



**THE DATASHEET OF  
RFDIP2012050L5T**



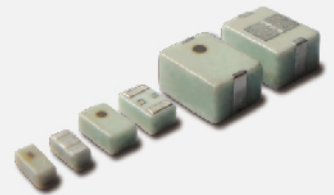


**PSA** PASSIVE SYSTEM ALLIANCE  
WALSIN TECHNOLOGY CORPORATION

## RF Devices & Customer made Antenna

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## Product Portfolio



Multilayer Ceramic Capacitors



Chip Resistors



Disc Capacitors



Inductors



RF Filters



Antenna



Antenna Switch & Module



MOV & MLV

## IEC-63 Nominal Resistance / Capacitance

|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>E1</b>  | 100 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>E3</b>  | 100 |     |     | 220 |     |     | 470 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>E6</b>  | 100 | 150 | 220 | 330 | 470 | 680 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>E12</b> | 100 | 120 | 150 | 180 | 220 | 270 | 330 | 390 | 470 | 560 | 680 | 820 |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>E24</b> | 100 | 110 | 120 | 130 | 150 | 160 | 180 | 200 | 220 | 240 | 270 | 300 | 330 | 360 | 390 | 430 | 470 | 510 | 560 | 620 | 680 | 750 | 820 | 910 |
| <b>E96</b> | 100 | 102 | 121 | 124 | 147 | 150 | 178 | 182 | 215 | 221 | 261 | 267 | 316 | 324 | 383 | 392 | 464 | 475 | 562 | 576 | 681 | 698 | 825 | 845 |
|            | 105 | 107 | 127 | 130 | 154 | 158 | 187 | 191 | 226 | 232 | 274 | 280 | 332 | 340 | 402 | 412 | 487 | 499 | 590 | 604 | 715 | 732 | 866 | 887 |
|            | 110 | 113 | 133 | 137 | 162 | 165 | 196 | 200 | 237 | 243 | 287 | 294 | 348 | 357 | 422 | 432 | 511 | 523 | 619 | 634 | 750 | 768 | 909 | 931 |
|            | 115 | 118 | 140 | 143 | 169 | 174 | 205 | 210 | 249 | 255 | 301 | 309 | 365 | 374 | 442 | 453 | 536 | 549 | 649 | 665 | 787 | 806 | 953 | 976 |

E6:  $\sqrt[6]{10} \approx 1.46$  E12:  $\sqrt[12]{10} \approx 1.21$

E1 series resistance: 1Ω, 10Ω, 100Ω, 1000Ω, 10000Ω, 100000Ω

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\*The specifications are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering.

\*This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.

■ CHIP ANTENNA

| RF            | ANT  | 321612   | 0                        | A   | 5   | T                             |
|---------------|--|--|--------------------------|---|---|-------------------------------|
| Type code     | Product code   | Dimension code   | Unit of dimension        | Application   | Specification   | Packing                       |
| RF/RG: device | ANT : Antenna<br>FRA : Free Antenna<br>ECA : SMD Antenna | Per 2 digits of Length, Width, Thickness<br>321612 =<br>Length =32<br>Width = 16<br>Thickness = 12 | 0 : 0.1 mm<br>1 : 1.0 mm | A : 2.4GHz ISM Band<br>E : GPS 1.5GHz<br>L : 2.4/5.2/5.8GHz Tri Band<br>W : WiMAX | Code from 0-9 dependent on different electrical specification | T: 7" Reeled<br>G: 13" Reeled |

■ HIGH FREQUENCY MULTILAYER BAND PASS FILTER

| RF        | BPF                    | 322515   | 0                        | A   | 4   | T                             |
|-----------|------------------------|--|--------------------------|---|---|-------------------------------|
| Type code | Product code           | Dimension code   | Unit of dimension        | Application   | Specification   | Packing                       |
| RF device | BPF : Band Pass Filter | Per 2 digits of Length, Width, Thickness<br>322515 =<br>Length =32<br>Width = 25<br>Thickness = 15 | 0 : 0.1 mm<br>1 : 1.0 mm | A : 2.4GHz ISM Band<br>W : WiMAX<br>K : ISM 5.2/5.8 Dual Band | Code from 0-9 dependent on different electrical specification | T: 7" Reeled<br>G: 13" Reeled |

