

# Thin-Film Directional Couplers

## 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

- 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:

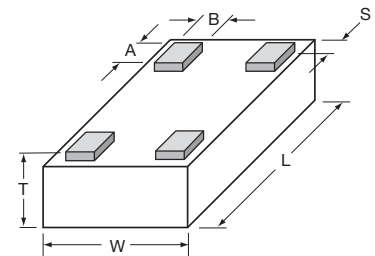
- Inherent Low Profile
- Self Alignment during Reflow
- Excellent Solderability
- Low Parasitics
- Better Heat Dissipation

### DIMENSIONS:

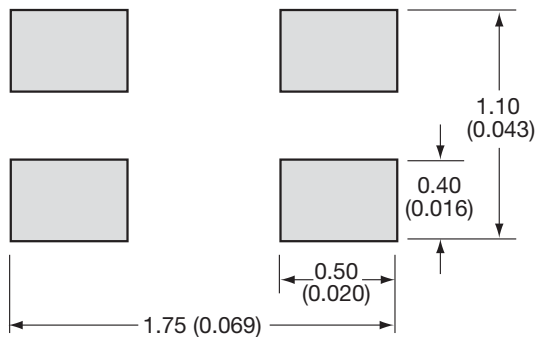
millimeters (inches)

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)

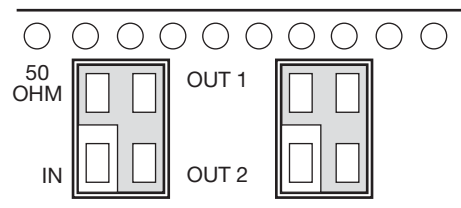
### Bottom View



### Recommended Pad Layout Dimensions mm (inches)



### ORIENTATION IN TAPE



### ELECTRICAL PARAMETERS

Part Number	Frequency MHz		Port Impedance Ω	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.	
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

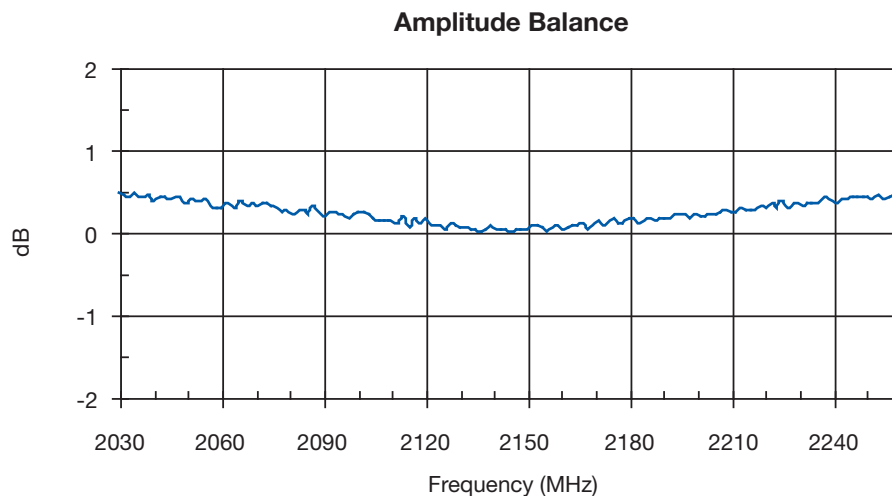
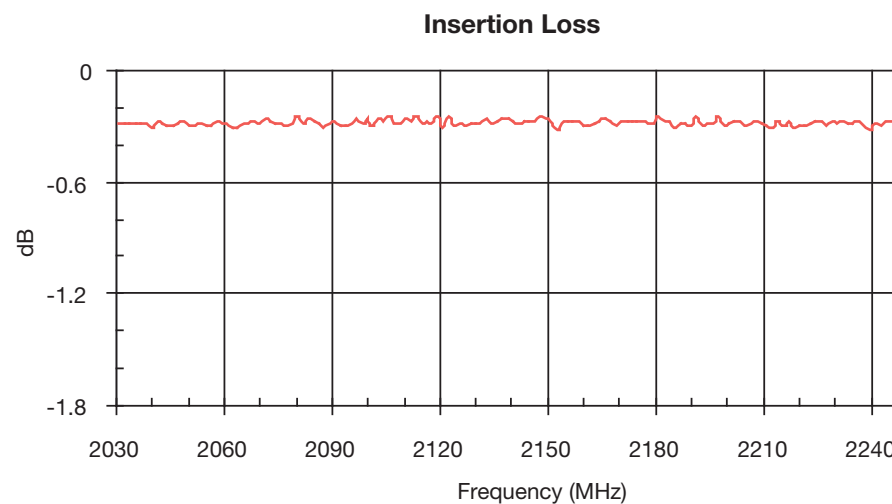
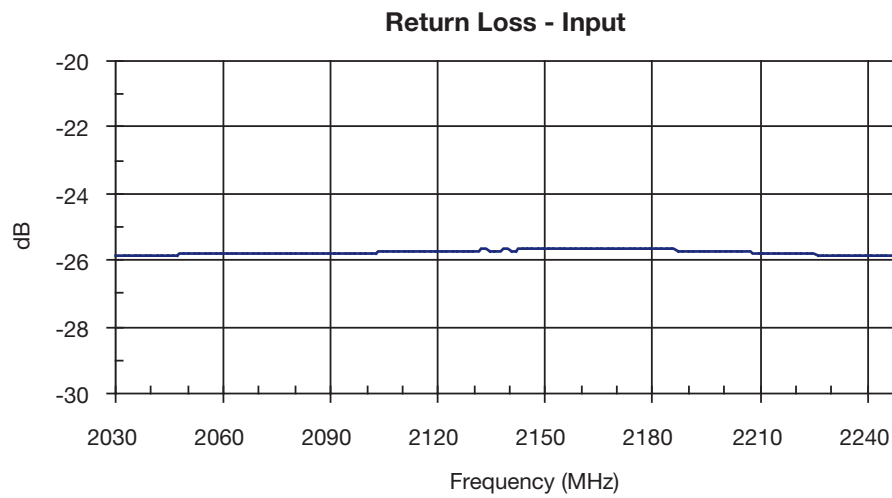
NOTE: Additional Frequencies Available Upon Request

# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers



2040MHz to 2240MHz DB0603N2140ANTR



3



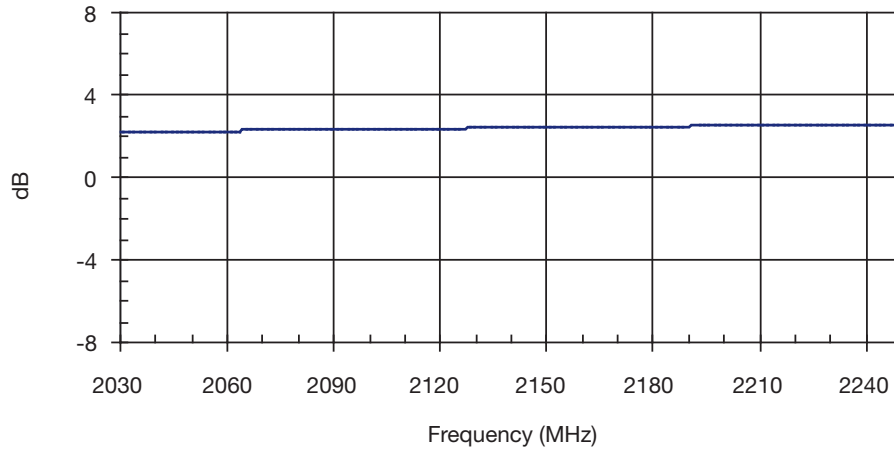
# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers

