## TYPICAL ELECTRICAL CHARACTERISTICS

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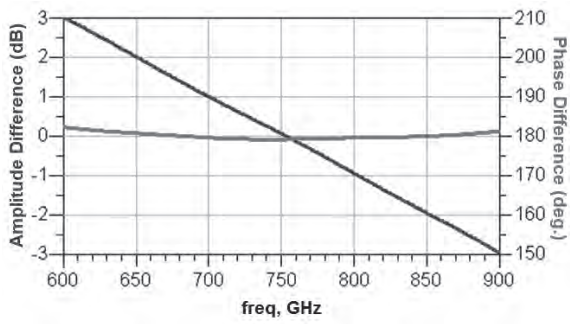


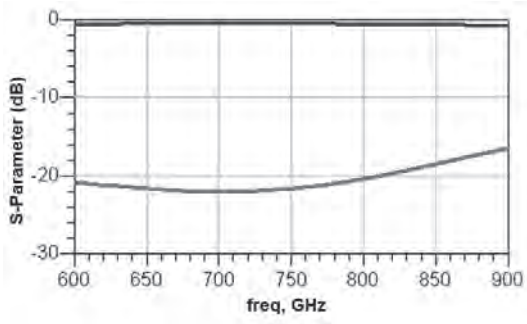


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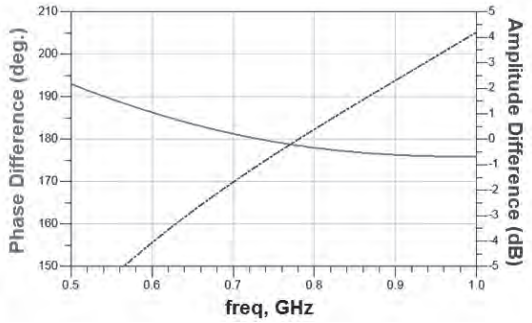


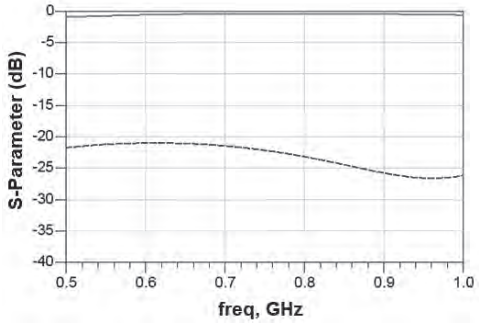


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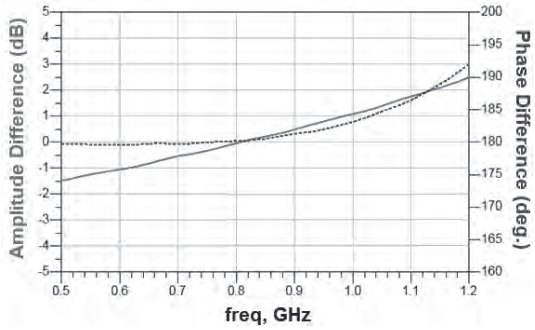


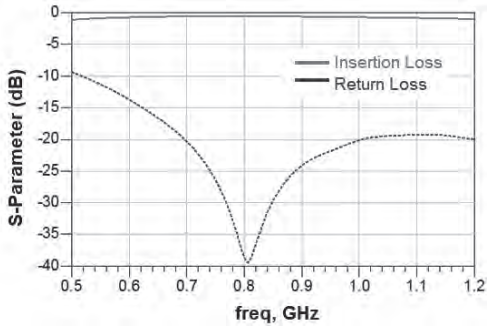


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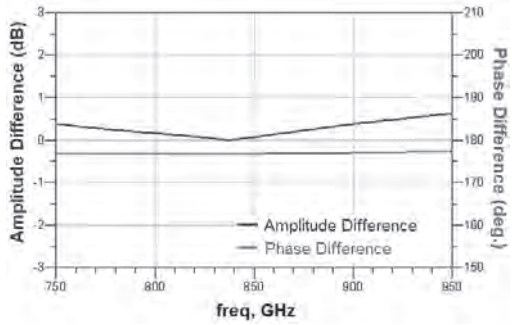


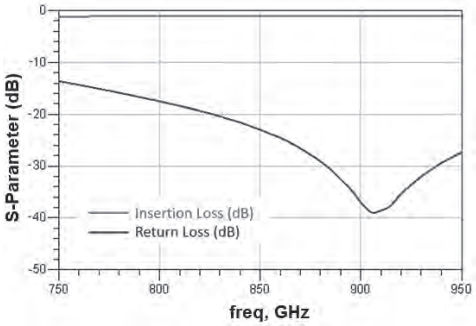


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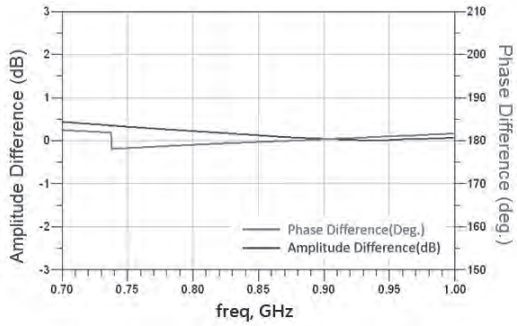


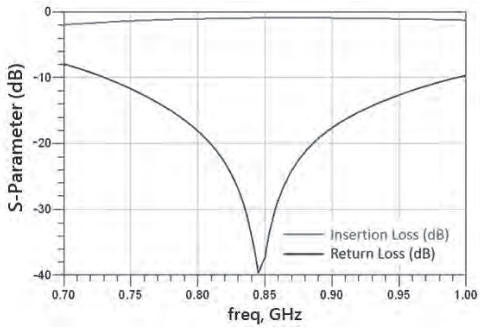

## TYPICAL ELECTRICAL CHARACTERISTICS

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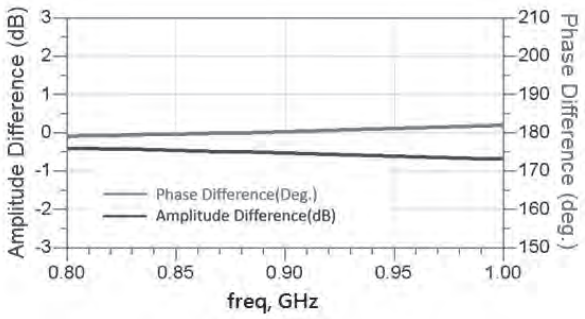


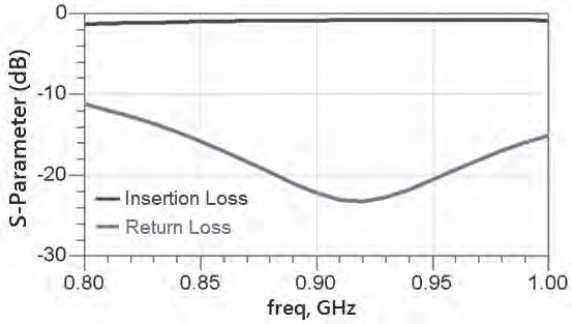


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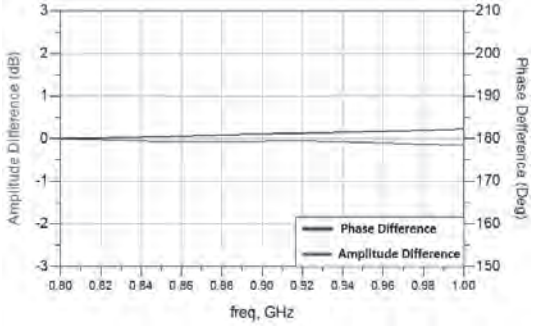


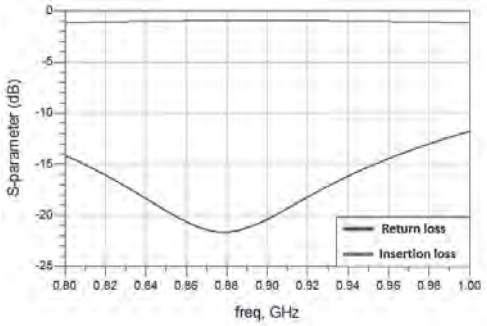


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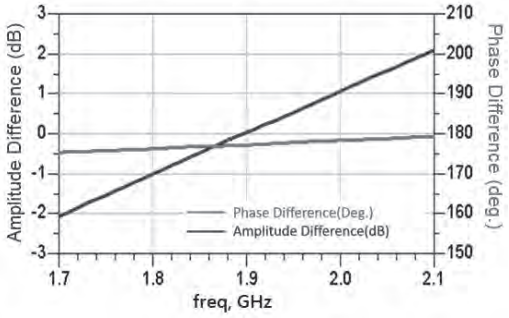

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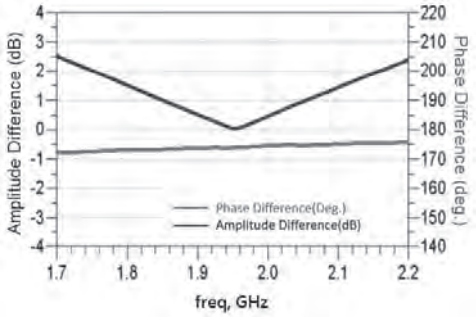


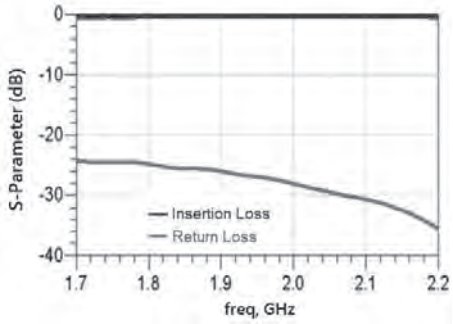


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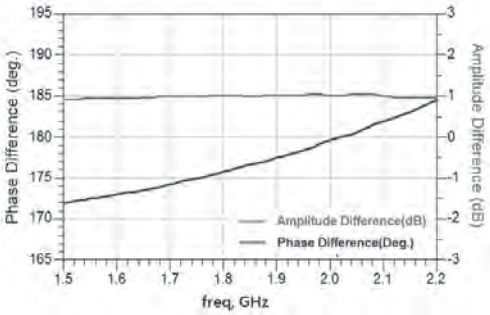


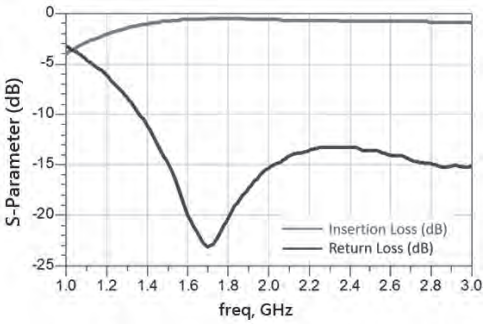

## TYPICAL ELECTRICAL CHARACTERISTICS

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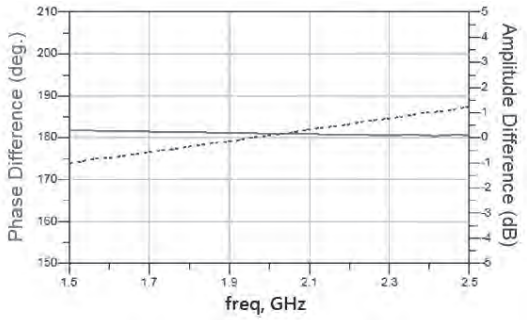


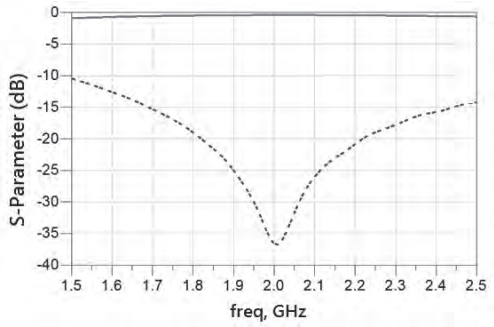


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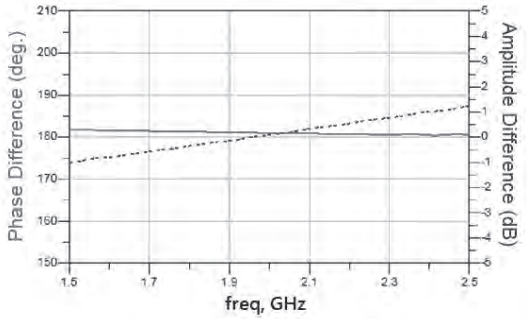

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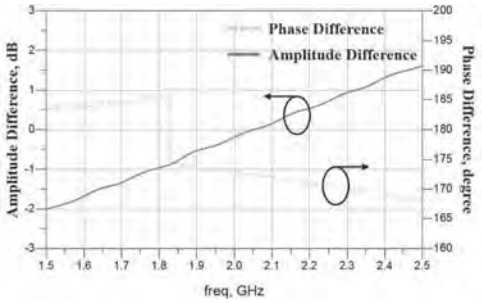


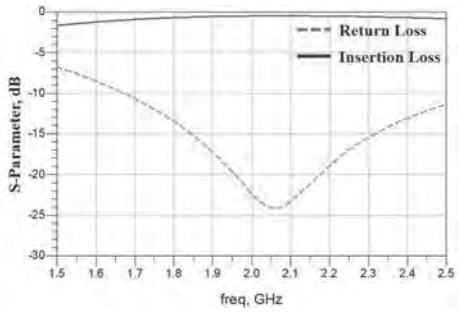


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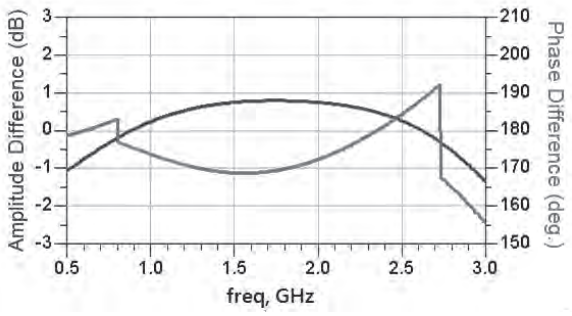


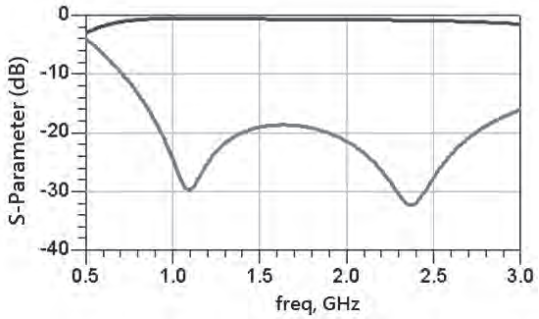


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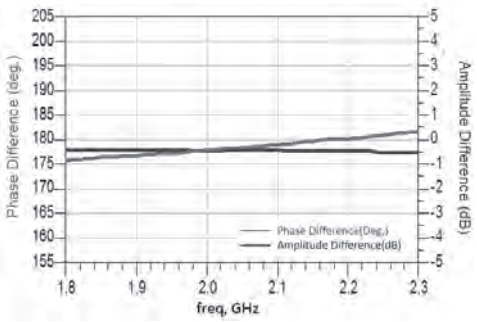


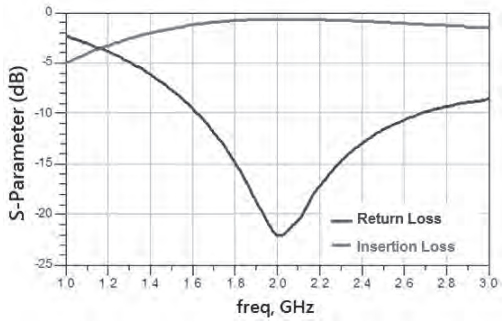

## TYPICAL ELECTRICAL CHARACTERISTICS

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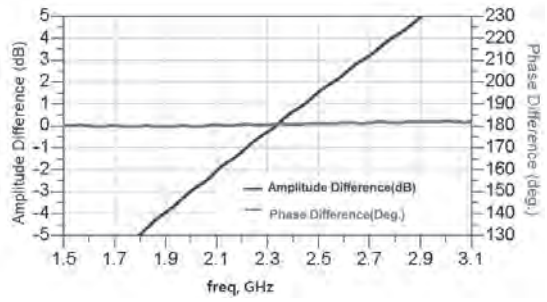


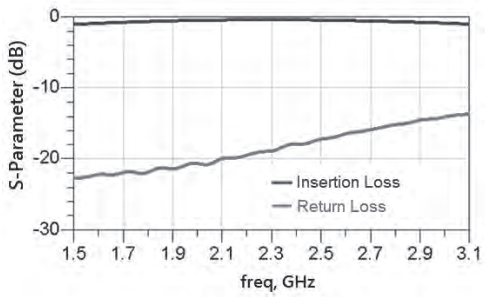


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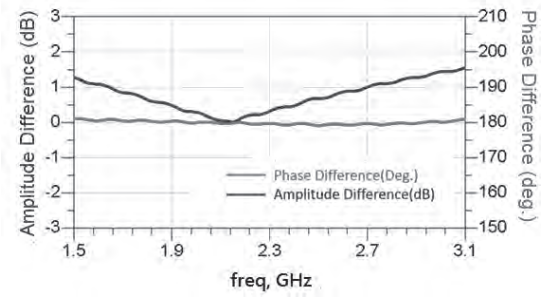


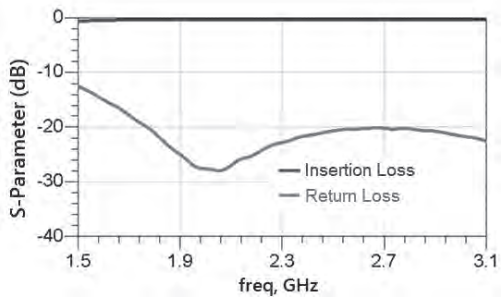


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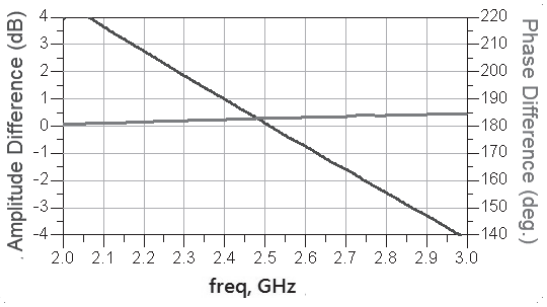


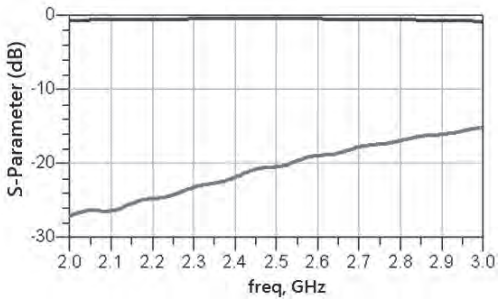


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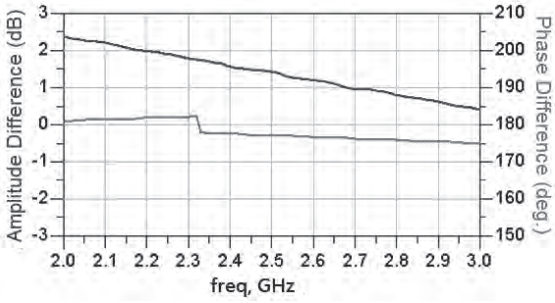


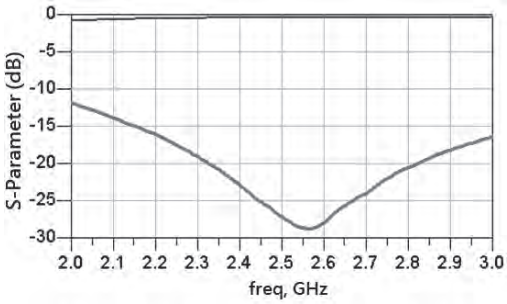


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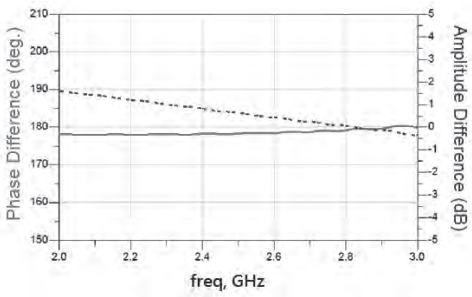


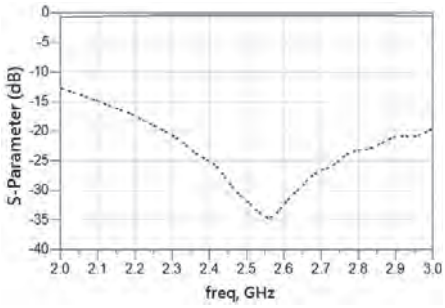

## TYPICAL ELECTRICAL CHARACTERISTICS

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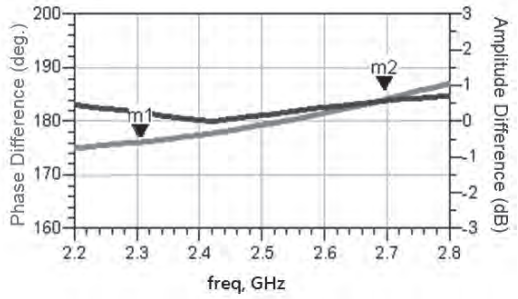


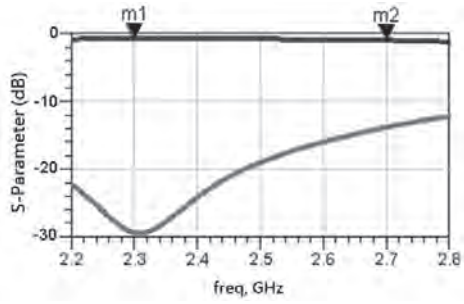


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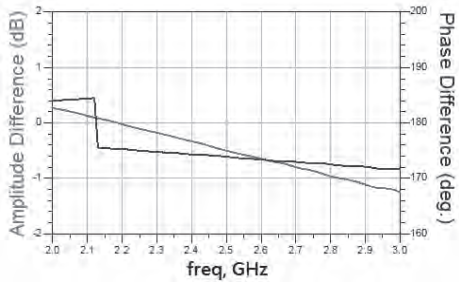


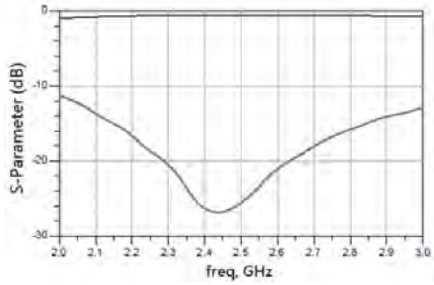


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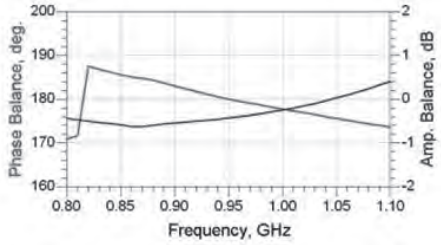
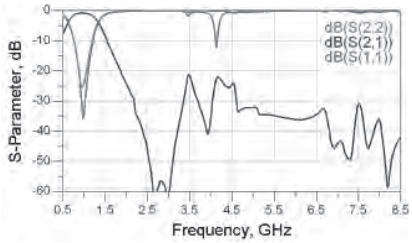
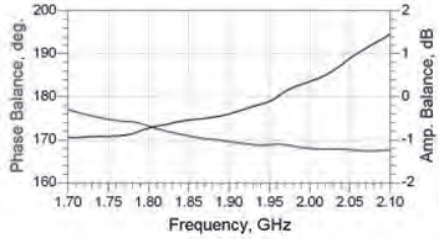
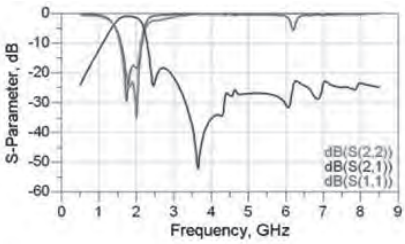
Low Band




High Band

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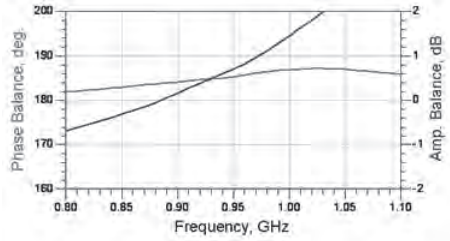
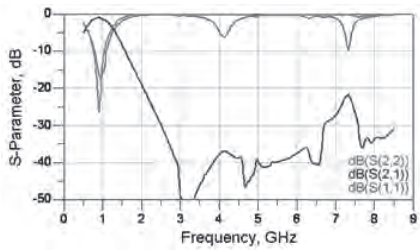
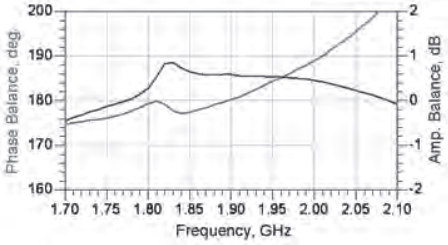
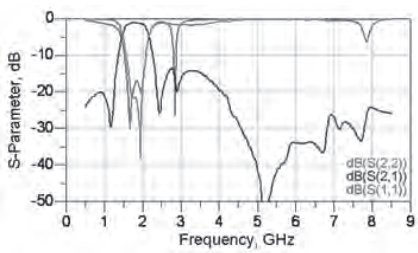



High Band



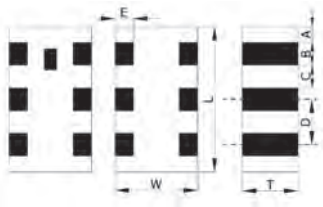




- **For more information, please contact with local sales representative**
- **All specifications are subject to change without notice**