■ HIGH FREQUENCY MULTILAYER BALANCED FILTER

| RF            | BPB                                  | 252009   | 0                        | A                                | 7   | T                             |
|---------------|--------------------------------------|--|--------------------------|----------------------------------|---|-------------------------------|
| Type code     | Product code                         | Dimension code   | Unit of dimension        | Application                      | Specification   | Packing                       |
| RF/RG: device | BPB : Balanced Type Band Pass Filter | Per 2 digits of Length, Width, Thickness<br>252009 =<br>Length =25<br>Width = 20<br>Thickness = 09 | 0 : 0.1 mm<br>1 : 1.0 mm | A : 2.4GHz ISM Band<br>W : WiMAX | Code from 0-9 dependent on different electrical specification | T: 7" Reeled<br>G: 13" Reeled |

■ HIGH FREQUENCY MULTILAYER LOW PASS FILTER

| RF        | LPF                   | 201211   | 0                        | A  | 0   | T                             |
|-----------|-----------------------|--|--------------------------|--|---|-------------------------------|
| Type code | Product code          | Dimension code   | Unit of dimension        | Application                                      | Specification   | Packing                       |
| RF device | LPF : Low Pass Filter | Per 2 digits of Length, Width, Thickness<br>201210 =<br>Length =20<br>Width = 12<br>Thickness = 11 | 0 : 0.1 mm<br>1 : 1.0 mm | A : 2.4GHz ISM Band<br>K : ISM 5.2/5.8 Dual Band | Code from 0-9 dependent on different electrical specification | T: 7" Reeled<br>G: 13" Reeled |

■ HIGH FREQUENCY MULTILAYER HIGH PASS FILTER

| RF        | HPF                    | 252009  | 0                        | L  | 0   | T                             |
|-----------|------------------------|---|--------------------------|--|---|-------------------------------|
| Type code | Product code           | Dimension code  | Unit of dimension        | Application                                  | Specification   | Packing                       |
| RF device | HPF : High Pass Filter | Per 2 digits of Length, Width, Thickness<br>252009 =<br>Length =2.5<br>Width = 2.0<br>Thickness = 0.9 | 0 : 0.1 mm<br>1 : 1.0 mm | L : 2.4/4.9/5.2/5.8GHz Multiband Application | Code from 0-9 dependent on different electrical specification | T: 7" Reeled<br>G: 13" Reeled |

■ BALUN TRANSFORMERS

| RF            | BLN          | 201208   | 0                        | A  | 4   | T                             |
|---------------|--------------|--|--------------------------|--|---|-------------------------------|
| Type code     | Product code | Dimension code   | Unit of dimension        | Application                                      | Specification   | Packing                       |
| RF/RG: device | BLN : BALUN  | Per 2 digits of Length, Width, Thickness<br>201208 =<br>Length =20<br>Width = 12<br>Thickness = 08 | 0 : 0.1 mm<br>1 : 1.0 mm | A : 2.4GHz ISM Band<br>K : ISM 5.2/5.8 Dual Band | Code from 0-9 dependent on different electrical specification | T: 7" Reeled<br>G: 13" Reeled |

■ DIPLEXER

| RF        | DIP            | 201210   | 0                        | L   | 0   | T                             |
|-----------|----------------|--|--------------------------|---|---|-------------------------------|
| Type code | Product code   | Dimension code   | Unit of dimension        | Application                                     | Specification   | Packing                       |
| RF device | DIP : Diplexer | Per 2 digits of Length, Width, Thickness<br>201210 =<br>Length =20<br>Width = 12<br>Thickness = 10 | 0 : 0.1 mm<br>1 : 1.0 mm | L : 2.4/4.9/5.2/5.8GHz<br>Multiband Application | Code from 0-9<br>dependent on different<br>electrical specification | T : 7" Reeled<br>G:13" Reeled |

