

# Thin-Film RF/Microwave Directional Couplers

CP0302/CP0402/CP0603/CP0805 and DB0603N/DB0805 3dB 90°

## DB0603N 3dB 90° Couplers



### GENERAL DESCRIPTION RFAP TECHNOLOGY

The DB0603N 3dB 90° Coupler is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The RFAP LGA 3dB 90° Coupler will be offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

### APPLICATIONS

- 4G LTE
- 5G LTE
- Base Stations.
- Automotive
- Industrial
- Balanced Amplifiers and Signal Distribution in Wireless Communications



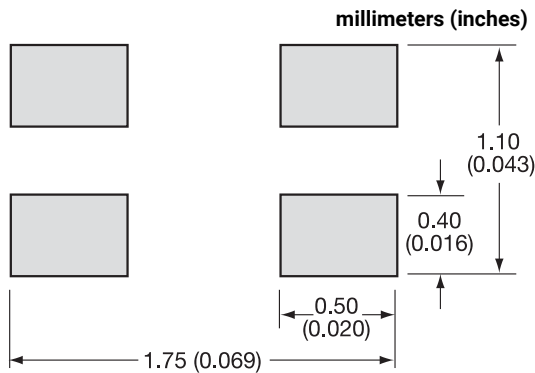
### FEATURES

- Miniature 0603 size
- Low I. Loss
- High Isolation
- Surface Mountable
- RoHS Compliant
- Supplied on T&R
- Power Rating:  
10W RF  
Continuous

### LAND GRID ARRAY ADVANTAGES:

- Inherent Low Profile
- Self Alignment during Reflow
- Excellent Solderability
- Low Parasitics
- Better Heat Dissipation

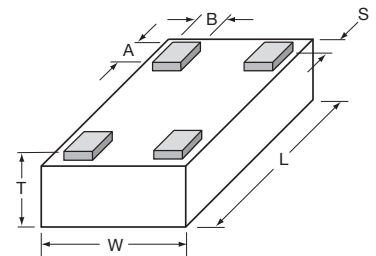
### RECOMMENDED PAD LAYOUT DIMENSIONS:



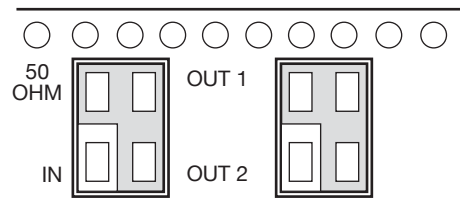
### DIMENSIONS:

millimeters (inches)	
L	1.60±0.10 (0.063±0.004)
W	0.84±0.10 (0.033±0.004)
T	0.60±0.10 (0.024±0.004)
A	0.25±0.05 (0.010±0.002)
B	0.20±0.05 (0.008±0.002)
S	0.05±0.05 (0.002±0.002)

### BOTTOM VIEW



### ORIENTATION IN TAPE



\* 50 Ohm external resistor must be placed between 50 Ohm terminal and GND plane

### ELECTRICAL PARAMETERS

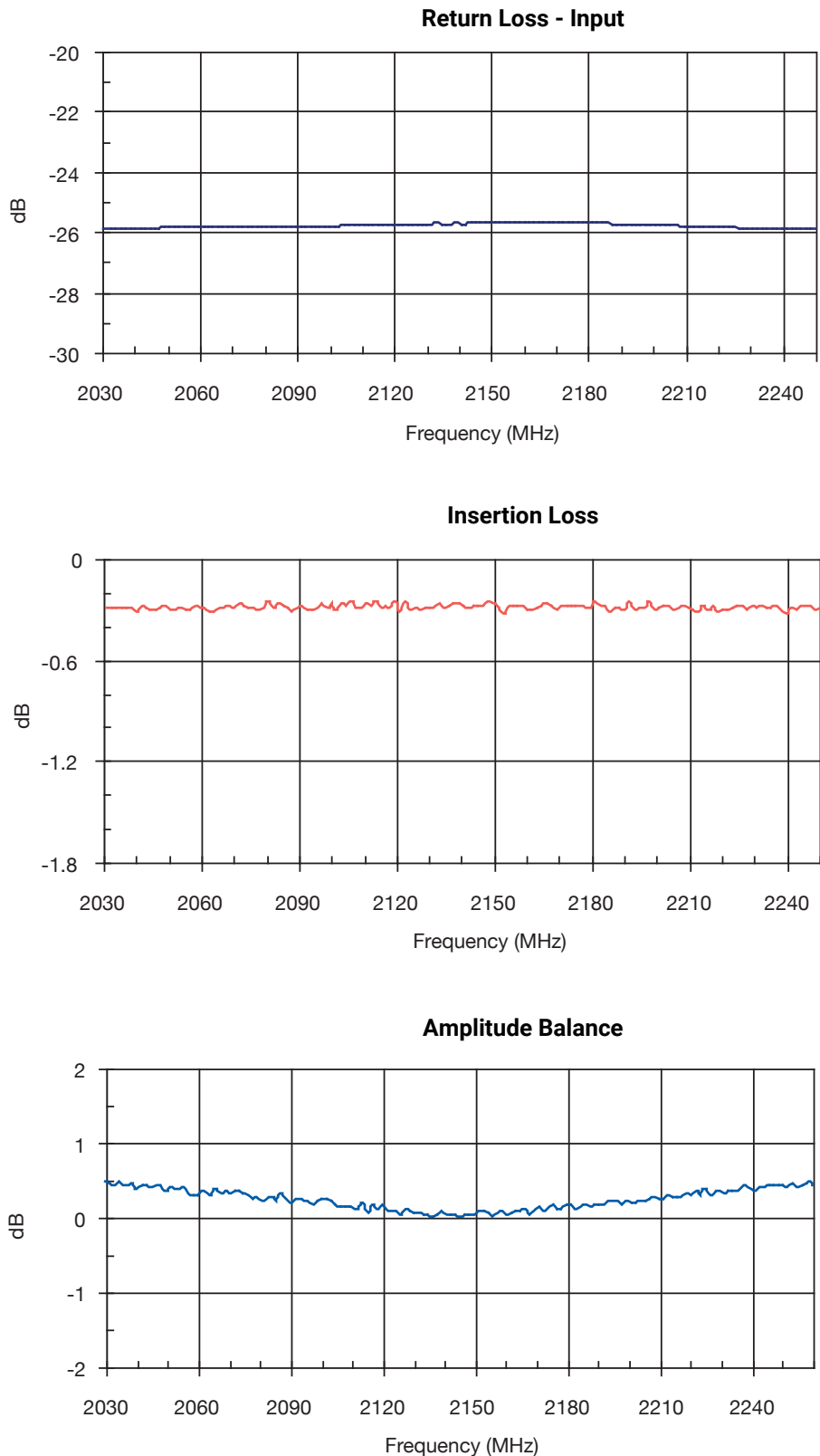
Part Number	Frequency MHz		Port Impedance $\Omega$	Return Loss [dB]		Isolation [dB]		Insertion Loss [dB]		Amplitude Balance [dB]		Phase Balance (Relative to 90°) Deg		Power Handling Watts
	Min.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.
DB0603N2140ANTR	2040	2240	50	15	26	15	23	0.30	0.40	0.50	0.80	2	3	10
DB0603N2400ANTR	2300	2500	50	12	17	15	23	0.25	0.35	0.30	0.80	2	3	10
DB0603N2600ANTR	2400	2800	50	12	17	15	23	0.25	0.35	0.30	0.80	2	3	10
DB0603N3000ANTR	2850	3150	50	12	15	15	26	0.20	0.30	0.30	0.80	2	3	10
DB0603N3500ANTR	3300	3700	50	12	15	15	26	0.20	0.30	0.30	0.80	2	3	10
DB0603N4600ANTR	4200	5000	50	12	16	12	15	0.50	0.70	0.40	1.00	1.5	3	10
DB0603N5500ANTR	5100	5900	50	12	16	10	14	0.60	0.80	0.80	1.50	1	3	10
DB0603N5800ANTR	5600	6000	50	12	16	12	17	0.40	0.90	0.30	0.90	2	3	10

