

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:

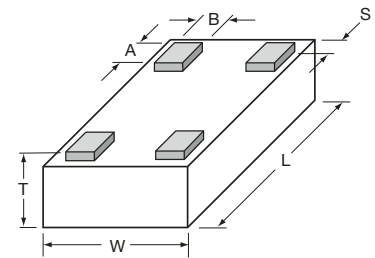
- Inherent Low Profile
- Self Alignment during Reflow
- Excellent Solderability
- Low Parasitics
- Better Heat Dissipation

DIMENSIONS:

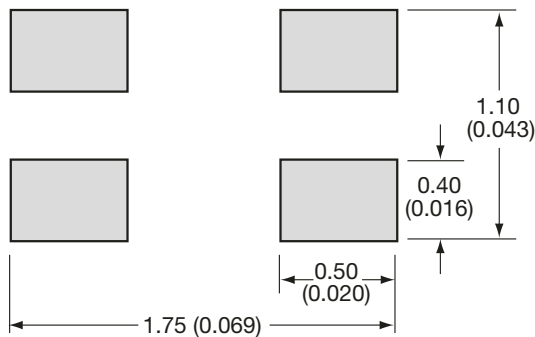
millimeters (inches)

| | |
|---|----------------------------|
| 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) |

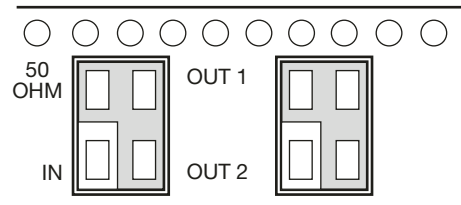
Bottom View



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 |

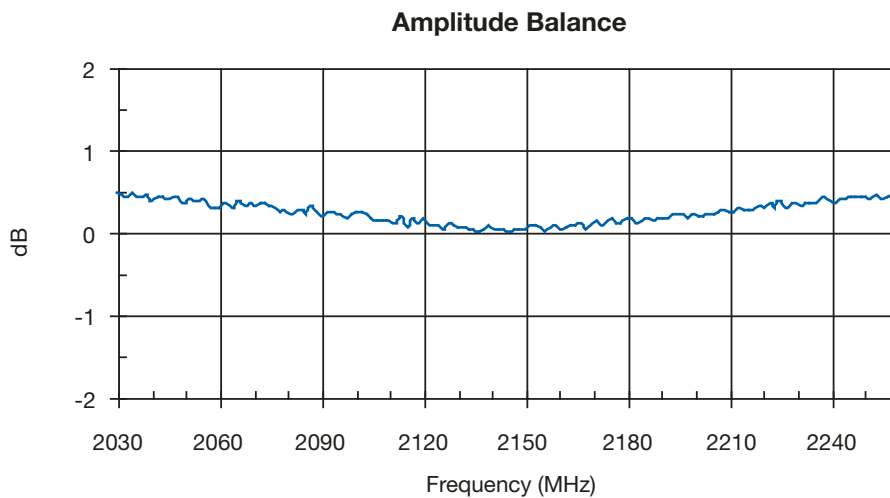
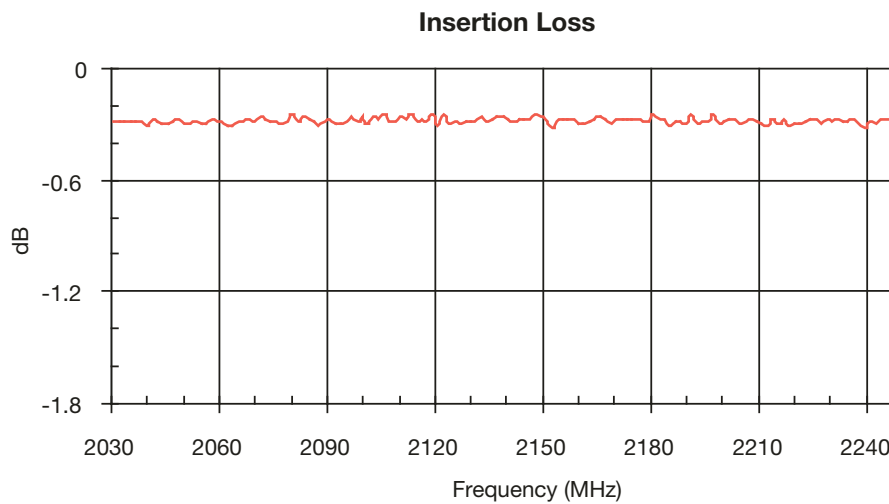
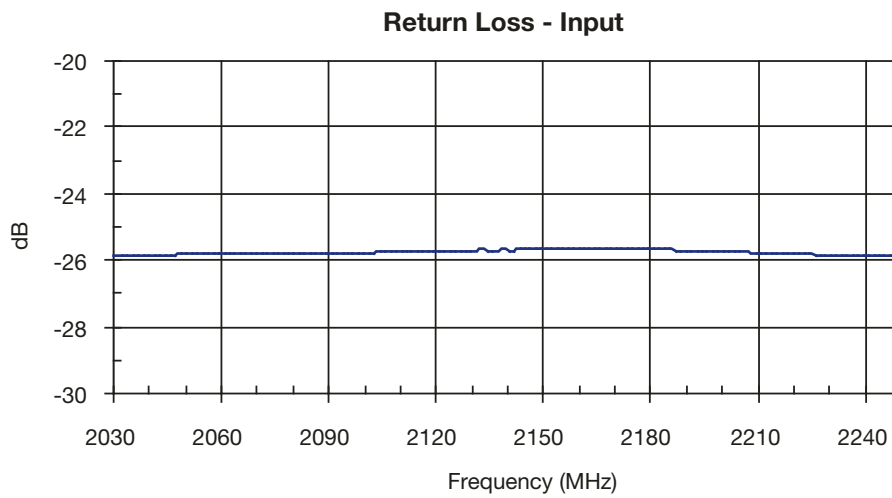
NOTE: Additional Frequencies Available Upon Request

Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers



2040MHz to 2240MHz DB0603N2140ANTR



3

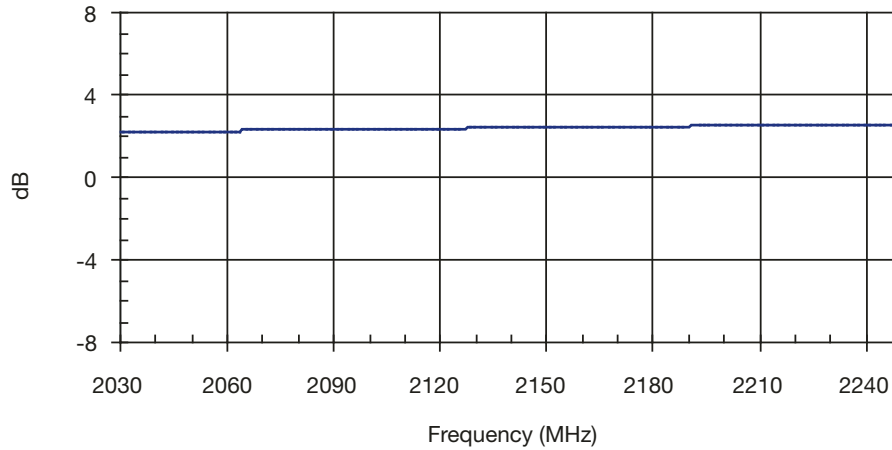
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