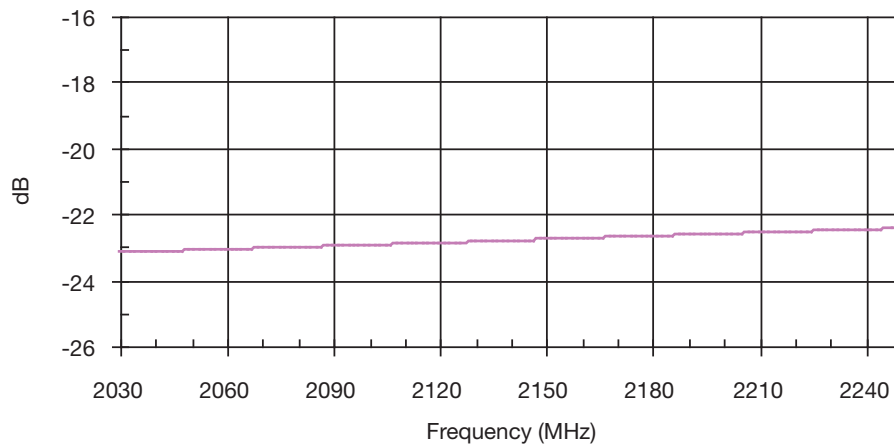


2040MHz to 2240MHz DB0603N2140ANTR

Phase Balance



Isolation



3



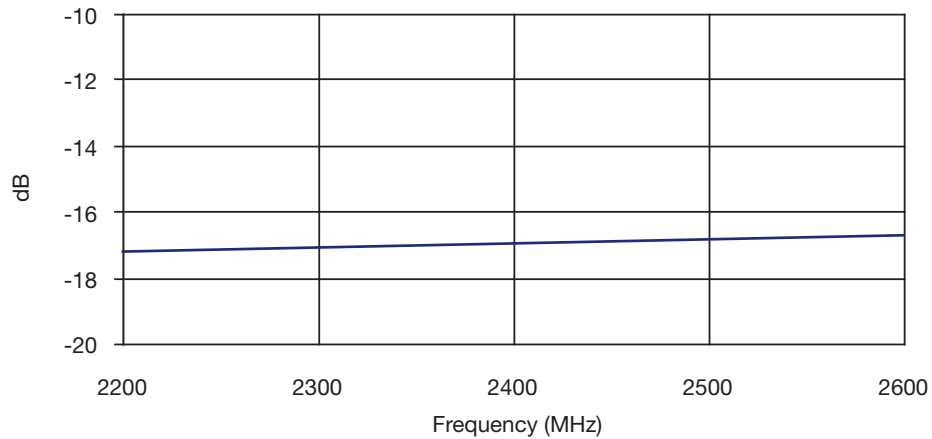
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## DB0603N 3dB 90° Couplers