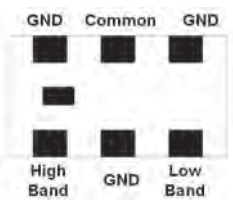
# DIPLEXER

## ■ STRUCTURE AND PIN ASSOCIATED

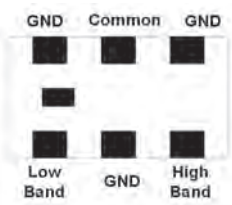
### STRUCTURE A



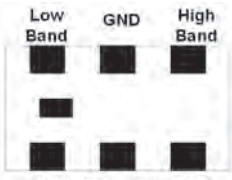

**STRUCTURE A-1**



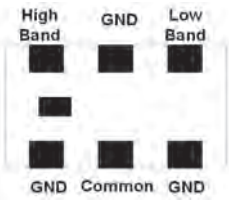

**STRUCTURE A-2**



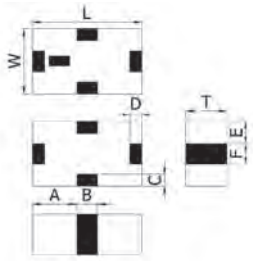

**STRUCTURE A-3**



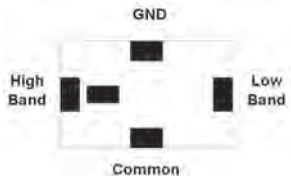

**STRUCTURE A-4**



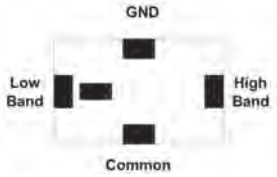

### STRUCTURE B



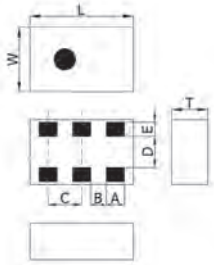

STRUCTURE B-1




STRUCTURE B-2

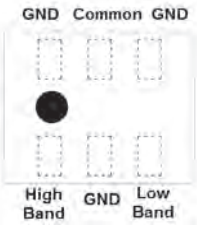



### STRUCTURE C

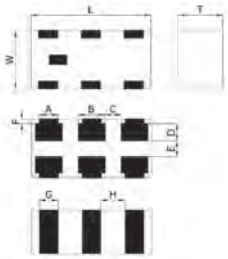



STRUCTURE C-1

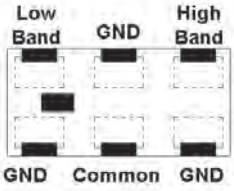
STRUCTURE C-2



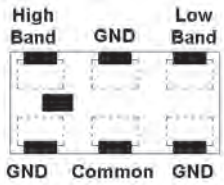

### STRUCTURE D



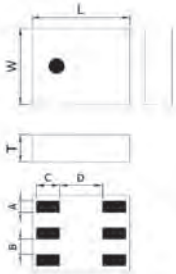

STRUCTURE D-1



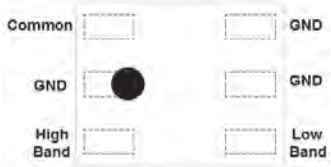

STRUCTURE D-2



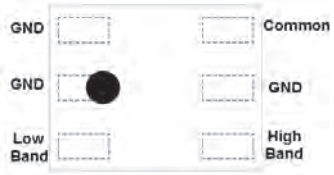

### STRUCTURE E



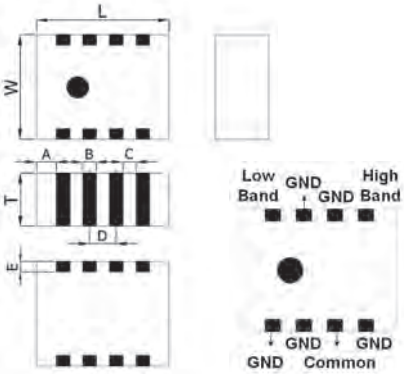

STRUCTURE E-1



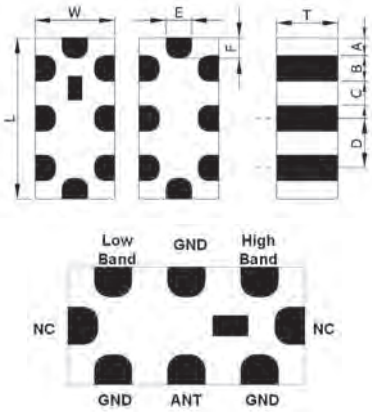

STRUCTURE E-2



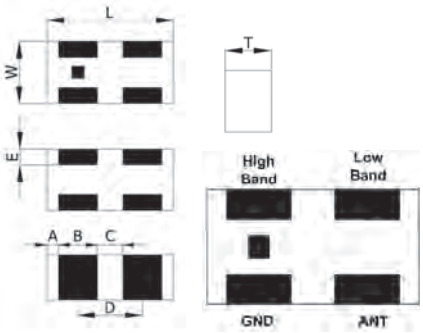

### STRUCTURE F




### STRUCTURE G




### STRUCTURE H



## ■ STRUCTURE AND DIMENSION

Unit: mm

| Structure\ Dimension | L | W | T | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|
| A | 1.60±0.15 | 0.80±0.15 | 0.60±0.10 | 0.175±0.15 | 0.25±0.15 | 0.25±0.15 | 0.50±0.15 | 0.20±0.15 | - |
| | 2.00±0.10 | 1.25±0.20 | 0.55±0.15 | 0.20±0.15 | 0.30±0.15 | 0.35±0.15 | 0.65±0.15 | 0.20±0.10 | - |
| | 2.00±0.15 | 1.25±0.15 | 0.95±0.10 | 0.20±0.20 | 0.30±0.20 | 0.35±0.20 | 0.65±0.20 | - | - |
| B | 1.60±0.15 | 0.80±0.15 | 0.60±0.10 | 0.65±0.15 | 0.30±0.15 | 0.20±0.15 | 0.20±0.15 | 0.25±0.15 | 0.30±0.15 |
| C | 2.00±0.15 | 1.25±0.15 | 0.70±0.10 | 0.35±0.10 | 0.30±0.10 | 0.65±0.10 | 0.60±0.10 | 0.275±0.10 | - |
| | | | 0.90±0.10 | 0.35±0.10 | 0.30±0.10 | 0.65±0.10 | 0.60±0.10 | 0.275±0.10 | - |
| | 2.50±0.15 | 2.00±0.15 | 0.80±0.15 | 0.30±0.15 | 0.35±0.15 | 0.65±0.15 | 0.75±0.15 | 0.525±0.15 | |
| D | 1.60±0.15 | 0.80±0.15 | 0.60±0.10 | 0.175±0.15 | 0.25±0.15 | 0.25±0.15 | 0.50±0.15 | 0.20±0.15 | - |
| E | 2.50±0.15 | 2.00±0.15 | 0.70±0.10 | 0.30±0.10 | 0.40±0.10 | 0.60±0.10 | 1.10±0.10 | - | - |
| F | 2.50±0.15 | 2.00±0.15 | 1.0max. | 0.375±0.15 | 0.25±0.15 | 0.25±0.15 | 0.50±0.15 | 0.20±0.15 | - |
| G | 1.60±0.15 | 0.80±0.15 | 0.60±0.10 | 0.65±0.15 | 0.30±0.15 | 0.20±0.15 | 0.20±0.15 | 0.25±0.15 | 0.30±0.15 |
| H | 1.00±0.10 | 0.50±0.10 | 0.40max. | 0.10±0.10 | 0.30±0.10 | 0.20±0.10 | 0.50±0.10 | 0.125±0.10 | - |

## ■ ELECTRICAL SPECIFICATION

### ISM Band 2.4GHz/5GHz APPLICATION

| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation ( dB ) | Return Loss (dB) Min | Isolation | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFDIP1004L10AT | 2400~2500 | 50 | 0.5(25℃)<br>0.6(-40~+85℃) | 25(4800~6000MHz)<br>25(7200~7500MHz) | 10 | - | 1.00x0.50x0.40 | H |
| | 4900~5900 | 50 | 0.8(25℃)<br>1.3(-40~+85℃) | 27(30~2400MHz)<br>30(2400~2500MHz)<br>24(2500~2690MHz)<br>20(9800~11900MHz) | | | | |
| RFDIP1608060LCT | 2400~2500 | 50 | 0.6 | 20(4800~5000MHz)<br>20(7200~7500MHz) | 10 | 28(30~2700 MHz)<br>26(4900~5950 MHz) | 1.60x0.80x0.60 | A-4 |
| | 4900~5900 | 50 | 1.4 | 28(30~2700MHz)<br>10(9800~11900MHz) | | | | |
| RFDIP1608060LET | 2400~2500 | 50 | 0.6 | 18(4800~5000MHz)<br>18(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | A-1 |
| | 4900~5900 | 50 | 1.4 | 20(3700~3900MHz)<br>20(1800~2500MHz)<br>10(9800~11800MHz)) | | | | |
| RFDIP1608060LFT | 2400~2500 | 50 | 0.6 | 18(4800~5000MHz)<br>18(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | A-2 |
| | 4900~5900 | 50 | 1.4 | 20(3700~3900MHz)<br>20(1800~2500MHz)<br>10(9800~11800MHz) | | | | |
| RFDIP160806BLM6T25 | 2400~2500 | 50 | 0.5 | 10(3600~3750MHz)<br>20(4800~5000MHz)<br>20(5000~5950MHz)<br>10(7200~7500MHz)<br>10(9600~10000MHz) | 10 | - | 1.60x0.80x0.60 | A-1 |
| | 4900~5950 | 50 | 0.6 | 25(860~960MHz)<br>25(1545~1605MHz)<br>25(1710~1990MHz)<br>30(2170 MHz)<br>10(8100~8800MHz)<br>15(8820~9800MHz)<br>25(9800~11900MHz) | | 25(4800~5000 MHz) | | |
| RFDIP160806ALM6T30 | 2400~2500 | 50 | 0.5 | 10(3600~3750MHz)<br>20(4800~5000MHz)<br>20(5000~5950MHz)<br>10(7200~7500MHz)<br>10(9600~10000MHz) | 10 | - | 1.60x0.80x0.60 | A-2 |
| | 4900~5950 | 50 | 0.6 | 25(860~960MHz)<br>25(1545~1605MHz)<br>25(1710~1990MHz)<br>30(2170MHz)<br>10(8100~8800MHz)<br>15(8820~9800MHz)<br>25(9800~11900MHz) | | 25(4800~5000 MHz) | | |
| RFDIP1608060LM0T60 | 2400~2500 | 50 | 0.75(25℃)<br>0.95(-40~+85℃) | 20(4800~5000MHz)<br>20(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | A-2 |
| | 4900~5950 | 50 | 1.0(25℃)<br>1.3(-40~+85℃) | 20(1800~2500MHz<br>20(9800~11800MHz | | | | |

## ISM Band 2.4/5GHz Application

| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation (dB) | Return Loss (dB) Min | Isolation | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFDIP160806BLM6T68 | 2400~2500 | 50 | 0.50(25℃)<br>0.65(-40~+85℃) | 21(4800~5000MHz)<br>21(5000~5950MHz)<br>25(7200~7500MHz) | 10 | 32(2400~2500MHz)<br>25(4900~6000MHz) | 10 | A-2 |
| | 4900~5950 | 50 | 0.60(25℃)<br>0.75(-40~+85℃) | 27(824~2170MHz)<br>30(2400~2500MHz<br>20(9800~11900MHz | | | | |
| RFDIP1608060LVT | 2400~2500 | 50 | 0.6 | - | 10 | 32 (30~2700 MHz)<br>28(4900~5950 MHz) | 1.60x0.80x0.60 | A-4 |
| | 4900~5950 | 50 | 0.8 | 32(30~2700MHz)<br>15(9800~11900MHz)<br>11(14700~17850MHz) | | | | |
| RFDIP1608060LST | 2400~2500 | 50 | 0.5(25℃)<br>0.6(-40~+85℃) | 22(4800~5000MHz)<br>24(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | G |
| | 5100~5900 | 50 | 1.1(25℃)<br>1.3(-40~+85℃) | 25(1800~2500MHz)<br>24(3700~3900MHz)<br>22(9800~11900MHz) | | | | |
| RFDIP1608060LY8Q1C | 2400~2496 | 50 | 0.5 | 35(4800~5000MHz)<br>15(7200~7500MHz) | 12 | - | 1.60x0.80x0.60 | A-3 |
| | 5150~5950 | 50 | 1.0 | 30(70~2000MHz)<br>30(2400~2690MHz<br>12(7250~7800MHz<br>25(10300~12000MHz)<br>10(15000~18000MHz) | | | | |
| RFDIP1606L168M1U | 2400~2500 | 50 | 0.55(25℃)<br>0.60(-40~+85℃) | 29(4800~5000MHz)<br>24(7200~7500MHz) | 10 | 32(30~2700MHz)<br>28(4900~5950 MHz) | 1.60x0.80x0.60 | A-3 |
| | 4900~5950 | 50 | 0.70(25℃)<br>0.80(-40~+85℃) | 32(30~2700MHz)<br>15(9800~11900MHz)<br>11(14700~17850MHz) | | | | |
| RFDIP1606L23T | 2400~2500 | 50 | 0.6 | 23(4800~5000MHz)<br>30(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | A-3 |
| | 5150~5850 | 50 | 1.5 | 25(2400~2500MHz)<br>15(3400~3600MHz)<br>10(3600~3900MHz)<br>20(6900~7550MHz)<br>30(10600~11700MHz)<br>20(15300~16200MHz) | | | | |
| RFDIP1606L24T | 2400~2500 | 50 | 0.5 | 23(4800~5000MHz)<br>30(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | A-4 |
| | 5150~5850 | 50 | 0.6 | 25(2400~2500MHz)<br>15(3400~3600MHz)<br>10(3600~3900MHz)<br>20(6900~7550MHz)<br>30(10600~11700MHz)<br>20(15300~16200MHz) | | | | |
| RFDIP1606L29T | 2400~2500 | 50 | 0.75(25℃)<br>0.95(-40~+85℃) | 25(4800~5000MHz)<br>20(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | A-2 |
| | 4900~5950 | 50 | 1.10(25℃)<br>1.30(-40~+85℃) | 20(1800~2500MHz)<br>15(9800~11900MHz) | | | | |
| RFDIP1606L51T | 2400~2500 | 50 | 0.35(25℃)<br>0.45(-40~+85℃) | 20(4800~5000MHz)<br>22(5000~5950MHz)<br>20(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | B-2 |
| | 4900~5850 | 50 | 0.50(25℃)<br>0.60(-40~+85℃) | 26(824~2170MHz)<br>30(2400~2500MHz)<br>25(9500~11900MHz) | | | | |
| RFDIP1606L52T | 2400~2500 | 50 | 0.40(25℃)<br>0.45(-40~+85℃) | 21(4800~5000MHz)<br>23(5000~5500MHz)<br>28(5500~5950MHz)<br>21(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | B-1 |
| | 4900~5850 | 50 | 0.50(25℃)<br>0.60(-40~+85℃) | 27(824~2170MHz)<br>31(2400~2500MHz)<br>26(9800~11900MHz) | | | | |
| RFDIP1606L53T | 2400~2500 | 50 | 0.5 | 10(3600~3750MHz)<br>20(4800~5000MHz)<br>20(5000~5950MHz)<br>10(7200~7500MHz)<br>10(9600~10000MHz) | 10 | - | 1.60x0.80x0.60 | A-3 |
| | 5150~5850 | 50 | 0.6 | 25(860~960MHz)<br>25(1545~1605MHz)<br>25(1710~1990MHz)<br>30(2170MHz)<br>25(2400~2500MHz)<br>10(8100~8800MHz)<br>15(8820~9800MHz)<br>25(9800~11900MHz) | | | | |

## ISM Band 2.4/5GHz Application

| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation (dB) | Return Loss (dB)Min | Isolation | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFDIP1606L54T | 2400~2500 | 50 | 0.5 | 10(3600~3750MHz)<br>20(4800~5000MHz)<br>20(5000~5950MHz)<br>10(7200~7500MHz)<br>10(9600~10000MHz) | 10 | - | 1.60x0.80x0.60 | A-4 |
| | 4900~5950 | 50 | 0.6 | 25(860~960MHz)<br>25(1545~1605MHz)<br>25(1710~1990MHz)<br>30(2170MHz)<br>25(2400~2500MHz)<br>10(8100~8800MHz)<br>15(8820~9800MHz)<br>25(9800~11900MHz) | | | | |
| RFDIP1607L898D1T | 2400~2500 | 50 | 0.90(25℃)<br>1.05(-40~+85℃) | 15(700~1300MHz)<br>25(4800~5000MHz)<br>30(7000~7500MHz) | 10 | 30(2400~2500MHz)<br>25(4900~5950MHz) | 1.60x0.80x0.70 | A-4 |
| | 4900~5950 | 50 | 0.80(25℃)<br>0.95(-40~+85℃) | 27(1200~1500MHz)<br>26(1500~2000MHz)<br>20(2300~3000MHz)<br>25(9800~11900MHz)<br>15(14700~17850MHz) | | | | |
| RFDIP1606L110C8Q1C | 2400~2500 | 50 | 0.48(25℃)<br>0.58(-40~+85℃) | 20(4800~5000MHz)<br>22(5000~5950MHz)<br>20(7200~7500MHz) | 10 | - | 1.60x0.80x0.60 | A-3 |
| | 4900~5950 | 50 | 0.68(25℃)<br>0.78(-40~+85℃) | 26(824~2170MHz)<br>30(2400~2500MHz)<br>25(9800~11900MHz)<br>20(15450~17550MHz) | | | | |
| RFDIP1608060LS3T55 | 2400~2500 | 50 | 0.60(25℃)<br>0.65(-40~+85℃) | 32(4800~4992MHz)<br>24(7200~7488MHz) | 10 | 32(30~2700MHz)<br>28(4900~5950MHz) | 1.60x0.80x0.60 | A-4 |
| | 4900~5950 | 50 | 0.70(25℃)<br>0.80(-40~+85℃) | 32(30~2700MHz)<br>15(9800~11900MHz)<br>11(14700~17850MHz) | | | | |
| KFDIP2004L157B1U | 2400~2500 | 50 | 0.5 | 10(3600MHz)<br>20(4800~5000MHz)<br>20(7200~7500MHz) | 10 | 20(DC~2500MHz)<br>20(4900~5950MHz) | 2.00x1.25x0.40 | A-3 |
| | 4900~5950 | 50 | 1.0 | 20(824~915MHz)<br>20(1800~2500MHz)<br>10(3000~3900MHz)<br>4(7250MHz)<br>20(9800~11900MHz)<br>20(14700~17850MHz) | | | | |
| KFDIP2004L167B1U | 2400~2500 | 50 | 0.5 | 10(3600MHz)<br>20(4800~5000MHz)<br>20(7200~7500MHz) | 10 | 20(DC~2500MHz)<br>20(4900~5950MHz) | 2.00x1.25x0.40 | A-4 |
| | 4900~5950 | 50 | 1.0 | 20(824~915MHz)<br>20(1800~2500MHz)<br>10(3000~3900MHz)<br>4(7250MHz)<br>20(9800~11900MHz)<br>20(14700~17850MHz) | | | | |
| KFDIP2004L197B1U | 2400~2500 | 50 | 0.6 | 15(3600MHz)<br>25(4800~5000MHz)<br>20(7200~7500MHz) | 10 | 20(DC~2500MHz)<br>20(4900~5950MHz) | 2.00x1.25x0.40 | A-3 |
| | 4900~5950 | 50 | 1.0 | 20(824~915MHz)<br>18(1800~2500MHz)<br>14(3000~3900MHz)<br>20(9800~11900MHz)<br>20(14700~17850MHz) | | | | |
| RFDIP2012050L5T | 2400~2500 | 50 | 0.7 | 18(4800~6000MHz)<br>18(7200~7500 MHz) | 10 | - | 2.00x1.25x0.55 | A-1 |
| | 4900~5900 | 50 | 1.0 | 19(1800~2500MHz)<br>25(10300~10700MHz) | | | | |
| RFDIP2012050L7T | 2400~2500 | 50 | 0.7 | 18(4800~6000MHz)<br>18(7200~7500MHz) | 10 | - | 2.00x1.25x0.55 | A-2 |
| | 4900~5900 | 50 | 1.0 | 19(1800~2500MHz)<br>25(10300~10700MHz) | | | | |
| RFDIP2012050L8T | 2300~2500 | 50 | 0.65(25℃)<br>0.8(-40~+85℃) | 20(4600~5000MHz)<br>20(6900~7500MHz) | 10 | - | 2.00x1.25x0.55 | A-3 |
| | 4900~5950 | 50 | 1.0 | 19(1800~2500MHz)<br>25(10300~10700MHz) | | | | |

## ISM Band 2.4/5GHz Application

| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation (dB) | Return Loss (dB) Min | Isolation | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFDIP2012100L0T | 2400~2500 | 50 | 0.7 | 20(4900MHz)<br>25(5200MHz)<br>25(5800MHz) | 10 | - | 2.00x1.25x0.95 | A-3 |
| | 4900~5900 | 50 | 0.9 | 25(2450MHz) | | | | |
| RFDIP2012100L3T | 2400~2500 | 50 | 0.7 | 20(4900MHz)<br>25(5200MHz)<br>25(5800MHz) | 10 | - | 2.00x1.25x0.95 | A-2 |
| | 4900~5900 | 50 | 0.9 | 25(2450MHz) | | | | |
| RFDIP2012050LPT | 2400~2500 | 50 | 0.5(25℃)<br>0.55(-40~+85℃) | 23(4800~6000MHz)<br>20(7200~7500MHz) | 10 | - | 2.00x1.25x055 | A-1 |
| | 4900~5950 | 50 | 0.65(25℃)<br>0.75(-40~+85℃) | 20(800~2500MHz)<br>15(9800~11900MHz) | | | | |
| RFDIP2012050LQT | 2400~2500 | 50 | 0.5(25℃)<br>0.55(-40~+85℃) | 23(4800~6000MHz)<br>20(7200~7500MHz) | 10 | - | 2.00x1.25x0.55 | A-2 |
| | 4900~5950 | 50 | 0.65(25℃)<br>0.75(-40~+85℃) | 20(800~2500MHz)<br>15(9800~11900MHz) | | | | |
| RFDIP2008L107N3T | 2400~2500 | 50 | 2.2(25℃)<br>2.4(-40~+85℃) | 30(824~915MHz)<br>30(1545~1610MHz)<br>30(1710~1990MHz)<br>25(2110~2170MHz)<br>8(3200~3600MHz)<br>12(3700~3900MHz)<br>28(4800~5000MHz)<br>25(7200~7500MHz) | 10 | - | 2.00x1.25x0.80 | A-1 |
| | 5150~5850 | 50 | 1.2(25℃)<br>1.5(-40~+85℃) | 20(1545~1610MHz)<br>20(1710~1990MHz)<br>20(2110~2170MHz)<br>23(2400~2500MHz)<br>8(3450~3900MHz)<br>8(7250~7800MHz)<br>20(9800~11700MHz) | | | | |
| RFDIP2008L117N3T | 2400~2500 | 50 | 2.2(25℃)<br>2.4(-40~+85℃) | 30(824~915MHz)<br>30(1545~1610MHz)<br>30(1710~1990MHz)<br>25(2110~2170MHz)<br>8(3200~3600MHz)<br>12(3700~3900MHz)<br>28(4800~5000MHz)<br>25(7200~7500MHz) | 10 | - | 2.00x1.25x0.80 | A-2 |
| | 5150~5850 | 50 | 1.2(25℃)<br>1.5(-40~+85℃) | 20(1545~1610MHz)<br>20(1710~1990MHz)<br>20(2110~2170MHz)<br>23(2400~2500MHz)<br>8(3450~3900MHz)<br>8(7250~7800MHz)<br>20(9800~11700MHz) | | | | |
| AMDIP2520070L3T | 2400~2500 | 50 | 2.4(25℃)<br>2.7(-40~+85℃) | 30(824~915MHz)<br>30(1545~1610MHz)<br>24(1710~1990MHz)<br>15(2110~2170MHz)<br>30(4800~5000MHz)<br>20(7200~7500MHz) | 10 | - | 2.50x2.00x0.70 | E-1 |
| | 5150~5850 | 50 | 1.2(25℃)<br>1.5(-40~+85℃) | 25(1545~1610MHz)<br>25(2400~2500MHz)<br>15(10300~11700MHz) | | | | |
| AMDIP2520070L4T | 2400~2500 | 50 | 2.4(25℃)<br>2.7(-40~+85℃) | 30(824~915MHz)<br>30(1545~1610MHz)<br>24(1710~1990MHz)<br>15(2110~2170MHz)<br>30(4800~5000MHz)<br>20(7200~7500MHz) | 10 | - | 2.00x1.25x0.80 | E-2 |
| | 5150~5850 | 50 | 1.2(25℃)<br>1.5(-40~+85℃) | 25(1545~1610MHz)<br>25(2400~2500MHz)<br>15(10300~11700MHz) | | | | |

## GPS 1.575GHz/ISM 2.4GHz/5GHz Band Application

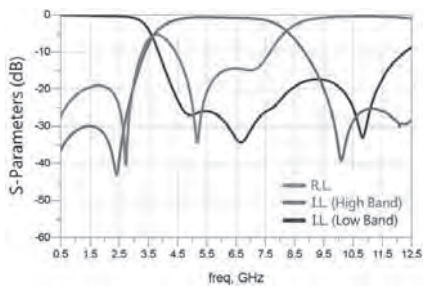
| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation (dB) | Return Loss (dB)Min. | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|
| RFDIP1608060T1T | 1574~1577 | 50 | 0.65 | 20(2400~2500MHz) | 10 | 1.60x0.80x0.60 | B-1 |
| | 2400~2500 | 50 | 0.8 | 20(1574~1577MHz) | | | |
| RFDIP1608060TM7T62 | 1570~1610 | 50 | 0.6(typ.0.5) | 20(2400~2500MHz)<br>20(4900~5900MHz) | 10 | 1.60x0.80x0.60 | A-4 |
| | 2400~2500<br>4900~5900 | 50 | 0.65(typ.0.55) | 20(1570~1610MHz) | | | |
| RFDIP1608060TAT | 698~960<br>1427~1511<br>1560~1607 | 50 | 0.40<br>0.55<br>0.65 | 20(2400~2500MHz)<br>20(2620~2690MHz)<br>20(5150~5850MHz) | 10 | 1.60x0.80x0.60 | B-1 |
| | 2400~2500<br>2620~2690<br>5150~5850 | 50 | 0.70<br>0.60<br>0.80 | 20(698~960MHz)<br>20(1427~1511MHz)<br>20(1560~1607MHz) | | | |
| RFDIP1608060TCT | 1570~1610 | 50 | 0.6(typ.0.5) | 20(2400~2500MHz)<br>20(4900~5900MHz) | 10 | 1.60x0.80x0.60 | A-4 |
| | 2400~2500<br>4900~5900 | 50 | 0.65(typ.0.55) | 20(1570~1610MHz) | | | |
| RFDIP1608060TDT | 1570~1610 | 50 | 0.65(25℃)<br>0.75(-40~+85℃) | 13(2170MHz)<br>20(2400~2500MHz) | 10 | 1.60x0.80x0.60 | B-2 |
| | 2400~2500 | 50 | 0.80(25℃)<br>0.90(-40~+85℃) | 20(1565~1616MHz)<br>15(1710MHz) | | | |
| RFDIP2012090T2T | 1572.5~1578.5<br>1597~1607 | 50 | 0.40<br>0.50 | 13(2400~2500MHz) | 10 | 2.00x1.25x0.90 | A-3 |
| | 2400~2500 | 50 | 0.55(25℃)<br>0.65(-40~+85℃) | 22(1572.5~1578.5MHz)<br>20(1597~1607MHz) | | | |
| RFDIP2520080T1T | 1710~1990<br>1990~2110<br>2110~2170 | 50 | 1.00<br>1.50<br>2.50 | 5(2300~2350MHz)<br>10(2350~2500MHz)<br>10(2500~2690MHz) | 10 | 2.50x2.00x0.80 | C-2 |
| | 2300~2350<br>2350~2500<br>2500~2690 | 50 | 2.65<br>1.50<br>0.65 | 8(1710~1990MHz)<br>8(1990~2110MHz)<br>5(2110~2170MHz) | | | |

## 892 MHz & 1.94GHz Band Working Frequency

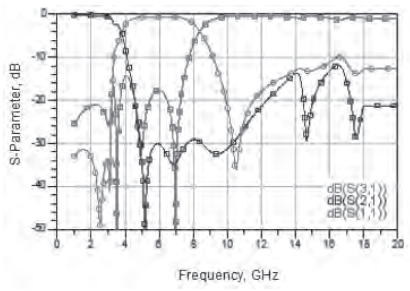
| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation (dB) | Return Loss (dB)Min. | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|
| RFDIP1608070GM1T76 | 698~960 | 50 | 0.8(typ.0.45) | 25(1710~2700MHz) | 10 | 1.60x0.80x0.60 | D-2 |
| | 1710~2700 | | 0.7(typ.0.50) | 20(698~960MHz)<br>20(5150~5850MHz) | | | |
| RFDIP2012070G5T | 570~960 | 50 | 0.75 | 20(1427~2700MHz) | 10 | 2.00x1.25x0.70 | C-1 |
| | 1427~2700 | | 0.85 | 20(570~960MHz) | | | |
| RFDIP2012090G77N2T | 698~960 | 50 | 0.65 | 15(1554~1580MHz)<br>20(1710~2700MHz) | 10 | 2.00x1.25x0.90 | A-4 |
| | 1710~2700 | | 0.65 | 20(824~960MHz) | | | |
| RFDIP2012090GM1T58 | 698~960 | 50 | 0.4(25℃)<br>0.45(-40~+85℃ | 13(1710~2690MHz) | 10 | 2.00x1.25x0.90 | C-1 |
| | 1710~2690 | | 0.55(25℃)<br>0.65(-40~+85℃ | 19(698~960MHz) | | | |
| RFDIP2520100G2T | 698~960 | 50 | 0.35(25℃)<br>0.45(-40~+85℃ | 20(1710~2690MHz) | 10 | 2.50x2.00x1.00 | F |
| | 1710~2690 | | 0.55(25℃)<br>0.65(-40~+85℃ | 25(698~960MHz)<br>5(3420~3820MHz) | | | |