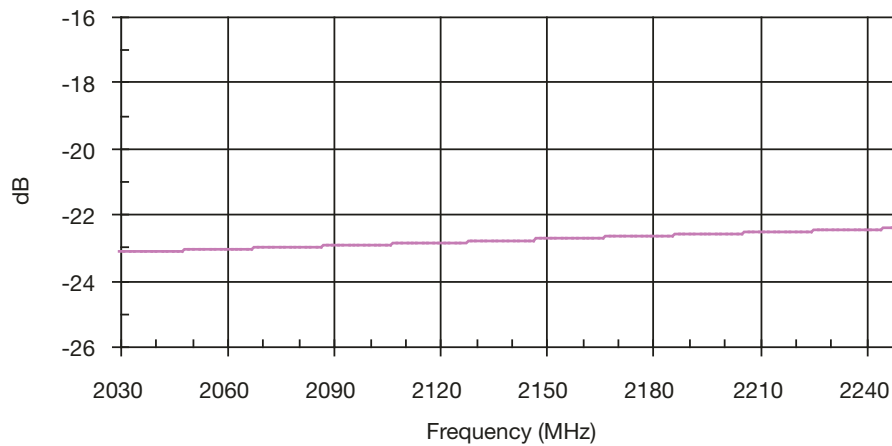


2040MHz to 2240MHz DB0603N2140ANTR

Phase Balance



Isolation



3

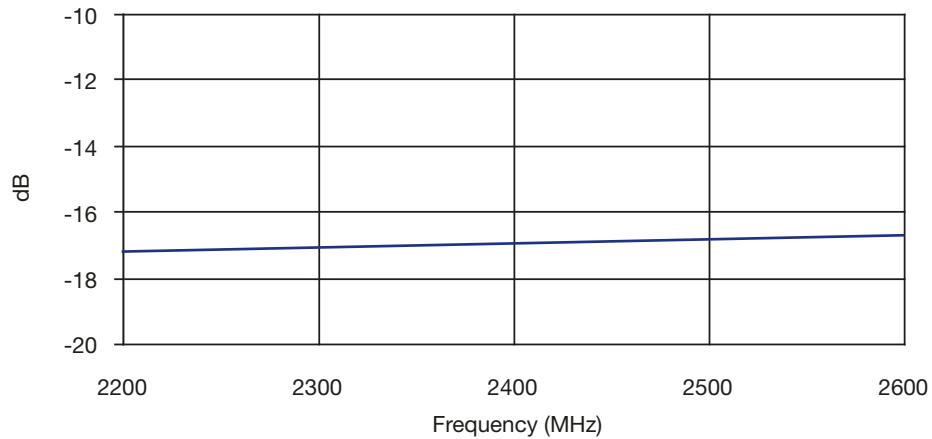
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

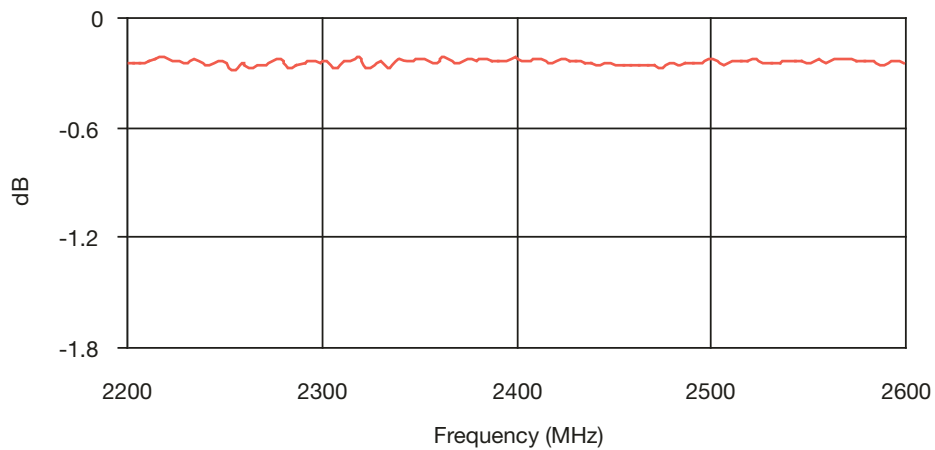


2200MHz to 2600MHz DB0603N2400ANTR

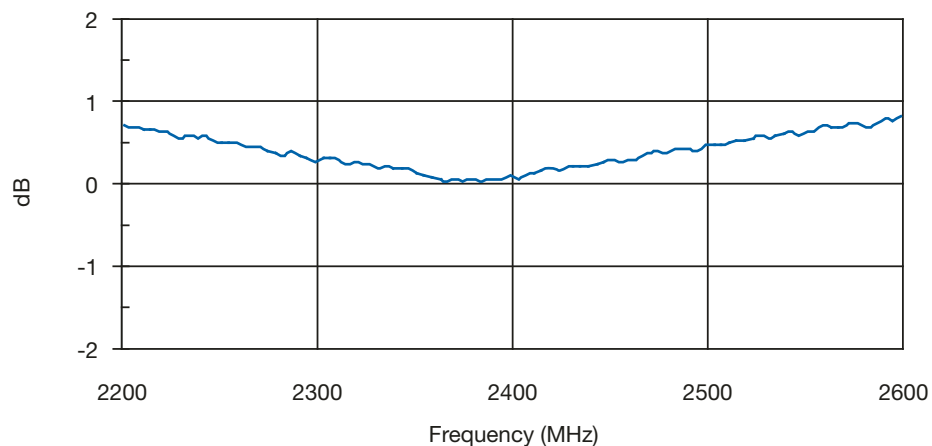
Return Loss - Input



Insertion Loss



Amplitude Balance



3

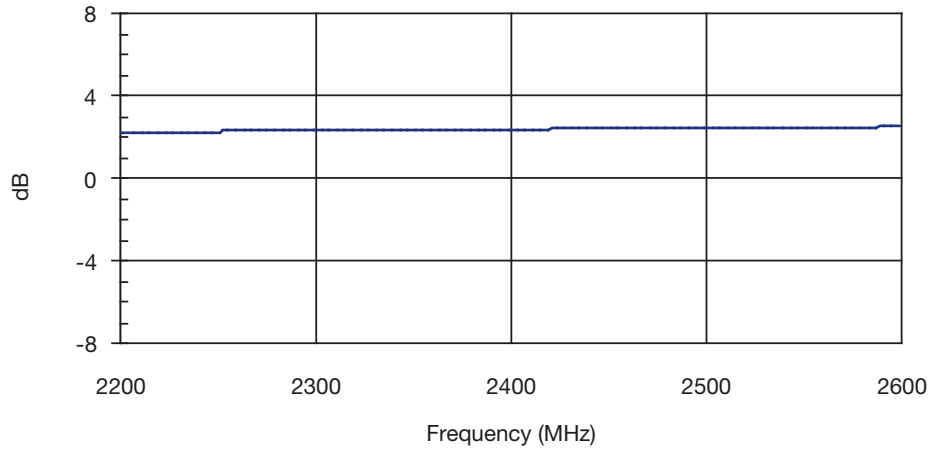
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