■ TRIPLEXER

| RF        | TIP             | 2109   | A           | T                        | M0T63         |
|-----------|-----------------|--|-------------|--------------------------|---------------|
| Type code | Product code    | Dimension code   | Pin Define  | Application              | Specification |
| RF device | TIP : Triplexer | Per 2 digits of Length, Width, Thickness<br>e.g. :<br>21 =<br>Length 2.0 mm,<br>Width 1.2 mm,<br>09=<br>Thickness 0.9 mm | Design Code | T: GPS/ ISM 2.4GHz/5 GHz | Design Code   |

■ COMMON MODE FILTER

| RF               | CMF                      | 122010   | 0                        | M                    | 3   | T             |
|------------------|--------------------------|--|--------------------------|----------------------|---|---------------|
| Type code        | Product code             | Dimension code   | Unit of dimension        | Application          | Specification   | Packing       |
| RF/RG:<br>device | CMF : Common Mode Filter | Per 2 digits of Length, Width.<br>122010 =<br>Length =12<br>Width = 20<br>Thickness = 10 | 0 : 0.1 mm<br>1 : 1.0 mm | M: USB 2.0/ IEEE1394 | Code from 0-9<br>dependent on different<br>electrical specification | T : 7" Reeled |

■ COUPLER

| RF        | CPL          | 18  | 10              | B    | 2450             | T             |
|-----------|--------------|---|-----------------|------|------------------|---------------|
| Type code | Product code | Dimension code  | Coupling Factor | Unit | Application      | Packing       |
| RF device | Coupler      | e.g. :<br>18 =<br>Length 16,<br>Width 08,<br>15=<br>Length 10,<br>Width 05, | 10 dB           | dB   | 2.4 GHZ ISM Band | T : 7" Reeled |

■ SAW FILTER

| SF                                  | 1411  | 2595                       | B38         | 03            | T            |
|-------------------------------------|---|----------------------------|-------------|---------------|--------------|
| Product code                        | Dimension code  | Frequency                  | Application | Serial Number | Packing      |
| SF:SAW Filter<br>DF:SAW<br>DUPLEXER | Per 2 digits of Length, Width<br>1411=<br>Length 1.4mm<br>Width 1.1mm | 2595:Center Freq (2595MHz) | B38:Band38  | Design Code   | T: 7" Reeled |

■ ANTENNA SWITCH

| RF        | ASW                 | D           | H2418A        | T            |
|-----------|---------------------|-------------|---------------|--------------|
| Type code | Product code        | Application | Serial Number | Packing      |
| RF device | ASW: Antenna Switch | D: SP8T     | Design Code   | T: 7" Reeled |

■ ANTENNA SWITCH MODULE

| RM                             | ASM                        | N           | T1492A        | T            |
|--------------------------------|----------------------------|-------------|---------------|--------------|
| Type code                      | Product code               | Application | Serial Number | Packing      |
| RM:<br>Walsin RF Module Device | ASM: Antenna Switch Module | N: SP16T    | Design Code   | T: 7" Reeled |

■ **Dipole Antenna**

| RF        | DPA                  | 8709  | 00  | S   | B   | A  | B                                     | 8   | 01                  |
|-----------|----------------------|---|---|---|---|--|---------------------------------------|---|---------------------|
| Type code | Product code         | Dimension code  | Cable Length code                           | Connector Brand code  | Type of Connector code  | Application code   | Project status code                   | Wire Diameter code  | Project code        |
| RF device | DPA : Dipole Antenna | Per 2 digits of Length, Width 8709 = Length = 87 Width = 9.95 | 2 digits for cable length<br>10= None Cable | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>K:F<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse Female<br>B: Reverse Male<br>F: Female<br>M: Male<br>N: None | 0: 0GHz<br>5: 5 GHz<br>A: 2.4GHz ISM band<br>B: GSM 900/1800 dual band<br>G: GPS band<br>L: 2.4/5.2/5.8 GHz tri-band<br>T:LTE band<br>U:UHF<br>W: WCDMA band | B: MP<br>T:During Test<br>X: Pile Run | 0:None<br>1:Ø0.81<br>2:Ø1.32<br>3:Ø1.13<br>4:Low LossØ1.13<br>5:Ø0.50<br>6:RG316<br>7:Ø1.37<br>8:RG178<br>9:Low LossØ1.37<br>A:RG174<br>B:1.5C-2V | 01-99 series number |

