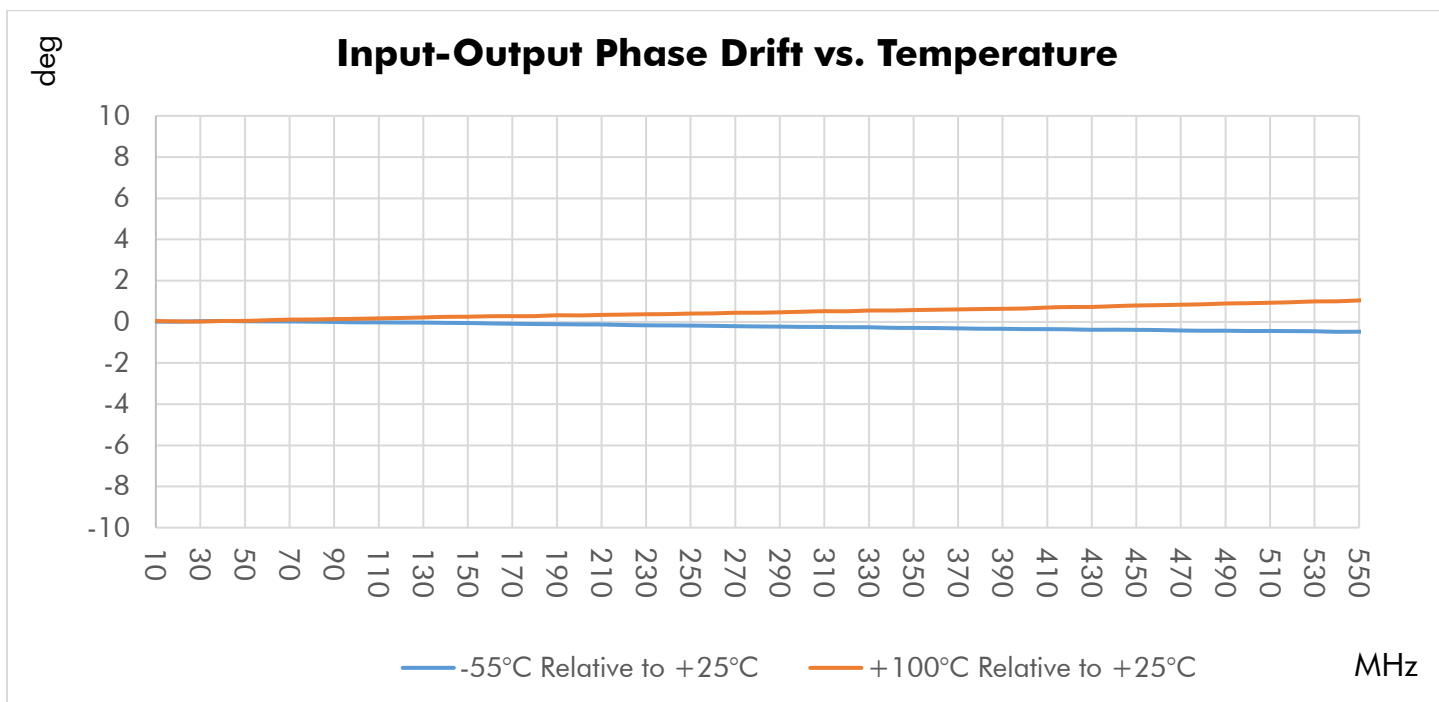