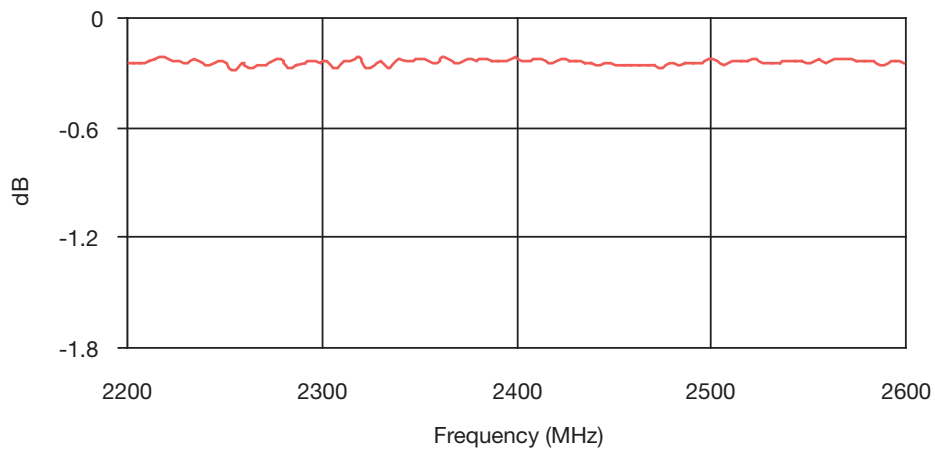


### 2200MHz to 2600MHz DB0603N2400ANTR

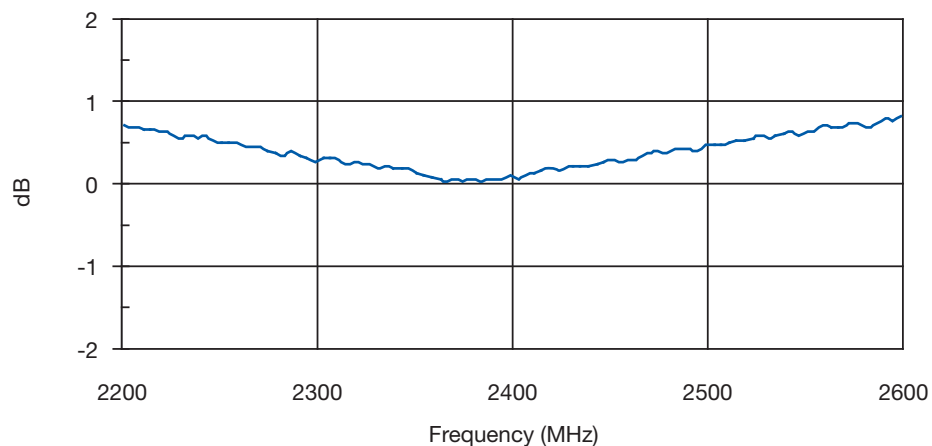
Return Loss - Input



Insertion Loss



Amplitude Balance



3



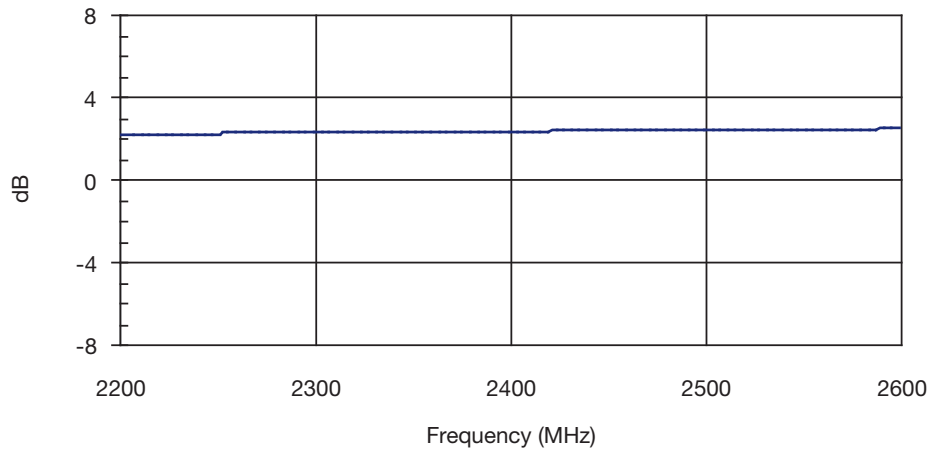
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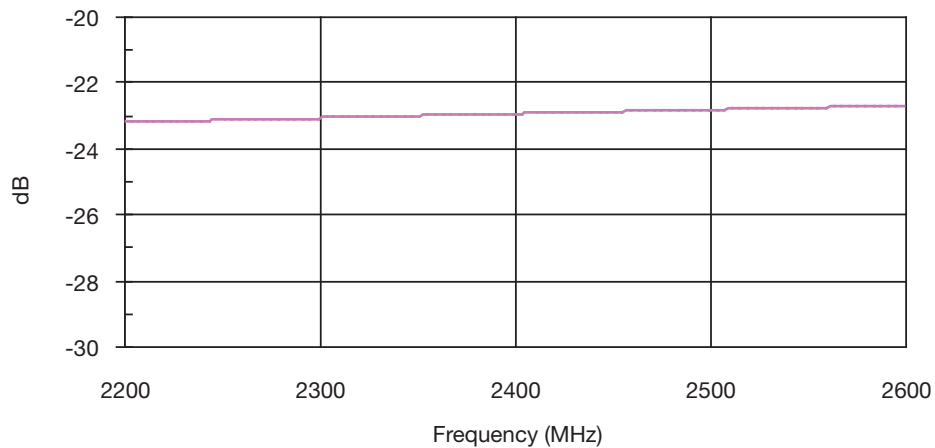


2200MHz to 2600MHz DB0603N2400ANTR

Phase Balance



Isolation



3

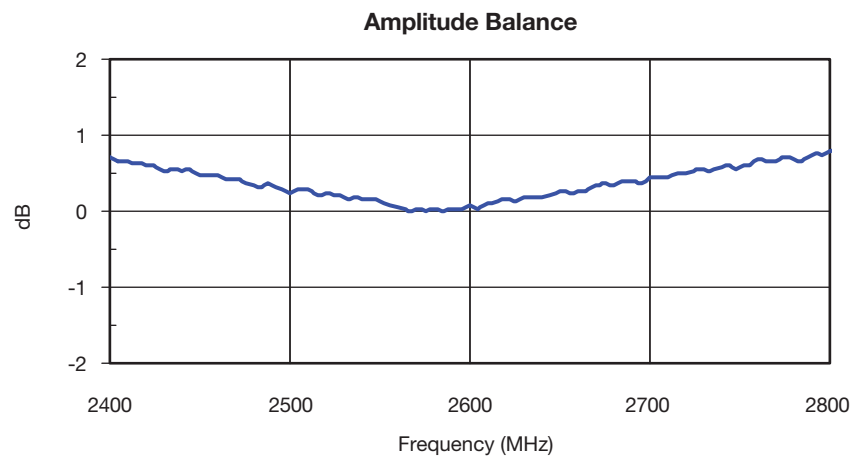
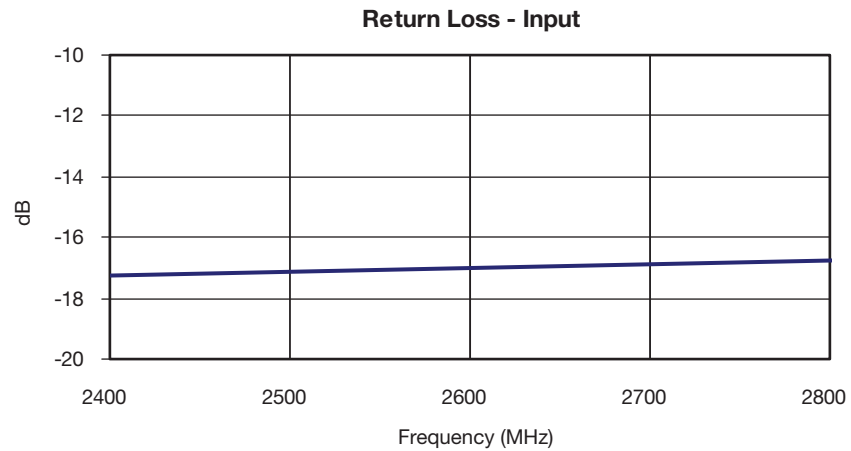


# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers



### 2400MHz TO 2800MHz DB0603N2600ANTR



3



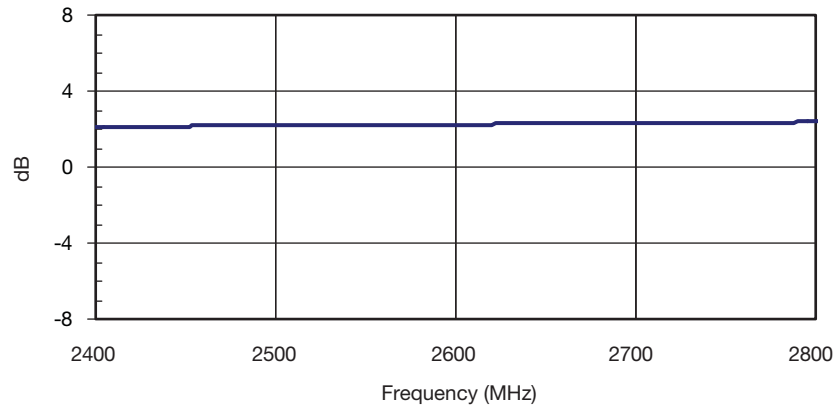
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## DB0603N 3dB 90° Couplers