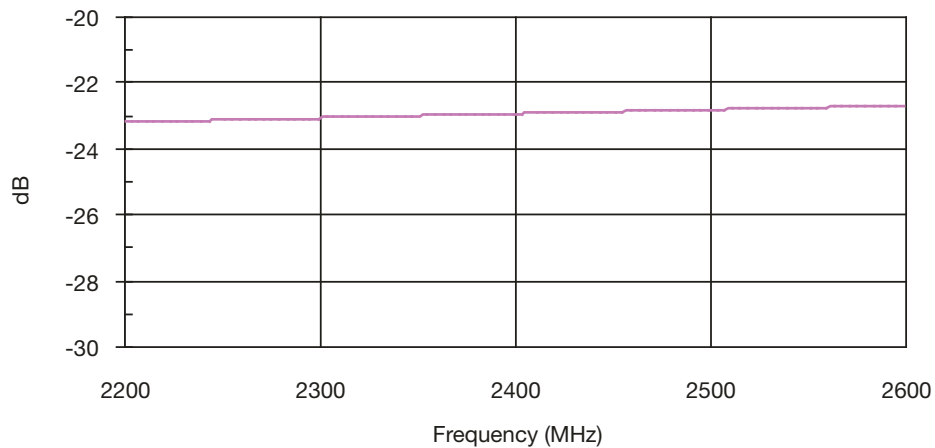


2200MHz to 2600MHz DB0603N2400ANTR

Phase Balance



Isolation



3

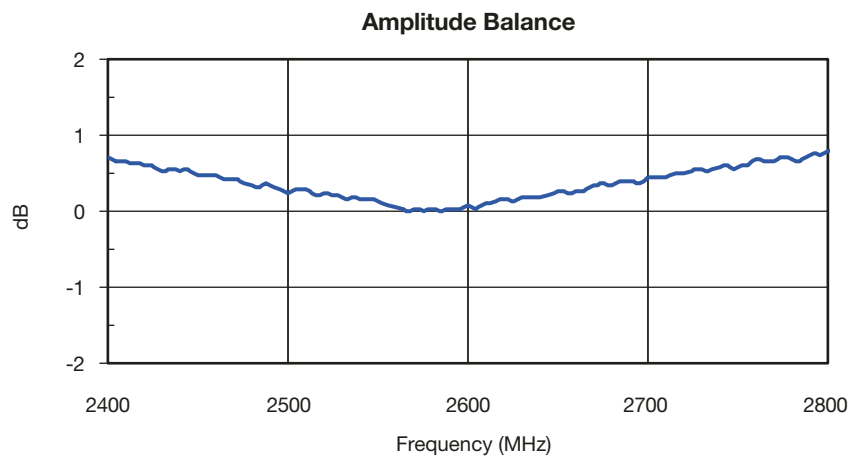
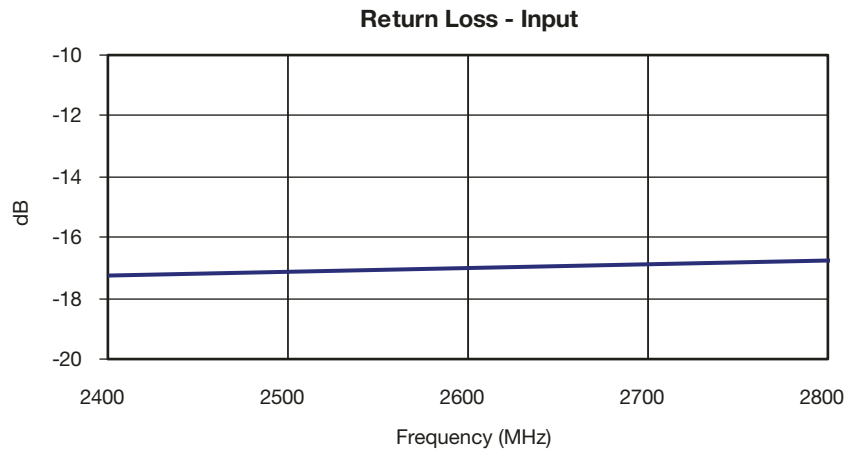


Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers



2400MHz TO 2800MHz DB0603N2600ANTR



3

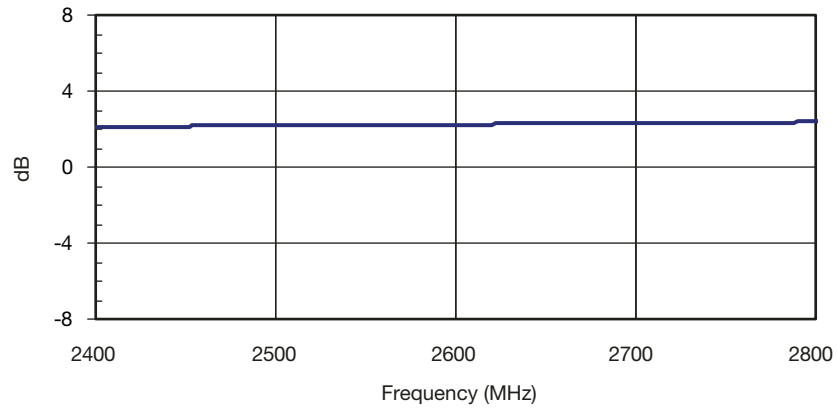
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