## ■ TYPICAL ELECTRICAL CHARACTERISTICS

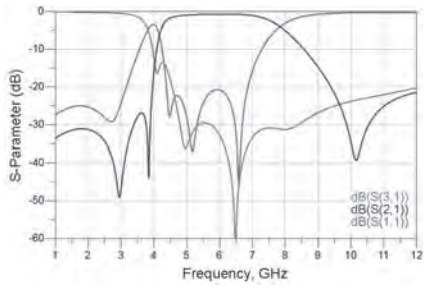
### RFDIP1004L10T



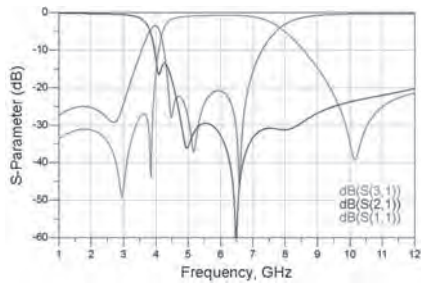

### RFDIP1608060LCT



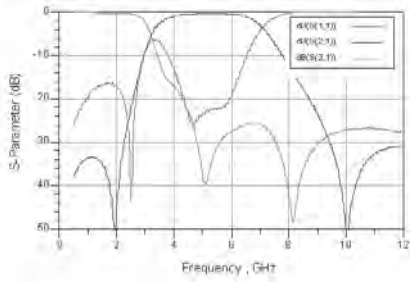

### RFDIP1608060LET



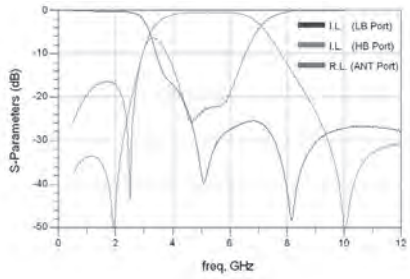

### RFDIP1608060LFT



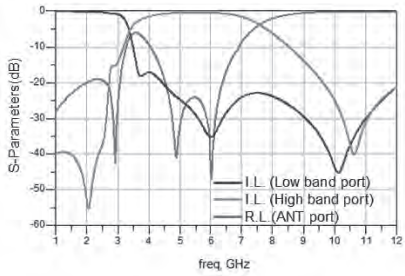

### RFDIP160806BLM6T25



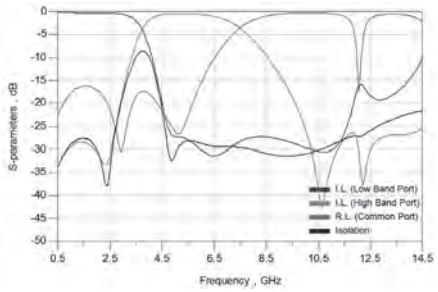

### RFDIP160806ALM6T30



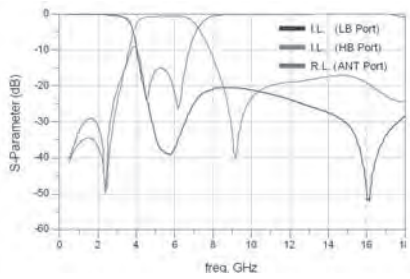

### RFDIP1608060LM0T60



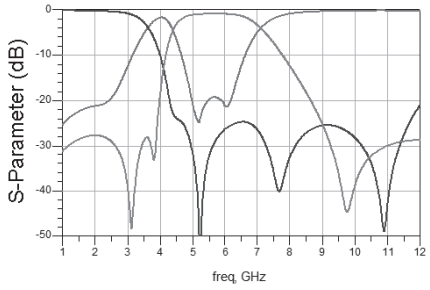

### RFDIP160806BLM6T68




### RFDIP1608060LVT

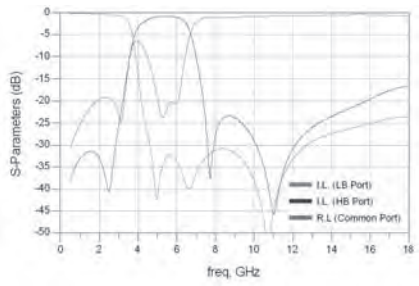



### RFDIP1608060LST

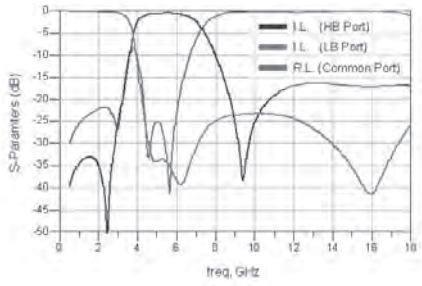


## TYPICAL ELECTRICAL CHARACTERISTICS

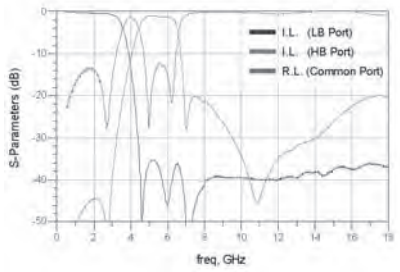
### RFDIP1608060LY8Q1C



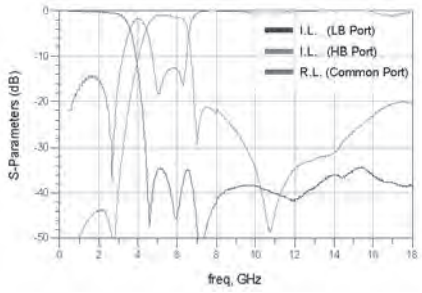

### RFDIP1606L168M1U



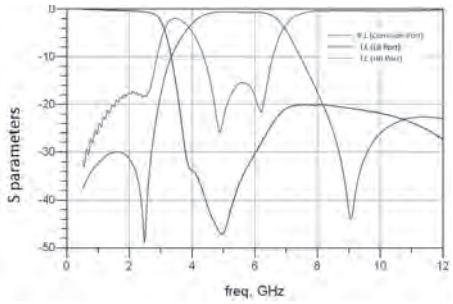

### RFDIP1606L23T



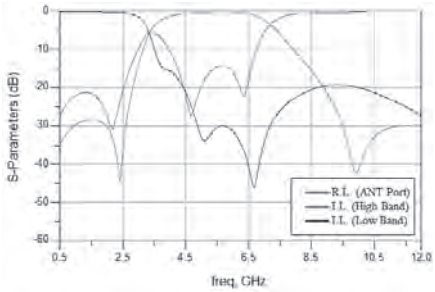

### RFDIP1606L24T



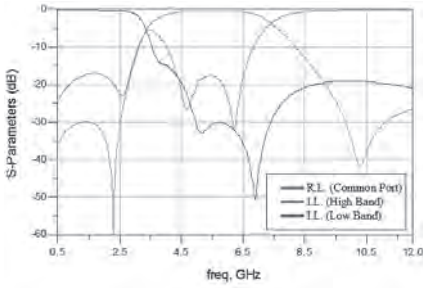

### RFDIP1606L29T



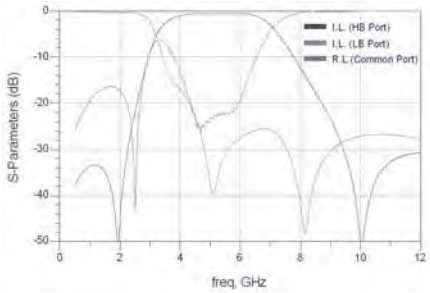

### RFDIP1606L51T



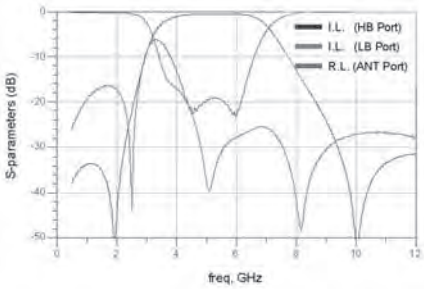

### RFDIP1606L52T



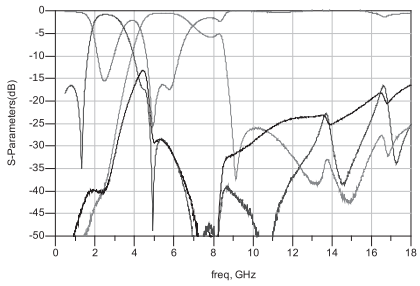

### RFDIP1606L53T




### RFDIP1606L54T

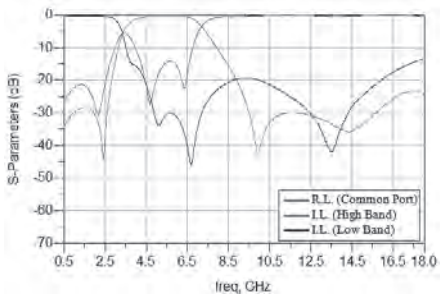



### RFDIP1607L898D1T

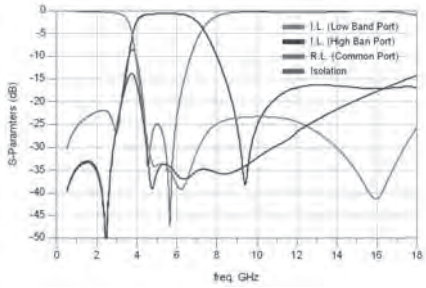


## TYPICAL ELECTRICAL CHARACTERISTICS

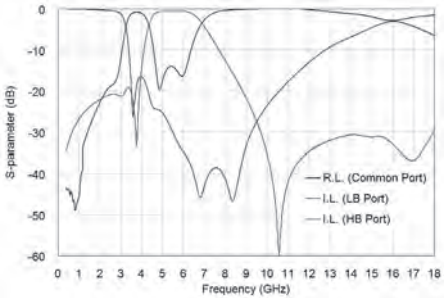
### RFDIP1606L110C8Q1C



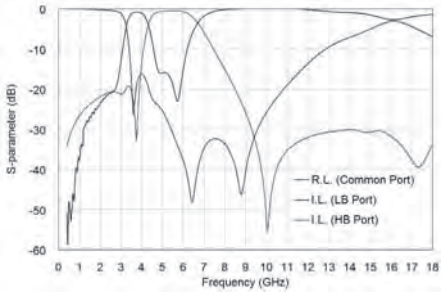

### RFDIP1608060LS3T55



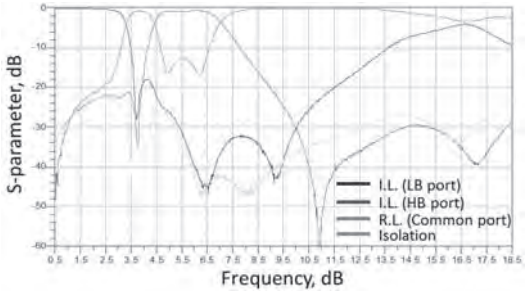

### KFDIP2004L157B1U



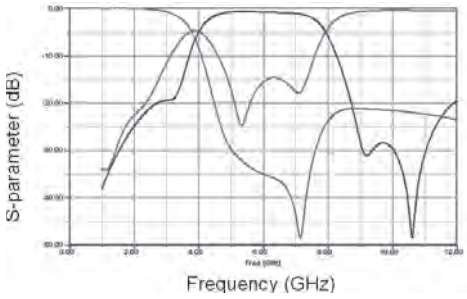

### KFDIP2004L167B1U



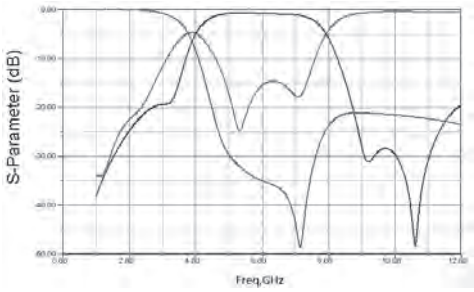

### KFDIP2004L197B1U



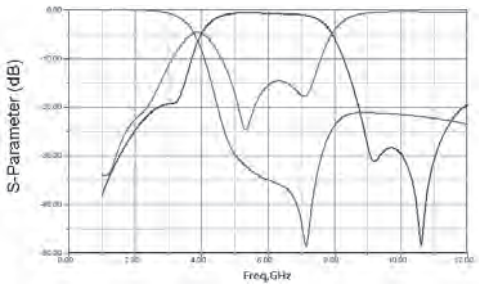

### RFDIP2012050L5T



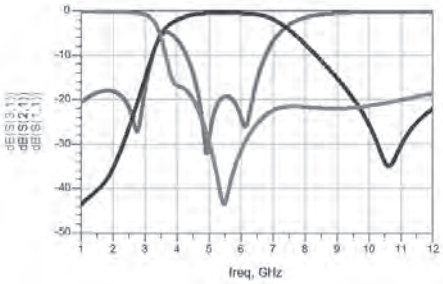

### RFDIP2012050L7T



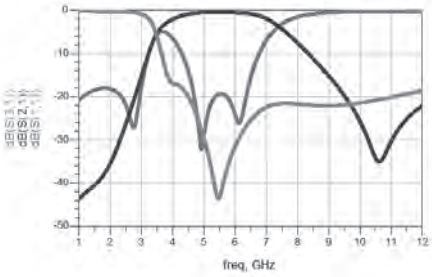

### RFDIP2012050L8T




### RFDIP2012050LPT

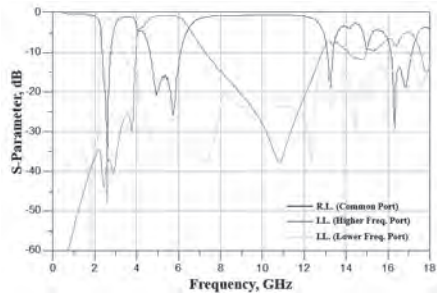



### RFDIP2012050LQT

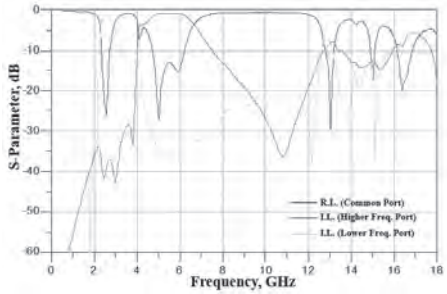


## TYPICAL ELECTRICAL CHARACTERISTICS

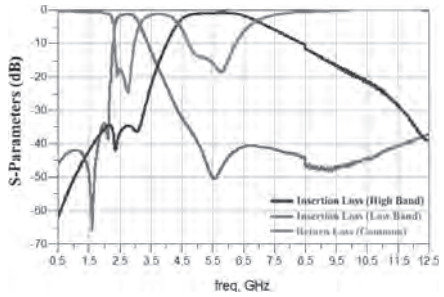
### RFDIP2008L107N3T



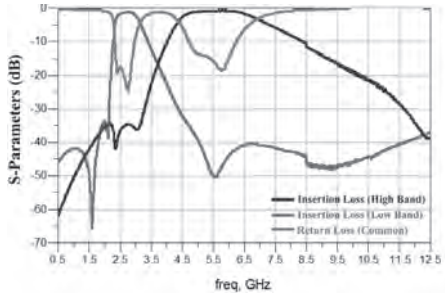

### RFDIP2008L117N3T



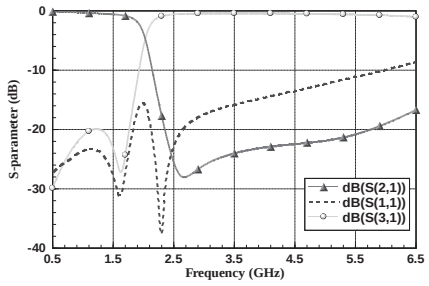

### AMDIP2520070L3T



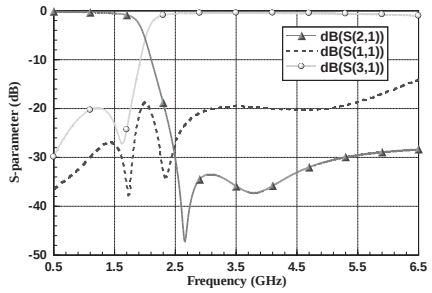

### AMDIP2520070L4T



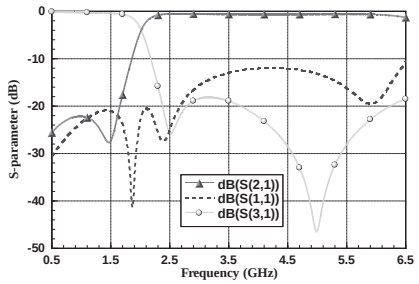

### RFDIP1608060T1T



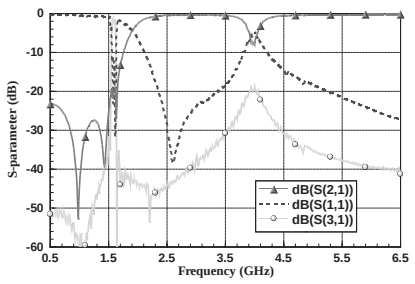

### RFDIP1608060TM7T62



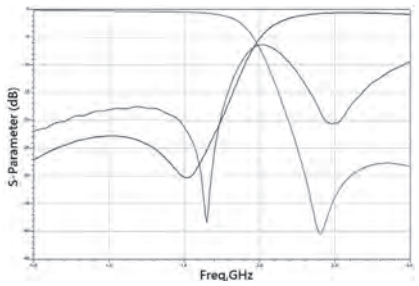

### RFDIP1608060TAT



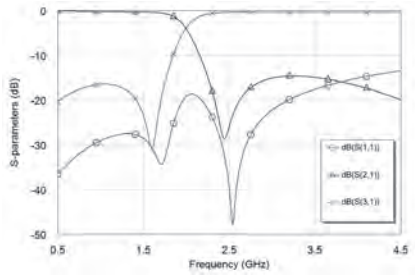

### RFDIP1608060TCT




### RFDIP1608060TDT

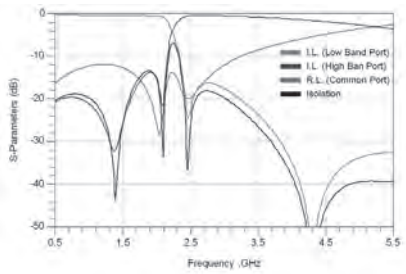



### RFDIP2012090T2T

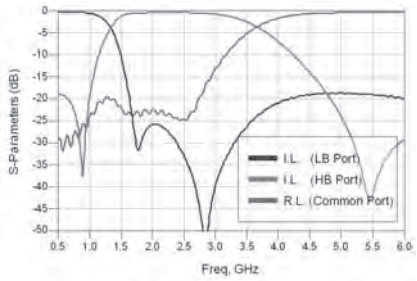


## TYPICAL ELECTRICAL CHARACTERISTICS

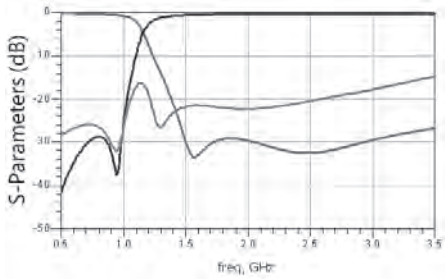
### RFDIP2520080T1T



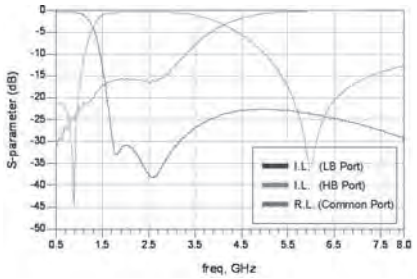

### RFDIP1608070GM1T76



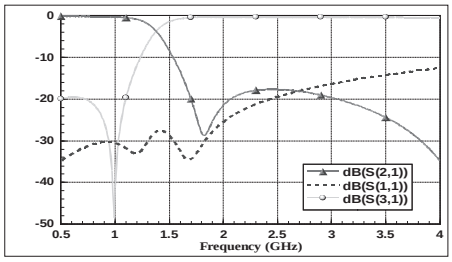

### RFDIP2012070G5T



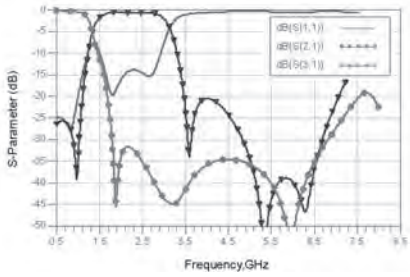

### RFDIP2012090G77N2T




### RFDIP2012090GM1T58




### RFDIP2520100G2T

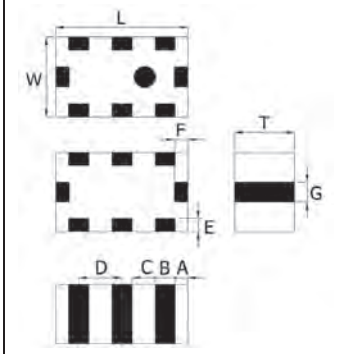



- **For more information, please contact with local sales representative**
- **All specifications are subject to change without notice**

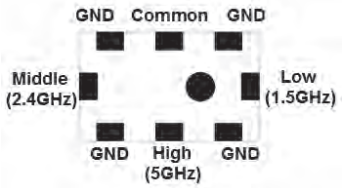
# TRIPLEXER

## ■ STRUCTURE AND PIN ASSOCIATED

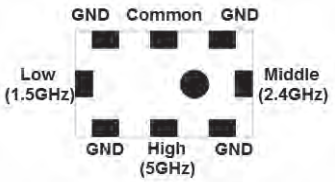
**STRUCTURE A**



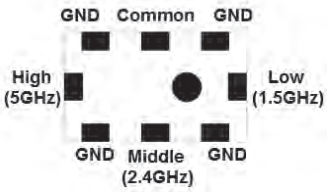

STRUCTURE A-1



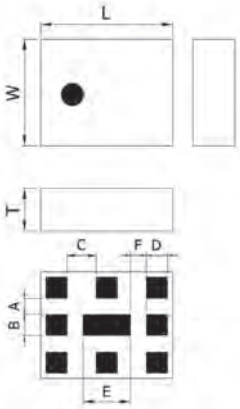

STRUCTURE A-2




STRUCTURE A-3




**STRUCTURE B**



## ■ STRUCTURE AND DIMENSION

Unit: mm

| Structure\ Dimension | L | W | T | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2.00±0.15 | 1.25±0.15 | 0.90±0.10 | 0.20±0.20 | 0.30±0.20 | 0.35±0.20 | 0.65±0.20 | 0.20±0.20 | 0.20±0.20 | 0.30±0.20 |
| B | 2.50±0.15 | 2.00±0.15 | 0.90±0.10 | 0.30±0.10 | 0.40±0.10 | 0.55±0.10 | 0.40±0.10 | 0.90±0.10 | 0.30±0.10 | 0.30±0.10 |

## ■ ELECTRICAL SPECIFICATION

### GPS 1.575GHz/ISM 2.4GHz/5GHz band RF application

| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation ( dB ) | Return Loss (dB) Min | Isolation | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFTIP2012090T18Q1C | 1560~1606 | 50 | 0.6 | 15(2400~2500 MHz)<br>15(4800~6000 MHz) | 10 | - | 2.00x1.25x0.90 | A-1 |
| | 2400~2500 | 50 | 0.7 | 10(860~960 MHz)<br>15(1545~1605 MHz)<br>10(3600~3750 MHz)<br>20(4800~6000 MHz)<br>10(7200~7500 MHz)<br>10(9600~10000 MHz) | 10 | 20(1559~1606 MHz)<br>25(4800~5000 MHz) | | |
| | 4900~5950 | 50 | 0.8 | 25(860~960 MHz)<br>25(1545~1605 MHz)<br>25(1710~1990 MHz)<br>30(2170 MHz)<br>10(8100~8800 MHz)<br>15(8820~9800 MHz)<br>25(9800~11900 MHz) | 10 | 20(1559~1606 MHz) | | |

## ■ ELECTRICAL SPECIFICATION

### GPS 1.575GHz/ ISM 2.4GHz/5GHz band RF application

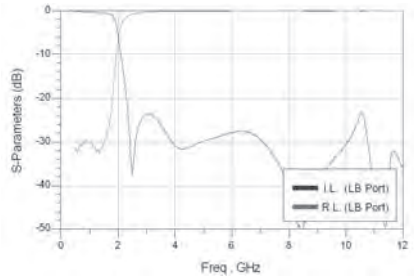
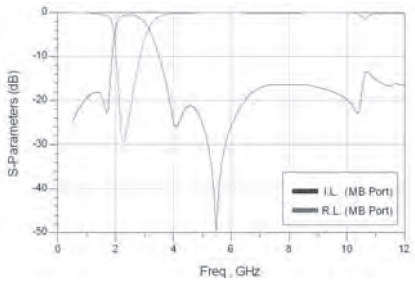
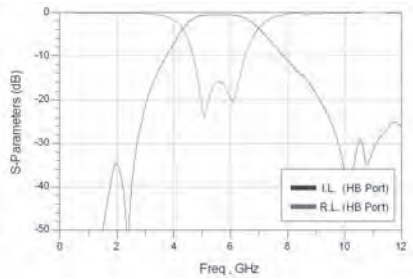
| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation ( dB ) | Return Loss (dB) Min | Isolation | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFTIP2012090T27N3T | 1560~1606 | 50 | 0.65(25℃)<br>0.70(-40~+85℃) | 20(2400~2500 MHz)<br>20(4900~6000 MHz) | 10 | - | 2.00x1.25x0.90 | A-2 |
| | 2400~2500 | 50 | 0.70(25℃)<br>0.85(-40~+85℃) | 10(860~960 MHz)<br>15(1545~1610 MHz)<br>10(3600~3750 MHz)<br>20(4800~6000 MHz)<br>10(7200~7500 MHz)<br>10(9600~10000 MHz) | 10 | 20(1559~1606 MHz)<br>20(4800~5000 MHz) | | |
| | 4900~5950 | 50 | 0.80(25℃)<br>0.95(-40~+85℃) | 25(1559~1606 MHz)<br>35(2400~2500 MHz)<br>12(3400~3600 MHz)<br>12(3600~3900 MHz)<br>10(6900~7200 MHz)<br>10(7200~7800 MHz)<br>25(10300~11700 MHz)<br>15(15300~16200 MHz) | 10 | 20(1559~1606 MHz) | | |
| RFTIP2012090T9T | 1560~1606 | 50 | 0.7 | 15(2400~2500 MHz)<br>15(4800~6000 MHz) | 10 | - | 2.00x1.25x0.90 | A-3 |
| | 2400~2500 | 50 | 0.8 | 10(860~960 MHz)<br>15(1545~1605 MHz)<br>8(3600~3750 MHz)<br>20(4800~5000 MHz)<br>10(7200~7500 MHz)<br>10(9600~10000 MHz) | 10 | | | |
| | 4900~5950 | 50 | 0.9 | 25(860~960 MHz)<br>25(1545~1605 MHz)<br>25(1710~1990 MHz)<br>30(2170 MHz)<br>38(2400~2500 MHz)<br>8(8100~8800 MHz)<br>15(8820~9800 MHz)<br>22(9800~11900 MHz) | 10 | | | |
| RFTIP2012090TLT | 1560~1606 | 50 | 0.70(25℃)<br>0.80(-40~+85℃) | 14(2400~2500 MHz)<br>15(4800~6000 MHz) | 10 | - | 2.00x1.25x0.90 | A-1 |
| | 2400~2500 | 50 | 0.80(25℃)<br>0.95(-40~+85℃) | 10(860~960 MHz)<br>10(1545~1605 MHz)<br>8(3600~3750 MHz)<br>20(4800~5000 MHz)<br>10(7200~7500 MHz)<br>5(9600~10000 MHz)) | 10 | | | |
| | 4900~5950 | 50 | 0.90(25℃)<br>1.10(-40~+85℃) | 24(860~960 MHz)<br>24(1545~1605 MHz)<br>25(1710~1990 MHz)<br>25(2170 MHz)<br>0.2(3920~4720 MHz)<br>10(8100~8800 MHz)<br>14(8820~9800 MHz)<br>20(9800~11900 MHz) | 10 | | | |
| RFTIP2109ATM0T63 | 1560~1606 | 50 | 0.60(25℃)<br>0.80(-40~+85℃) | 15(2400~2500 MHz)<br>15(4800~6000 MHz) | 10 | - | 2.00x1.25x0.90 | A-1 |
| | 2400~2500 | 50 | 0.70(25℃)<br>0.90(-40~+85℃) | 10(860~960 MHz)<br>15(1545~1605 MHz)<br>10(3600~3750 MHz)<br>20(4800~5000 MHz)<br>10(7200~7500 MHz)<br>10(9600~10000 MHz) | 10 | 20(1559~1606 MHz)<br>25(4800~5000 MHz) | | |
| | 4900~5950 | 50 | 0.80(25℃)<br>1.00(-40~+85℃) | 25(860~960 MHz)<br>25(1545~1605 MHz)<br>25(1710~1990 MHz)<br>30(2170 MHz)<br>10(8100~8800 MHz)<br>15(8820~9800 MHz)<br>25(9800~11900 MHz) | 10 | 25(1559~1606 MHz) | | |