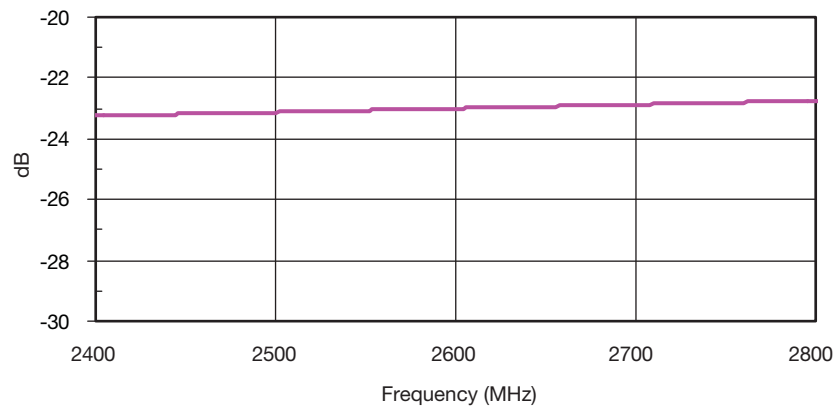


### 2400MHz TO 2800MHz DB0603N2600ANTR

Phase Balance



Isolation



3



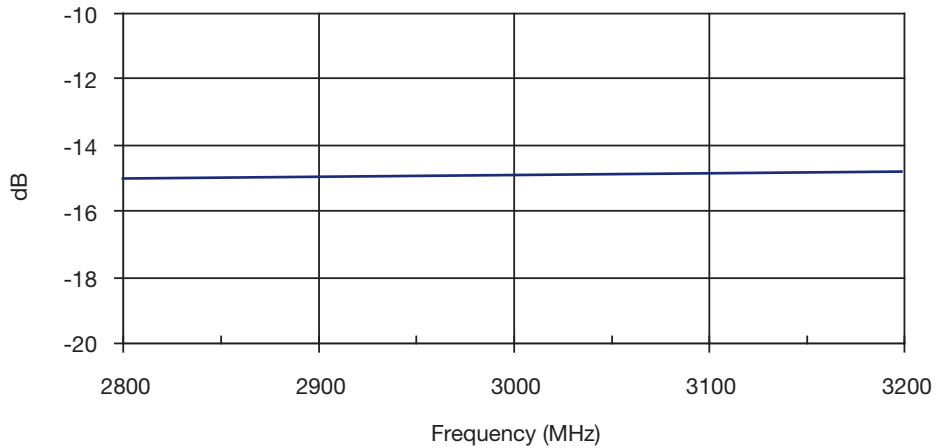
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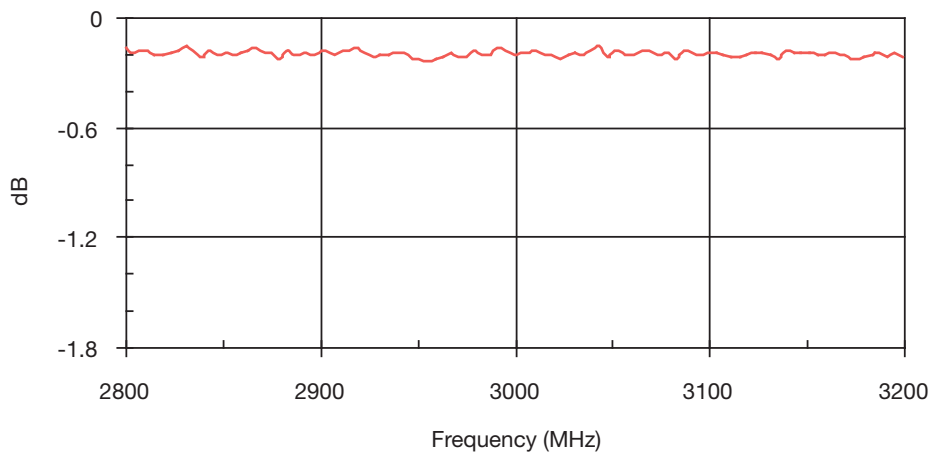


2850MHz to 3150MHz DB0603N3000ANTR

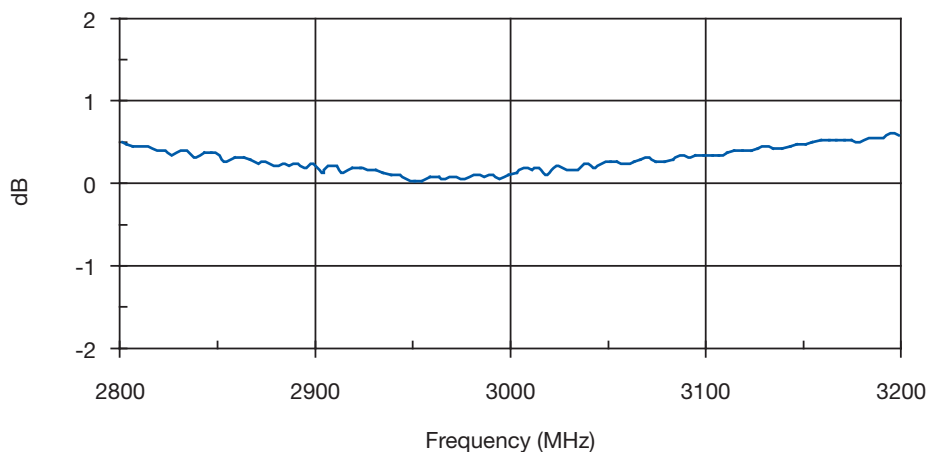
Return Loss - Input



Insertion Loss



Amplitude Balance



3





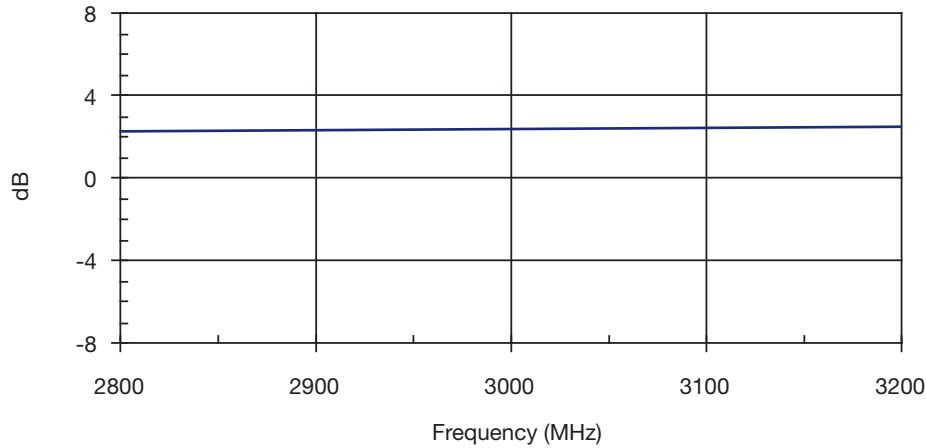
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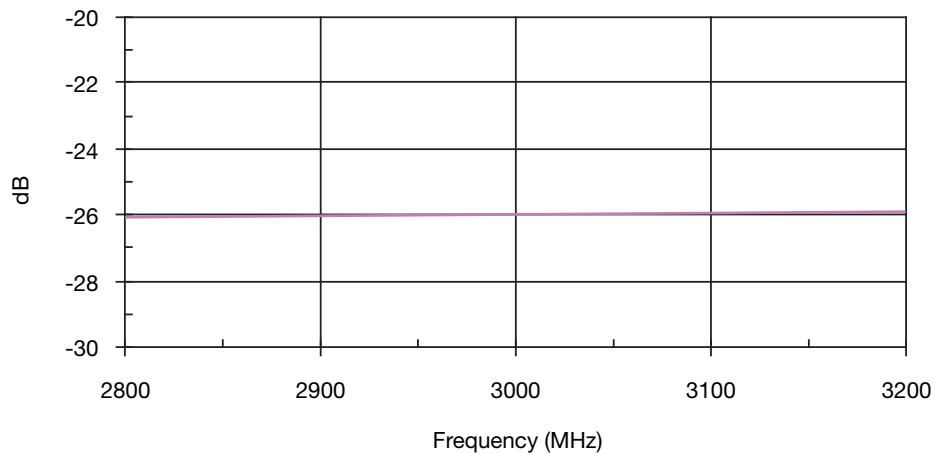