NOTE: Additional Frequencies Available Upon Request

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DB0603N 3dB 90° Couplers



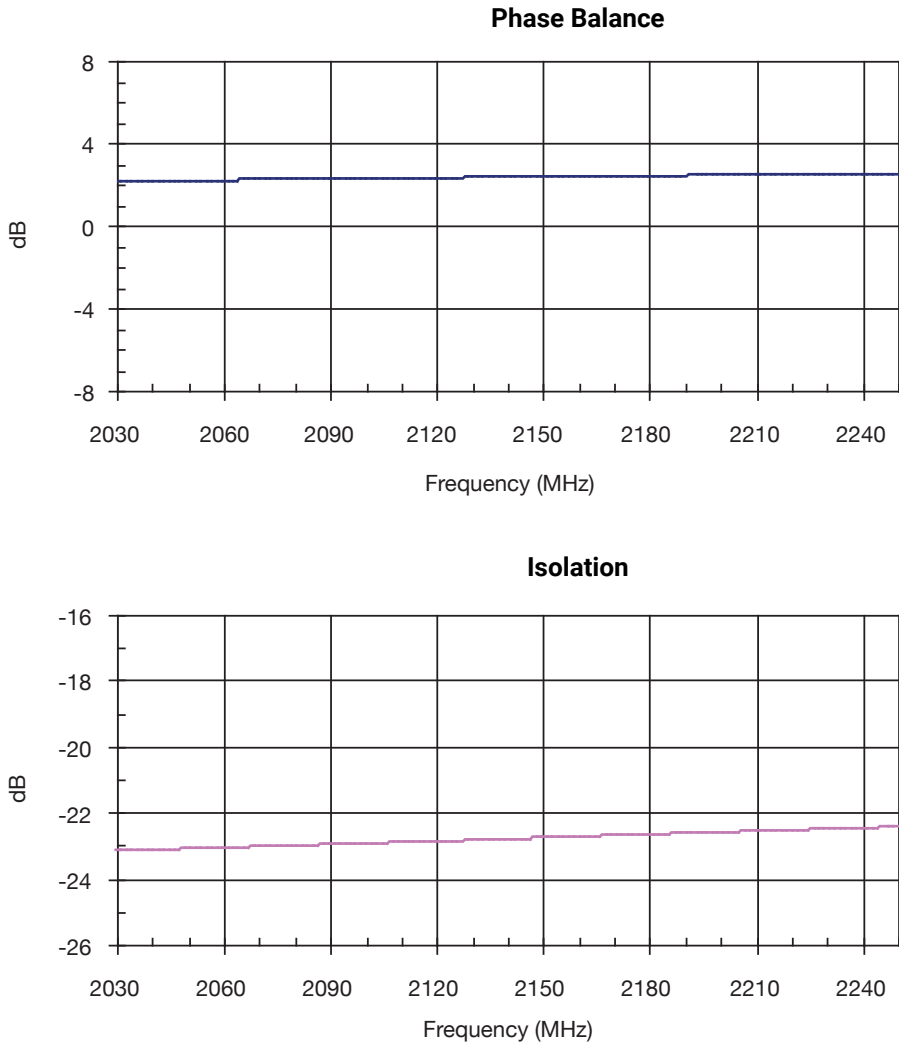
2040MHZ TO 2240MHZ DB0603N2140ANTR



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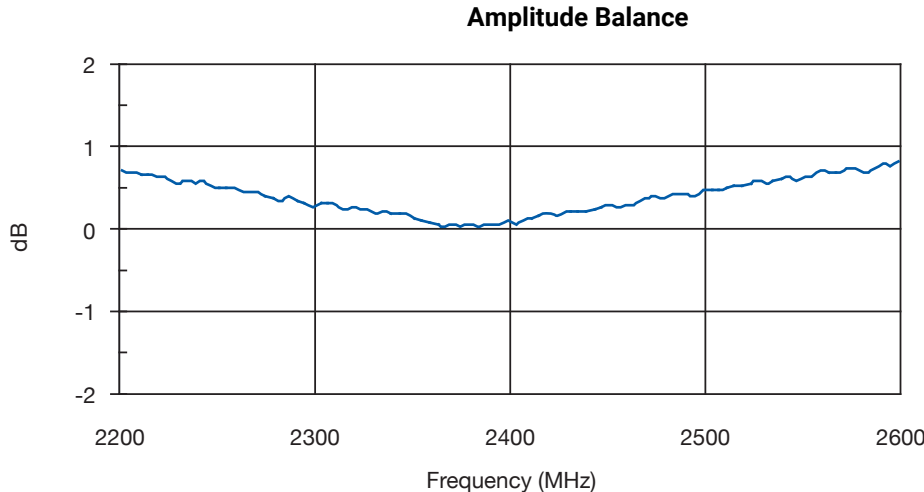
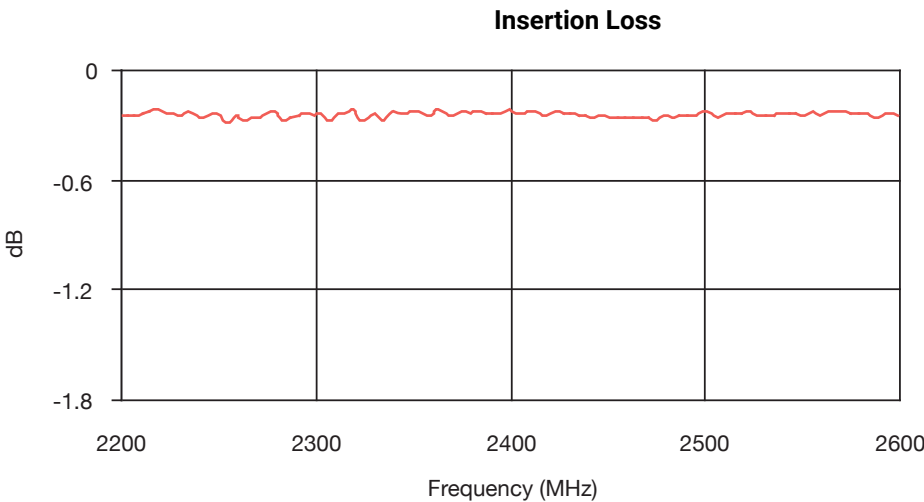
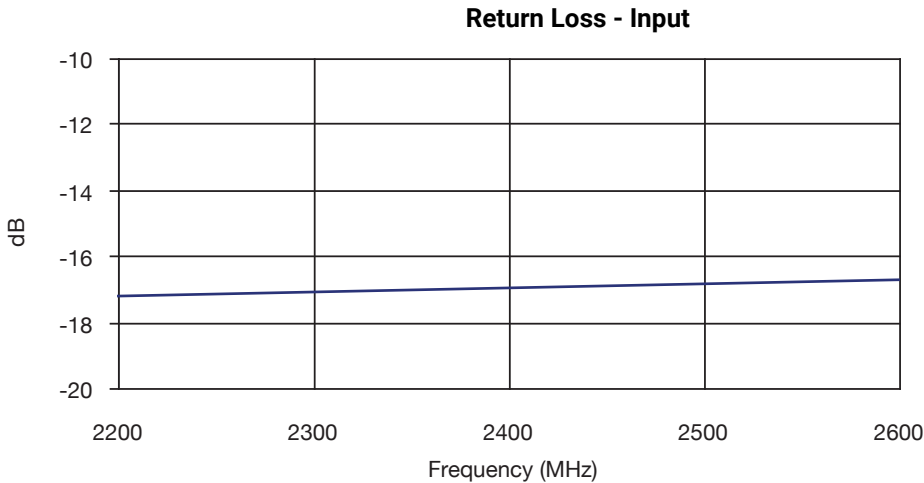
2040MHZ TO 2240MHZ DB0603N2140ANTR