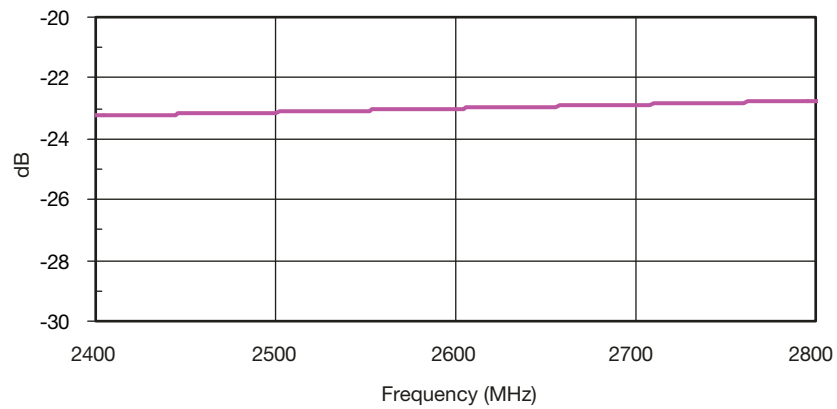


2400MHz TO 2800MHz DB0603N2600ANTR

Phase Balance



Isolation



3

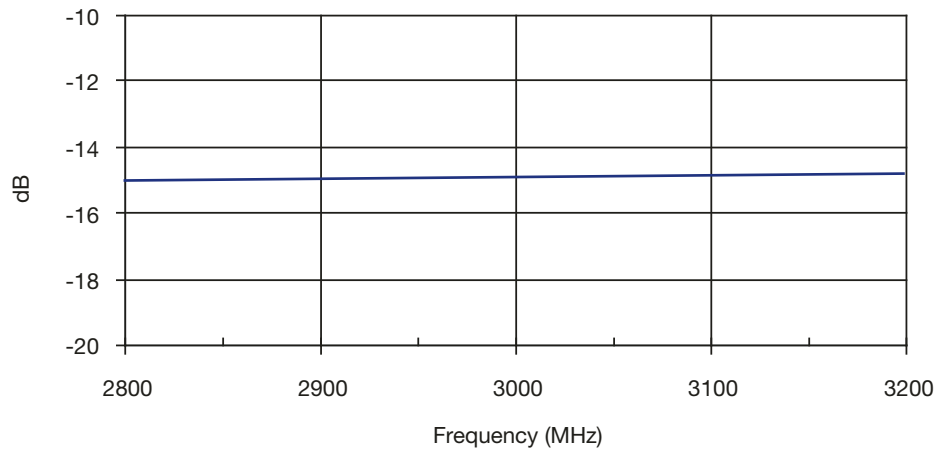
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

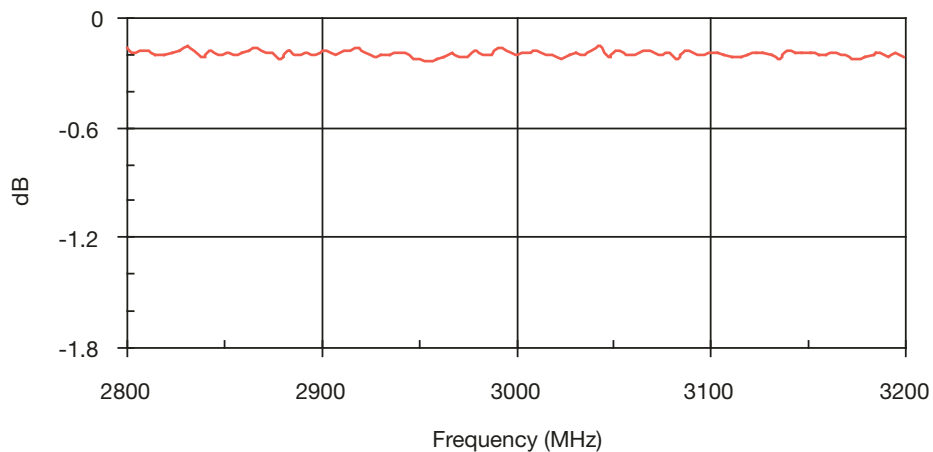


2850MHz to 3150MHz DB0603N3000ANTR

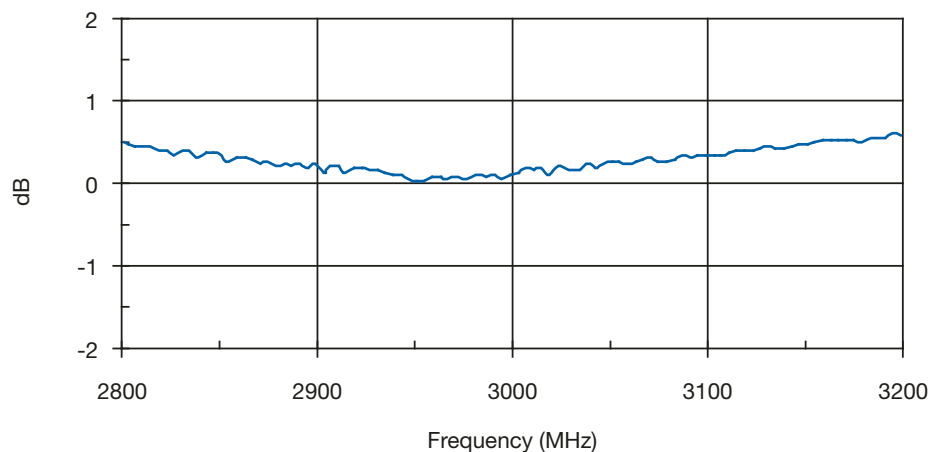
Return Loss - Input



Insertion Loss



Amplitude Balance



3

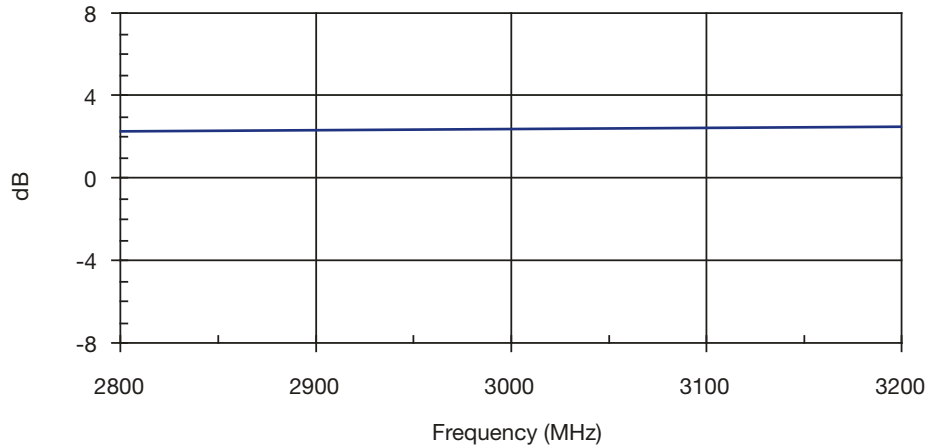
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