2850MHz to 3150MHz DB0603N3000ANTR

Phase Balance



Isolation



3



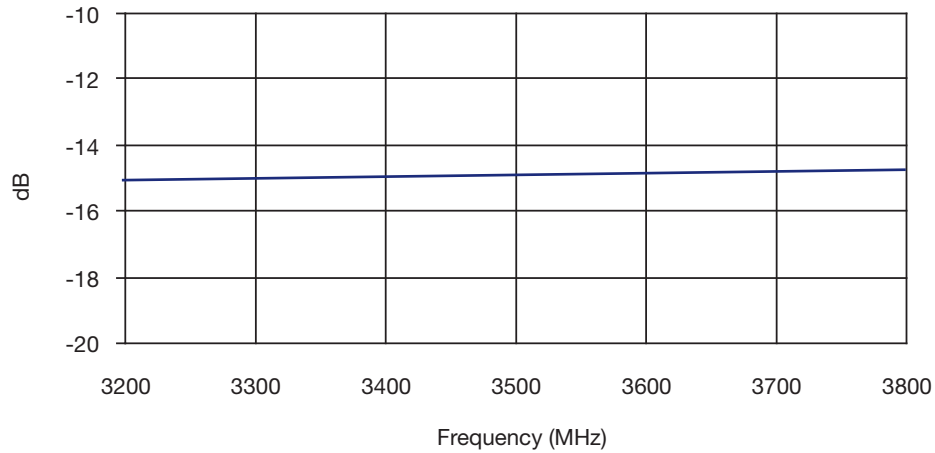
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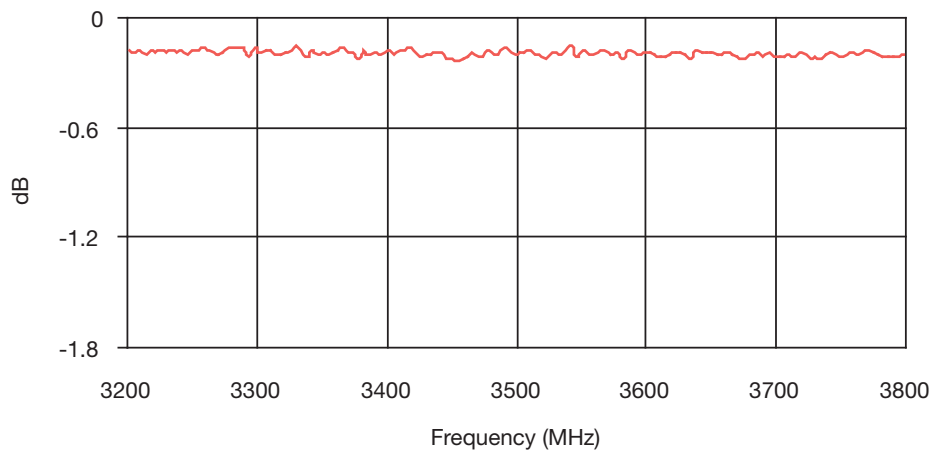


3200MHz to 3800MHz DB0603N3500ANTR

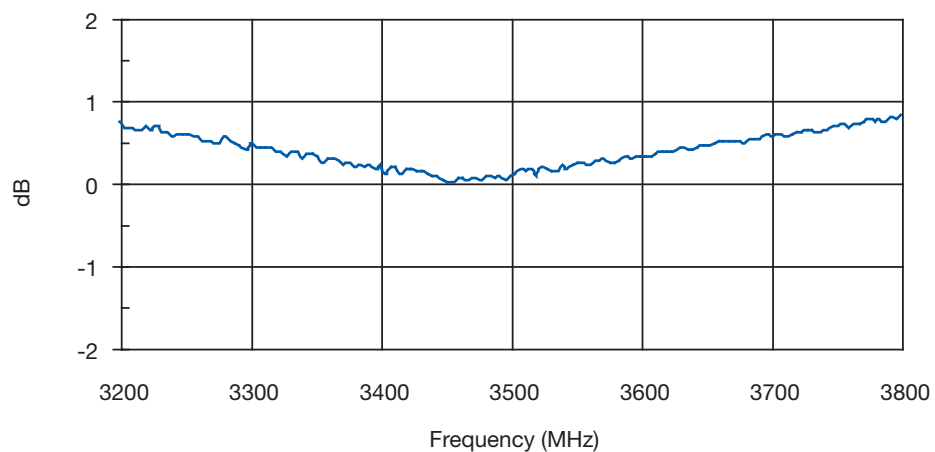
Return Loss - Input



Insertion Loss



Amplitude Balance



3



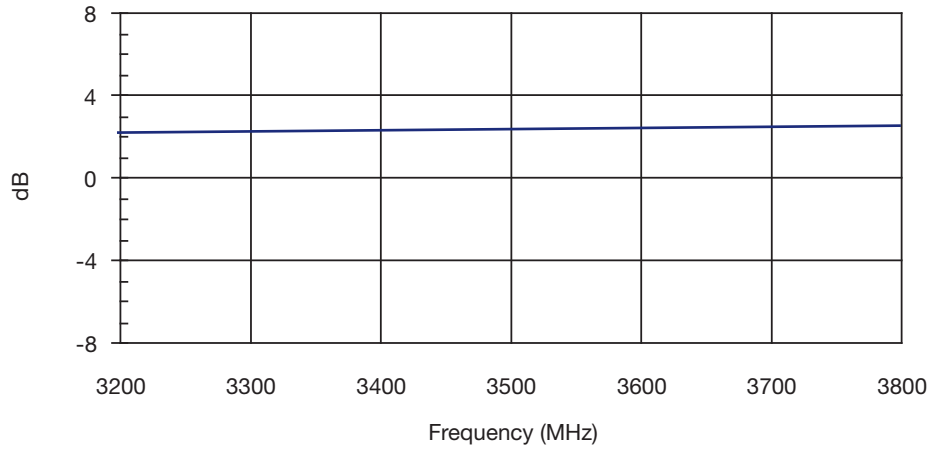
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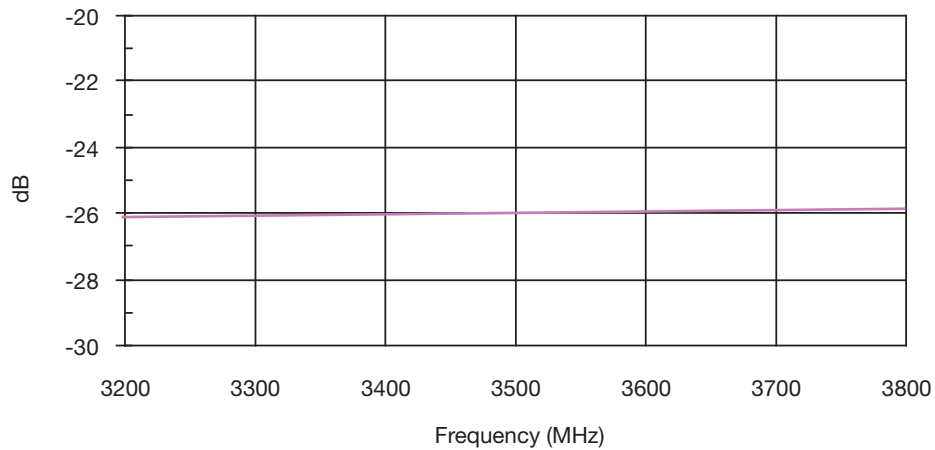