## GPS 1.575GHz/ ISM 2.4GHz/5GHz band RF application

| Part Number | Frequency (MHz) | Impedance (Ω) | Insertion Loss (dB) | Attenuation ( dB ) | Return Loss (dB )Min | Isolation | Size (mm) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFTIP2109BTM5T62 | 1560~1606 | 50 | 0.60(25℃)<br>0.80(-40~+85℃) | 15(2400~2500 MHz)<br>15(4800~6000 MHz) | 10 | - | 2.00x1.25x0.90 | A-2 |
| | 2400~2500 | 50 | 0.70(25℃)<br>0.90(-40~+85℃) | 10(860~960 MHz)<br>15(1545~1605 MHz)<br>10(3600~3750 MHz)<br>20(4800~5000 MHz)<br>10(7200~7500 MHz)<br>10(9600~10000 MHz) | 10 | 20(1559~1606 MHz)<br>25(4800~5000 MHz) | | |
| | 4900~5950 | 50 | 0.80(25℃)<br>1.00(-40~+85℃) | 25(860~960 MHz)<br>25(1545~1605 MHz)<br>25(1710~1990 MHz)<br>30(2170 MHz)<br>10(8100~8800 MHz)<br>15(8820~9800 MHz)<br>25(9800~11900 MHz) | 10 | 25(1559~1606 MHz) | | |
| RFTIP2520090T3T | 698~960 | 50 | 0.70(25℃)<br>0.80(-40~+85℃) | 20(1710~2200 MHz)<br>20(2500~2690 MHz) | 10 | 20(1710~2200 MHz)<br>20(2500~2690 MHz) | 2.50x2.00x0.90 | C |
| | 1710~2200 | 50 | 1.40(25℃)<br>1.60(-40~+85℃) | 20(698~960 MHz)<br>15(2500~2690 MHz) | 10 | 18(698~960 MHz)<br>18(2500~2690 MHz) | | |
| | 2500~2690 | 50 | 1.80(25℃)<br>2.00(-40~+85℃) | 15(698~960 MHz)<br>15(1710~2200 MHz) | 10 | 20(698~960 MHz)<br>20(1710~2200 MHz) | | |

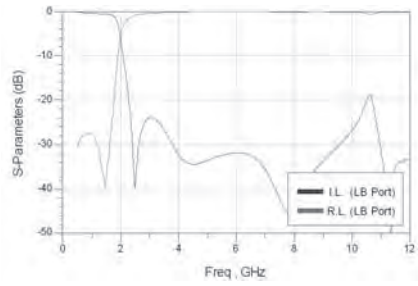
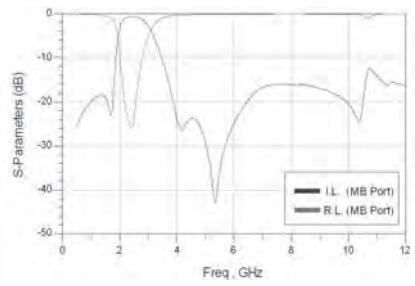
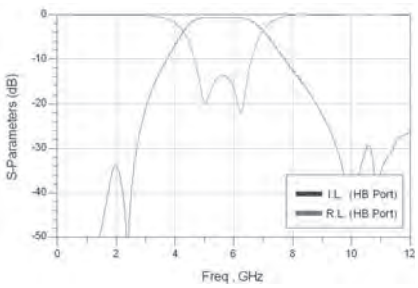
## ■ TYPICAL ELECTRICAL CHARACTERISTICS

**RFTIP2012090T18Q1C**

| Low band | Middle band | High band |
|---|---|---|
|  |  |  |

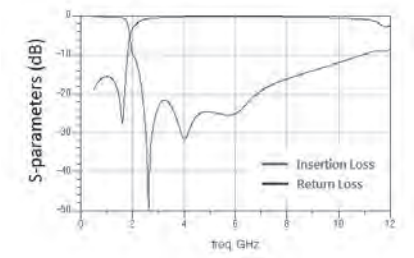
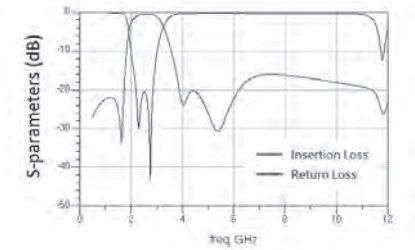
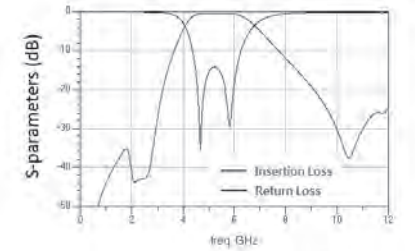


**RFTIP2012090T27N3T**

| Low band | Middle band | High band |
|---|---|---|
|  |  |  |

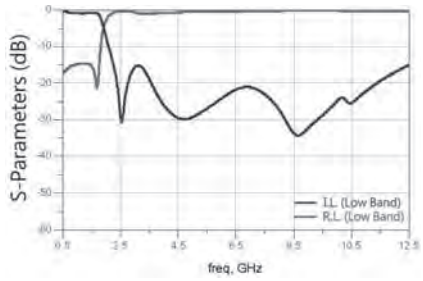
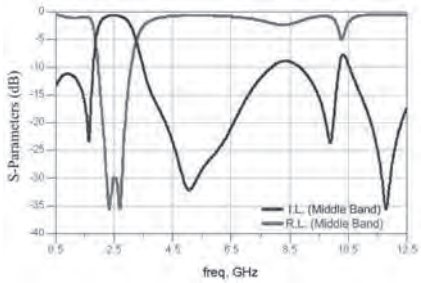
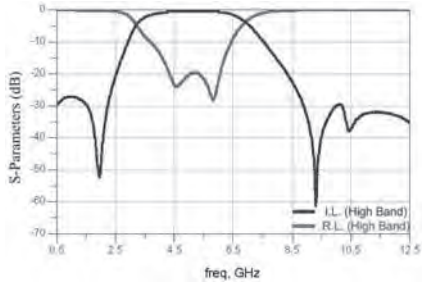


**RFTIP2012090T9T**

| Low band | Middle band | High band |
|---|---|---|
|  |  |  |

## TYPICAL ELECTRICAL CHARACTERISTICS

### RFTIP2012090TLT

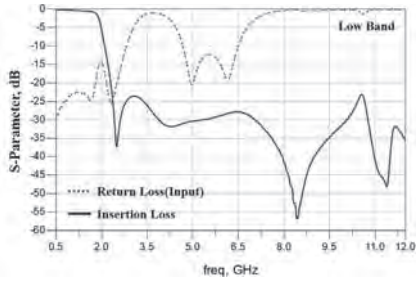
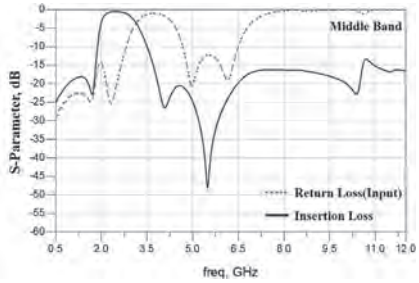
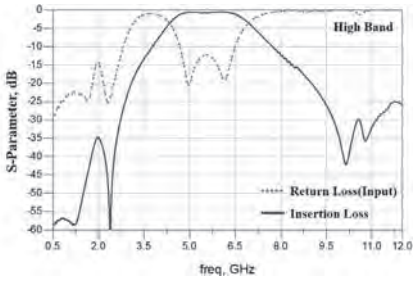
| Low band | Middle band | High band |
|---|---|---|
|  |  |  |







### RFTIP2109ATM0T63

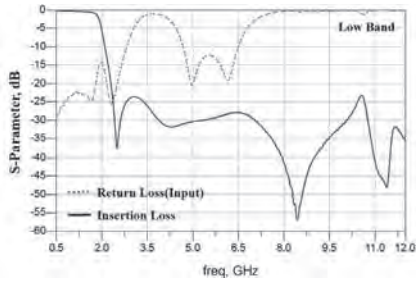
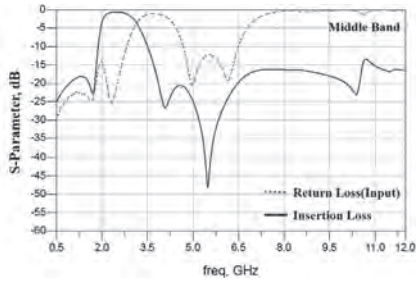
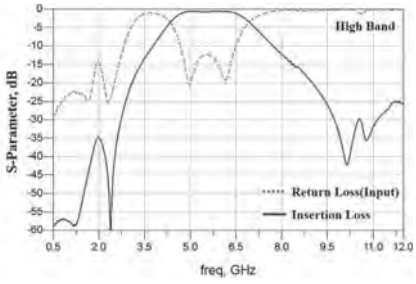
| Low band | Middle band | High band |
|---|---|---|
|  |  |  |







### RFTIP2109BTM5T62

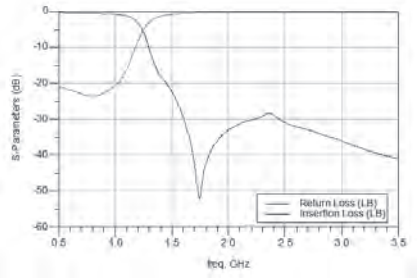
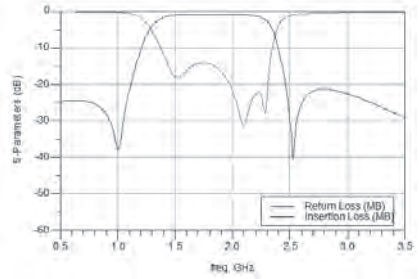
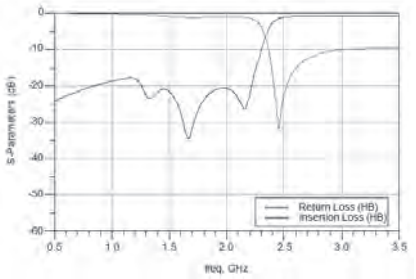
| Low band | Middle band | High band |
|---|---|---|
|  |  |  |







### RFTIP2520090T3T

| Low band | Middle band | High band |
|---|---|---|
|  |  |  |





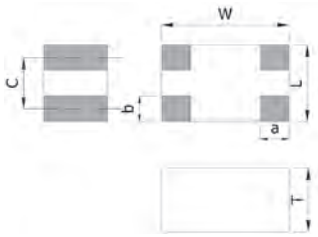


- **For more information, please contact with local sales representative**
- **All specifications are subject to change without notice**

# COMMON MODE FILTER

## ■ STRUCTURE AND PIN ASSOCIATED

**STRUCTURE A**



## ■ STRUCTURE AND DIMENSION

Unit: mm

| Structure\ Dimension | L | W | T | a | b | c |
|---|---|---|---|---|---|---|
| A | 1.20+0.40 -0.20 | 2.00+0.40 -0.20 | 1.00±0.20 | 0.45±0.20 | 0.40±0.20 | 0.80±0.10 |
| | 1.60±0.20 | 3.20±0.20 | 0.95±0.20 | 0.60±0.20 | 0.50±0.20 | 1.10±0.20 |
| | | | 1.00±0.20 | 0.60±0.20 | 0.50±0.20 | 1.10±0.20 |

## ■ ELECTRICAL SPECIFICATION

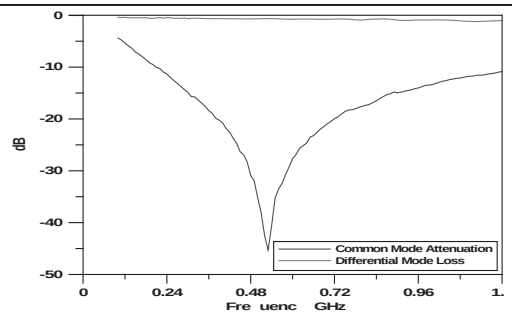
### DISCRETE CMF for HIGH SPEED TRANSMISSION LINES USB2.0 IEEE1394 LVDS(mini)

| Part Number | Characteristic Impedance (Differential) | Common Mode Attenuation (Min. ) | DC Resistance (Ω) max. | Rated Current (mA) | Size(mm) | Structure |
|---|---|---|---|---|---|---|
| RFCMF1220100M3T | 90 ohm | 9.0(240MHz ~ 1GHz) | 1.5 | 300 | 1.20x2.00x1.00 | A |
| RFCMF1220100M4T | 90 ohm | 9.0(130 MHz ~ 1GHz) | 2.5 | 200 | 1.20x2.00x1.00 | A |
| RFCMF1632090M1T | 90 ohm | 9.0(140 MHz ~ 1.0 GHz) | 1.5 | 300 | 1.60x3.20x0.95 | A |
| RFCMF1632100M3T | 90 ohm | 9.0(240 MHz ~ 1.0 GHz) | 1.5 | 300 | 1.60x3.20x1.00 | A |

## ■ TYPICAL ELECTRICAL CHARACTERISTICS

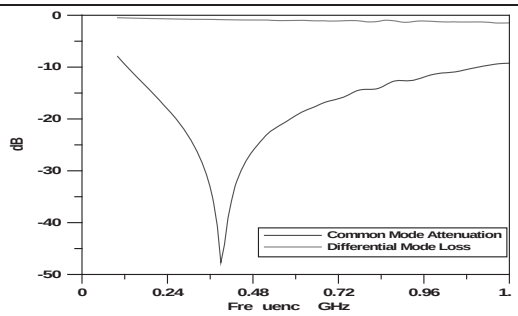
**RFCMF1220100M3T**

TYPICAL ELECTRICAL CHARACTERISTICS



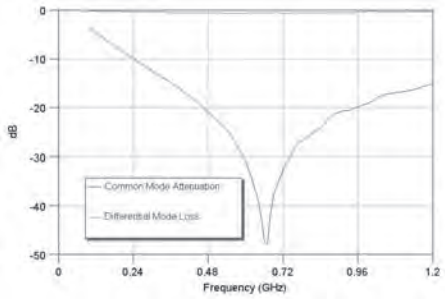

**RFCMF1220100M4T**

Impedance vs Frequency Characteristic:



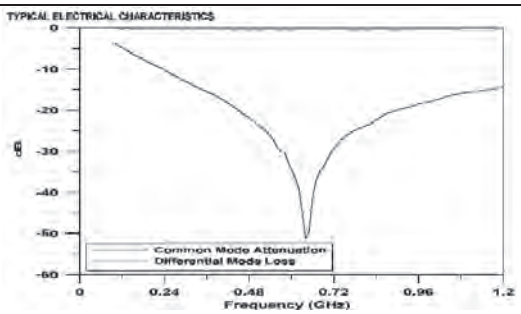

**RFCMF1632090M1T**

TYPICAL ELECTRICAL CHARACTERISTICS




**RFCMF1632100M3T**

TYPICAL ELECTRICAL CHARACTERISTICS

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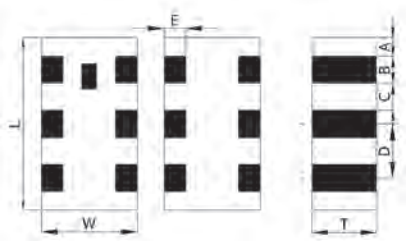
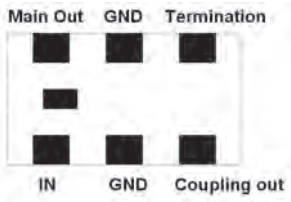
# COUPLER

## ■ STRUCTURE AND PIN ASSOCIATED

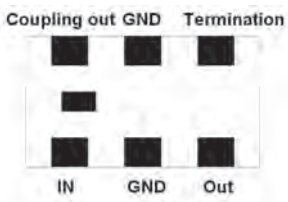
**STRUCTURE A**



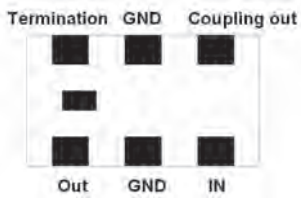

STRUCTURE A-1



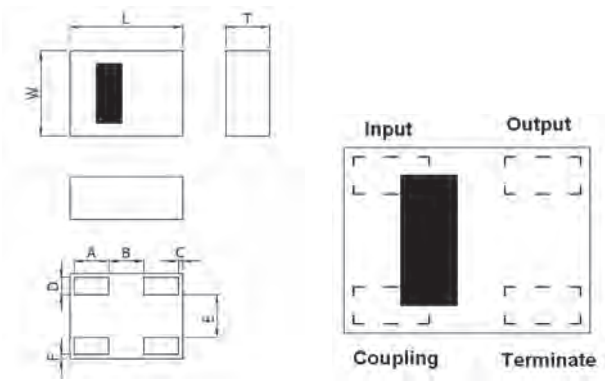

STRUCTURE A-2



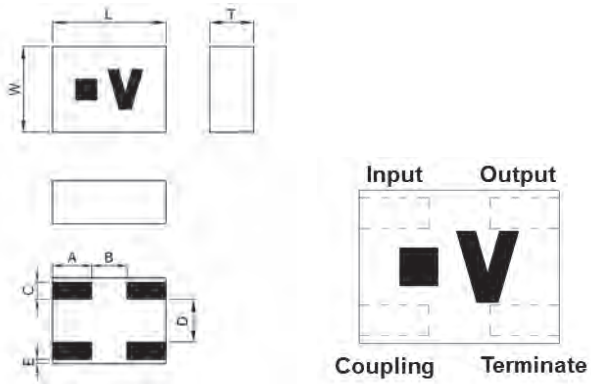

STRUCTURE A-3




**STRUCTURE B**




**STRUCTURE C**




## ■ STRUCTURE AND DIMENSION

Unit: mm

| Structure\ Dimension | L | W | T | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|
| A | 1.60±0.10 | 0.80±0.10 | 0.60±0.10 | 0.10±0.10 | 0.30±0.10 | 0.25±0.10 | 0.55±0.10 | 0.20±0.10 | - |
| | 1.60±0.10 | 0.80±0.10 | 0.60±0.10 | 0.175±0.10 | 0.25±0.10 | 0.25±0.10 | 0.50±0.10 | 0.20±0.10 | - |
| B | 0.65±0.04 | 0.50±0.04 | 0.35±0.10 | 0.20±0.04 | 0.20±0.04 | 0.025±0.025 | 0.10±0.04 | 0.25±0.04 | 0.025±0.025 |
| C | 0.65±0.10 | 0.50±0.10 | 0.35±0.05 | 0.225±0.10 | 0.20±0.05 | 0.10±0.05 | 0.25±0.05 | 0.025±0.025 | - |

## ■ ELECTRICAL SPECIFICATION

### ISM Band 2.4GHz Application

| Part Number | Frequency (MHz) | Insertion Loss (dB) | Coupling in BW | Directivity in BW dB (min.) | Isolation in BW dB (min.) | VSWR | Dimension ( mm³) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFCPL1806B2450T | 2400~2500 | 1.83 | 6.5 ± 1.0 dB | - | 21.0 dB min | 1.5 | 1.60x1.80x0.60 | A-1 |
| RFCPL1810B2450T | 2400~2500 | 0.74 | 10.0 ±1.0 dB | - | 22.0 dB min | 1.8 | 1.60x1.80x0.60 | A-1 |
| TFCPL0605B24508Q1C | 2400~2500 | 0.32(25℃)<br>0.40(-40~+85℃) | 14.6 ± 1.0 dB | 20.0 dB min. | - | 1.3 | 0.60x0.50x0.35 | B |

### ISM Band 2.4/5GHz Application

| Part Number | Frequency (MHz) | Insertion Loss (dB) | Coupling in BW | Directivity in BW dB (min.) | Isolation in BW dB (min.) | VSWR | Dimension ( mm³) | Structure |
|---|---|---|---|---|---|---|---|---|
| TFCPL0605030L18A1U | 2400~2500 | 0.5 | 19.0±1.5dB | 15 dB min. | - | 1.3 | 0.65x0.50x0.35 | B |
| | 4900~5850 | 0.5 | 12.5±1.5dB | 15 dB min. | - | 1.3 | | |
| TFCPL0605030L28Q1C | 2400~2500 | 0.2 | 19.3±0.7dB | 15 dB min. | - | 1.3 | 0.65x0.50x0.35 | B |
| | 5150~5850 | 0.5 | 13.0±1.5dB | 15 dB min. | - | 1.3 | | |
| RFCPL0605030L58Q1C | 2400~2500 | 0.3 | 19.0±1.5dB | 14.5 dB min. | - | 1.3 | 0.65x0.50x0.35 | C |
| | 4900~5850 | 0.6 | 13.0±2.0dB | 13.5dB min. | - | 1.8 | | |

## ISM Band 2.4/5GHz Application

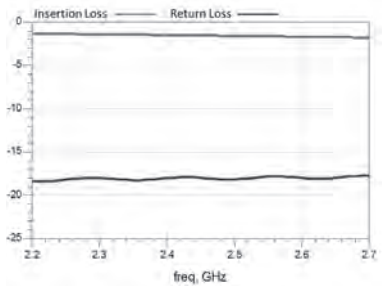
| Part Number | Frequency (MHz) | Insertion Loss (dB) | Coupling in BW | Directivity in BW dB (min.) | Isolation in BW dB (min.) | VSWR | Dimension ( mm³) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFCPL0605030L6T | 2400~2500 | 0.40(25℃)<br>0.45(-40~+85℃) | 21.5±1.5dB | 15 dB min. | - | 1.3 | 0.65x0.50x0.35 | C |
| | 4900~5850 | 0.40(25℃)<br>0.45(-40~+85℃) | 15.0±1.5dB | 15 dB min. | - | 1.3 | | |
| RFCPL0605030L9T | 2400~2500 | 0.20(25℃)<br>0.25(-40~+85℃) | 19.3±0.7dB | 15 dB min. | - | 1.3 | 0.65x0.50x0.35 | C |
| | 4900~5850 | 0.50(25℃)<br>0.55(-40~+85℃) | 13.0±1.5dB | 15 dB min. | - | 1.3 | | |
| RFCPL0605030LFT | 2400~2500 | 0.22(25℃)<br>0.24(-40~+85℃) | 21.5±1.0dB | 14 dB min. | - | 1.3 | 0.65x0.50x0.35 | C |
| | 4900~5850 | 0.32(25℃)<br>0.35(-40~+85℃) | 15.0±1.2dB | 14 dB min. | - | 1.3 | | |
| RFCPL0605030LHT | 2400~2500 | 0.40(25℃)<br>0.45(-40~+85℃) | 21.5±1.5dB | 15 dB min. | - | 1.3 | 0.65x0.50x0.35 | C |
| | 4900~5850 | 0.40(25℃)<br>0.45(-40~+85℃) | 15.0±1.5dB | 15 dB min. | - | 1.3 | | |

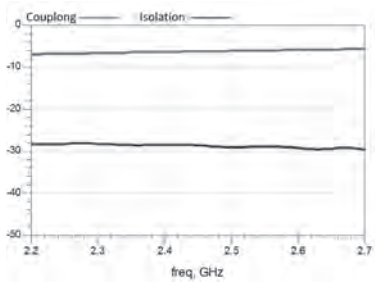
## LTE BAND APPLICATION

| Part Number | Frequency (MHz) | Insertion Loss (dB) | Coupling in BW | Directivity in BW dB (min.) | Isolation in BW dB (min.) | VSWR | Dimension ( mm³) | Structure |
|---|---|---|---|---|---|---|---|---|
| RFCPL1608070P08Q1C | 698~2690 | 0.20(698~960MHz)<br>0.22(1427.9~2170MHz)<br>0.25(2300~2690MHz) | 23.0~27.0(698~915MHz)<br>21.5~26.5(1427.9~2025MHz)<br>22.5~27.5(2300~2620MHz) | 20. | - | 1.5 | 1.60x1.80x0.60 | A-2 |
| RFCPL1608070P28Q1C | 698~2690 | 0.20(698~960MHz)<br>0.22(1427.9~2170MHz)<br>0.25(2300~2690MHz) | 23.0~27.0(698~915MHz)<br>21.5~26.5(1427.9~2025MHz)<br>22.5~27.5(2300~2620MHz) | 20 | - | 1.5 | 1.60x1.80x0.60 | A-2 |
| RFCPL1608070P38Q1C | 698~2690 | 0.20(698~960MHz)<br>0.22(1710~2170MHz)<br>0.25(2300~2690MHz) | 23.0~27.0(698~915MHz)<br>21.5~26.5(1710~2025MHz)<br>22.5~27.5(2300~2620MHz) | 20 | - | 1.45 | 1.60x1.80x0.60 | A-3 |
| RFCPL1608070PM9T16 | 700~2700 | 0.2(700~790MHz)<br>(Typ.0.07)<br>0.2(820~900MHz)<br>(Typ.0.07)<br>0.3(1701~2100MHz)<br>(Typ.0.15)<br>0.3(2300~2700MHz)<br>(Typ.0.15) | 24~27(700~790MHz)<br>24~27(820~900MHz)<br>20~23(1701~2100MHz)<br>20~23(2300~2700MHz) | - | 40(700~790MHz)<br>40(820~900MHz)<br>35(1701~2100MHz<br>)<br>35(2300~2700MHz<br>) | 1.45 | 1.60x1.80x0.60 | A-1 |

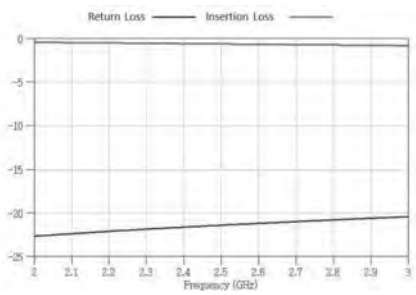
## ■ TYPICAL ELECTRICAL CHARACTERISTICS

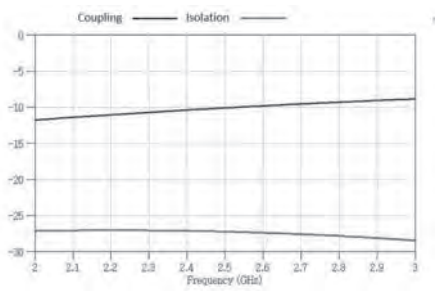
**RFCPL1806B2450T**



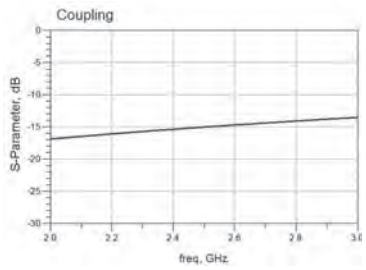

**RFCPL1810B2450T**

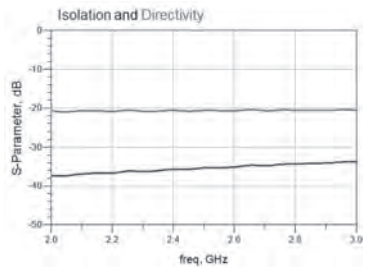


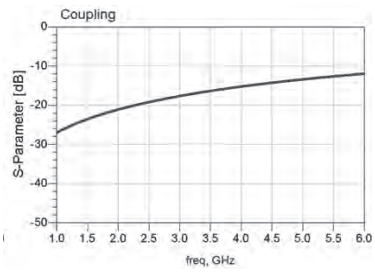
## TYPICAL ELECTRICAL CHARACTERISTICS

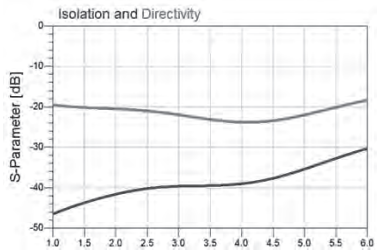
### TFCPL0605B24508Q1C




### FCPL0605030L28Q1C

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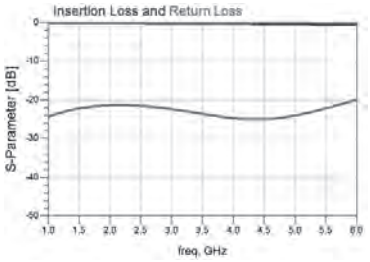