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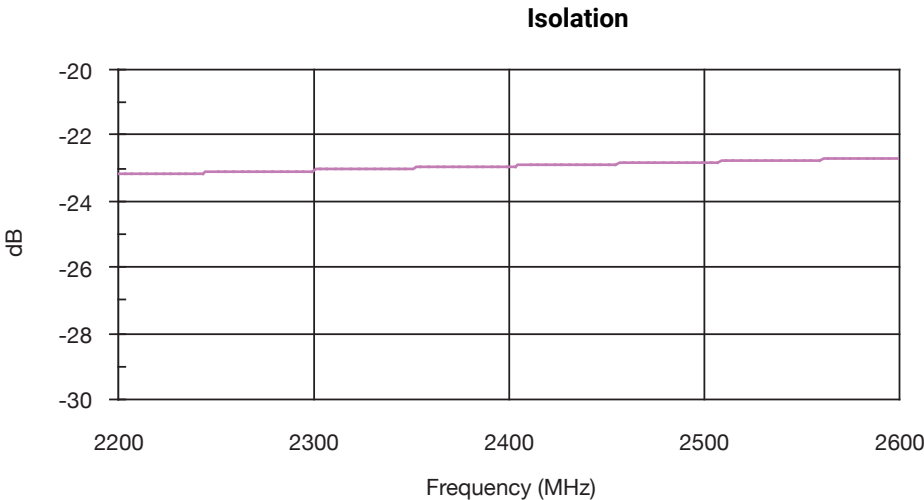
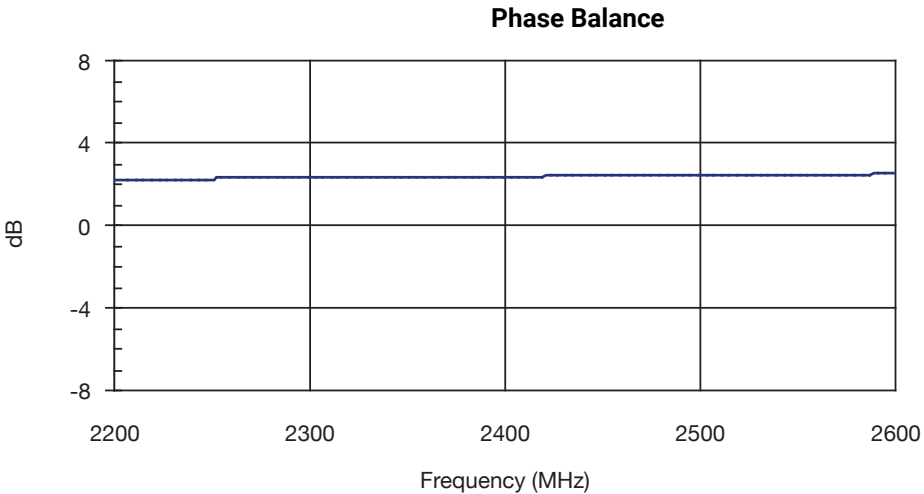
2200MHZ TO 2600MHZ DB0603N2400ANTR



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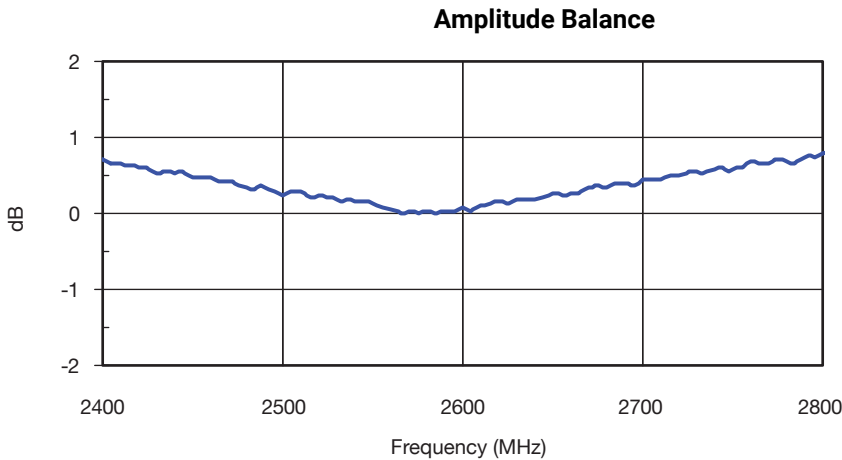
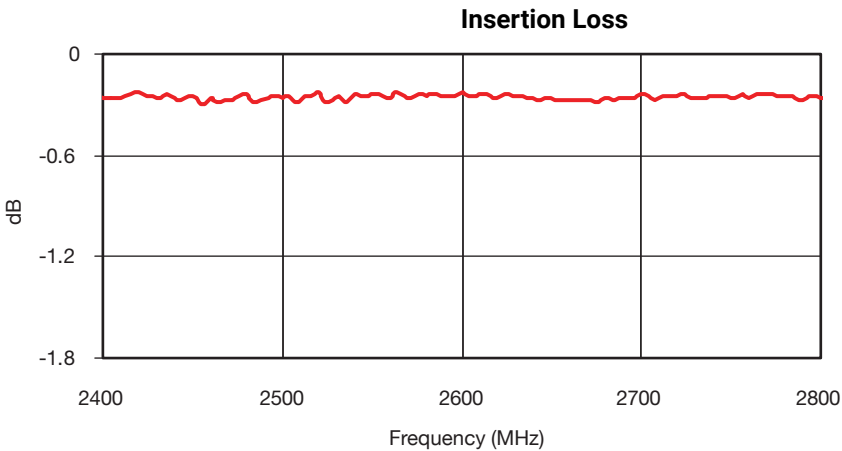
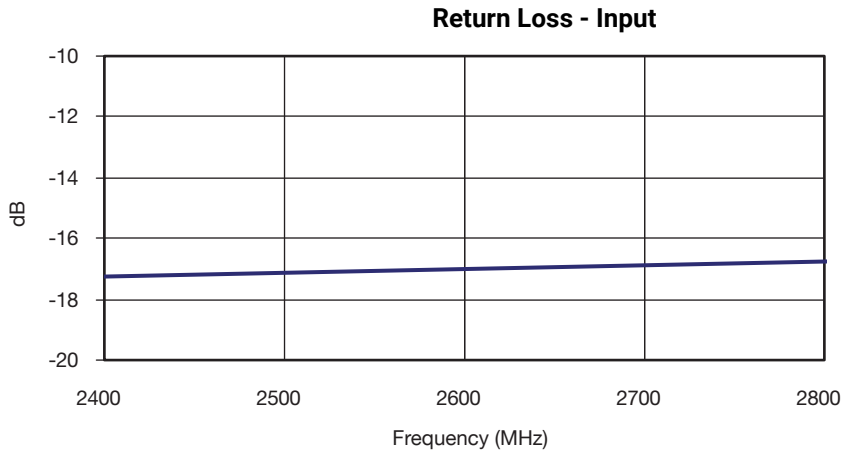
2200MHZ TO 2600MHZ DB0603N2400ANTR