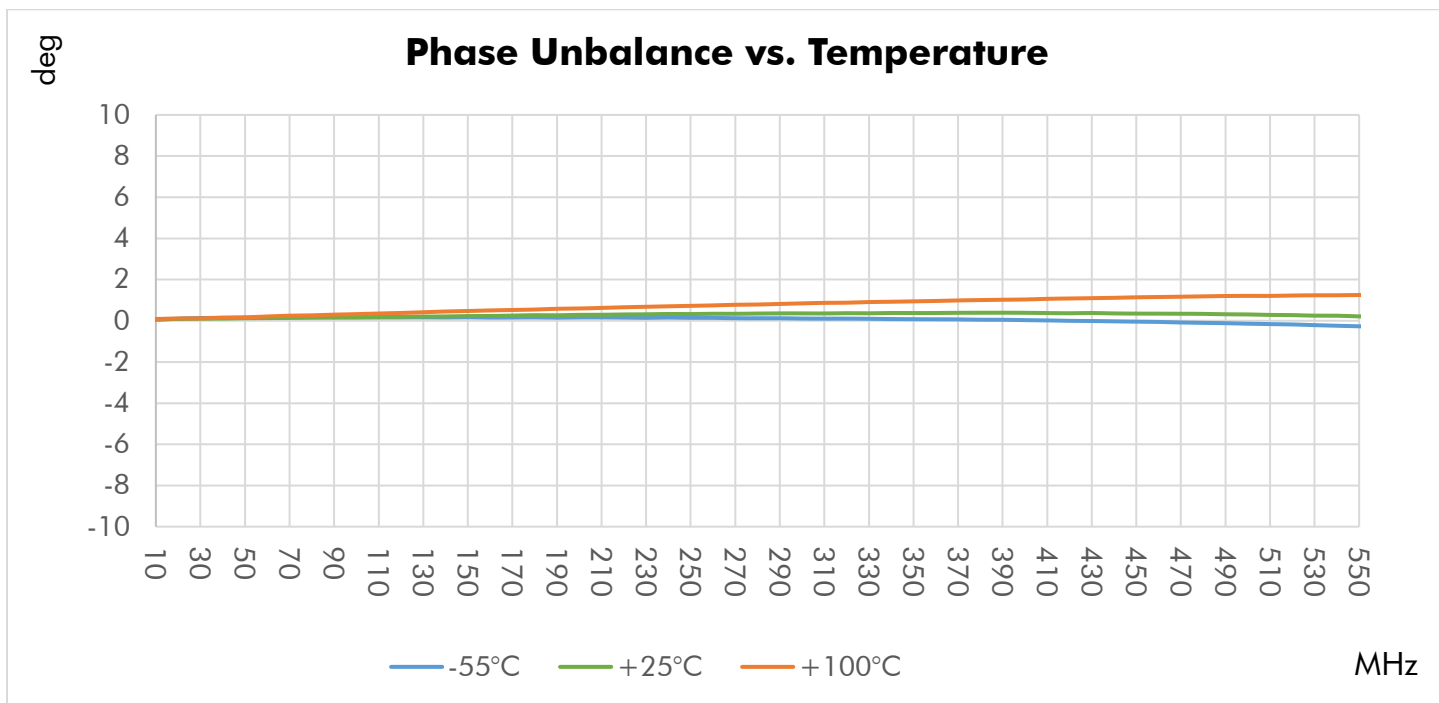
## Repeatability in Production