3200MHz to 3800MHz DB0603N3500ANTR

Phase Balance



Isolation



3

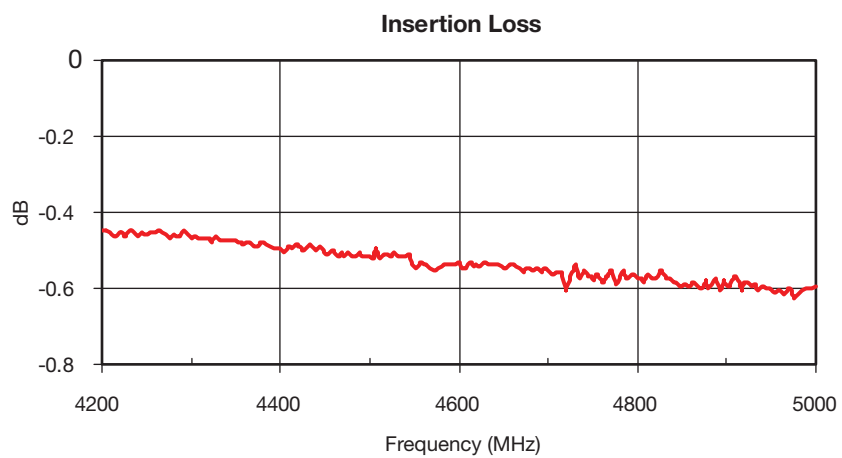
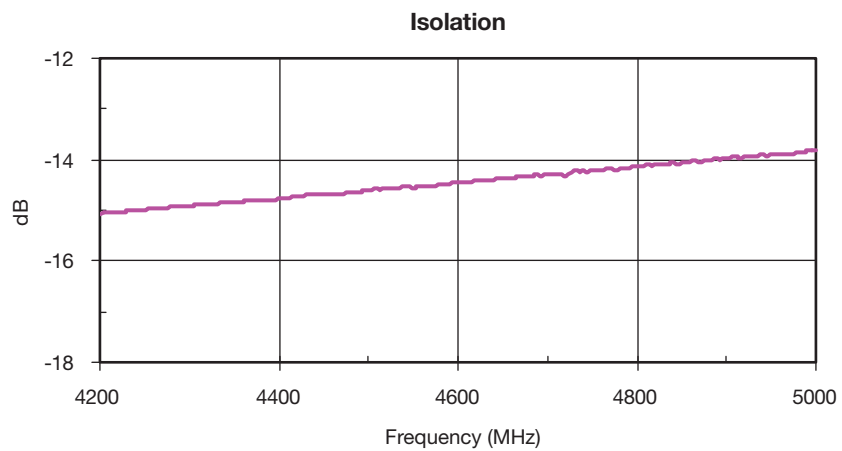
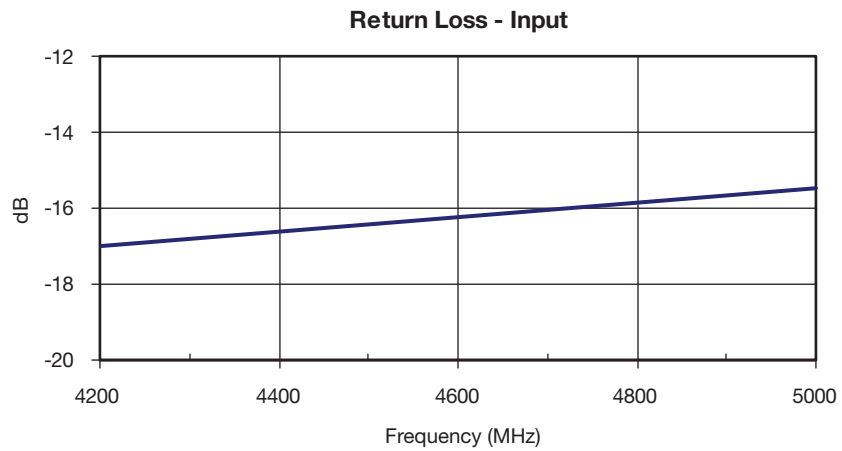


# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers



### 4200MHz TO 5000MHz DB0603N4600ANTR



3

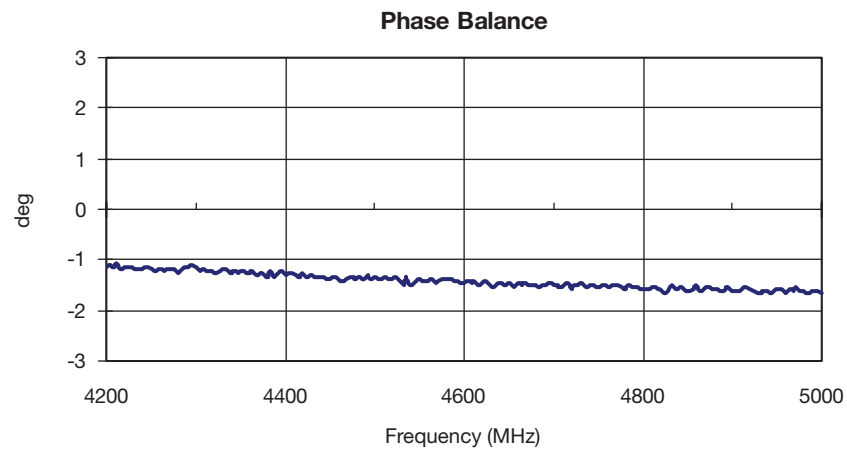
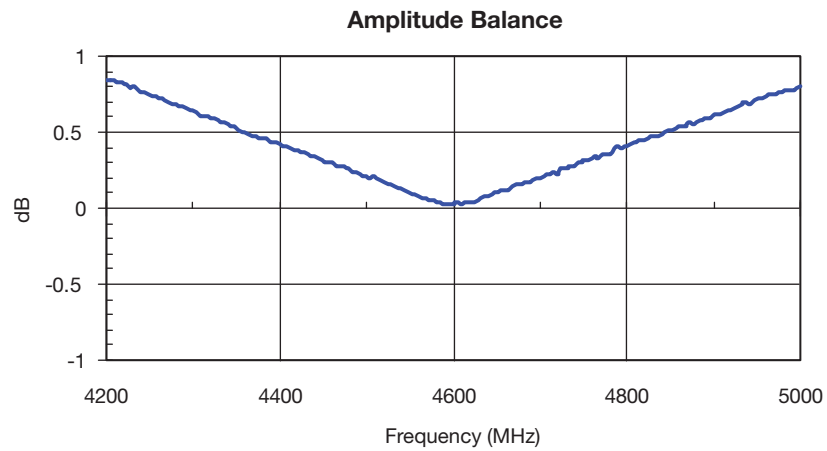


# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers



### 4200MHz TO 5000MHz DB0603N4600ANTR



3

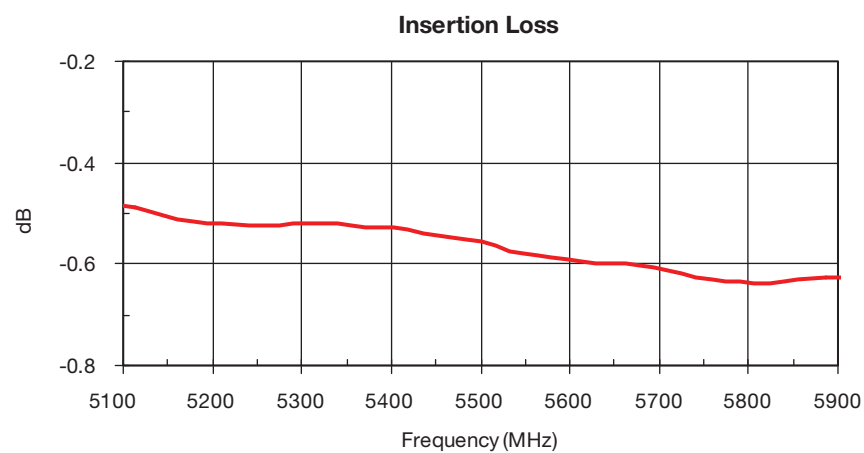
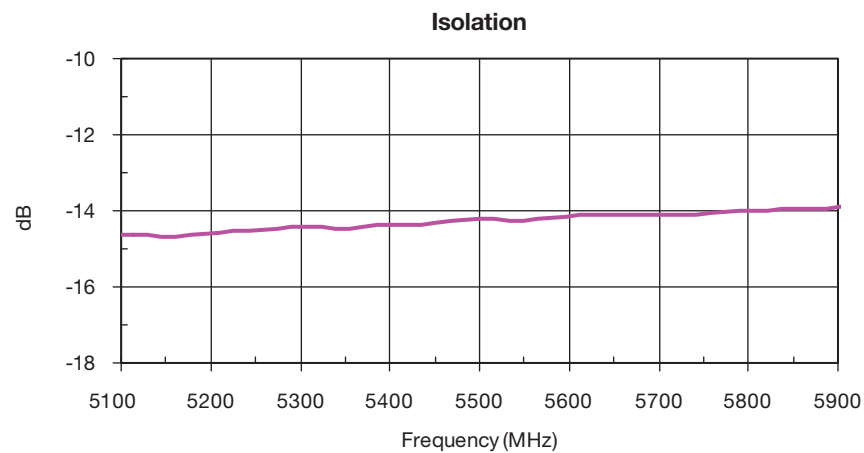
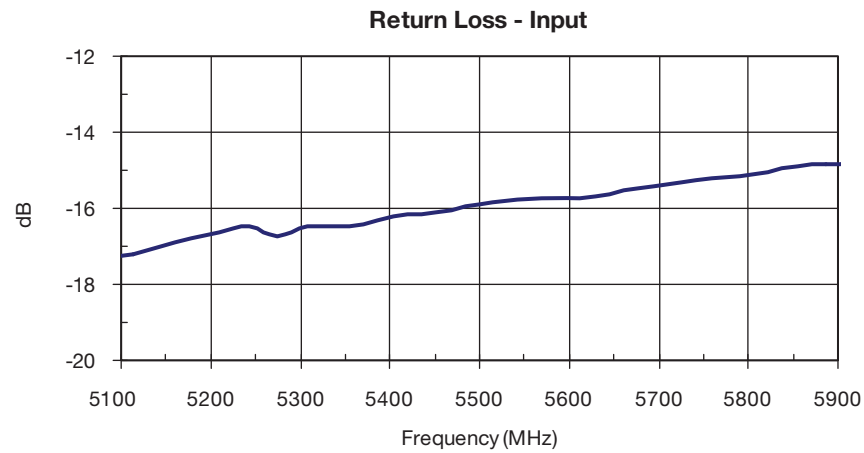


# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers



### 5100MHz TO 5900MHz DB0603N5500ANTR



3



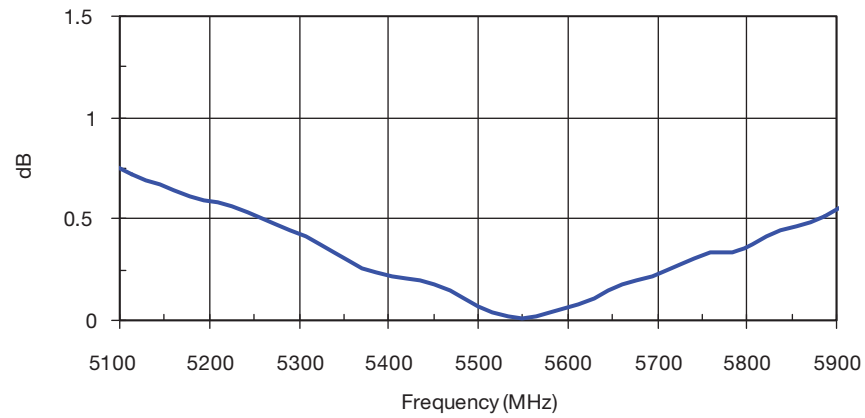
# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers