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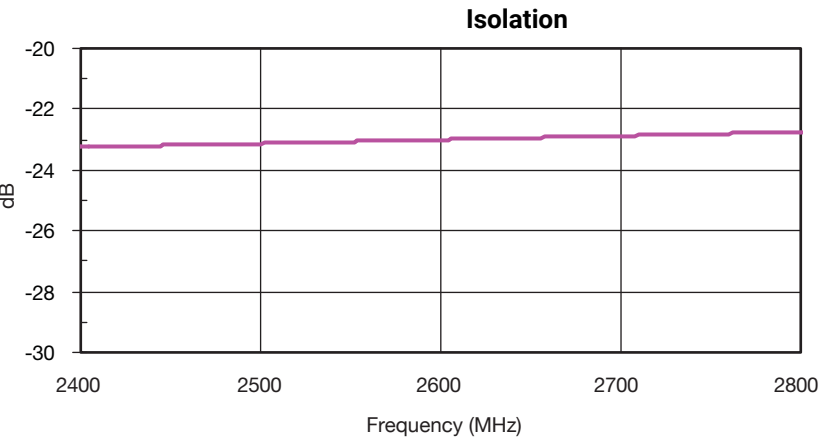
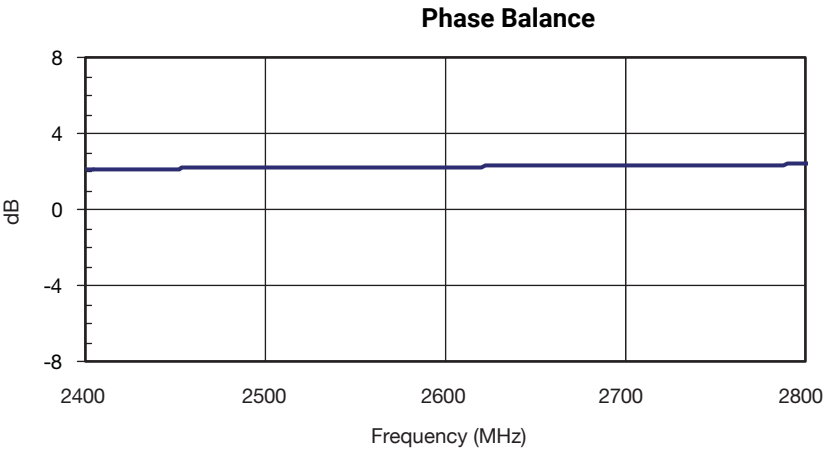
2400MHZ TO 2800MHZ DB0603N2600ANTR



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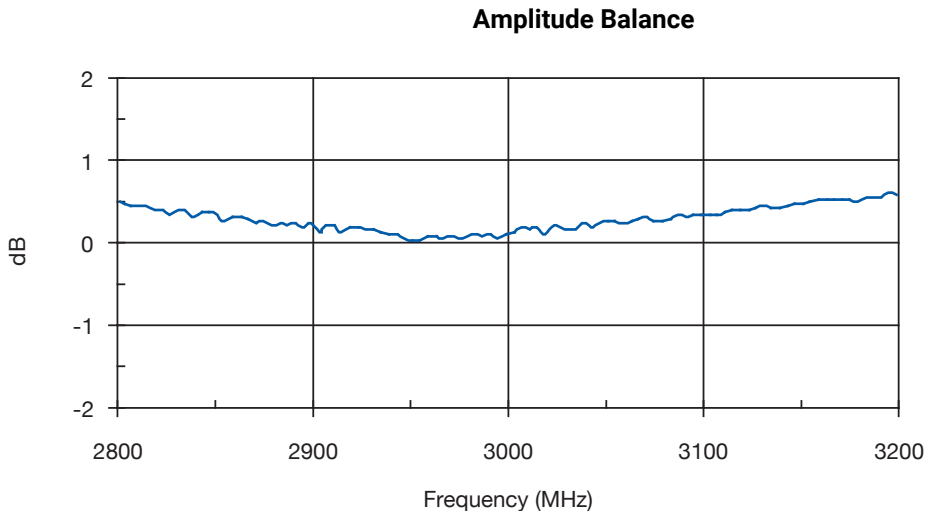
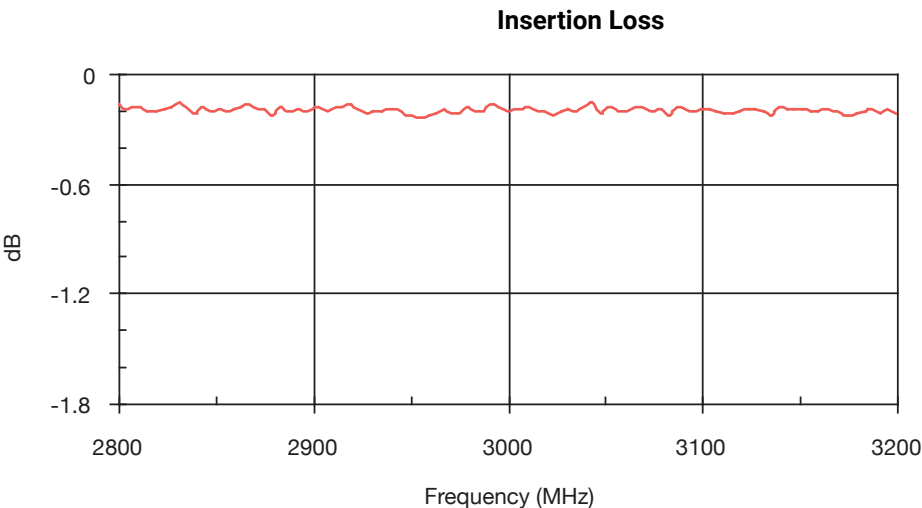
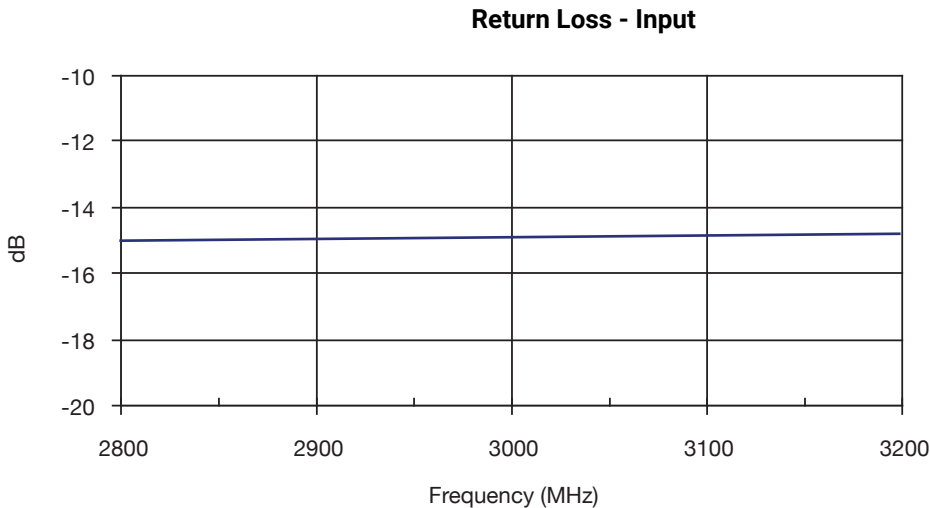
2400MHZ TO 2800MHZ DB0603N2600ANTR