■ **PCB Antenna**

| RF        | PCA               | 4305   | 10  | N   | N   | A  | B                                     | 4  | 01                  |
|-----------|-------------------|--|---|---|---|--|---------------------------------------|--|---------------------|
| Type code | Product code      | Dimension code   | Cable Length code                                   | Connector Brand code  | Type of Connector code  | Application code   | Project status code                   | Wire Diameter code   | Project code        |
| RF device | PCA : PCB Antenna | Per 2 digits of Length, Width 4305 = Length = 43 Width = 5 | 2 digits for cable length<br>10= Cable Length: 10cm | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>K:F<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse Female<br>B: Reverse Male<br>F: Female<br>M: Male<br>N: None | 0: 0GHz<br>5: 5 GHz<br>A: 2.4GHz ISM band<br>B: GSM 900/1800 dual band<br>G: GPS band<br>L: 2.4/5.2/5.8 GHz tri-band<br>T:LTE band<br>U:UHF<br>W: WCDMA band | B: MP<br>T:During Test<br>X: Pile Run | 0:None<br>1:Ø0.81<br>2:Ø1.32<br>3:Ø1.13<br>4:Low LossØ1.13<br>5:Ø0.50<br>6:RG316<br>7:Ø1.37<br>8:RG178<br>9: Low LossØ1.37<br>A:RG174<br>B:1.5C-2V | 01-99 series number |

■ **FPA Antenna**

| RF        | FPA               | 3025  | 10  | I   | M   | A  | B                                     | 3  | 01                  |
|-----------|-------------------|---|---|---|---|--|---------------------------------------|--|---------------------|
| Type code | Product code      | Dimension code  | Cable Length code                                   | Connector Brand code  | Type of Connector code  | Application code   | Project status code                   | Wire Diameter code   | Project code        |
| RF device | FPA : FPA Antenna | Per 2 digits of Length, Width 3025 = Length = 30 Width = 25 | 2 digits for cable length<br>10= Cable Length: 10cm | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>K:F<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse Female<br>B: Reverse Male<br>F: Female<br>M: Male<br>N: None | 0: 0GHz<br>5: 5 GHz<br>A: 2.4GHz ISM band<br>B: GSM 900/1800 dual band<br>G: GPS band<br>L: 2.4/5.2/5.8 GHz tri-band<br>T:LTE band<br>U:UHF<br>W: WCDMA band | B: MP<br>T:During Test<br>X: Pile Run | 0:None<br>1:Ø0.81<br>2:Ø1.32<br>3:Ø1.13<br>4:Low LossØ1.13<br>5:Ø0.50<br>6:RG316<br>7:Ø1.37<br>8:RG178<br>9: Low LossØ1.37<br>A:RG174<br>B:1.5C-2V | 01-99 series number |

■ **Metal Antenna**

| RF        | MTA                 | 3109   | 10  | I   | M   | L  | B                                     | 7  | 01                  |
|-----------|---------------------|--|---|---|---|--|---------------------------------------|--|---------------------|
| Type code | Product code        | Dimension code   | Cable Length code                                   | Connector Brand code  | Type of Connector code  | Application code   | Project status code                   | Wire Diameter code   | Project code        |
| RF device | MTA : Metal Antenna | Per 2 digits of Length, Width 3109 = Length = 31 Width = 9 | 2 digits for cable length<br>10= Cable Length: 10cm | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>K:F<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse Female<br>B: Reverse Male<br>F: Female<br>M: Male<br>N: None | 0: 0GHz<br>5: 5 GHz<br>A: 2.4GHz ISM band<br>B: GSM 900/1800 dual band<br>G: GPS band<br>L: 2.4/5.2/5.8 GHz tri-band<br>T:LTE band<br>U:UHF<br>W: WCDMA band | B: MP<br>T:During Test<br>X: Pile Run | 0:None<br>1:Ø0.81<br>2:Ø1.32<br>3:Ø1.13<br>4:Low LossØ1.13<br>5:Ø0.50<br>6:RG316<br>7:Ø1.37<br>8:RG178<br>9: Low LossØ1.37<br>A:RG174<br>B:1.5C-2V | 01-99 series number |