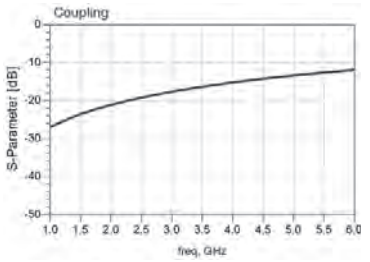


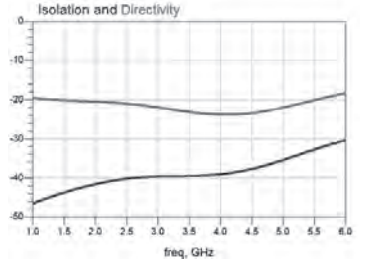


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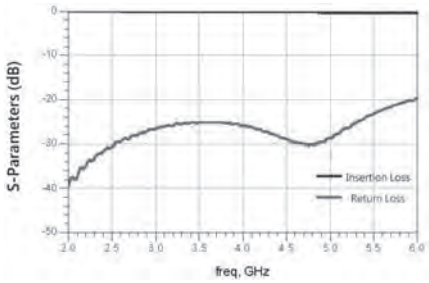


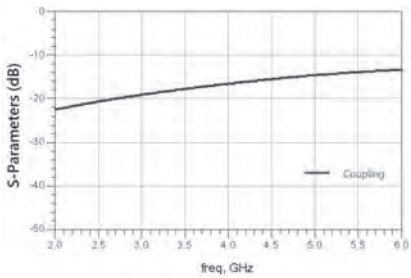


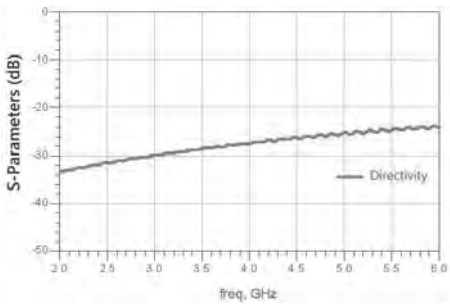


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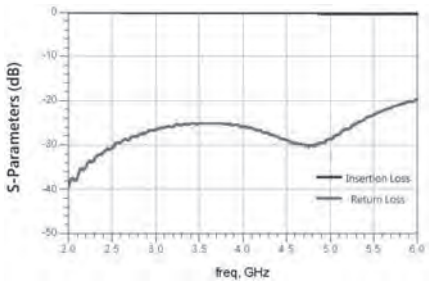
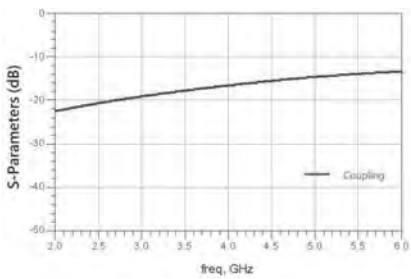
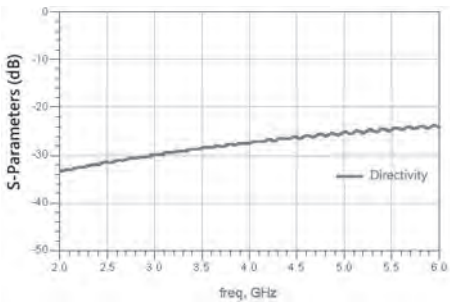
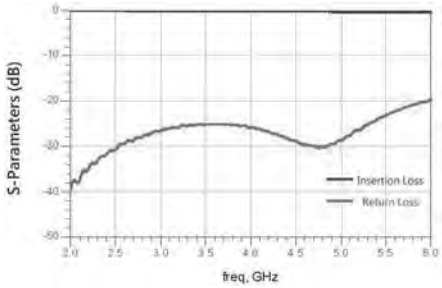


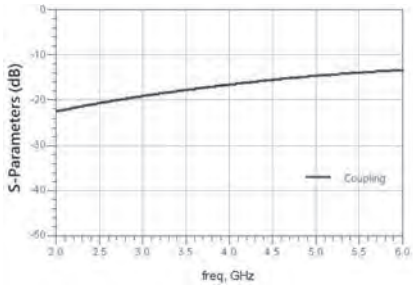



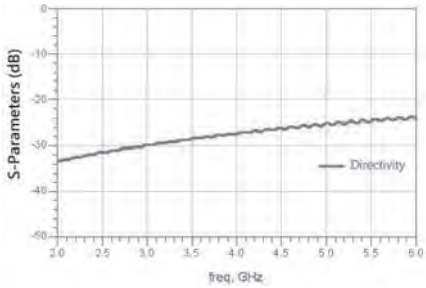



## TYPICAL ELECTRICAL CHARACTERISTICS

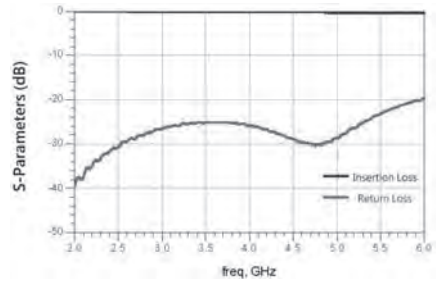
### RFCPL0605030L9T

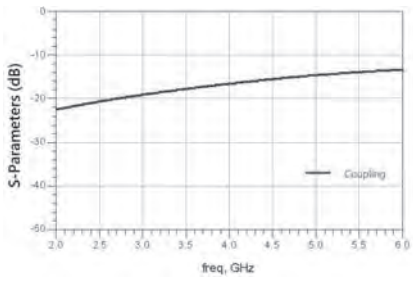


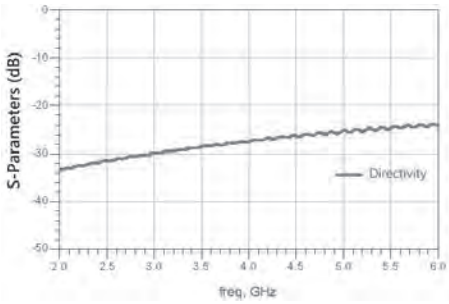




### RFCPL0605030LFT

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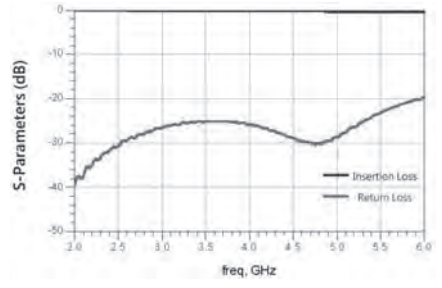


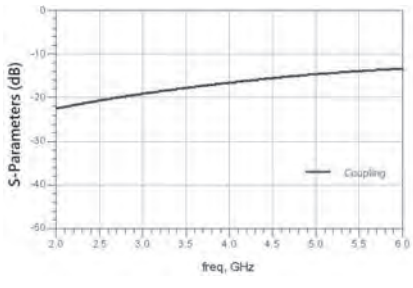


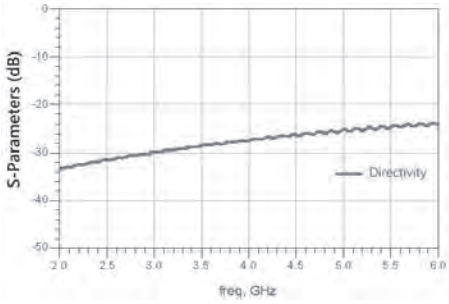


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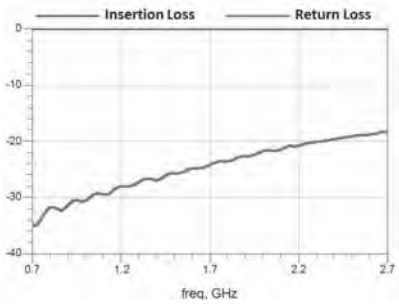


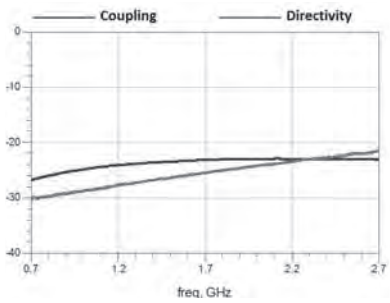


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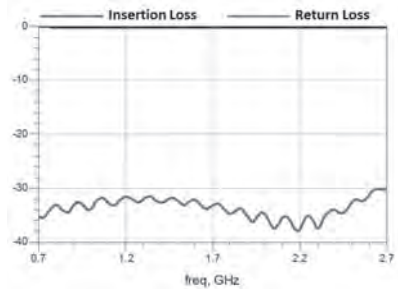


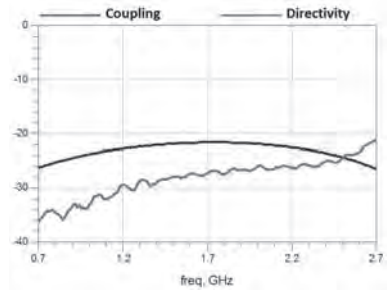

## TYPICAL ELECTRICAL CHARACTERISTICS

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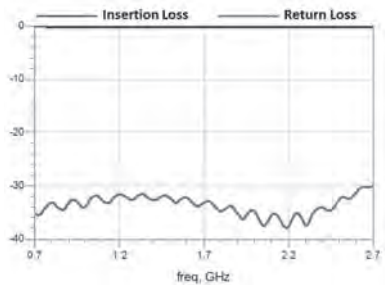


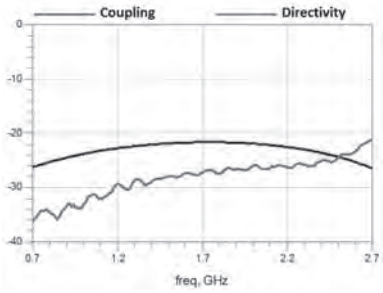


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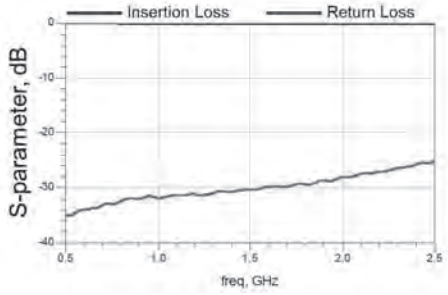


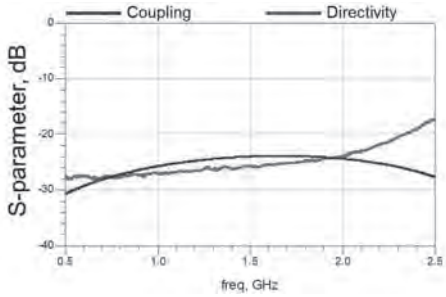


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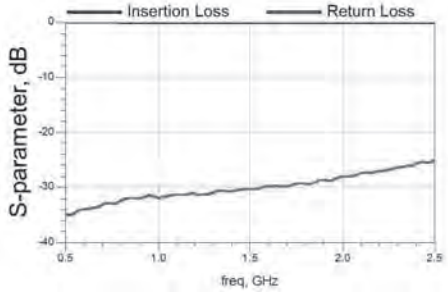


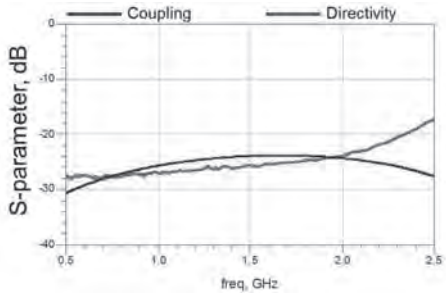


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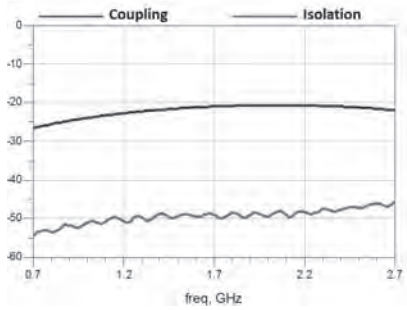
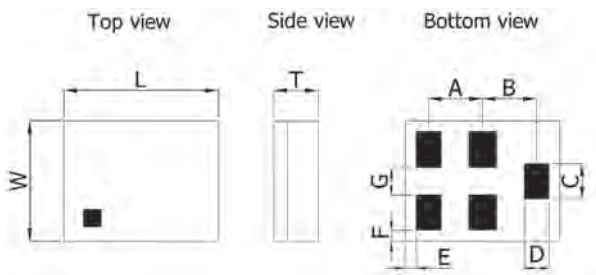


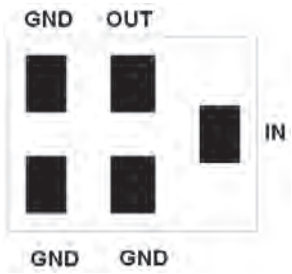

- **For more information, please contact with local sales representative**
- **All specifications are subject to change without notice**

# SAW Filter

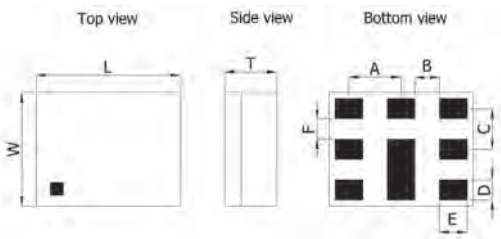
## ■ STRUCTURE AND PIN ASSOCIATED

### STRUCTURE A

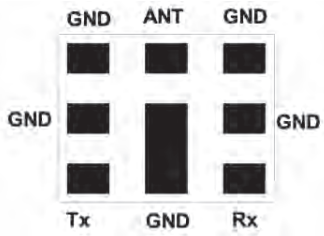


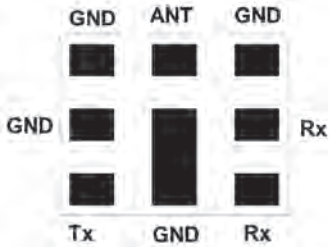

### STRUCTURE B



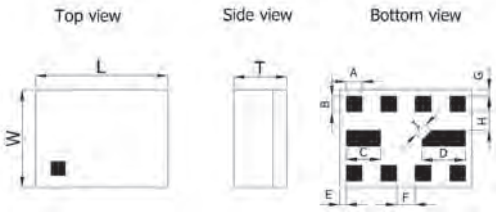

STRUCTURE B-1



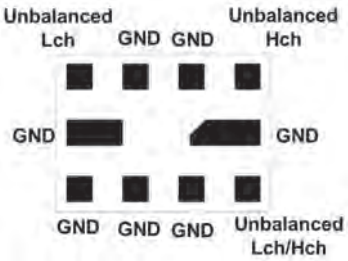

STRUCTURE B-2



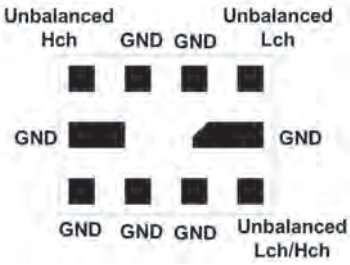

### STRUCTURE C




STRUCTURE C-1




STRUCTURE C-2




## ■ STRUCTURE AND DIMENSION

Unit: mm

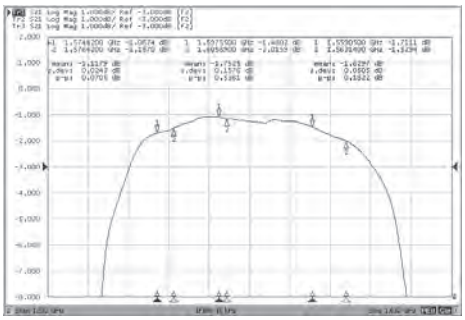
| Structure\ Dimension | L | W | T | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1.10±0.10 | 0.90±0.10 | 0.50max. | 0.40 | 0.40 | 0.25 | 0.20 | 0.05 | 0.075 | 0.25 | - | - |
| | 1.40±0.13 | 1.10±0.13 | 0.65max. | 0.50 | 0.50 | 0.325 | 0.25 | 0.075 | 0.10 | 0.25 | - | - |
| B | 1.80±0.10 | 1.40±0.10 | 0.65max. | 0.65 | 0.30 | 0.50 | 0.25 | 0.35 | 0.25 | - | - | - |
| C | 1.50±0.10 | 1.10±0.10 | 0.60max. | 0.18 | 0.18 | 0.39 | 0.49 | 0.075 | 0.21 | 0.07 | 0.21 | 0.15 |

## ■ ELECTRICAL SPECIFICATION

| Application | Type | Part Number | Band | Frequency(MHz) | Package (mm) | STRUCTURE |
|---|---|---|---|---|---|---|
| GPS/Wifi | GPS SAW 3 Mode | SF11091582GC2T | GPS+G+C | 1559.05~1605.89 | 1.1 x 0.9 | A |
| | GPS SAW 3 Mode | SF14111582GC01T | GPS+G+C | 1559.05~1605.66 | 1.4 x 1.1 | A |
| | SAW | SF11092450A04T | WLAN | 2400~2500 | 1.1 x 0.9 | A |
| | SAW | SF14112450A03T | WLAN | 2400~2500 | 1.4 x 1.1 | A |
| | SAW | SF14112442A01T | WLAN | 2400~2484 | 1.4 x 1.1 | A |
| | SAW | SF14112442A03T | WLAN | 2401~2483 | 1.4 x 1.1 | A |
| FDD LTE | SAW Duplexer | DF18141950B104T | B1 | 1920~1980/2110~2170 | 1.8 x 1.4 | B-1 |
| | SAW Duplexer | DF18140836B511T | B5 | 824~849/869~894 | 1.8 x 1.4 | B-1 |
| | SAW Duplexer | DF18141880B203T | B2 | 1850.48~1909.52/1930.48~1989.52 | 1.8 x 1.4 | B-1 |
| | SAW Duplexer | DF18141747B303T | B3 | 1712.5~1782.5/1807.5~1877.5 | 1.8 x 1.4 | B-1 |
| | SAW Duplexer | DF18142535B705T | B7 | 2500~2570/2620~2690 | 1.8 x 1.4 | B-1 |
| | SAW Duplexer | DB18142140B102T | B1 | 1920~1980/2110~2170 | 1.8 x 1.4 | B-2 |
| | SAW Duplexer | DB18140881B507T | B5 | 824~849/869~894 | 1.8 x 1.4 | B-2 |
| | SAW Duplexer | DB18140942B801T | B8 | 880~915/925~960 | 1.8 x 1.4 | B-2 |
| FDD LTE | RX SAW | SF11092140B102T | B1 | 2110~2170 | 1.1 x 0.9 | A |
| | RX SAW | SF11091960B201T | B2 | 1930~1990 | 1.1 x 0.9 | A |
| | RX SAW | SF11091842B305T | B3 | 1805~1880 | 1.1 x 0.9 | A |
| | RX SAW | SF11090881B506T | B5 | 869~894 | 1.1 x 0.9 | A |
| | RX SAW | SF11092655B702T | B7 | 2620~2690 | 1.1 x 0.9 | A |
| | RX SAW | SF11090942B805T | B8 | 925~960 | 1.1 x 0.9 | A |
| TDD LTE | Rx Dual SAW | BF1511B394101AT | B39/B41 | 1880~1920/2550~2655 | 1.5 x 1.1 | C-2 |
| | Rx Dual SAW | BF1511B394101BT | B39/B41 | 1880~1920/2550~2655 | 1.5 x 1.1 | C-1 |
| TDD LTE | TRx SAW | SF14112595B3803T | B38 | 2570~2620 | 1.4 x 1.1 | A |
| | TRx SAW | SF14112350B4001T | B40 | 2300~2400 | 1.4 x 1.1 | A |
| | TRx SAW | SF14112605B41S4T | B41 | 2550~2655 | 1.4 x 1.1 | A |
| | TRx SAW | SF14112593B4102T | B41 | 2496~2690 | 1.4 x 1.1 | A |
| | TRx SAW | SF14112017B3402T | B34 | 2010~2025 | 1.4 x 1.1 | A |
| | TRx SAW | SF14111900B3906T | B39 | 1880~1920 | 1.4 x 1.1 | A |
| | TRx SAW | SF11092595B3804T | B38 | 2570~2620 | 1.1 x 0.9 | A |
| | TRx SAW | SF11092350B4004T | B40 | 2300~2400 | 1.1 x 0.9 | A |
| | TRx SAW | SF11092595B4108T | B41 | 2535~2655 | 1.1 x 0.9 | A |
| | TRx SAW | SF11092017B3403T | B34 | 2010~2025 | 1.1 x 0.9 | A |
| | TRx SAW | SF11091900B3907T | B39 | 1880~1920 | 1.1 x 0.9 | A |
| TDD LTE | Rx SAW | SF11092595B3805T | B38 | 2570~2620 | 1.1 x 0.9 | A |
| | Rx SAW | SF11092350B4005T | B40 | 2300~2400 | 1.1 x 0.9 | A |
| | Rx SAW | SF11092602B41W9T | B41 | 2550~2655 | 1.1 x 0.9 | A |

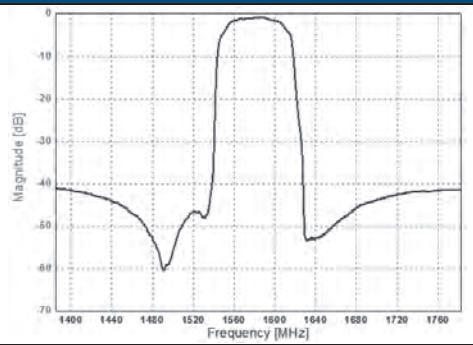
## ■ TYPICAL ELECTRICAL CHARACTERISTICS

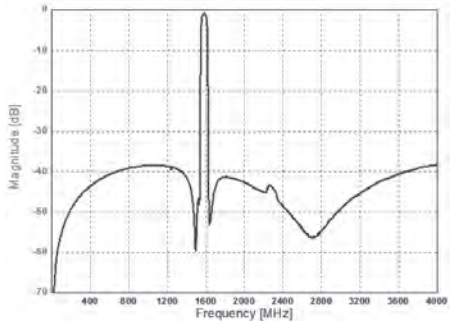
**SF11091582GC2T**



## TYPICAL ELECTRICAL CHARACTERISTICS

### SF14111582GC01T

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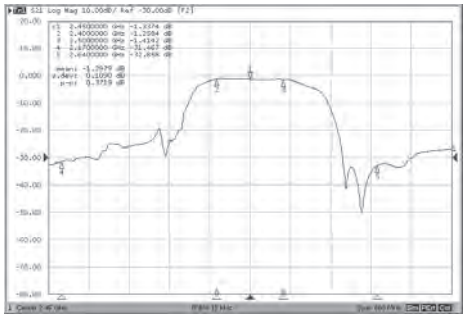

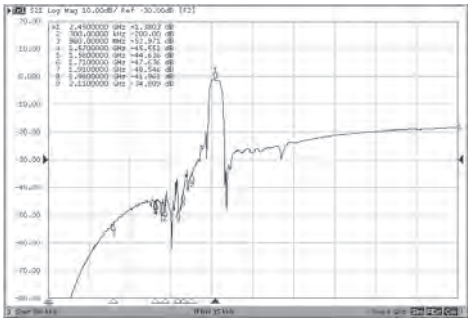

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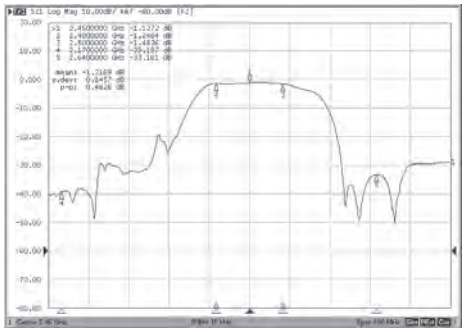

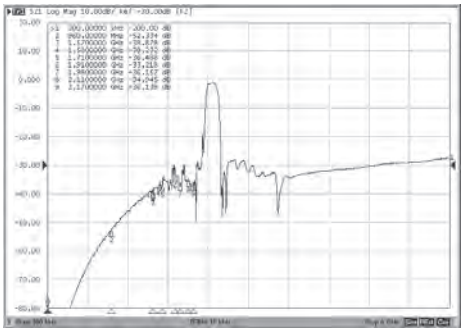

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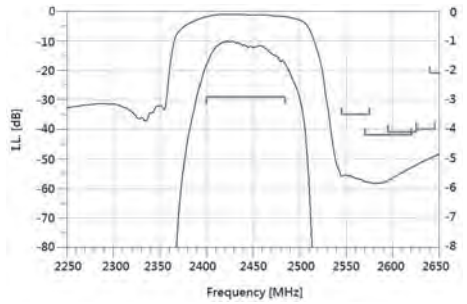


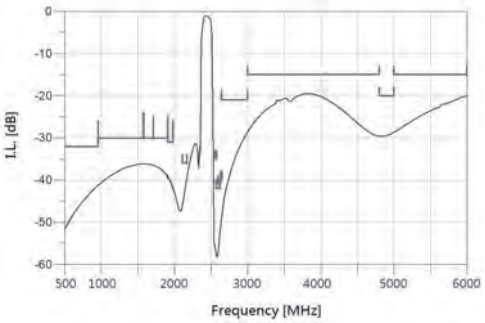


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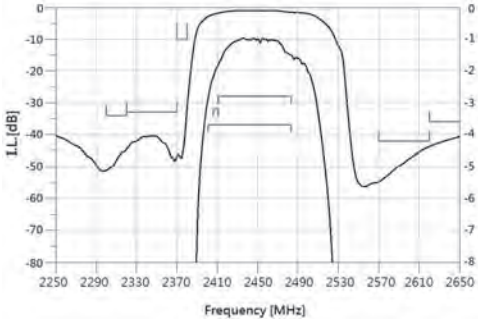


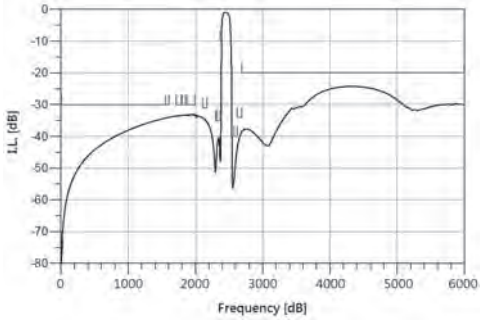

## TYPICAL ELECTRICAL CHARACTERISTICS

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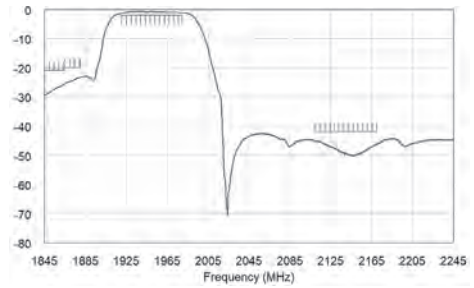


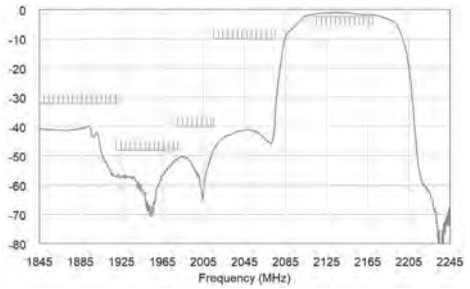


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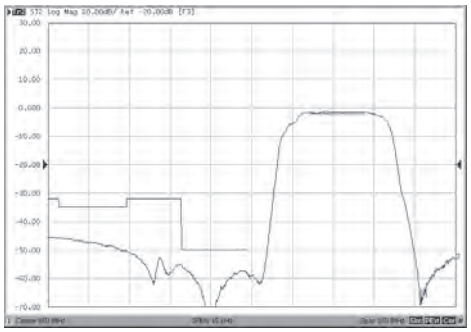

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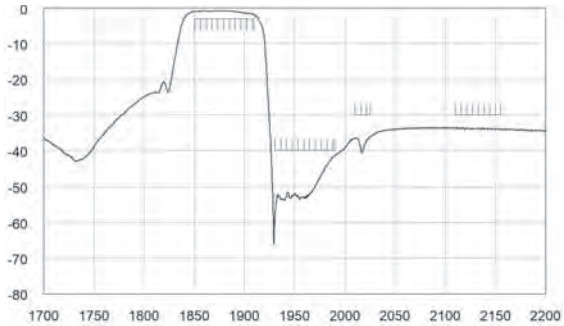