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2850MHZ TO 3150MHZ DB0603N3000ANTR

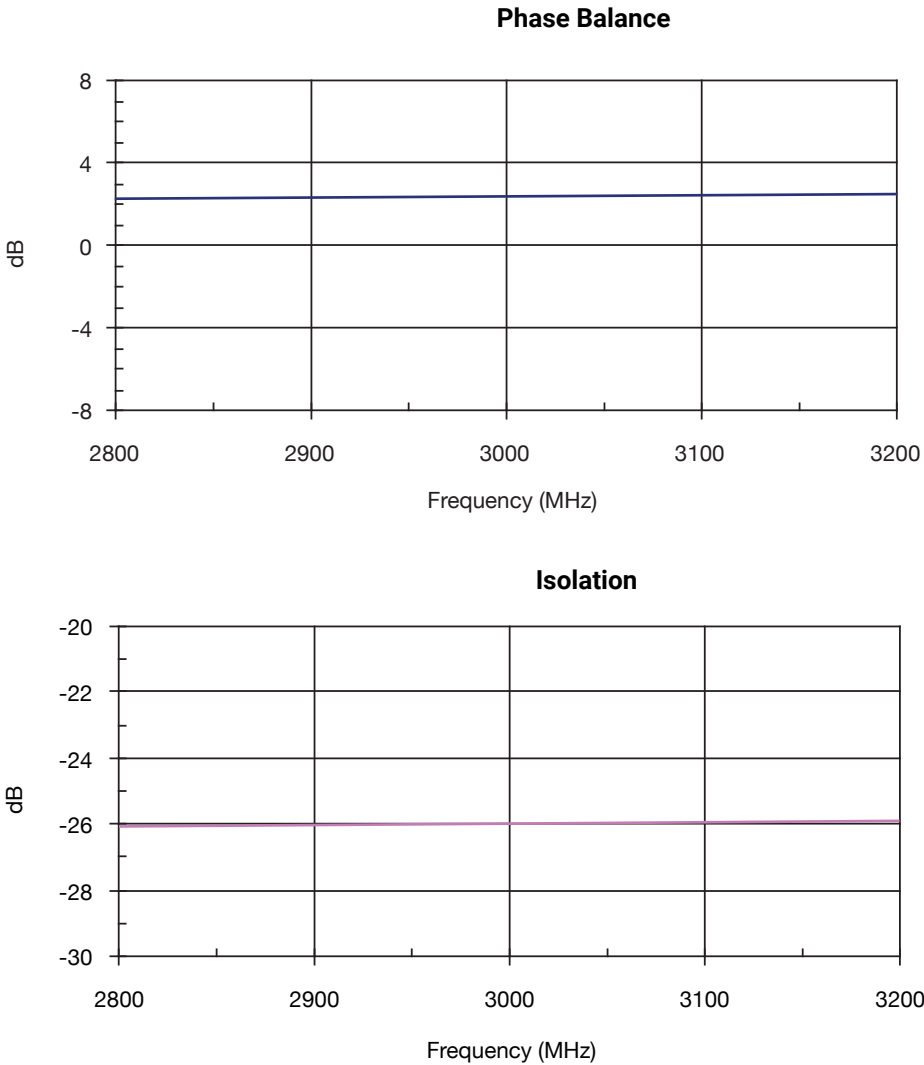




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2850MHZ TO 3150MHZ DB0603N3000ANTR

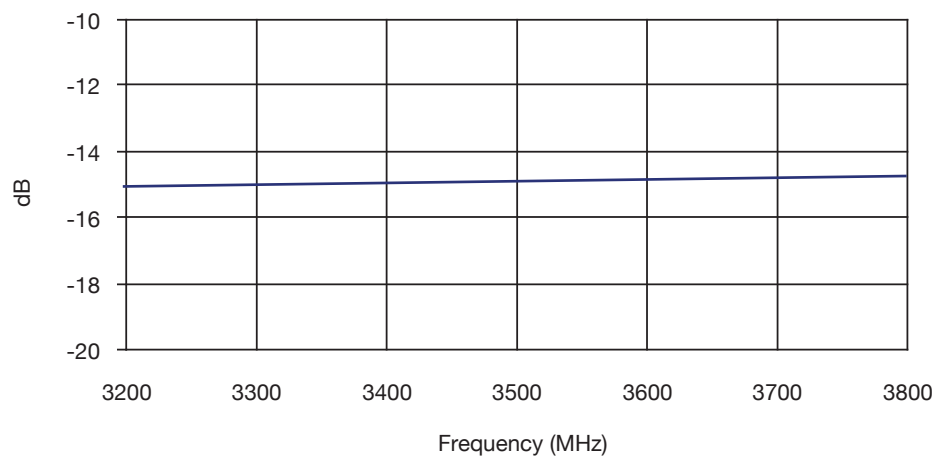


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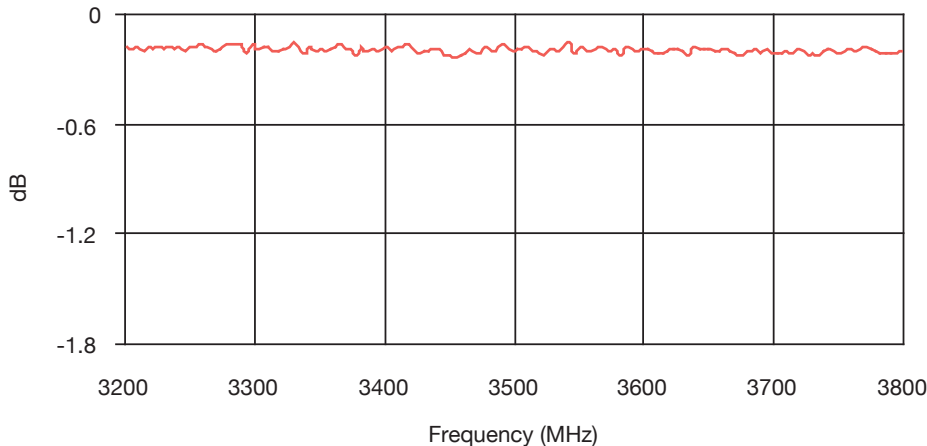