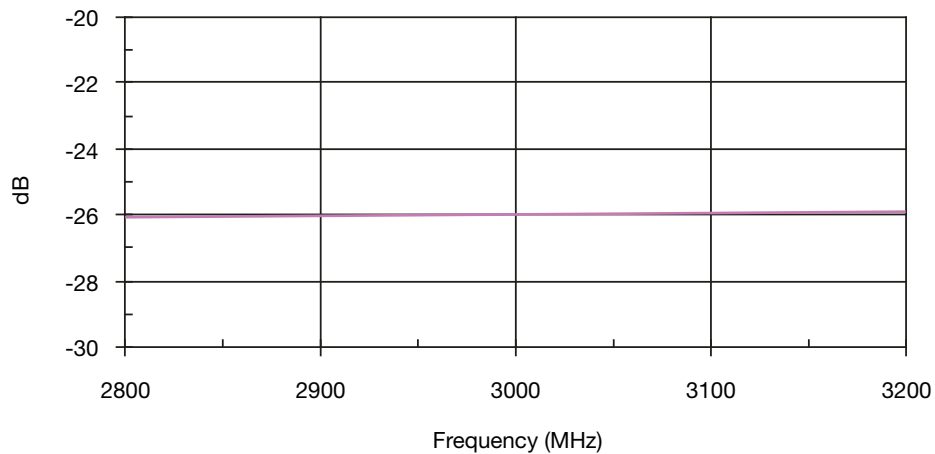


2850MHz to 3150MHz DB0603N3000ANTR

Phase Balance



Isolation



3



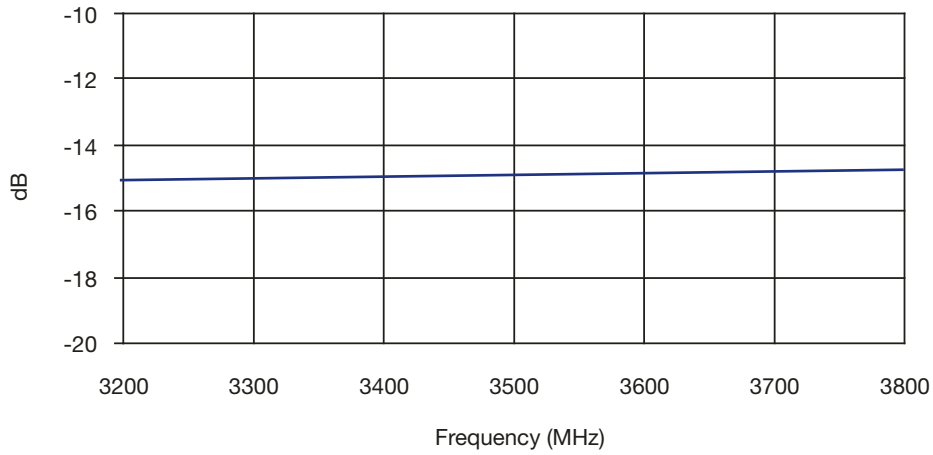
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

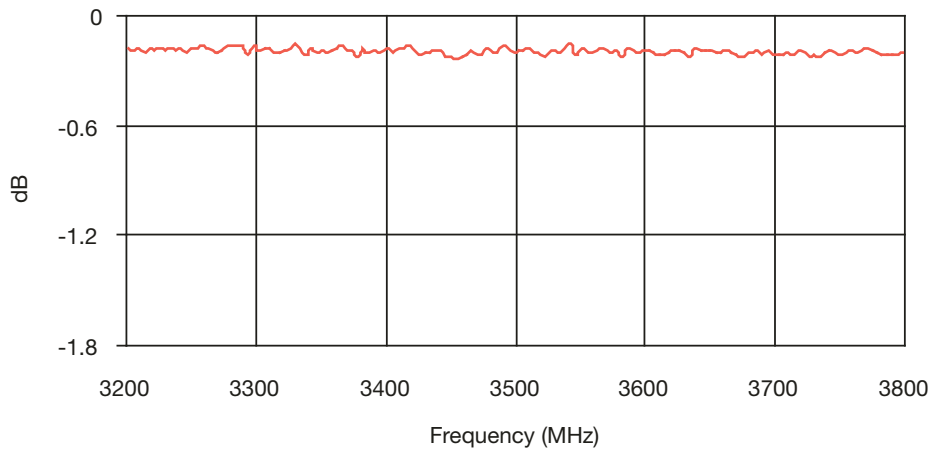


3200MHz to 3800MHz DB0603N3500ANTR

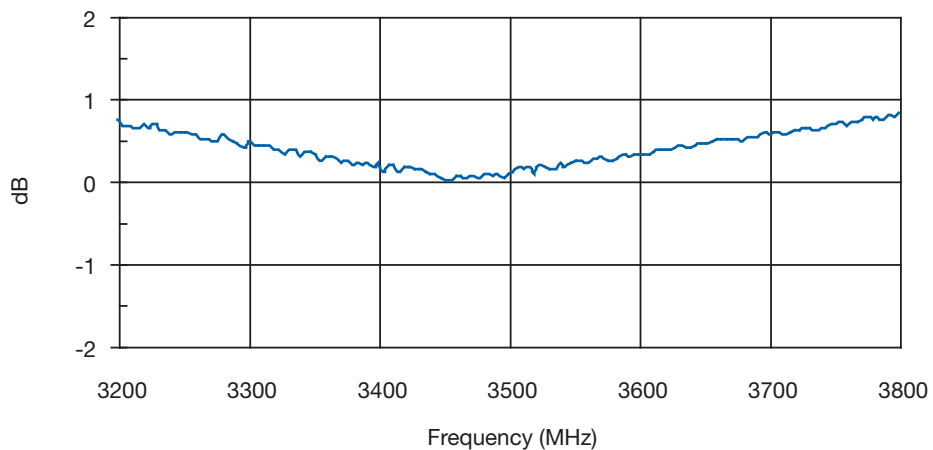
Return Loss - Input



Insertion Loss



Amplitude Balance



3

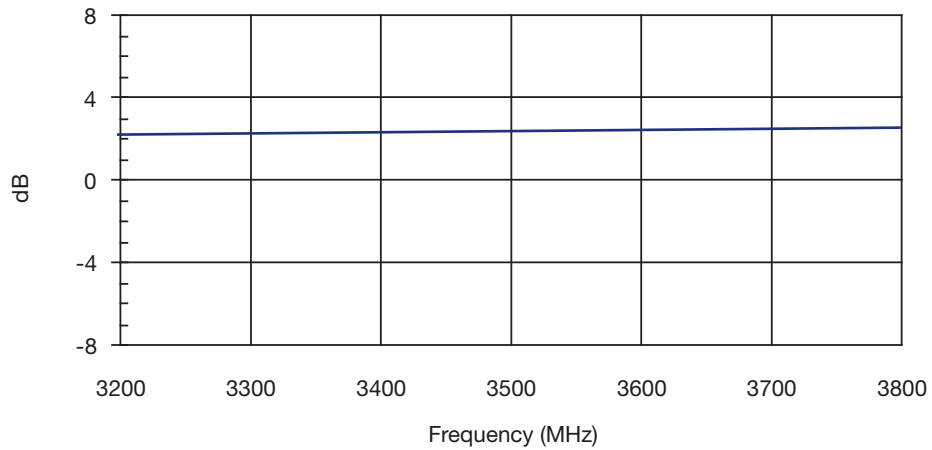
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