■ **Cable Assembly**

| RF        | CBA                  | 1613  | 10   | I   | M   | 3                             | B                                     | 7  | 01                  |
|-----------|----------------------|---|--|---|---|-------------------------------|---------------------------------------|--|---------------------|
| Type code | Product code         | Dimension code  | Cable Length code                                | Connector Brand code  | Type of Connector code  | Application code              | Project status code                   | Wire Diameter code   | Project code        |
| RF device | CBA : Cable Assembly | Per 2 digits of Length, Width 1613 = Length = 16.8 Width = 13.7 | 2 digits for cable length 10= Cable Length: 10cm | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>K:F<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse Female<br>B: Reverse Male<br>F: Female<br>M: Male<br>N: None | 0: 0GHz<br>3: 3GHz<br>6: 6GHz | B: MP<br>T:During Test<br>X: Pile Run | 0:None<br>1:Ø0.81<br>2:Ø1.32<br>3:Ø1.13<br>4:Low LossØ1.13<br>5:Ø0.50<br>6:RG316<br>7:Ø1.37<br>8:RG178<br>9: Low LossØ1.37<br>A:RG174<br>B:1.5C-2V | 01-99 series number |

■ **Connector**

| RF        | CON             | 0201  | 00                                       | D   | F   | 6                             | B                                     | 0  | 01                  |
|-----------|-----------------|---|--|---|---|-------------------------------|---------------------------------------|--|---------------------|
| Type code | Product code    | Dimension code  | Cable Length code                        | Connector Brand code  | Type of Connector code  | Application code              | Project status code                   | Wire Diameter code   | Project code        |
| RF device | CON : Connector | Per 2 digits of Length, Width 0201 = Length = 2.05 Width = 1.40 | 2 digits for cable length 00= None Cable | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>K:F<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse Female<br>B: Reverse Male<br>F: Female<br>M: Male<br>N: None | 0: 0GHz<br>3: 3GHz<br>6: 6GHz | B: MP<br>T:During Test<br>X: Pile Run | 0:None<br>1:Ø0.81<br>2:Ø1.32<br>3:Ø1.13<br>4:Low LossØ1.13<br>5:Ø0.50<br>6:RG316<br>7:Ø1.37<br>8:RG178<br>9: Low LossØ1.37<br>A:RG174<br>B:1.5C-2V | 01-99 series number |

■ **NFC Antenna**

| RF        | NFC                                    | 0201  | 00                                       | N   | N   | N                | B                                     | 0  | 01                  |
|-----------|--|---|--|---|---|------------------|---------------------------------------|--|---------------------|
| Type code | Product code                           | Dimension code  | Cable Length code                        | Connector Brand code  | Type of Connector code  | Application code | Project status code                   | Wire Diameter code   | Project code        |
| RF device | NFC : Near Field Communication Antenna | Per 2 digits of Length, Width 0201 = Length = 53.7 Width = 39.7 | 2 digits for cable length 00= None Cable | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>K:F<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse Female<br>B: Reverse Male<br>F: Female<br>M: Male<br>N: None | N: NFC           | B: MP<br>T:During Test<br>X: Pile Run | 0:None<br>1:Ø0.81<br>2:Ø1.32<br>3:Ø1.13<br>4:Low LossØ1.13<br>5:Ø0.50<br>6:RG316<br>7:Ø1.37<br>8:RG178<br>9: Low LossØ1.37<br>A:RG174<br>B:1.5C-2V | 01-99 series number |