3200MHZ TO 3800MHZ DB0603N3500ANTR

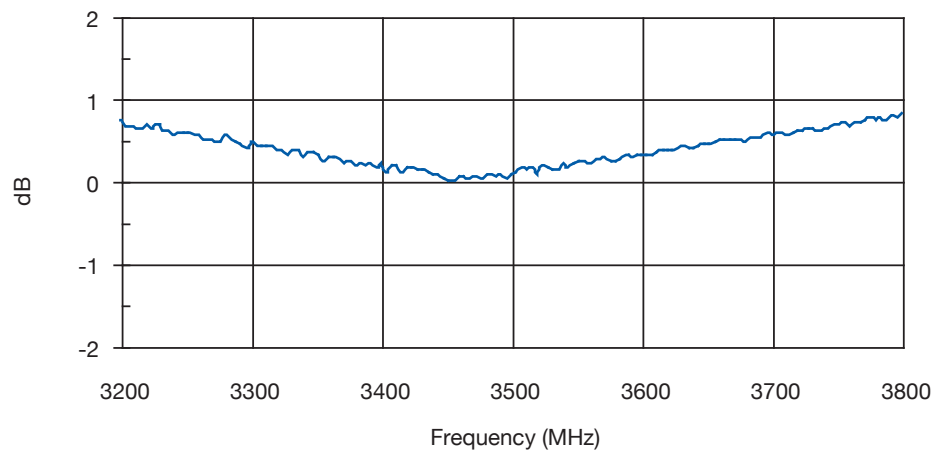
Return Loss - Input



Insertion Loss



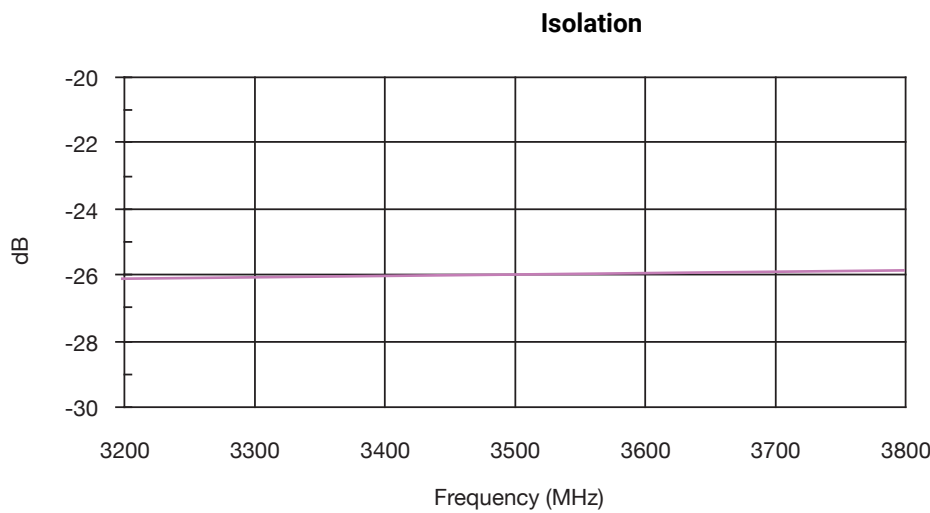
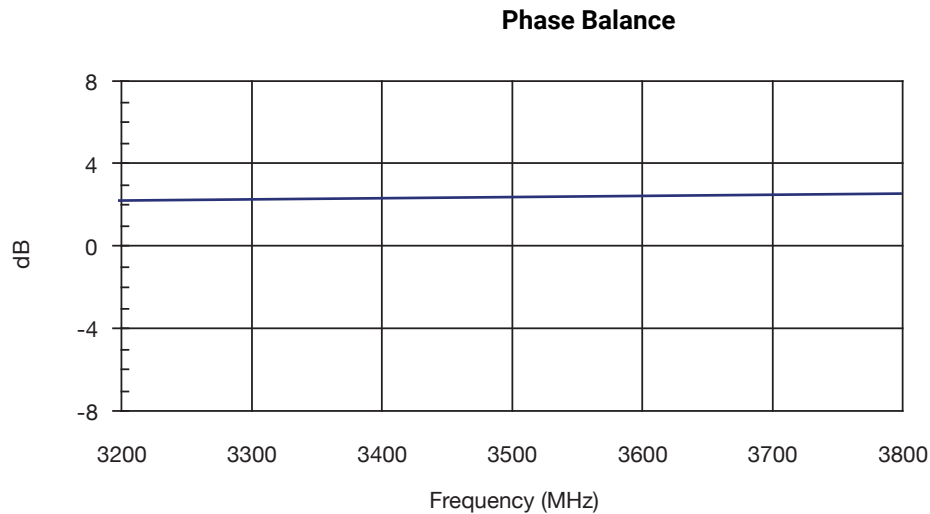
Amplitude Balance



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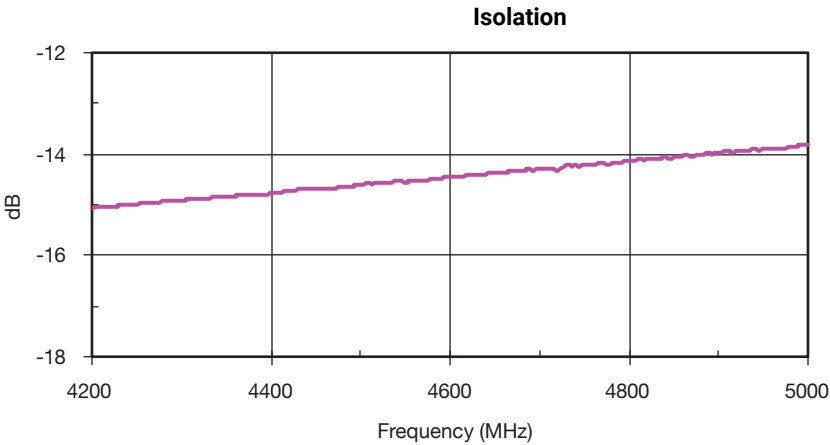
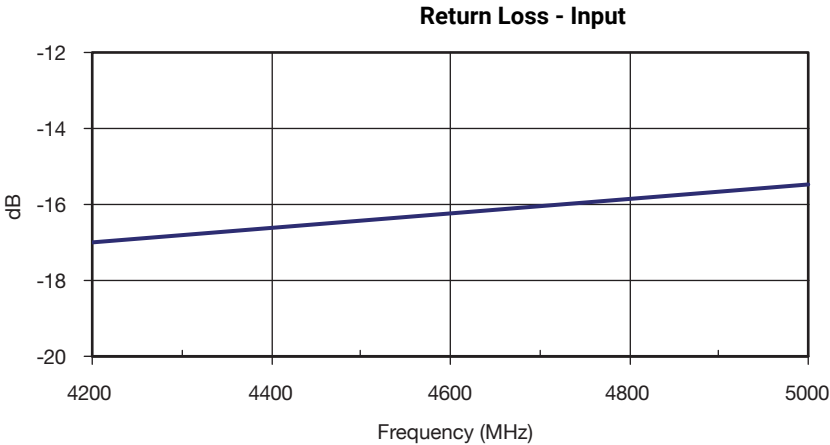
3200MHZ TO 3800MHZ DB0603N3500ANTR