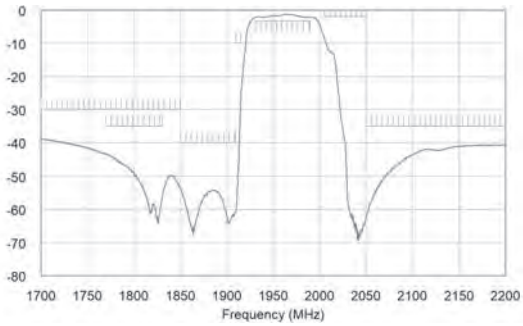


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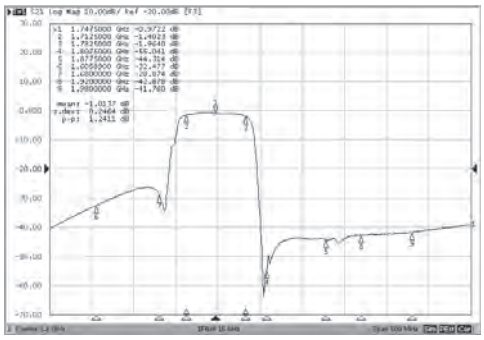

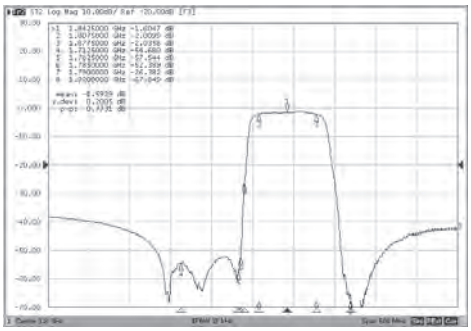

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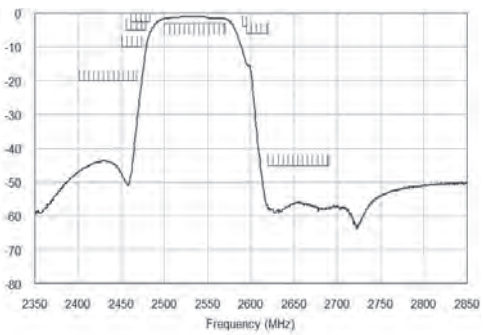


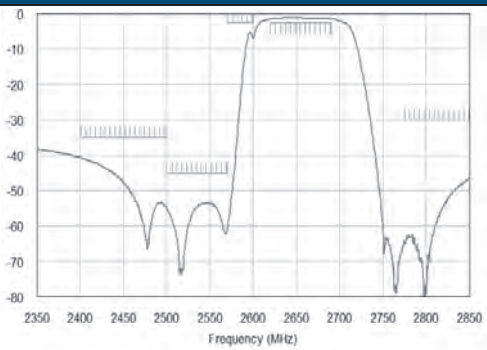

## TYPICAL ELECTRICAL CHARACTERISTICS

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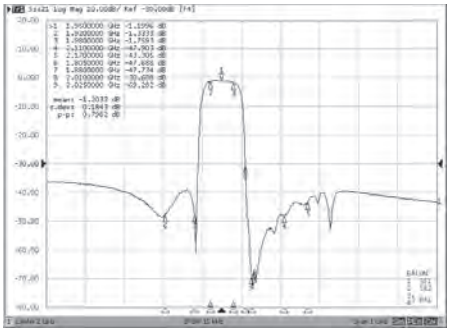

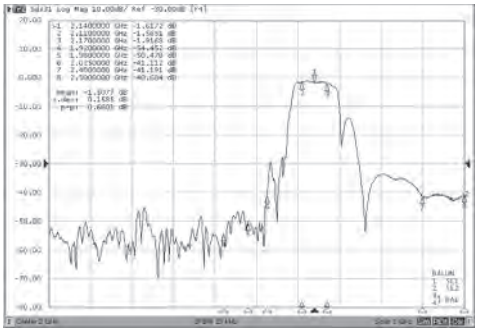

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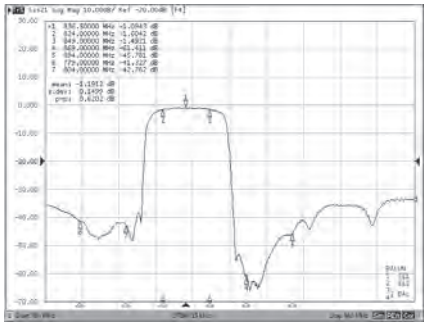

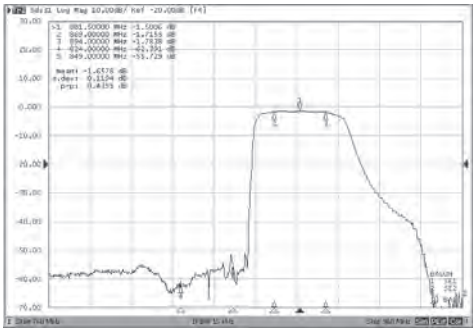

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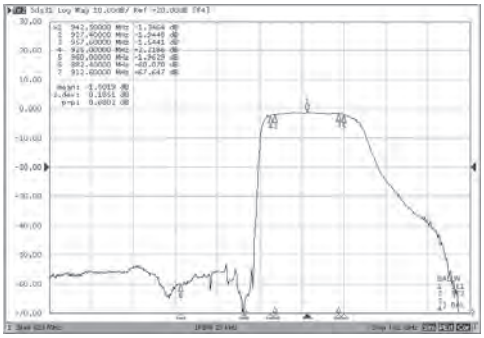

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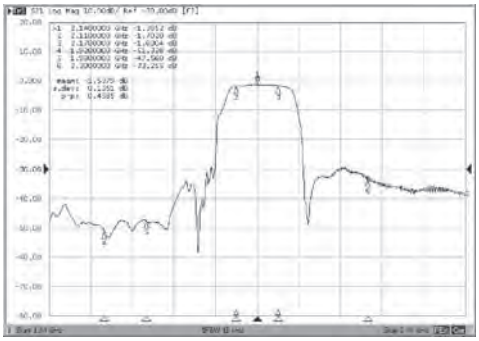

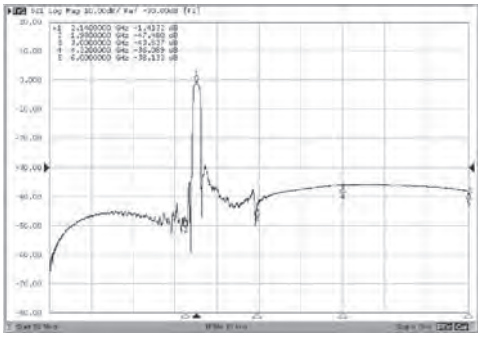

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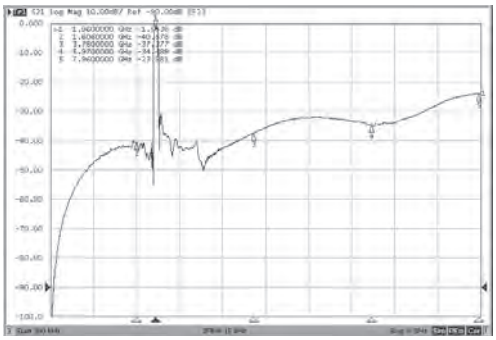

## TYPICAL ELECTRICAL CHARACTERISTICS

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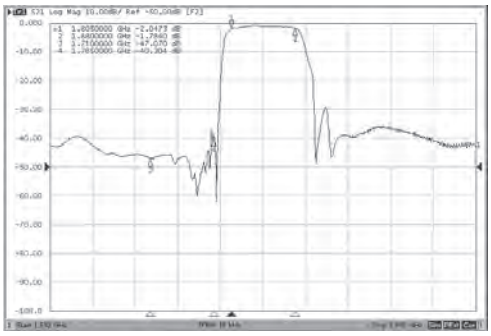

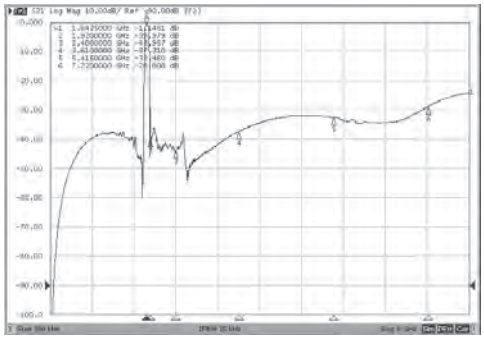

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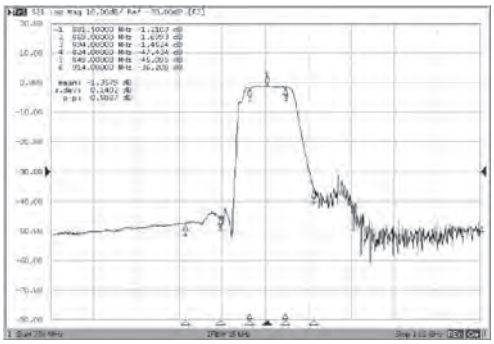

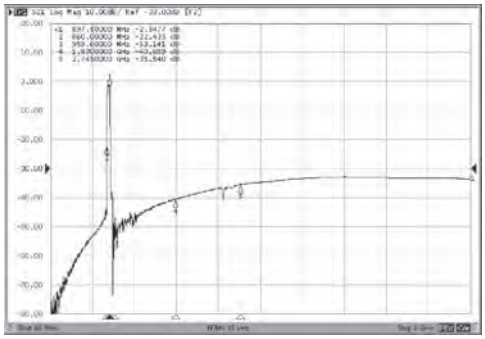

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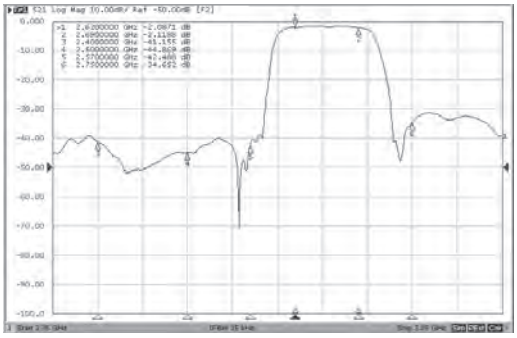

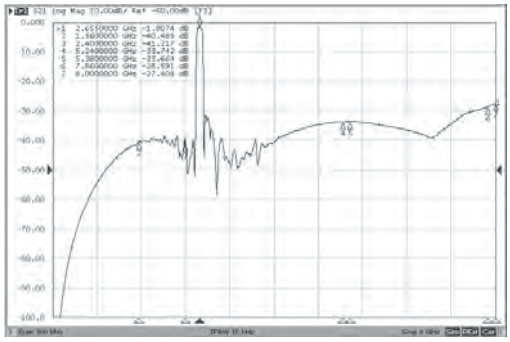

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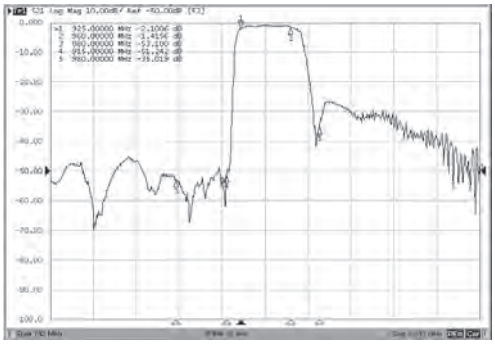

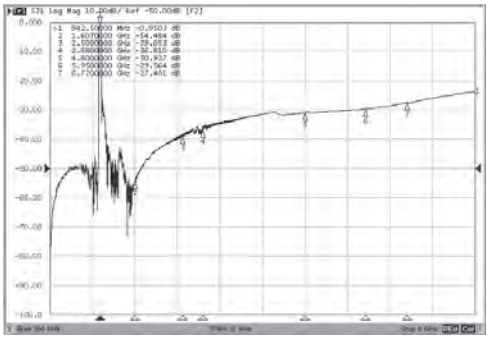

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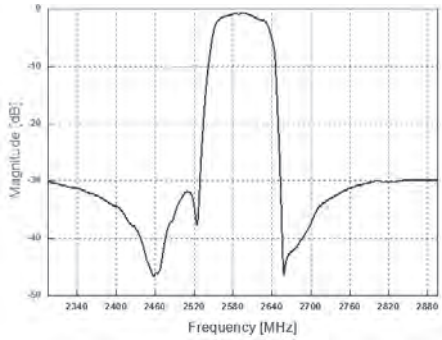


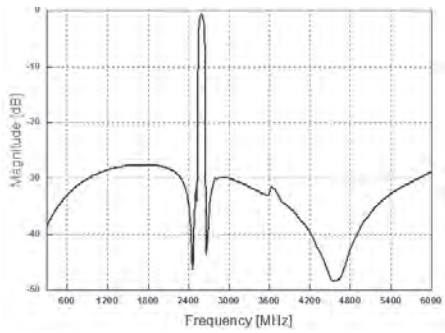

## TYPICAL ELECTRICAL CHARACTERISTICS

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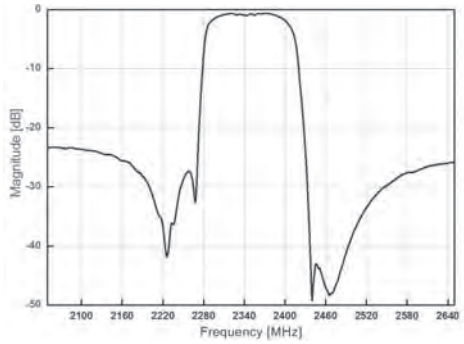


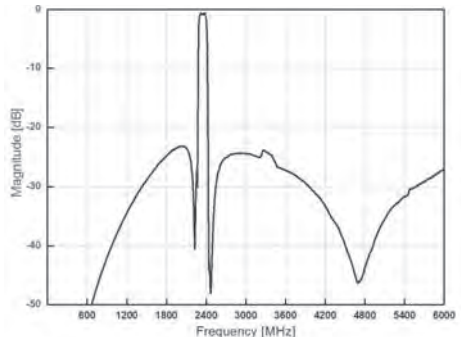


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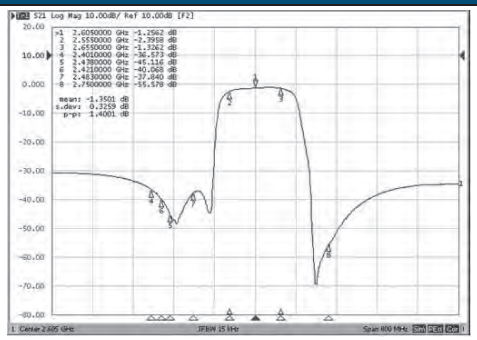

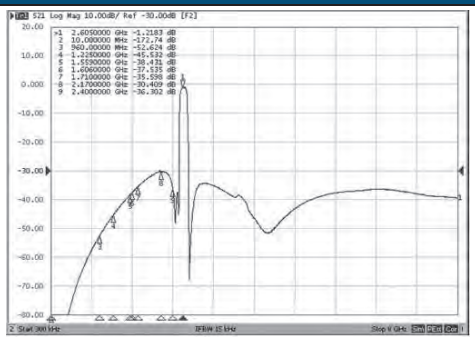

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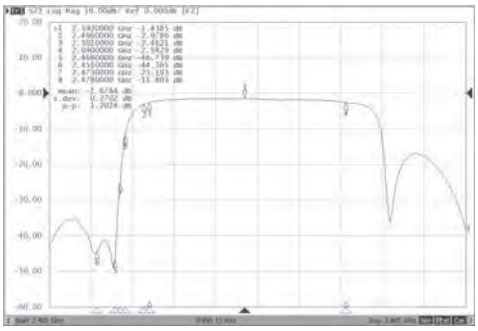

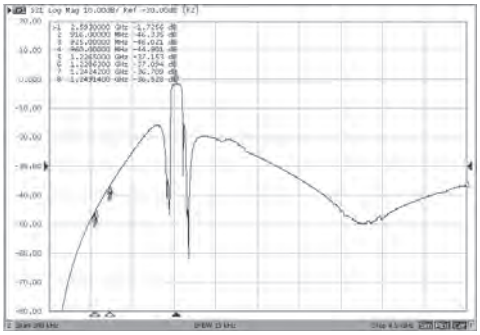

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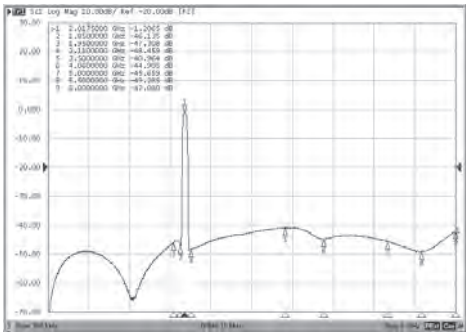

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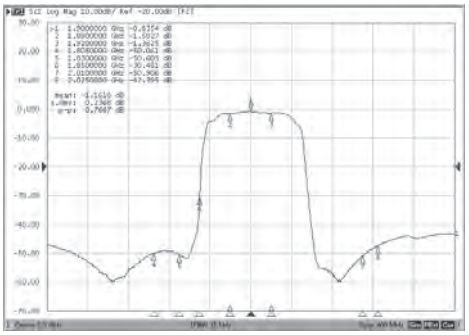

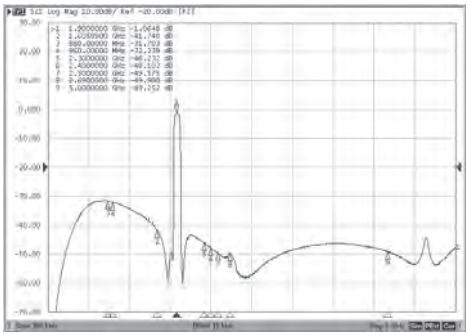

## TYPICAL ELECTRICAL CHARACTERISTICS

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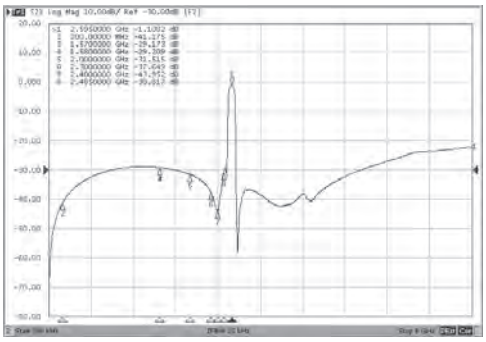

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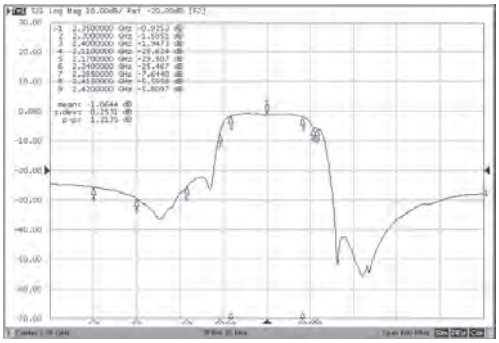

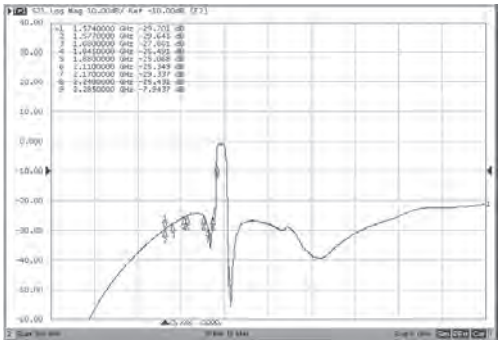

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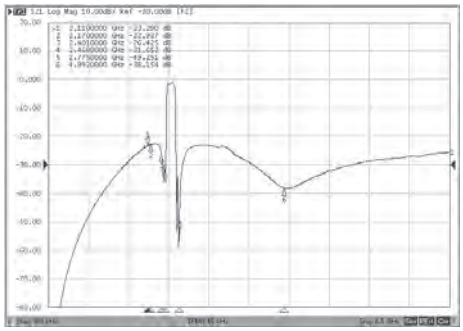

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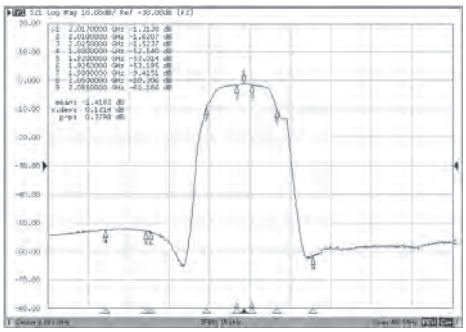

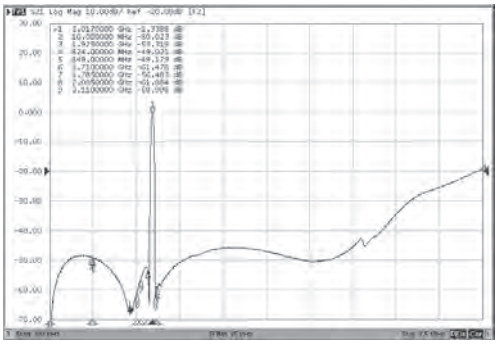

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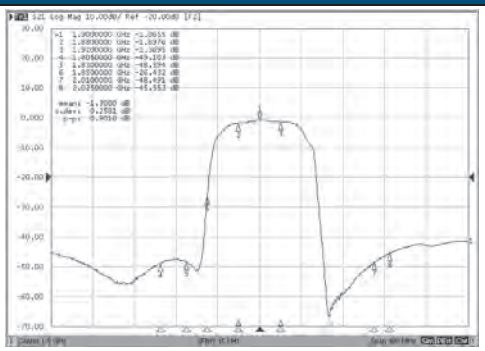

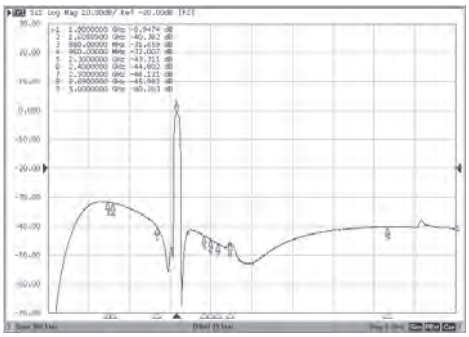

## TYPICAL ELECTRICAL CHARACTERISTICS

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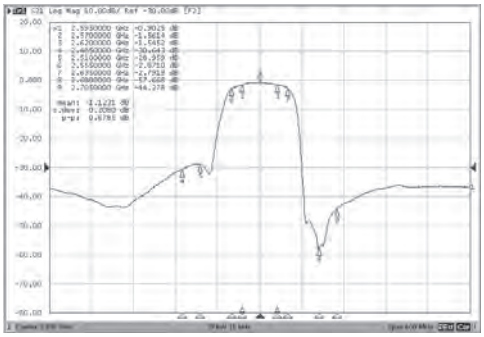

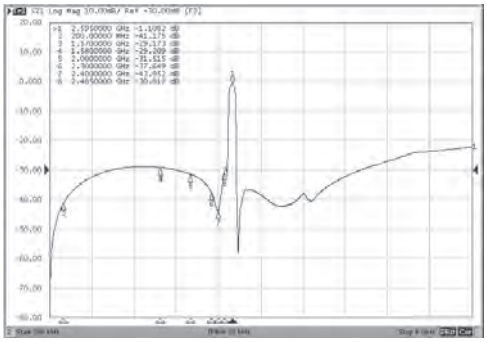

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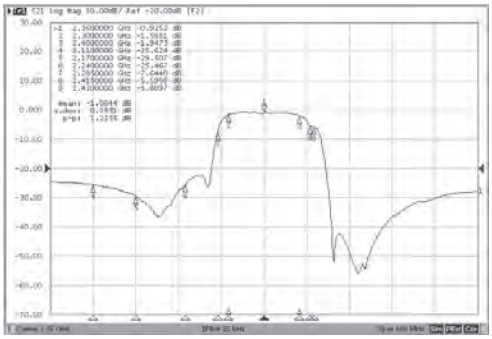

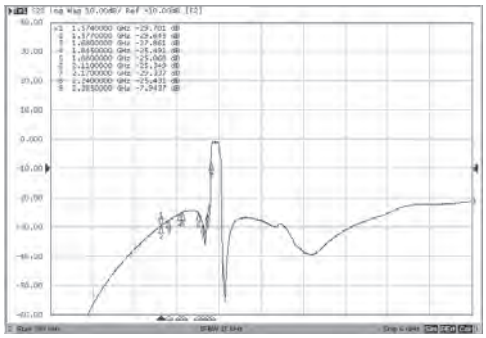

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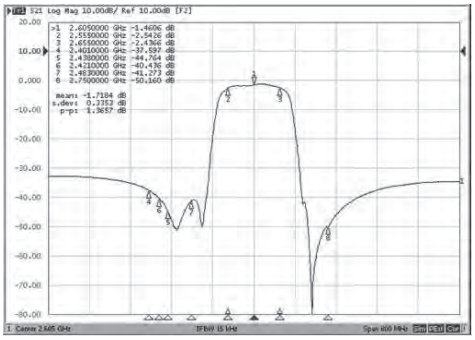

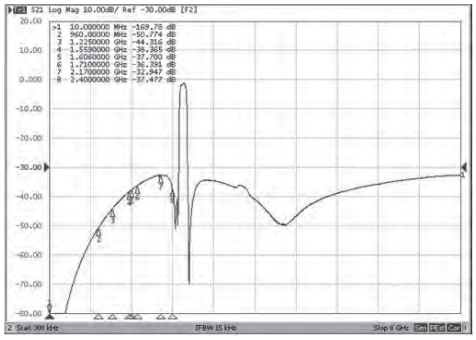

- **For more information, please contact with local sales representative**
- **All specifications are subject to change without notice**

# ANTENNA SWITCH

## ■ Application Circuit (GPIO)

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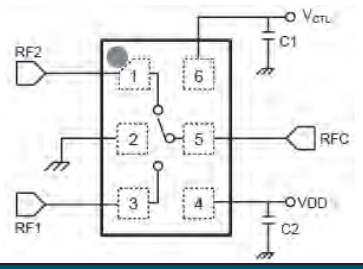
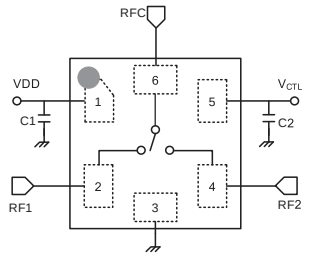
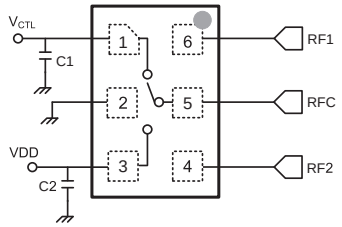
|---|---|---|
| SPDT | SPDT | SPDT |
|  |  |  |
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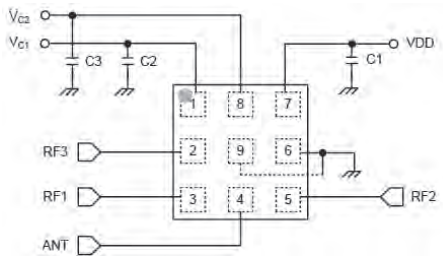
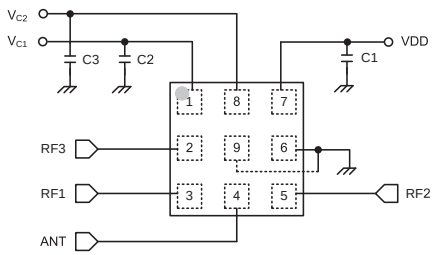
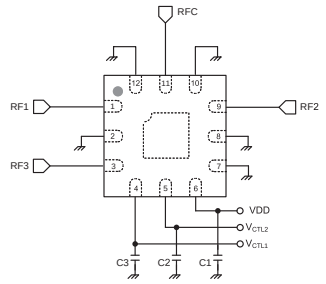
|  |  |  |
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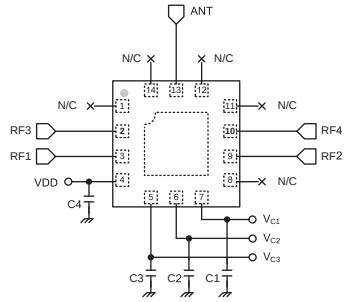
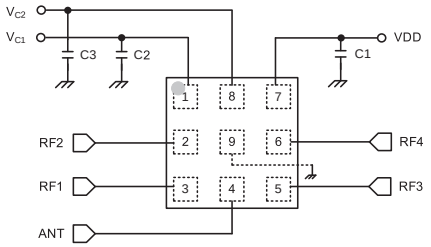
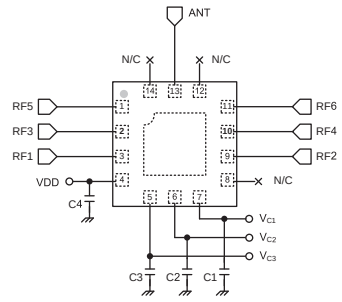
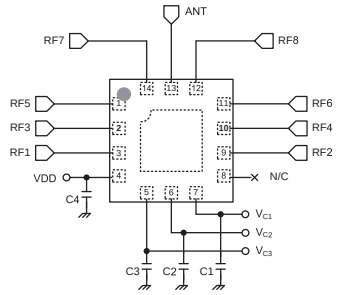
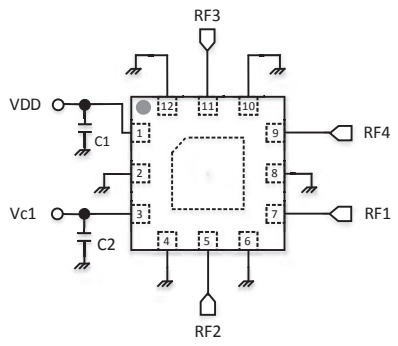
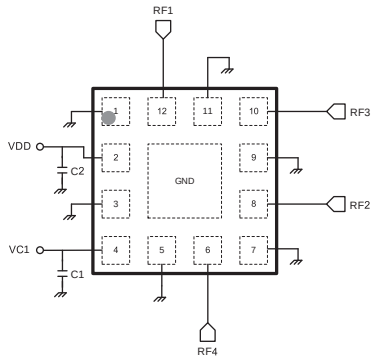
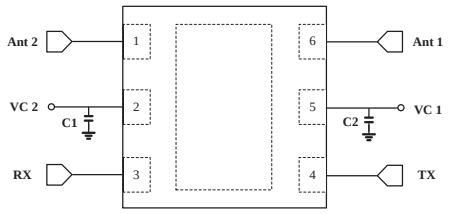
| SP4T | SP4T | SP6T |
|  |  |  |
| **RFASWDH2418PTF06** | | |
| SP8T | | |
|  | | |