■ **WPC Antenna**

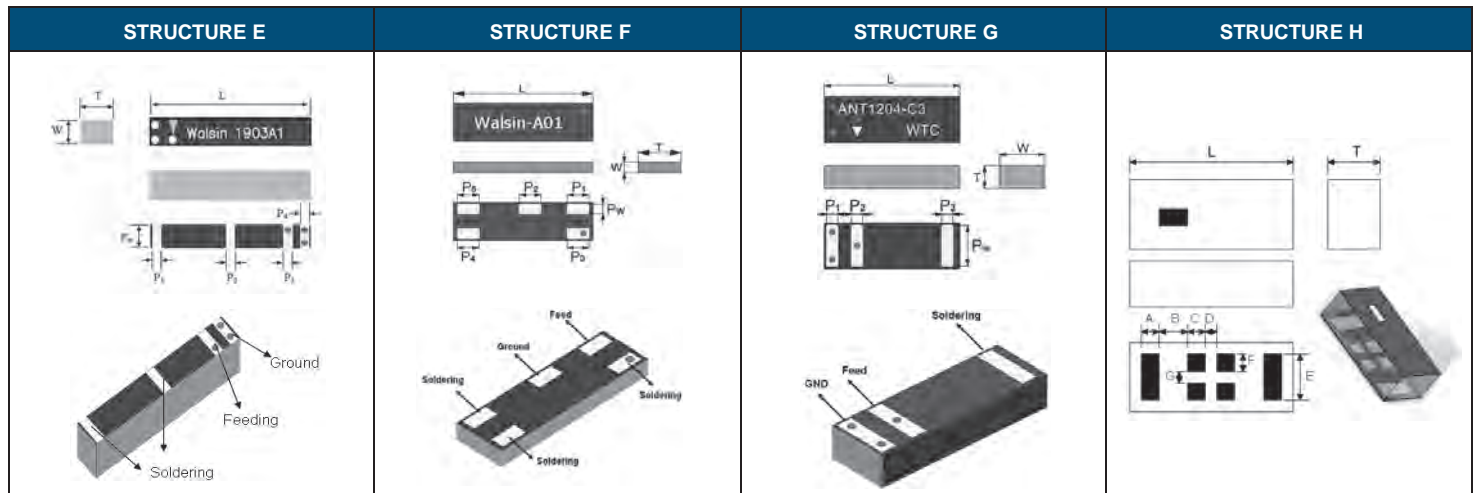
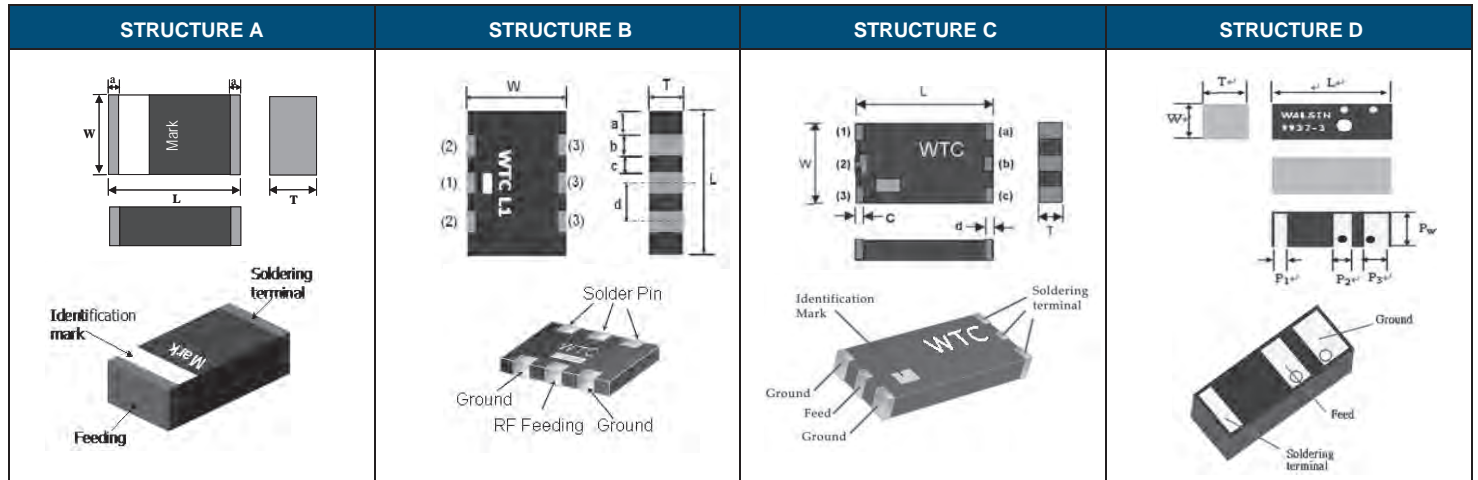
| RF        | WPC                                   | 5830  | 00                                       | N   | N   | N                | B                                     | 0  | 01                  |
|-----------|---------------------------------------|---|--|---|---|------------------|---------------------------------------|--|---------------------|
| Type code | Product code                          | Dimension code  | Cable Length code                        | Connector Brand code  | Type of Connector code  | Application code | Project status code                   | Wire Diameter code   | Project code        |
| RF device | WPC : Wireless Power Charging Antenna | Per 2 digits of Length, Width 5830 = Length = 58 Width = 30 | 2 digits for cable length 00= None Cable | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>K:F<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse Female<br>B: Reverse Male<br>F: Female<br>M: Male<br>N: None | N: NFC           | B: MP<br>T:During Test<br>X: Pile Run | 0:None<br>1:Ø0.81<br>2:Ø1.32<br>3:Ø1.13<br>4:Low LossØ1.13<br>5:Ø0.50<br>6:RG316<br>7:Ø1.37<br>8:RG178<br>9: Low LossØ1.37<br>A:RG174<br>B:1.5C-2V | 01-99 series number |