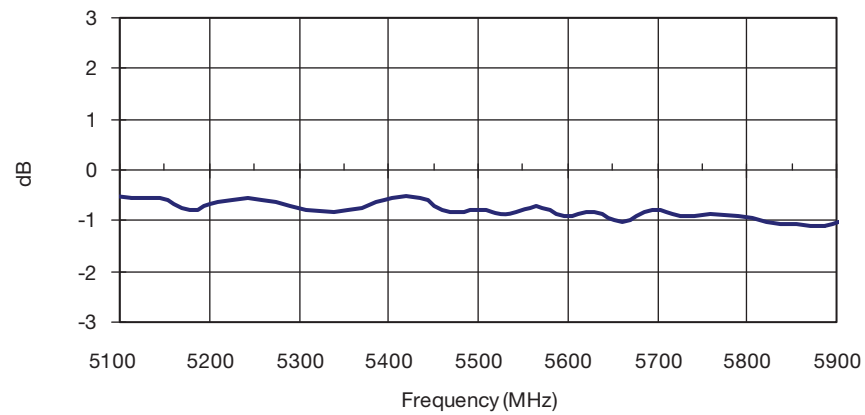


### 5100MHz TO 5900MHz DB0603N5500ANTR

Amplitude Balance



Phase Balance



3

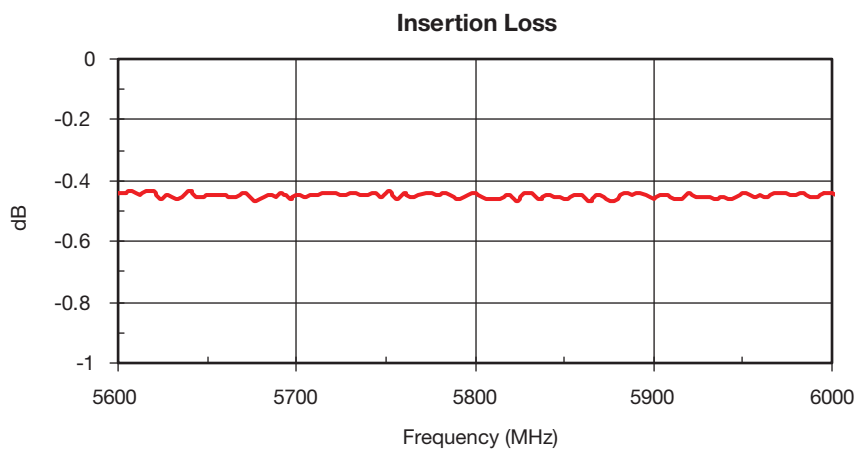
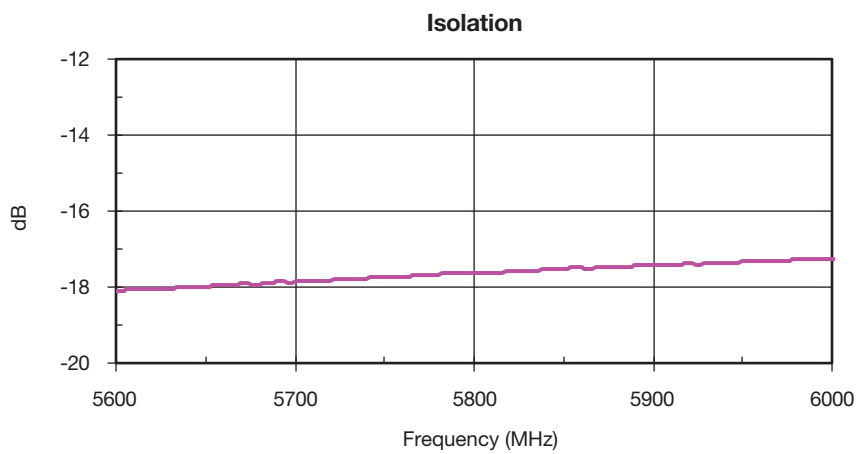
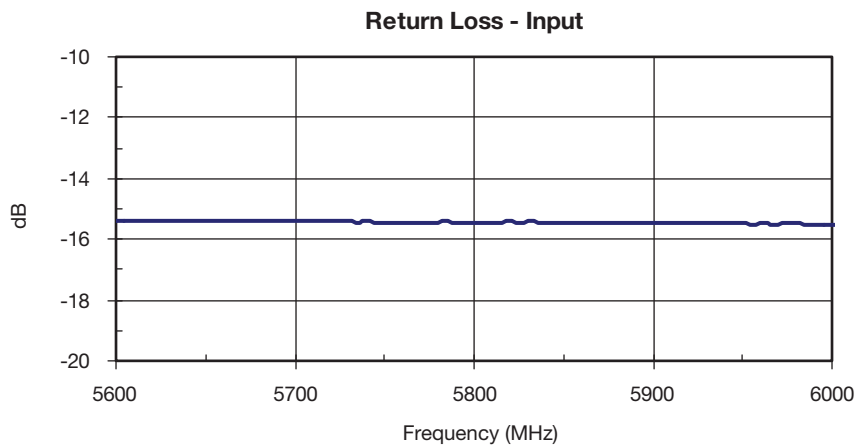


# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers



### 5600MHz TO 6000MHz DB0603N5800ANTR



3



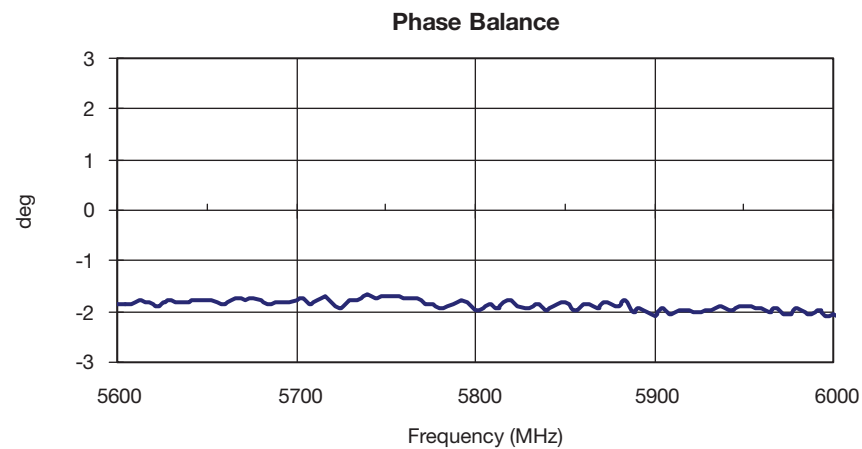
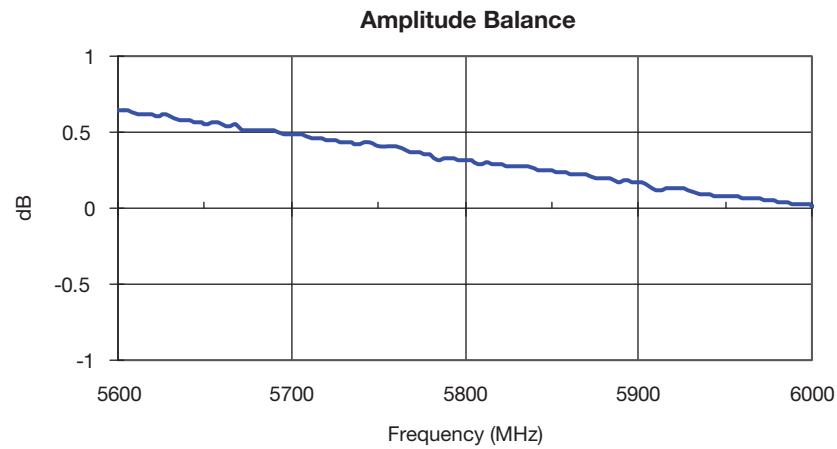


# Thin-Film Directional Couplers

## DB0603N 3dB 90° Couplers



### 5600MHz TO 6000MHz DB0603N5800ANTR



3