# ANTENNA SWITCH

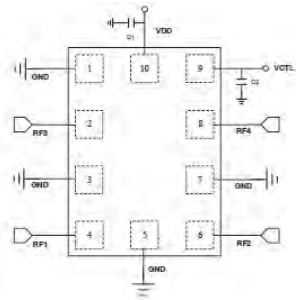
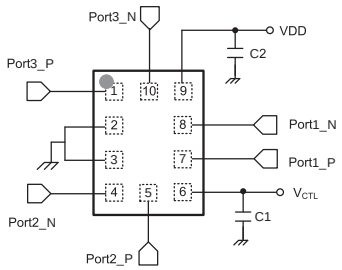
## ■ Application Circuit (GPIO)

| RFASWB643ATF09 | RFASWB646BTF09 | RFASWB438ATF09 |
|---|---|---|
| DPDT | DPDT | DPDT |
|  |  |  |







| RFASWB022ATF09 | RFASWCM0624ATF09 |
|---|---|
| DPDT | DP4T |
|  |  |

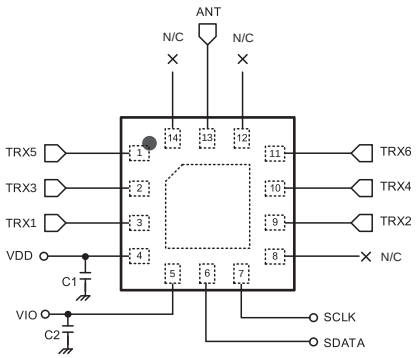
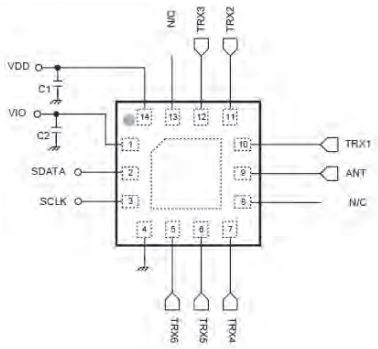
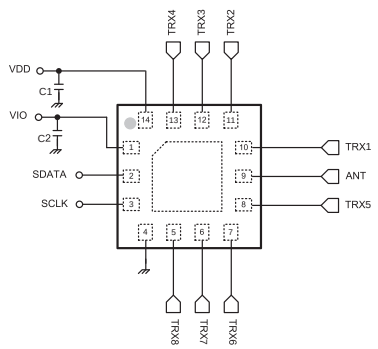


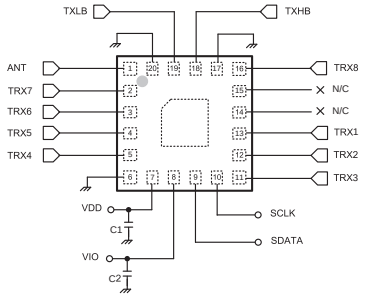
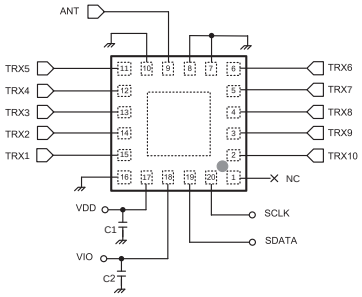
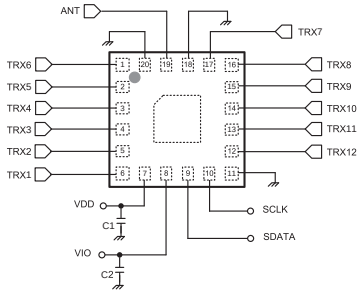


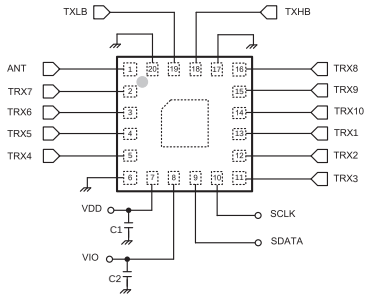
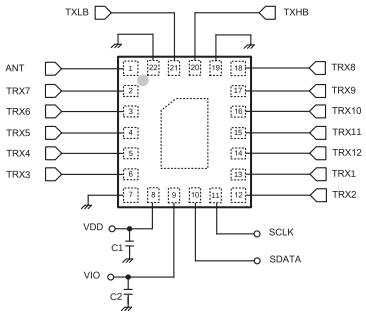
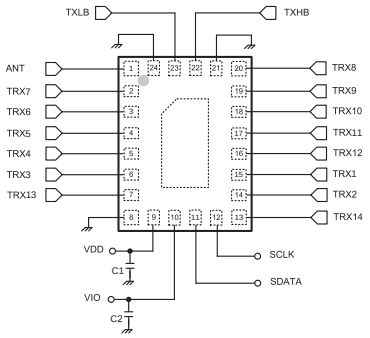
## ■ ELECTRICAL SPECIFICATION

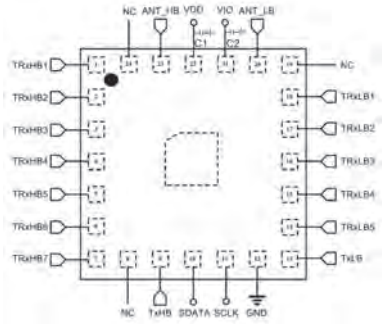
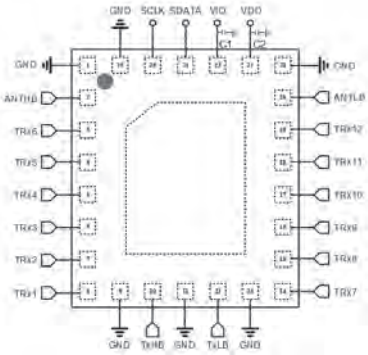
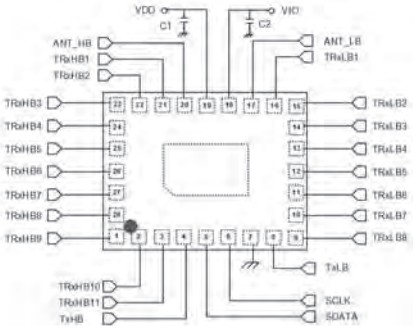
| Part Number | Description | Frequency (GHz )Min. | Frequency (GHz )Max. | Insertion loss (dB) | Isolation (dB) | VSWR | Package (mm) |
|---|---|---|---|---|---|---|---|
| RFASWA630PTF06 | SPDT | 0.1 | 6 | 0.25~1.1dB | 14~35 | 1.20 | 1.1 x 0.7 |
| RFASWA697ATF09 | | 0.4 | 6 | 0.35~1.00dB | 15~32 | 1.50 | 1.0 x 1.0 |
| RFASWAM3489ATF09 | | 0.7 | 2.7 | 0.38~0.50dB | 21~33 | 1.25 | 1.1 x 0.7 |
| RFASWMT2628PTF09 | SP3T | 0.5 | 2.7 | 0.30~0.60dB | 20~35 | 1.43 | 1.0 x 1.0 |
| RFASWMT2628BTF09 | | 0.8 | 2.7 | 0.30~0.70dB | 14~26 | 1.50 | 1.0 x 1.0 |
| RFASWMH6373ATF09 | | 0.5 | 6 | 0.32~0.80dB | 15~32 | 1.40 | 2.0 x 2.0 |
| RFASWKH4414PTF06 | SP4T | 0.1 | 2.7 | 0.45~0.65dB | 24~38 | 1.22 | 2.0 x 2.0 |
| RFASWK626ATF09 | | 0.7 | 2.7 | 0.30~0.50dB | 27~38 | 1.60 | 1.1 x 1.1 |
| RFASWHH1416PTF06 | SP6T | 0.1 | 2.7 | 0.4~0.65dB | 24~38 | 1.22 | 2.0 x 2.0 |
| RFASWDH2418PTF06 | SP8T | 0.1 | 2.7 | 0.30~0.80dB | 18~35 | 1.50 | 2.0 x 2.0 |
| RFASWB643ATF09 | DPDT | 0.7 | 2.7 | 0.40~0.55dB | 22~30 | 1.28 | 2.0 x 2.0 |
| RFASWB646BTF09 | | 0.7 | 3.8 | 0.40~0.70dB | 25~33 | 1.20 | 1.83 x 1.83 |
| RFASWB438ATF09 | | 0.1 | 6 | 0.50~1.20dB | 13~28 | 1.43 | 1.5 x 1.5 |
| RFASWB022ATF09 | | 0.6 | 6 | 0.40~1.05dB | 16~33 | 1.30 | 1.1 x 1.5 |
| RFASWCM0624ATF09 | DP4T | 0.824 | 0.96 | 0.25dB | 28~38 | 1.50 | 1.1 x 1.5 |
| | | 1.71 | 2.17 | 0.35dB | 23~30 | 1.50 | |
| | | 0.698 | 0.792 | 0.25dB | 28~38 | 1.50 | |
| | | 2.3 | 2.69 | 0.40dB | 20~24 | 1.50 | |

## ■ Application Circuit (MIPI)

| RFASWH526BTF03 | RFASWH656FTF03 | RFASWD658FTF03 |
|---|---|---|
| SP6T | SP6T | SP8T |
|  |  |  |

| RMASME494ATF03 | RFASWE660DTF03 | RFASWF662DTF03 |
|---|---|---|
| SP10T | SP10T | SP12T |
|  |  |  |

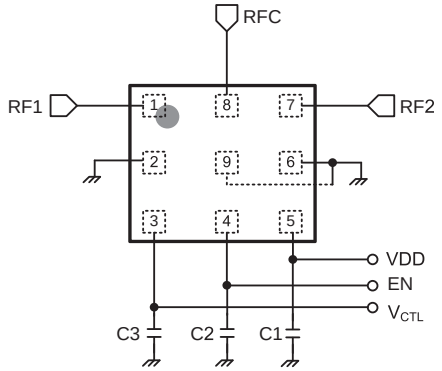
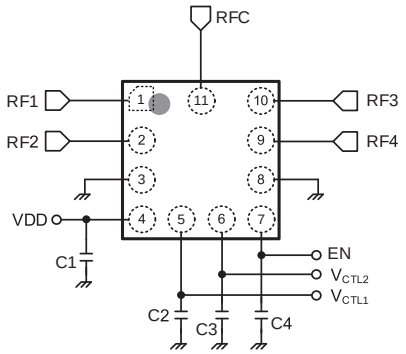
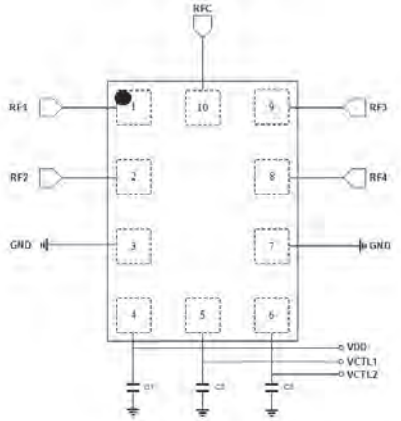
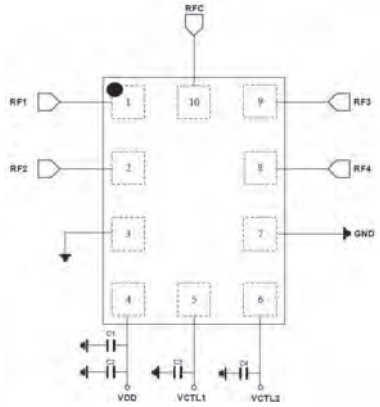
| RMASMF496ATF03 | RMASMP491ATF03 | RMASMNT1492ATF03 |
|---|---|---|
| SP12T | SP14T | SP16T |
|  |  |  |

| RMASMU532ATF03 | RMASMU890ATF03 | RMASMS535ATF03 |
|---|---|---|
| DP14T (SP8T+SP6T) | DP14T (SP7T+SP7T) | DP21T (SP12T+SP9T) |
|  |  |  |

## ■ ELECTRICAL SPECIFICATION

| Part Number | Description | Frequency (GHz) Min. | Frequency (GHz) Max. | Insertion loss (dB) TRXx ports | Isolation (TRXx to any off TRXx port) [non-adjacent ports] | Isolation (TRXx to any off TRXx port) [adjacent ports] | VSWR | Package (mm) |
|---|---|---|---|---|---|---|---|---|
| RFASWH526BTF03 | SP6T | 0.4 | 2.7 | 0.40~0.76dB(400~2690MHz) | 20~30 | 17~26 | 2 | 2.0 x 2.0 |
| RFASWH656FTF03 | | 0.4 | 2.7 | 0.40~0.76dB(704~2690MHz) | 20~30 | 17~26 | 2 | 2.0 x 2.0 |
| RFASWD658FTF03 | SP8T | 0.4 | 2.7 | 0.40~0.76dB(704~2690MHz) | 20~30 | 17~26 | 2 | 2.0 x 2.0 |
| RMASME494ATF03 | SP10T | 0.4 | 2.7 | 0.60~0.85dB(824~2690MHz) | 23~30 | 20~26 | 2 | 2.5 x 2.5 |
| RFASWE660DTF03 | | 0.7 | 2.7 | 0.45~0.75dB(700~2700MHz) | 18~26 | 18~26 | 2 | 2.4 x 2.4 |
| RFASWF662DTF03 | SP12T | 0.4 | 2.7 | 0.50~0.72dB(700~2690MHz) | 20~30 | 16~23 | 2 | 2.5 x 2.5 |
| RMASMF496ATF03 | | 0.4 | 2.7 | 0.60~0.85dB(824~2690MHz) | 23~30 | 20~26 | 2 | 2.5 x 2.5 |
| RMASMP491ATF03 | SP14T | 0.4 | 2.7 | 0.70~1.15dB(700~2690MHz) | 20~30 | 16~20 | 2 | 2.5 x 2.9 |
| RMASMNT1492ATF03 | SP16T | 0.4 | 2.7 | 0.60~1.00dB(824~2690MHz) | 20~30 | 16~20 | 2 | 2.5 x 3.3 |
| RMASMU532ATF03 | DP14T (SP8T+SP6T) | 0.4 | 2.7 | 0.65~1.15dB(704~2690MHz) | 17~23 | 14~21 | 1.5 | 2.8 x 2.8 |
| RMASMU890ATF03 | DP14T (SP7T+SP7T) | 0.4 | 2.7 | 0.60~0.85dB(600~2690MHz) | 18~25 | 15~23 | 1.5 | 3.2 x 2.8 |
| RMASMS535ATF03 | DP21T (SP12T+SP9T) | 0.7 | 3.0 | 0.65~1.10dB(824~2690MHz) | 15~23 | 14~21 | 2 | 3.6 x 2.8 |

## ■ Application Circuit (LTE Antenna Tuner-GPIO)

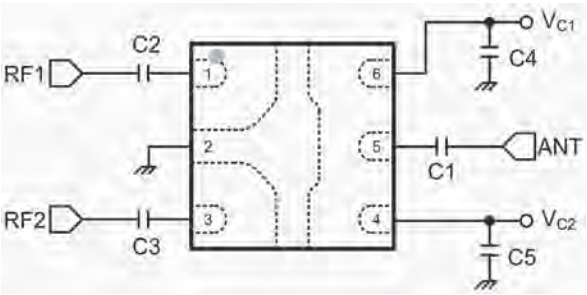
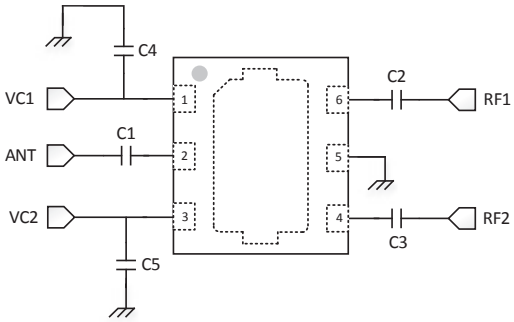
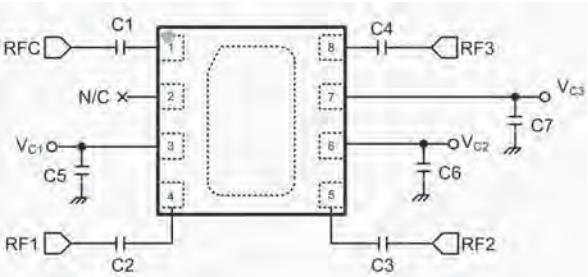
| RFASWA141ATF09 | RFASWK119ATF09 |
|---|---|
| SPDT | SP4T |
|  |  |
| **RFASWK694BTF09** | **RFASWK014ATF09** |
| SP4T | SP4T |
|  |  |



## ■ ELECTRICAL SPECIFICATION

| Part Number | Description | Frequency (GHz) Min. | Frequency (GHz) Max. | Insertion loss (dB) | Isolation | VSWR | Package (mm) |
|---|---|---|---|---|---|---|---|
| RFASWA141ATF09 | SPDT | 0.4 | 3.0 | 0.20~0.35dB(700~2700MHz) | 11~21 | 1.22 | 1.67 x 1.47 |
| RFASWK119ATF09 | SP4T | 0.4 | 3.0 | 0.40~0.75dB(1000~2700MHz) | 14~24 | 1.78 | 1.6 x 1.6 |
| RFASWK694BTF09 | SP4T | 0.5 | 2.7 | 0.30~0.67dB(615~2700MHz) | 16~22 | 1.58 | 1.1 x 1.5 |
| RFASWK014ATF09 | SP4T | 0.1 | 2.7 | 0.25~1.05 dB (700~2700MHz) | 16~25 | 1.28 | 1.1 x 1.5 |

## ■ Application Circuit (Network-GPIO)

| RFASWA351ATF06 | RFASWA370ATF06 |
|---|---|
| SPDT | SPDT |
|  |  |
| **RFASWM617BTF06** | |
| SP3T | |
|  | |







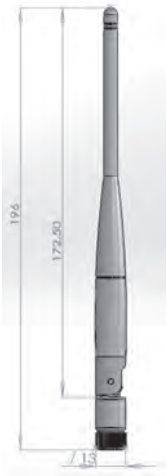
## ■ ELECTRICAL SPECIFICATION

| Part Number | Description | Frequency (GHz) Min. | Frequency (GHz) Max. | Insertion loss (dB) | Isolation | VSWR | Package (mm) |
|---|---|---|---|---|---|---|---|
| RFASWA351ATF06 | SPDT | 0.5 | 6.0 | 0.35~0.70dB(500~6000MHz) | 15~25 | 2 | 1.0 x 1.0 |
| RFASWA370ATF06 | SPDT | 0.5 | 6.0 | 0.50~0.90dB(500~5850MHz) | 23~28.5 | 1.67 | 1.5 x 1.5 |
| RFASWM617BTF06 | SP3T | 0.5 | 6.0 | 0.35~0.65dB(500~6000MHz) | 15~30 | 1.92 | 1.5 x 1.5 |

# DIPOLE ANTENNA (N/SMA)

## ■ ELECTRICAL SPECIFICATION

| Series | Size(mm) | | Working Frequency Range | Gain | VSWR | Return Loss |
|---|---|---|---|---|---|---|
| | L | Ø | | | | |
| 8709 | 87 | 9.95 | 2.4~2.5 GHz | 2dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：2dBi<br>5.15~5.85 GHz：3dBi | <2 | <-10dB |
| 1313 | 137.5 | 13 | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：3dBi<br>5.15~5.85 GHz：3dBi | <2 | <-10dB |
| 1513 | 157.5 | 13 | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：3dBi<br>5.15~5.85 GHz：3dBi | <2 | <-10dB |
| 1713 | 172.5 | 13 | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：4dBi<br>5.15~5.85 GHz：5dBi | <2 | <-10dB |
| 3913 | 392 | 12.5 | 2.4~2.5 GHz | 9dBi | <2 | <-10dB |
| 1310 | 135.7 | 10 | 2.4~2.5 GHz | 5dBi | <2 | <-10dB |
| | | | 5.x GHz | 5dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 3dBi~4dBi | <2 | <-10dB |
| | | | Lora | 3dBi | <2.5 | <-7dB |
| | | | LTE | 3dBi | <3 | <-6dB |
| 1413 | 148.5 | 13 | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| | | | 5.x GHz | 3dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 3dBi | <2 | <-10dB |
| | | | LTE | 3dBi | <3 | <-6dB |
| 1615 | 169.9 | 13 | LTE+Sub-6G+5G | 0.93 dBi( @ 617 ~960 MHz)<br>2.71 dBi( @1710 ~ 2690 MHz)<br>3.66 dBi(@ 3300 ~4200 MHz)<br>4.37 dBi(@5150 ~7150 MHz) | <3.0<br>(@ 617~960 / 1710~2690 MHz)<br><3.0<br>(@ 3300~4200 / 5150~7150 MHz) | <6.0 dB<br>(@ 617~960 / 1710~2690 MHz)<br><-6.0 dB<br>(@ 3300~4200 / 5150~7150 MHz) |
| 1913 | 196.6 | 13 | 2.4~2.5 GHz | 5dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：4dBi<br>5.15~5.85 GHz：5dBi | <2 | <-10dB |
| 2213 | 217.1 | 13 | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：5dBi<br>5.15~5.85 GHz：4dBi | <2 | <-10dB |
| | | | 2.4~2.5 GHz | 6dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 7dBi | <2 | <-10dB |
| | | | 5.x GHz | 7dBi | <2 | <-10dB |
| | | | LTE | 5dBi | <3 | <-6dB |
| 2220 | 220 | 20 | 2.4 GHz | 5dBi | <2 | <-10dB |
| | | | 5.x GHz | 5dBi | <2 | <-10dB |
| | | | 2.4~2.5 GHz | 7dBi | <2 | <-10dB |
| 2520 | 25 | 20 | 2.4 GHz | 5~7dBi | <2 | <-10dB |
| | | | 5.x GHz | 7dBi | <2 | <-10dB |
| | | | 2.4~2.5 GHz（High Gain） | 7dBi | <2 | <-10dB |
| 4358 | 43.1 | 58.45 | 2.4~2.5 GHz<br>4.9~7.2 GHz | 3.5dBi(@2.4~2.5 GHz)<br>2.5dBi(@4.9~7.2 GHz) | <2 | <-10dB |

| 8709 | 1313 | 1513 | 1713 | 3913 |
|---|---|---|---|---|
| | | |   | |

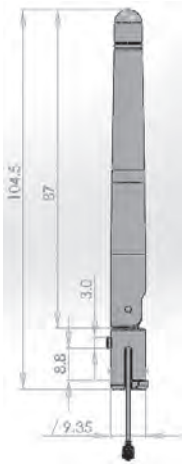
| 1310 | 1413 | 2213 | 2220 | 2520 |
|---|---|---|---|---|
| | | | | |

| 1913 | 1615 | 4358 |
|---|---|---|
| | | |

# DIPOLE ANTENNA (Cable)

## ■ ELECTRICAL SPECIFICATION

| Series | Size(mm) | | Working Frequency Range | Gain | VSWR | Return Loss |
|---|---|---|---|---|---|---|
| | L | Ø | | | | |
| 8709 | 87 | 9.35 | 2.4~2.5 GHz | 2dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：2dBi<br>5.15~5.85 GHz：3dBi | <2 | <-10dB |
| 1313 | 133 | 9.35 | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：3dBi<br>5.15~5.85 GHz：3dBi | <2 | <-10dB |
| 1513 | 152 | 9.35 | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：3dBi<br>5.15~5.85 GHz：3dBi | <2 | <-10dB |
| 1514 | 158 | 14 | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：5dBi<br>5.15~5.85 GHz：7dBi | <2 | <-10dB |
| 1713 | 172 | 9.35 | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：4dBi<br>5.15~5.85 GHz：5dBi | <2 | <-10dB |
| 1310 | 135.7 | 10 | 2.4~2.5 GHz | 5dBi | <2 | <-10dB |
| | | | 5.x GHz | 5dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 3dBi~4dBi | <2 | <-10dB |
| | | | LTE | 3dBi | <3 | <-6dB |
| 1913 | 192 | 9.35 | 2.4~2.5 GHz | 5dBi | <2 | <-10dB |
| | | | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：4dBi<br>5.15~5.85 GHz：5dBi | <2 | <-10dB |

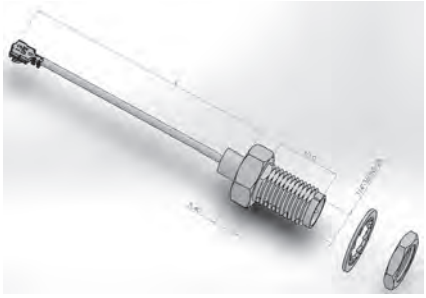
| 8709 | 1313 | 1514 | 1513 | 1713 | 1310 | 1913 |
|---|---|---|---|---|---|---|
|  | | | | | | |
| | | | | | | |

# Cable Assembly

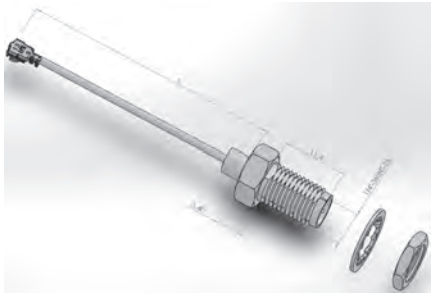
## ■ ELECTRICAL SPECIFICATION

| Series | Connector 1 | Connector 2 | Wire Diameter | Color | L | Working Frequency Range | VSWR |
|---|---|---|---|---|---|---|---|
| 1006 | Straight Reverse SMA Jack | IPEX(or Strip & Tin) | Ø1.13/Ø1.37/RG178 | Option | Option | DC ~ 6 GHz | 2.0 |
| 1106 | Straight Reverse SMA Jack | IPEX(or Strip & Tin) | Ø1.13/Ø1.37/RG178 | Option | Option | DC ~ 6 GHz | 2.0 |
| 1613 | R/A Reverse SMA Jack | IPEX(or Strip & Tin) | Ø1.13/Ø1.37/RG178 | Option | Option | DC ~ 6 GHz | 2.0 |
| 0403 | IPEX | IPEX(or Strip & Tin) | Ø0.81/Ø1.13/Ø1.37/RG178 | Option | Option | DC ~ 6 GHz | 2.0 |
| 0202 | IPEX III | IPEX(or Strip & Tin) | Ø0.81 | Option | Option | DC ~ 6 GHz | 2.0 |
| xxxx | Strip & Tin | Strip & Tin | Ø0.81/Ø1.13/Ø1.37/RG178 | Option | Option | DC ~ 6 GHz | 2.0 |
| 1015 | N Jack | MMCX(or Strip & Tin) | RG316 | Option | Option | DC ~ 6 GHz | 2.0 |
| 1008 | Straight Reverse SMA Plug | IPEX(or Strip & Tin) | RG405 | Option | Option | DC ~ 6 GHz | 2.0 |