Remark:

1. Central Frequency should be defined after customers' application approval.

**CHIP ANTENNA**

**■ STRUCTURE AND PIN ASSOCIATED**



**■ STRUCTURE AND DIMENSION**

Unit: mm

| Structure\Dimension | L                  | W                  | T                  | a           | b            | c         | d         | 1         | 2         | 3          |
|---------------------|--------------------|--------------------|--------------------|-------------|--------------|-----------|-----------|-----------|-----------|------------|
| A                   | 10 ± 0.20          | 3.2 ± 0.20         | 0.8 ± 0.10         | 0.8 ± 0.10  |              |           |           |           |           |            |
|                     | 2.0 ± 0.20         | 1.25 ± 0.20        | 0.90 ± 0.10        | 0.25 ± 0.15 | -            | -         | -         | -         | -         | -          |
|                     | 3.20 ± 0.20        | 1.60 ± 0.20        | 0.60 ± 0.10        | 0.25 ± 0.20 | -            | -         | -         | -         | -         | -          |
|                     |                    |                    | 1.20 ± 0.10        | 0.25 ± 0.15 | -            | -         | -         | -         | -         | -          |
|                     | 5.20 ± 0.20        | 2.00 ± 0.20        | 1.30 ± 0.20        | 0.40 ± 0.20 | -            | -         | -         | -         | -         | -          |
|                     |                    |                    | 1.15 ± 0.10        | 0.40 ± 0.25 | -            | -         | -         | -         | -         | -          |
|                     | 5.8 ± 0.1<br>- 0.3 | 3.0 ± 0.1<br>- 0.3 | 1.1 ± 0.2<br>- 0.1 | 0.4 ± 0.25  | -            | -         | -         | -         | -         | -          |
|                     | 8.00 ± 0.20        | 1.05 ± 0.20        | 0.80 ± 0.10        | 0.30 ± 0.20 | -            | -         | -         | -         | -         | -          |
|                     | 9.10 ± 0.20        | 3.00 ± 0.20        | 2.00 ± 0.10        | 0.20 ± 0.20 | -            | -         | -         | -         | -         | -          |
|                     | 9.50 ± 0.20        | 2.10 ± 0.20        | 1.15 ± 0.10        | 0.50 ± 0.30 | -            | -         | -         | -         | -         | -          |
|                     | 1.60 ± 0.20        | 0.80 ± 0.20        | 0.50 ± 0.10        | 0.10 ± 0.05 |              |           |           |           |           |            |
| 2.00 ± 0.20         | 1.20 ± 0.20        | 0.50 ± 0.10        | 0.15 ± 0.05        |             |              |           |           |           |           |            |
| 12.00 ± 0.15        | 4.00 ± 0.15        | 1.60 ± 0.15        | 4.00 ± 0.15        | 0.80 ± 0.10 | 10.40 ± 0.15 |           |           |           |           |            |
| B                   | 5.9 ± 0.3          | 5.1 ± 0.3          | 1.1 ± 0.1          | 0.45 ± 0.2  | 1.0 ± 0.2    | 1.0 ± 0.2 | 2.0 ± 0.2 | 1.0 ± 0.2 | 1.0 ± 0.2 | 1.0 ± 0.2  |
| C                   | 7.6 ± 0.3          | 3.5 ± 0.2          | 1.1 ± 0.1          | 0.8 ± 0.2   | 0.8 ± 0.2    | 0.8 ± 0.2 | 0.5 ± 0.2 | 0.5 ± 0.2 | 0.8 ± 0.2 | 0.50 ± 0.2 |