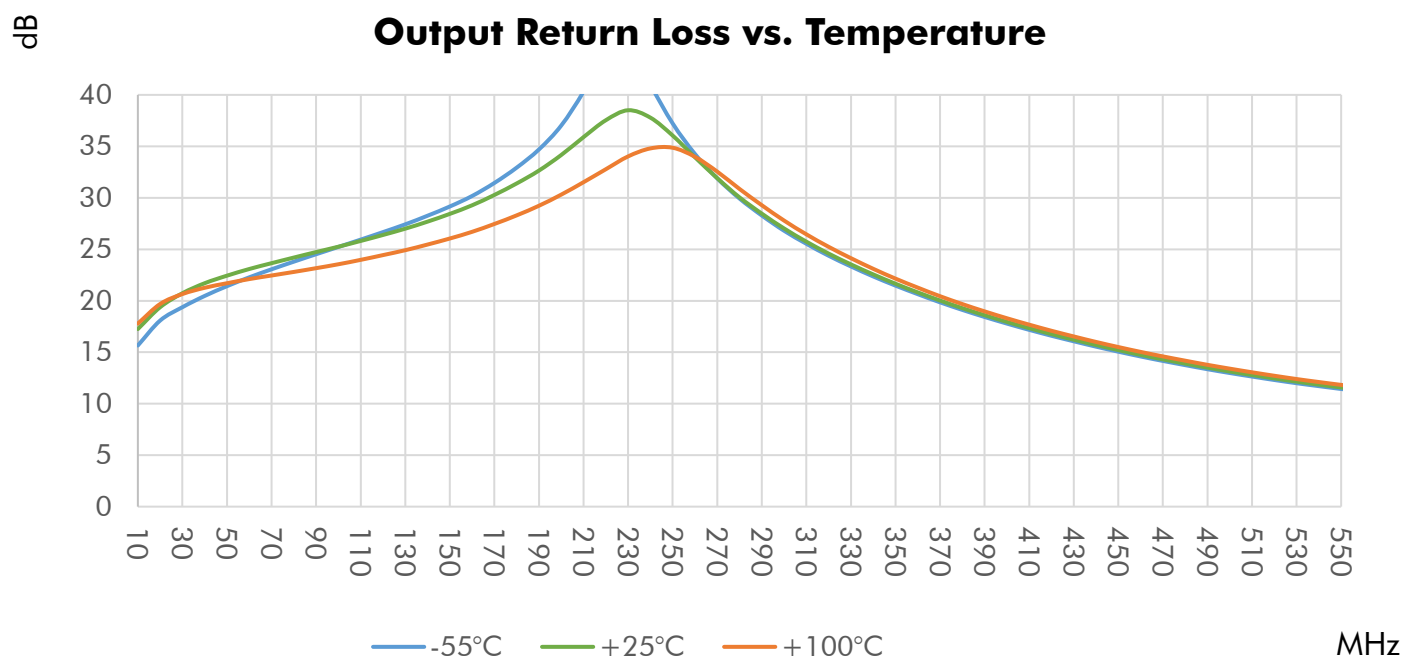
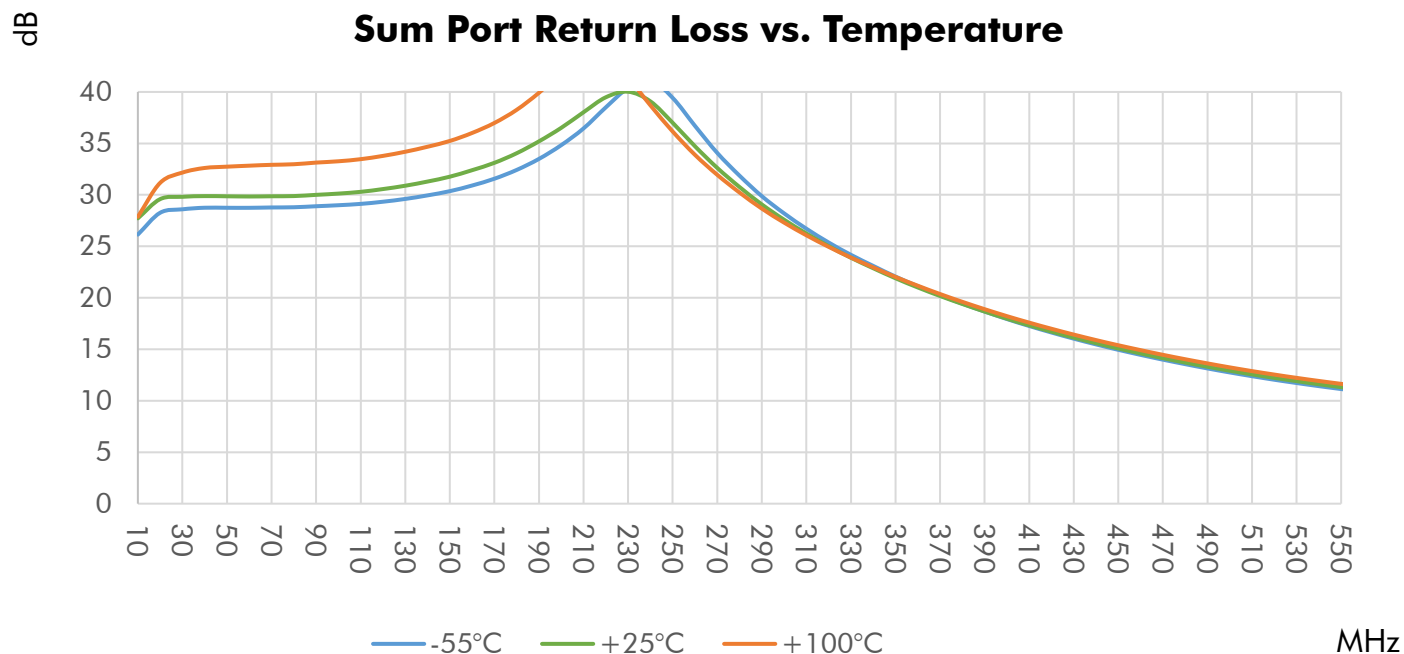