**1006**

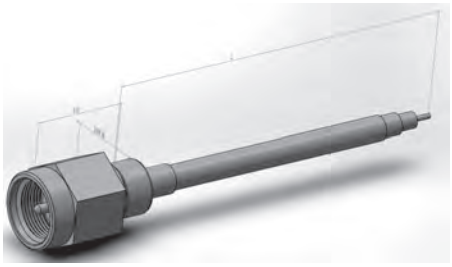


**1106**



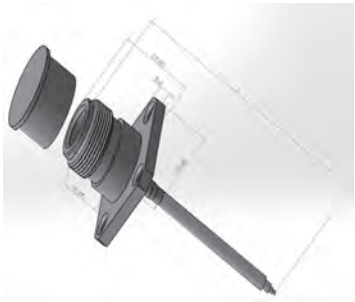
**0403/0202**

**1008**

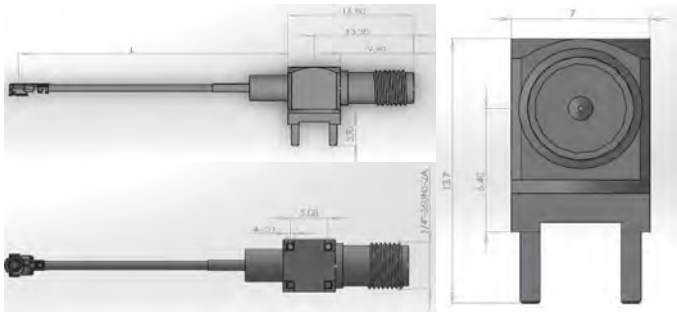


**1008**

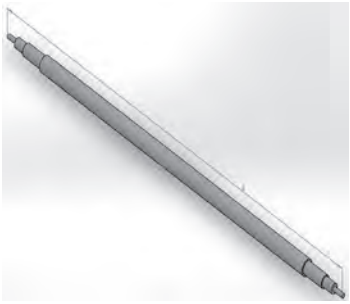
**1015**



**1613**



**XXX**



# PCB Antenna

## ■ ELECTRICAL SPECIFICATION

| Series | PCB Size(mm) | | Cable Length (mm) L | Working Frequency Range | Gain | VSWR | Return Loss |
|---|---|---|---|---|---|---|---|
| | L | W | | | | | |
| 1118 | 118 | 18 | Option | LTE+Sub-6G+5G | 3.32 dBi( @ 698 ~960 MHz)<br>6.04 dBi( @1710 ~ 2690 MHz)<br>5.36 dBi(@ 3300 ~3800 MHz)<br>4.39 dBi(@5150 ~5850 MHz) | <2.0(@ 698~960 MHz)<br><3.0(@1710~ 2690 / 3300 ~3800 / 5150~5850 MHz) | <-10.0 dB<br>(@698~960 / 1710~2690 MHz)<br><-6.0 dB<br>(@3300~3800 / 5150~5850 MHz) |
| 2022 | 20 | 22 | Option | LTE+Sub-6G+5G | 5.54 dBi | <2 | <-10dB |
| 2313 | 23 | 13 | Option | 5 GHz | 3dBi | <2 | <-10dB |
| 4305 | 43 | 5 | Option | 2.4~2.5 GHz | 2dBi | <2 | <-10dB |
| 2010 | 20.1 | 10 | Option | 5 GHz | 3dBi | <2 | <-10dB |
| 5010 | 50 | 10 | Option | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| 4308 | 43 | 8.3 | Option | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：2dBi<br>5.x GHz：3dBi | <2 | <-10dB |
| 4606 | 46.5 | 6 | Option | 2.4~2.5 GHz | 2dBi | <2 | <-10dB |
| 3513 | 35 | 13 | Option | 2.4~2.5 GHz | 4dBi | <2 | <-10dB |
| 3515 | 35 | 15 | Option | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：2dBi<br>5.x GHz：3dBi | <2 | <-10dB |

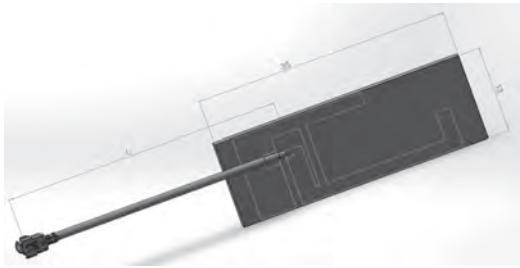
**2010**

**5010**

**2313**

**3515**

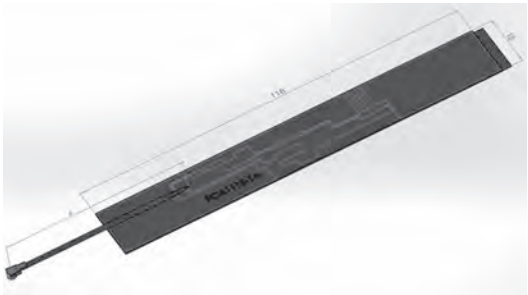
**3513**



**4305**

**4606**

**1118**



**2022**

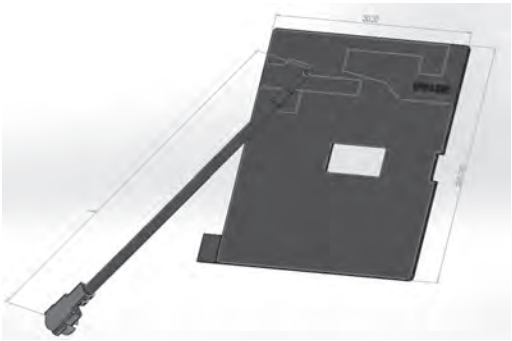
**4308**

# FPA Antenna

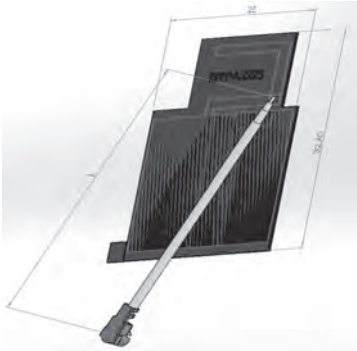
## ■ ELECTRICAL SPECIFICATION

| Series | Size(mm) | | Cable Length(mm) L | Working Frequency Range | Gain | VSWR | Return Loss |
|---|---|---|---|---|---|---|---|
| | L | w | | | | | |
| 3025 | 30.3 | 25.3 | Option | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| 3225 | 25 | 32.6 | Option | 2.4~2.5 GHz | 2dBi | <2 | <-10dB |
| 3226 | 32.35 | 26 | Option | 2.4~2.5 / 5.x GHz | 3dBi | <2 | <-10dB |
| 4305 | 43 | 5.5 | Option | 2.4~2.5 GHz | 3dBi | <2 | <-10dB |
| 3010 | 30 | 10 | Option | 2.4~2.5 GHz | 2dBi | <2 | <-10dB |
| 2006 | 20 | 6 | Option | 5.x GHz | 2dBi | <2 | <-10dB |

**3025**



**3225**



**3226**

**4305**

**3010**

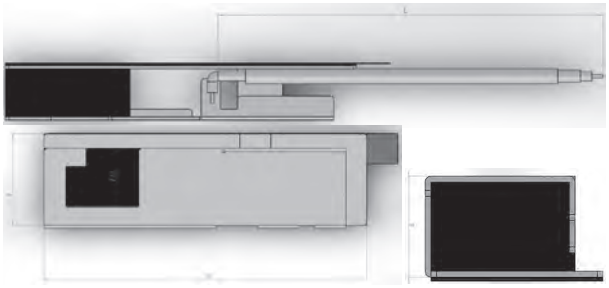
**2006**

# Metal Antenna

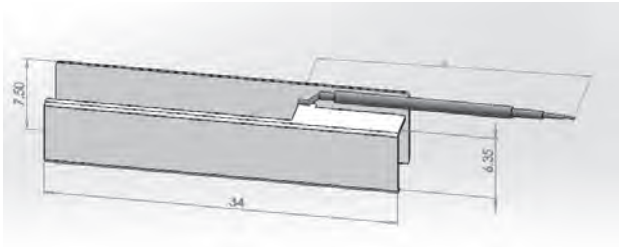
## ■ ELECTRICAL SPECIFICATION

| Series | Size(mm) | | Cable Length(mm) L | Working Frequency Range | Gain | VSWR | Return Loss |
|---|---|---|---|---|---|---|---|
| | L | w | | | | | |
| 3109 | 31 | 9 | Option | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：2 dBi<br>5.x GHz：2 dBi | <2 | <-10dB |
| 2107 | 21.5 | 7.1 | None | 2.4~2.5 GHz | 3 dBi | <2 | <-10dB |
| 2807 | 28.6 | 7.9 | Option | 2.4~2.5 GHz | 3 dBi | <2 | <-10dB |
| 3407 | 34 | 7.5 | Option | 2.4~2.5 GHz | 3 dBi | <2 | <-10dB |
| 3706 | 37.4 | 6.5 | Option | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：5 dBi<br>5.x GHz：5 dBi | <2 | <-10dB |
| 2712 | 27.75 | 12.8 | None | 2.4~2.5 GHz | 3.38 dBi | <2 | <-10dB |
| 2811 | 27.05 | 11.3 | None | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：2.66dBi<br>5.x GHz：3.68dBi | <2 | <-10dB |
| 2911 | 29.6 | 11.3 | None | 2.4~2.5/5.x GHz | 2.4~2.5 GHz：2.14dBi<br>5.x GHz：2.68dBi | <2 | <-10dB |

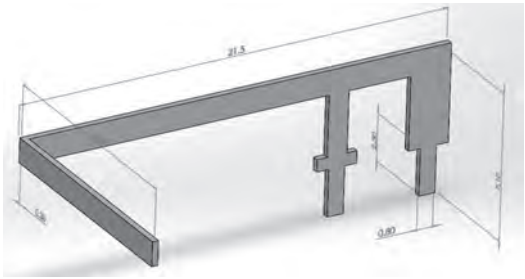
**3109**



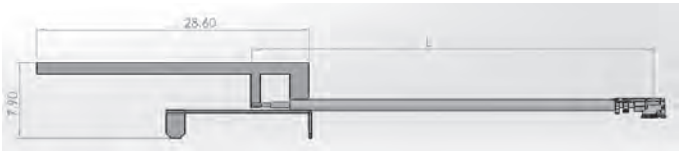
**3407**



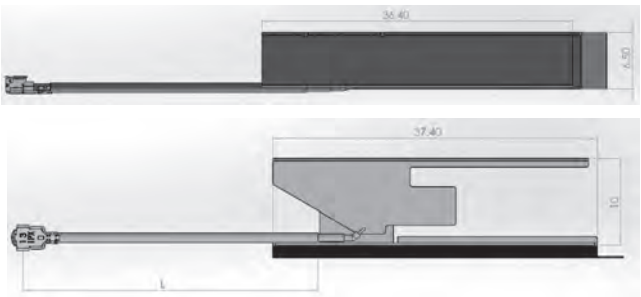

**2107**



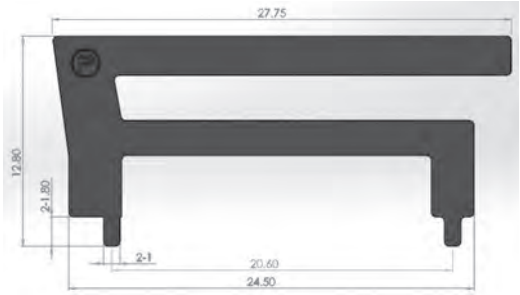

**2807**




**3706**

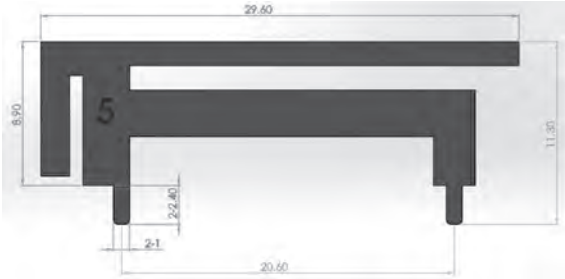



**2712**




**2811**

**2911**

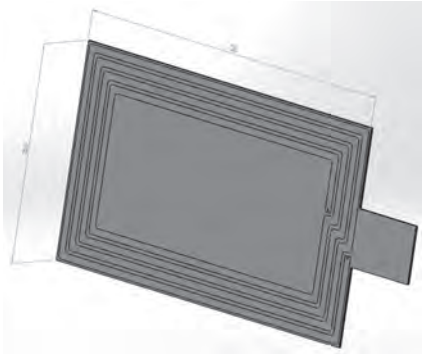
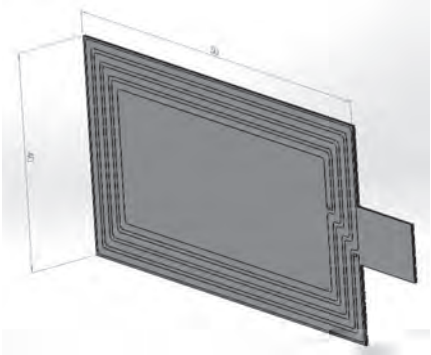
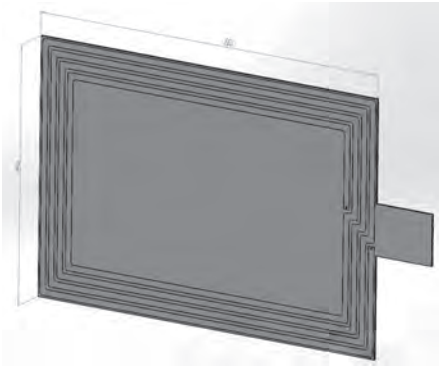


# NFC Antenna (NFC/WPC/WNC)

## ■ ELECTRICAL SPECIFICATION

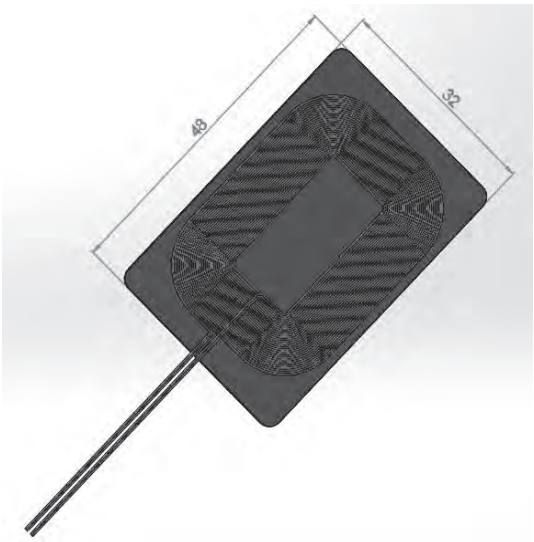
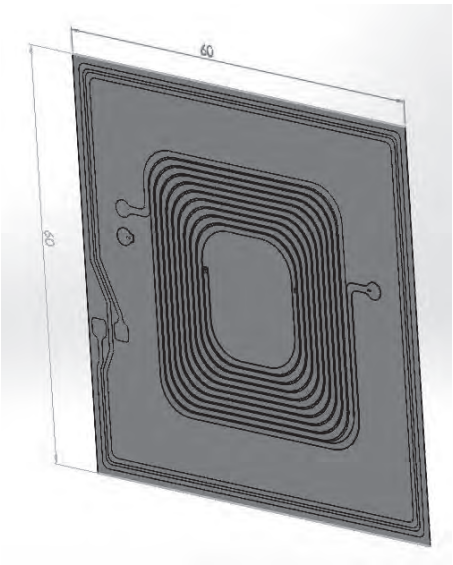
### NFC

| Series | Size(mm) | | Ls | Rs | Q |
|---|---|---|---|---|---|
| | L | w | | | |
| 5030 | 50 | 30 | 1.62±0.1μH | 0.66±0.15Ω | 15.42±2.5(1MHz) |
| 5040 | 50 | 40 | 1.89±0.1μH | 0.76±0.15Ω | 15.62±2.5(1MHz) |
| 6040 | 60 | 40 | 2.37±0.1μH | 0.85±0.15Ω | 17.5±2.5(1MHz) |

| 5030 | 5040 | 6040 |
|---|---|---|
|  |  |  |

### WPC & WNC

| TYPE | Series | Size(mm) | | Ls | | Rs | | Q | |
|---|---|---|---|---|---|---|---|---|---|
| | | L | w | | | | | | |
| WPC | 4832 | 48 | 32 | 1.35±0.1μH | | 0.3±0.15Ω | | 28.3±2.5(1MHz) | |
| WNC | 6060 | 60 | 60 | NFC | 2.11±0.1μH | NFC | 0.572±0.15Ω | NFC | 37.2±2.5(1MHz) |
| | | | | WPC | 18.69±0.1μH | WPC | 0.837±0.15Ω | WPC | 14.03±2.5(1MHz) |

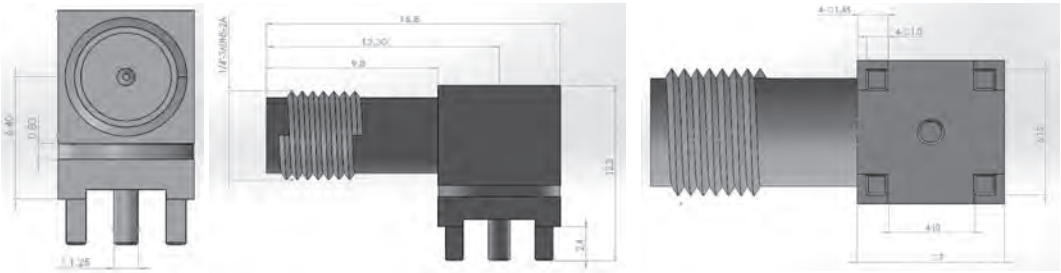
| 4832 | 6060 |
|---|---|
|   |   |

# Connector

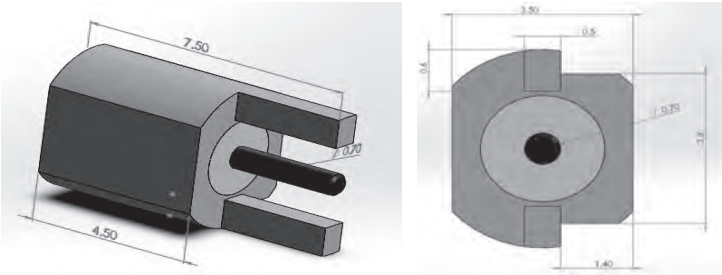
## ■ ELECTRICAL SPECIFICATION

| Series | Size(mm) | | Working Frequency Range | VSWR |
|---|---|---|---|---|
| | L | w | | |
| 1612 | 16.8 | 12.3 | DC ~ 6 GHz | 2.0 |
| 0703 | 7.5 | 3.3 | DC ~ 6 GHz | 2.0 |
| 1308 | 13.3 | 8 | DC ~ 6 GHz | 2.0 |
| 1609 | 16.5 | 9 | DC ~ 6 GHz | 2.0 |

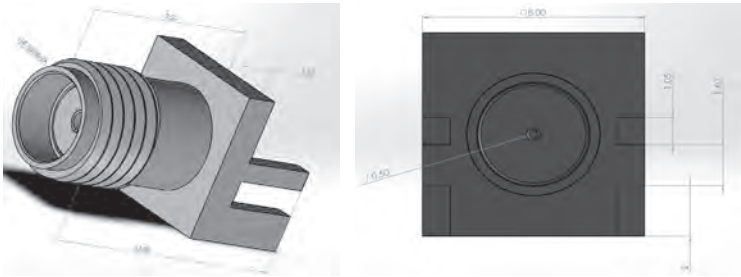
**1612**



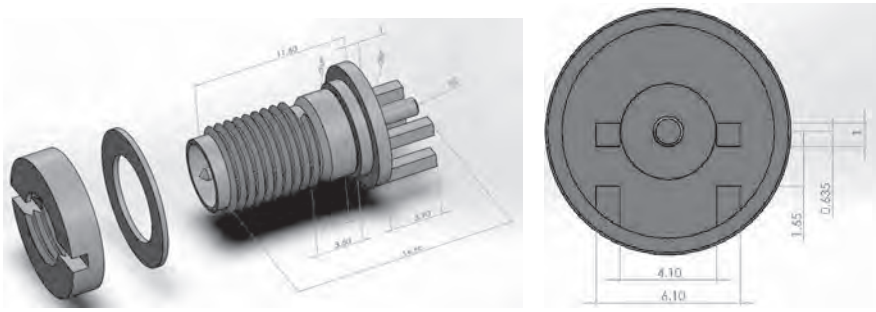
**0703**




**1308**



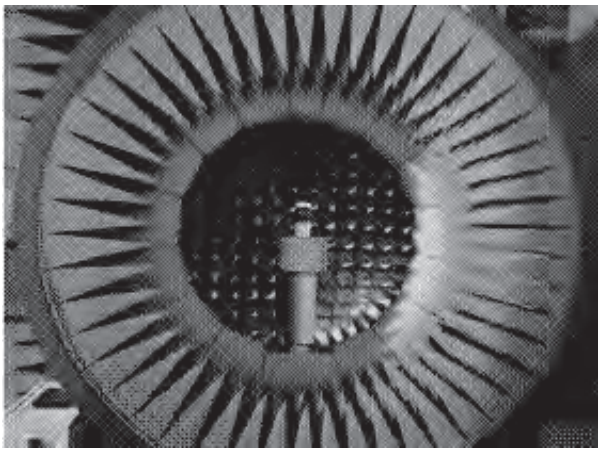
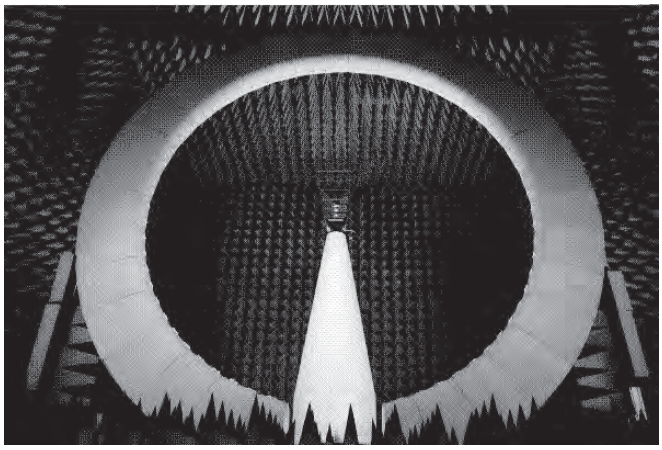
**1609**



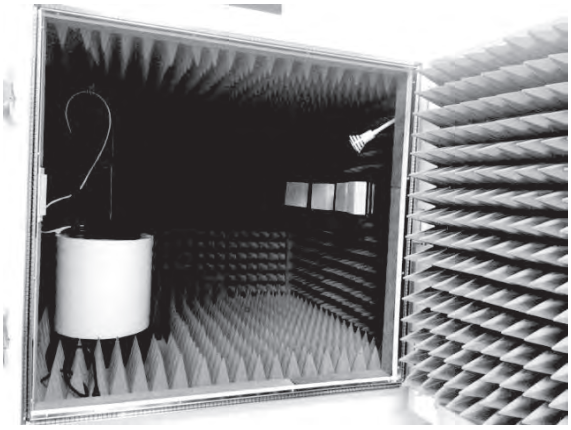
## Measurement Equipment

■ Antenna Passive Measurement  Efficiency / 3D Pattern @400MHz ~6GHz

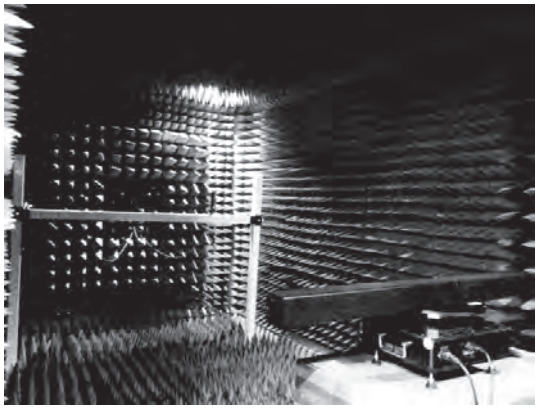
■ Active Measurement  TRP & TIS Measurement for GSM/WCDMA/TD-CDMA/TDD-LTE/FDD-LTE

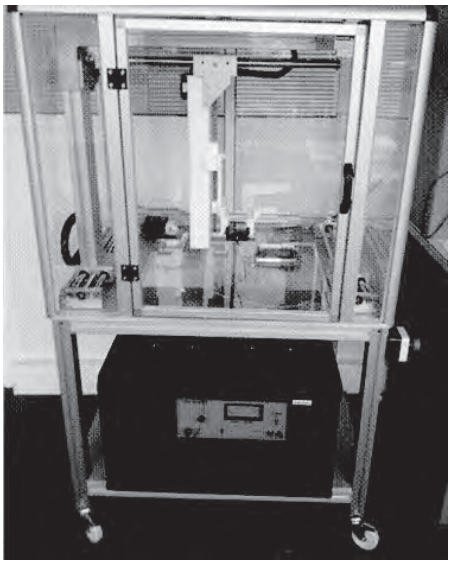
| StarLab | SG24-L(5m*5m*5m) |
|---|---|
|  |  |

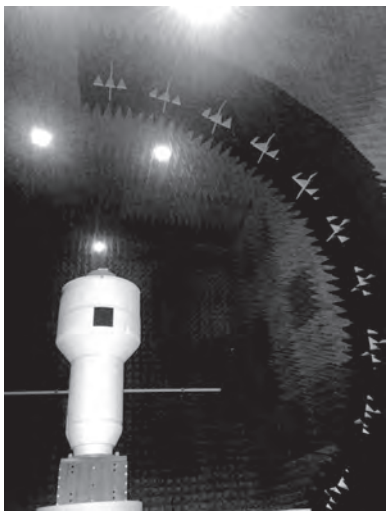
■2D Antenna Lab (Wireless Throughput Test)

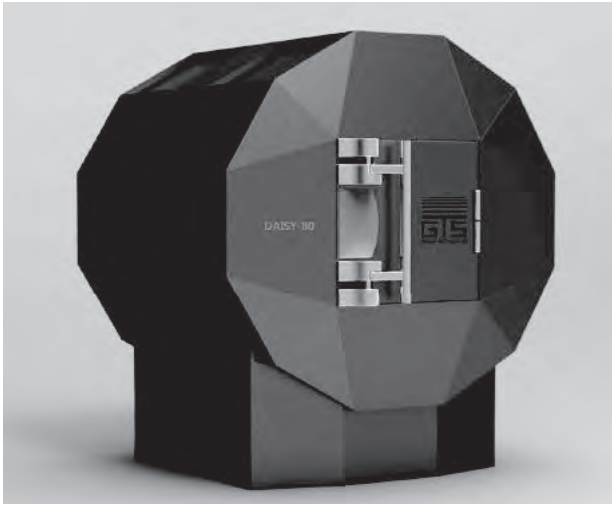
| | |
|---|---|
| |  |

■2D Antenna Lab (Smart TV Wireless Throughput Test)

| Turn Table | |
|---|---|
|  | |

| FIME EMVCo/ISO10373-6 / NFC Forum | Comprion (NFC Forum) |
|---|---|
|  | |

| Suzhou Smart TV Antenna Chamber | |
|---|---|
|  | |

| Shenzhen RayZone 1800 |
|---|
|  |

PSA PASSIVE SYSTEM ALLIANCE
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