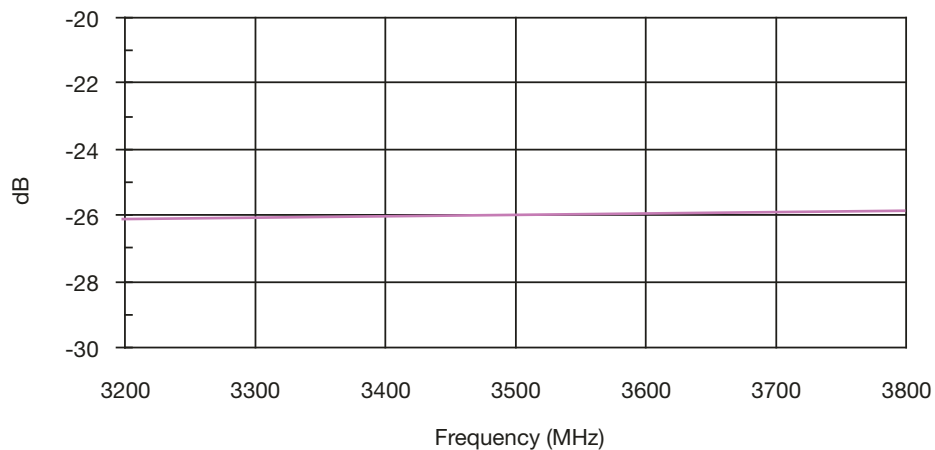


3200MHz to 3800MHz DB0603N3500ANTR

Phase Balance



Isolation



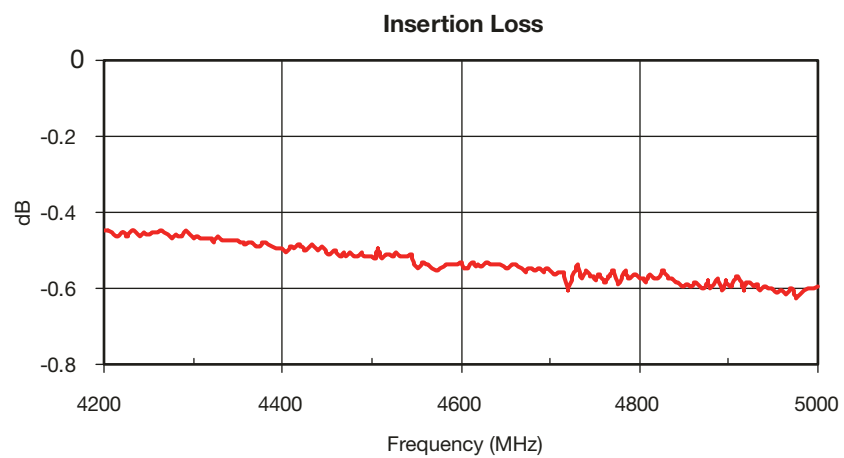
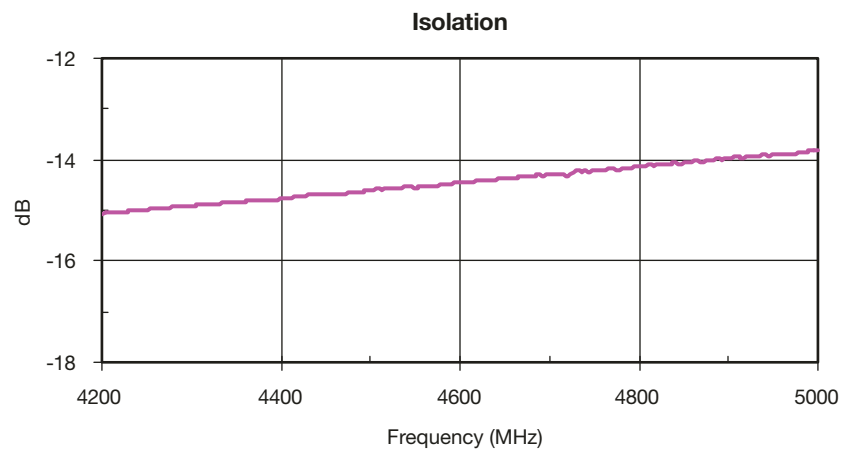
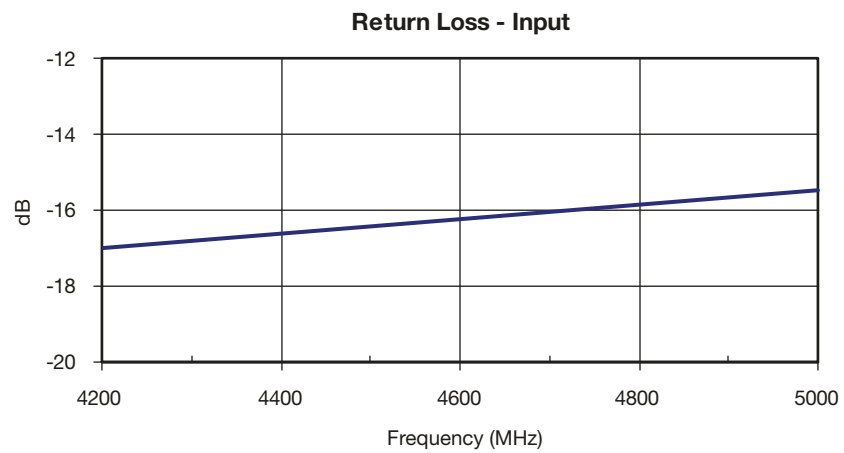
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Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers



4200MHz TO 5000MHz DB0603N4600ANTR



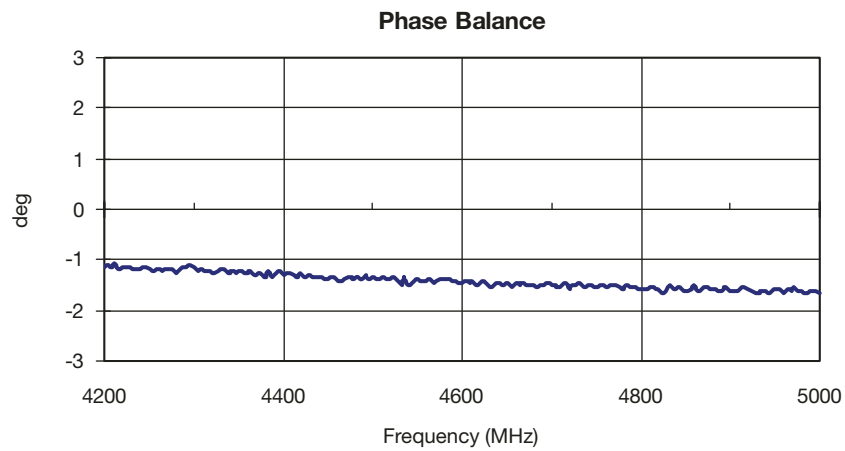
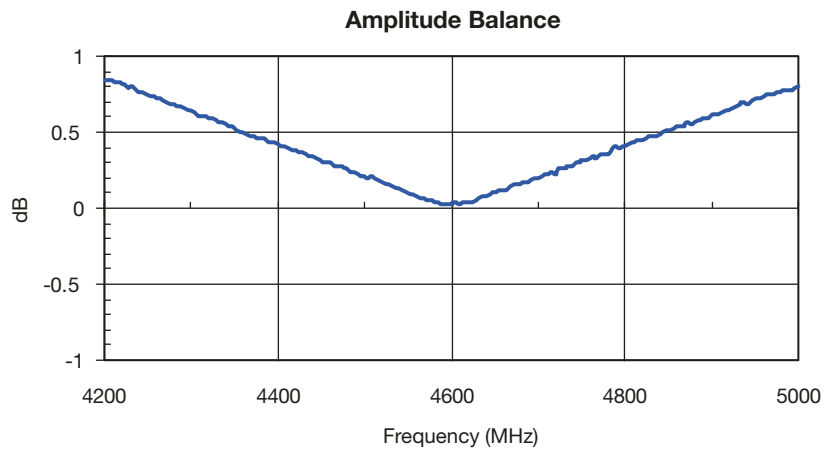
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Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers



4200MHz TO 5000MHz DB0603N4600ANTR



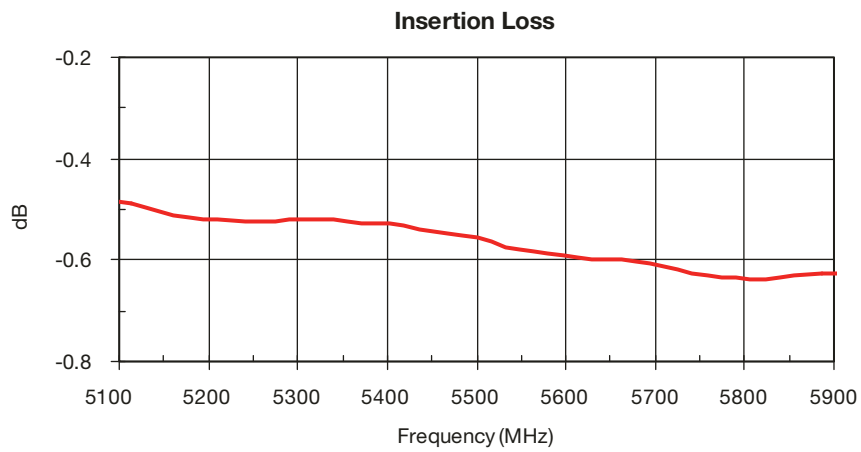
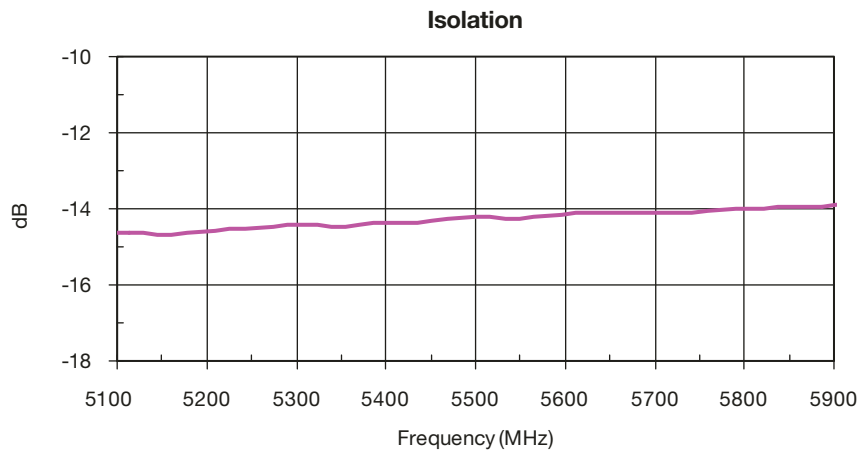
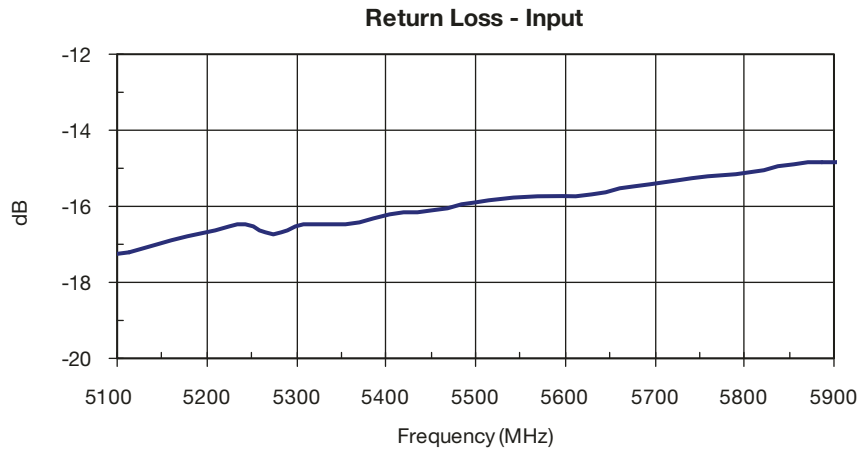
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Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers



5100MHz TO 5900MHz DB0603N5500ANTR



3

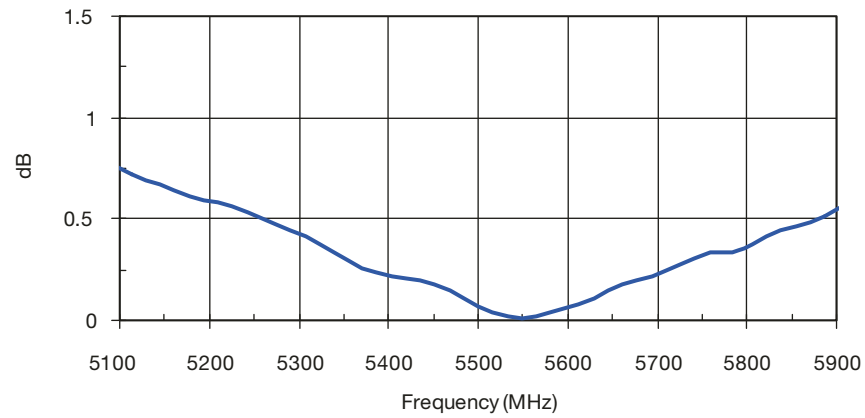
Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers

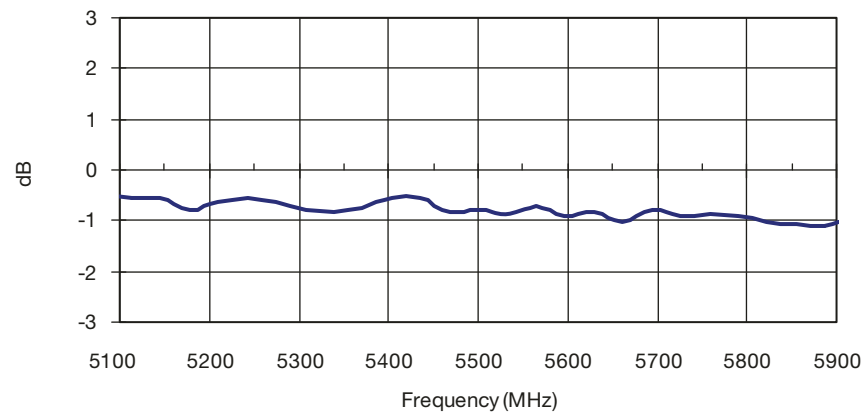


5100MHz TO 5900MHz DB0603N5500ANTR

Amplitude Balance



Phase Balance



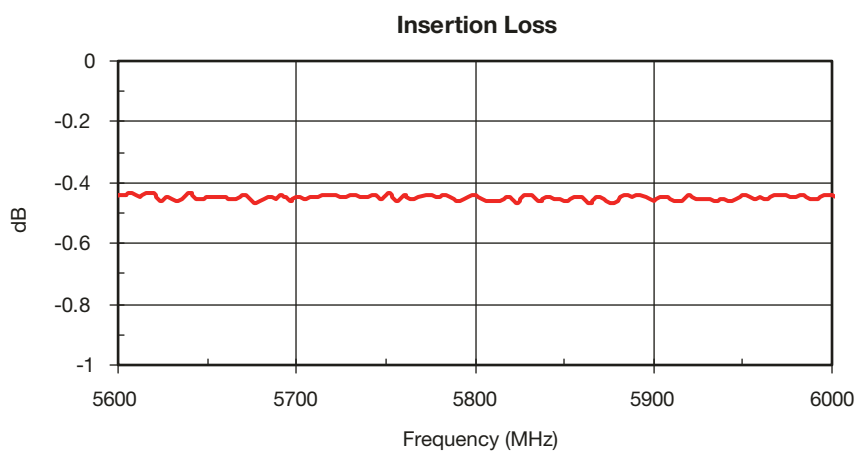
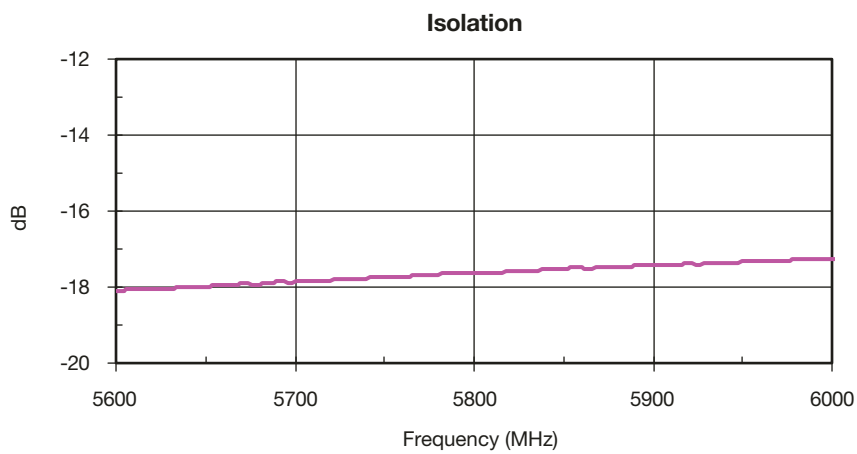
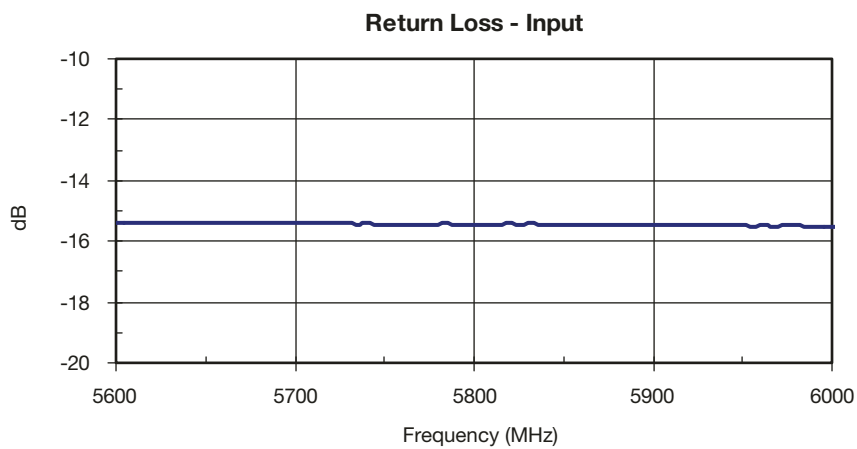
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Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers



5600MHz TO 6000MHz DB0603N5800ANTR



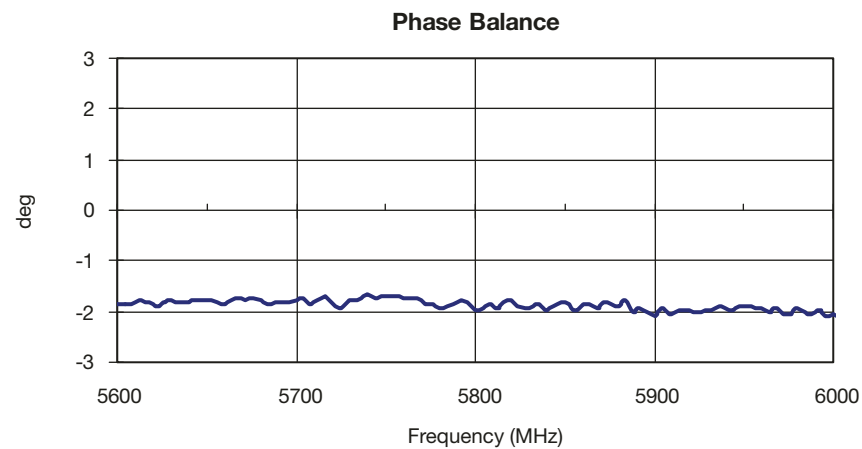
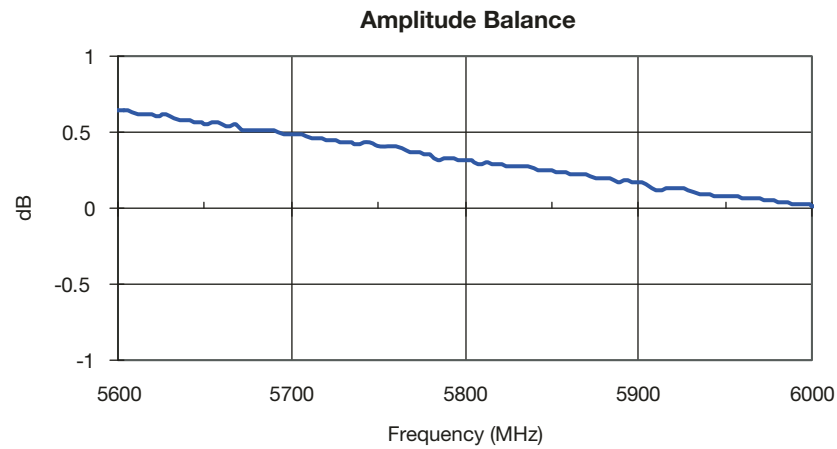
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Thin-Film Directional Couplers

DB0603N 3dB 90° Couplers



5600MHz TO 6000MHz DB0603N5800ANTR



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Mouser Electronics

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