## Typical Performance Over Temperature

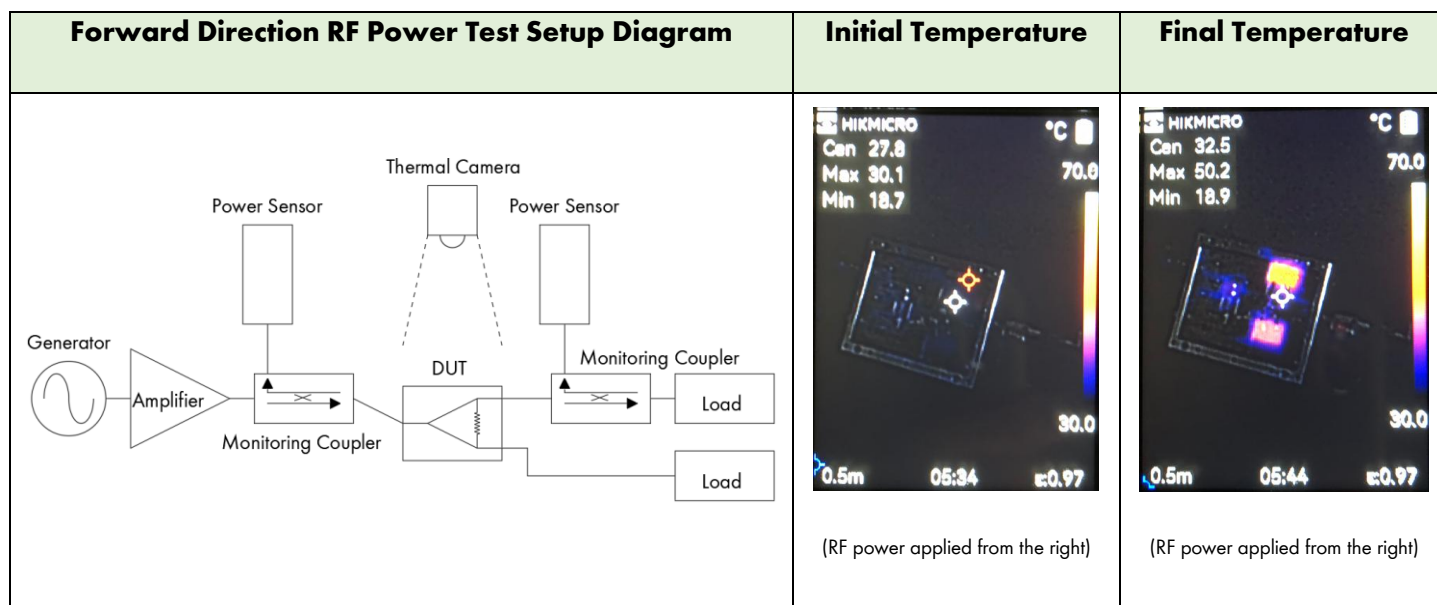




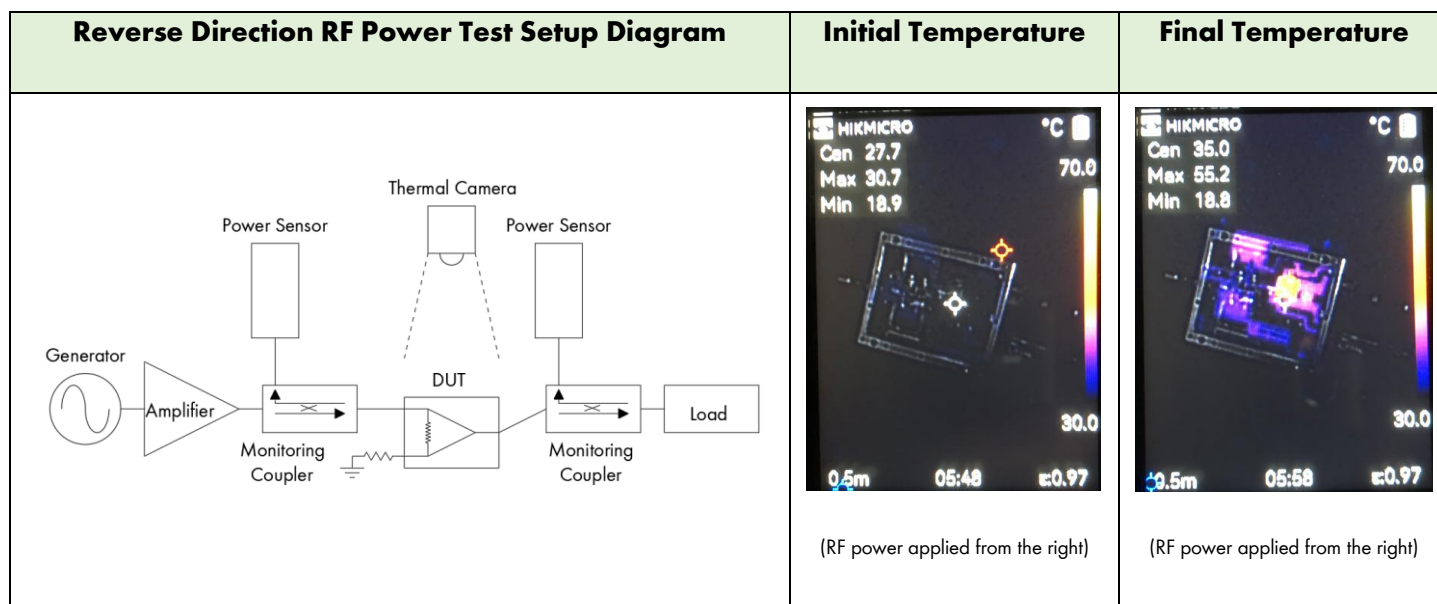


## Power and Reliability

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.

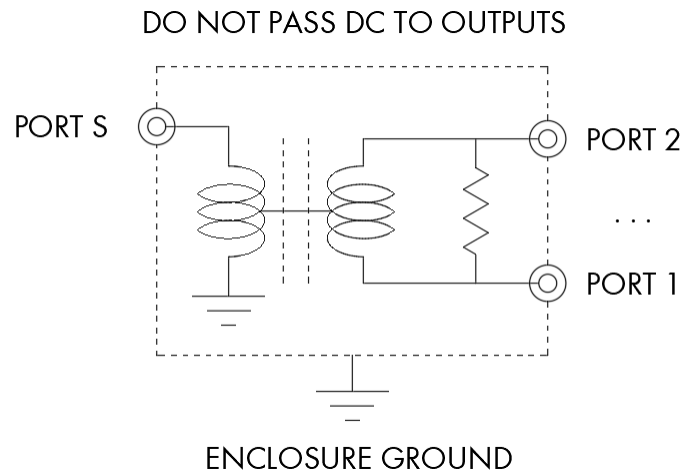


- 15 watts CW at 350MHz was applied to the DUT output for a duration of 10 minutes.
- The DUT temperature increased from 27.7°C (initial, center marker) to 55.2°C (final, max marker), resulting in a 27.5°C rise.