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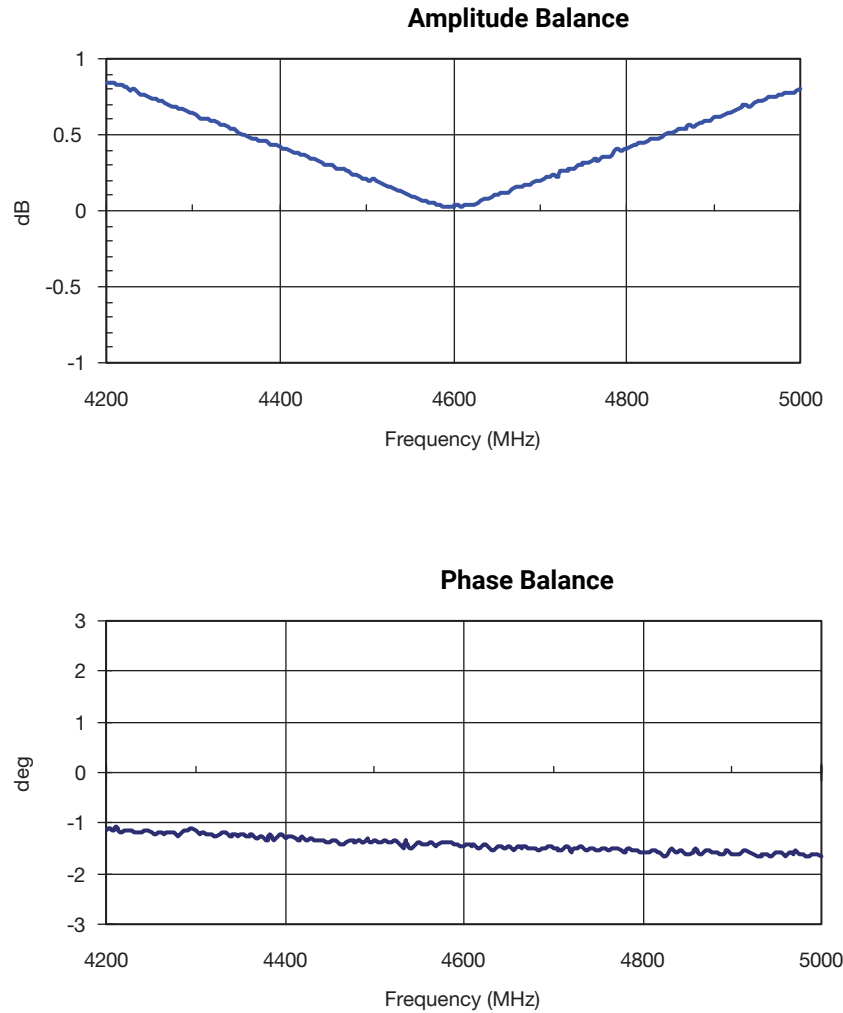
4200MHZ TO 5000MHZ DB0603N4600ANTR



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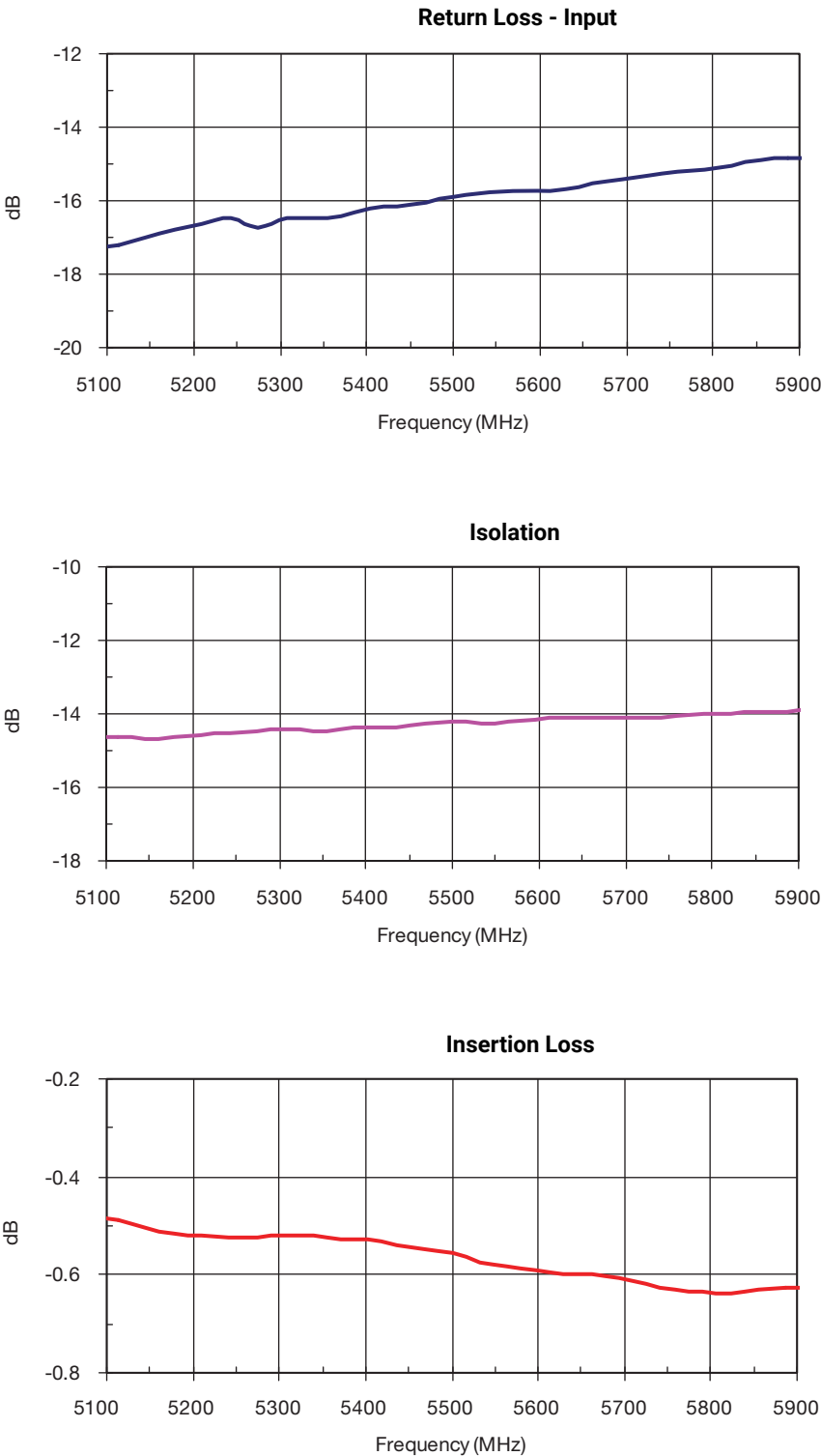
4200MHZ TO 5000MHZ DB0603N4600ANTR



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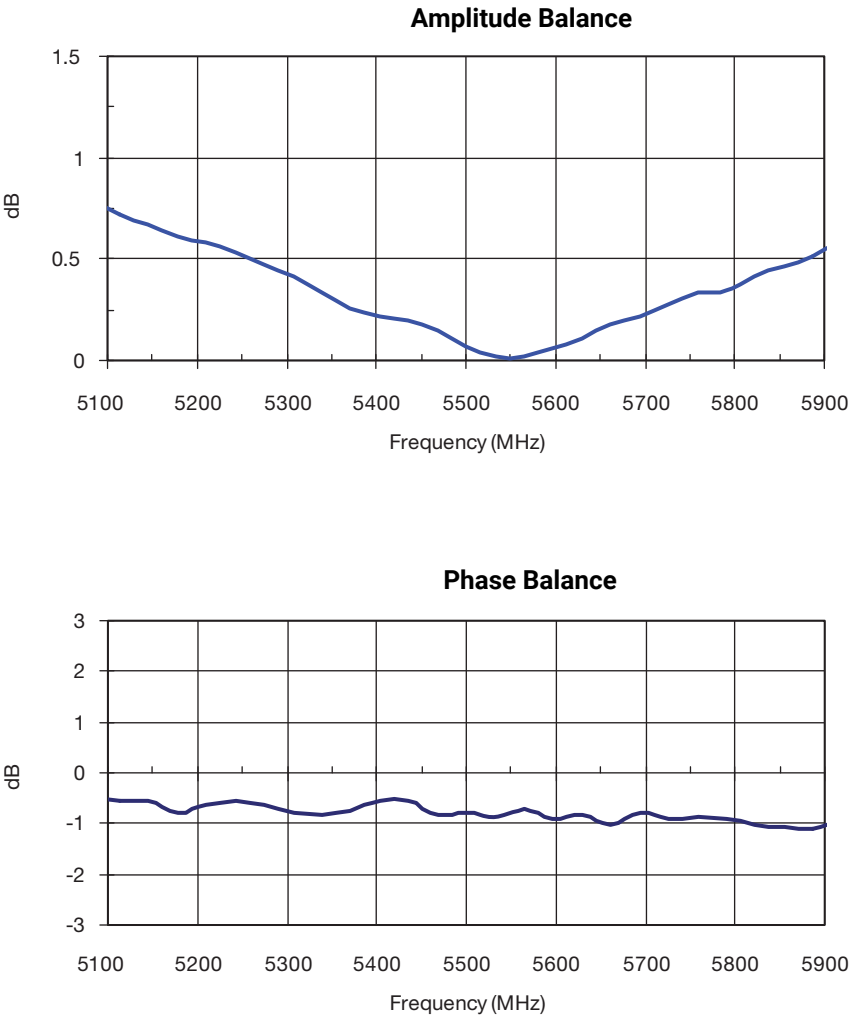
5100MHZ TO 5900MHZ DB0603N5500ANTR



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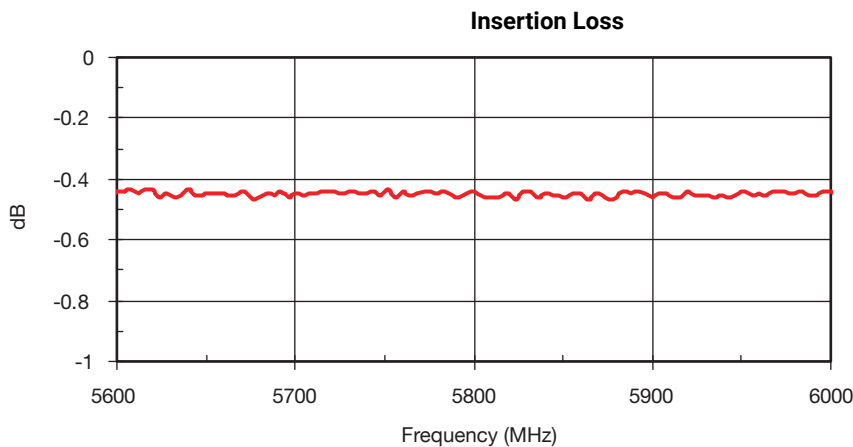
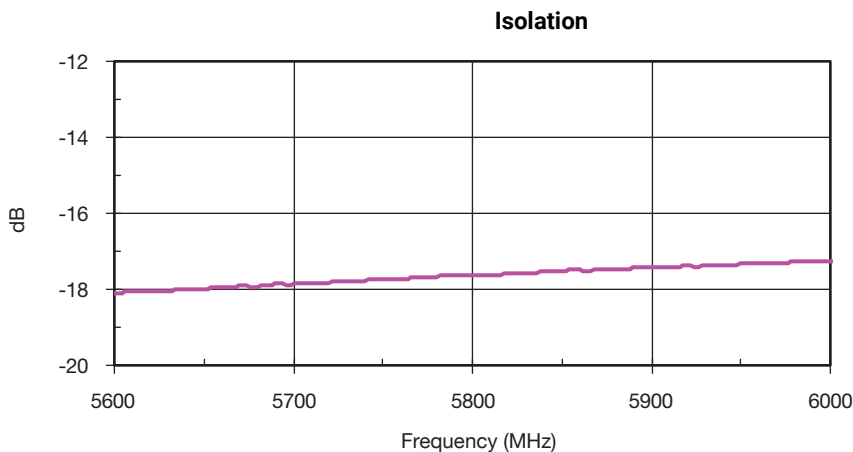
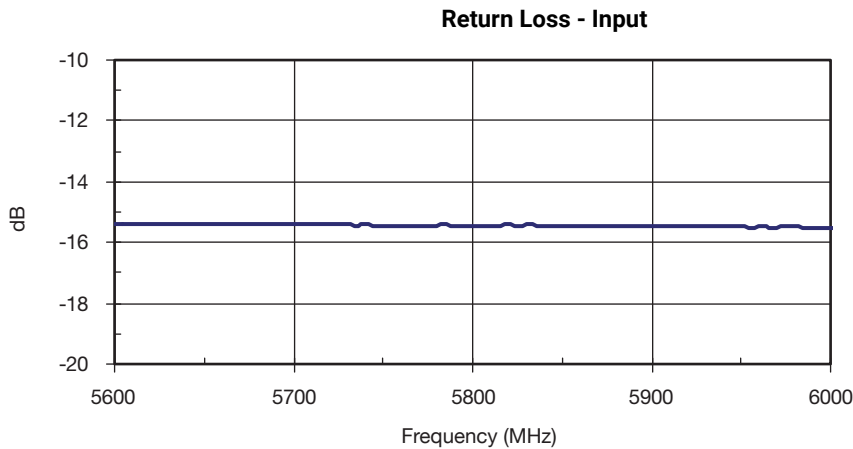
5100MHZ TO 5900MHZ DB0603N5500ANTR



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5600MHZ TO 6000MHZ DB0603N5800ANTR





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5600MHZ TO 6000MHZ DB0603N5800ANTR