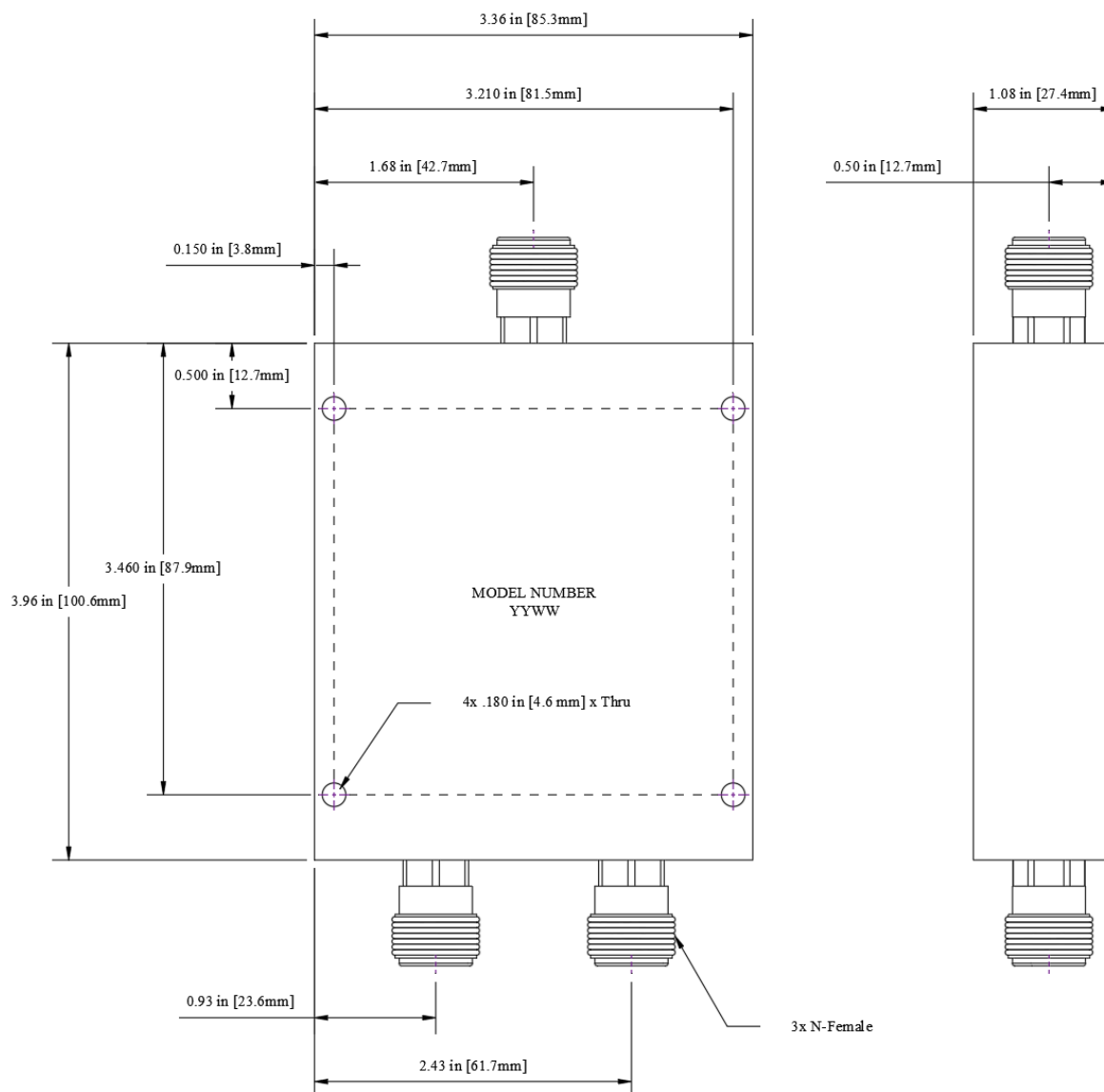
## Typical Performance Data

| Frequency<br>(MHz) | Return Loss<br>(dB) |        |        | Total Loss<br>(dB) |      | Isolation<br>(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



## Outline Dimensions



Outline drawing: OL-2035-N

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

Tolerances on 2-pl decimals:  $\pm 0.03$ . 3-pl decimals:  $\pm 0.015$ .

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