| Structure\Dimension | L         | W         | T         | PW        | P1       | P2       | P3       | P4       | P5       |
|---------------------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|
| D                   | 9.90±0.15 | 3.70±0.15 | 3.80±0.20 | 3.48±0.10 | 1.4±0.10 | 1.9±0.10 | 2.4±0.15 | -        | -        |
| E                   | 19.0±0.15 | 3.00±0.15 | 3.80±0.20 | 3.00±0.10 | 1.0±0.10 | 1.0±0.10 | 1.0±0.10 | 1.0±0.10 | -        |
| F                   | 12.8±0.15 | 3.90±0.15 | 1.10±0.10 | 1.00±0.10 | 2.0±0.10 | 2.0±0.10 | 2.0±0.10 | 2.0±0.10 | 2.0±0.10 |
| G                   | 12.0±0.15 | 4.00±0.15 | 2.00±0.10 | 3.60±0.10 | 1.0±0.10 | 1.0±0.10 | 1.0±0.10 | -        | -        |
| H                   | 9.90±0.15 | 3.70±0.15 | 3.80±0.20 | 3.48±0.10 | 1.4±0.10 | 1.9±0.10 | 2.4±0.15 | -        | -        |

■ ELECTRICAL SPECIFICATION

1.575GHz BAND WORKING FREQUENCY

| Part Number     | Frequency Range (GHz) | Azimuth Beamwidth ( MHz ) | Gain (dBi) | VSWR (max.) | Impedance (Ω) | Polarization | Size (mm)      | Structure |
|-----------------|-----------------------|---------------------------|------------|-------------|---------------|--------------|----------------|-----------|
| RFANT5830110EOT | 1.575                 | Omni-directional          | 0 ~ 2      | 2.0         | 50            | Linear       | 5.80x3.00x1.10 | A         |
| RFECA1003011EOT | 1.575                 | Omni-directional          | 2 ~ 3      | 2.0         | 50            | Linear       | 10.0x3.20x0.80 | A         |
| RFECA3216060E=T | 1.575                 | Omni-directional          | 3          | 2.0         | 50            | Linear       | 3.20x1.60x0.60 | A         |

Bluetooth/WiFi BAND WORKING FREQUENCY

| Part Number     | Frequency Range (GHz) | Azimuth Beamwidth ( MHz ) | Gain (dBi) | VSWR (max.) | Impedance (Ω) | Polarization | Size (mm)       | Structure |
|-----------------|-----------------------|---------------------------|------------|-------------|---------------|--------------|-----------------|-----------|
| RFECA3216060L1T | 2.4-2.5<br>5.25-5.85  | Omni-directional          | 0.6/2      | 2.1         | 50            | Linear       | 3.20x1.60x0.60  | A         |
| RFANT6050110L0T | 2.4-2.5<br>4.9-5.9    | Omni-directional          | 4          | 2.0         | 50            | Linear       | 5.90x5.10x1.10  | B         |
| RFANT6050110L1T | 2.4-2.5<br>4.9-5.9    | Omni-directional          | 4          | 2.0         | 50            | Linear       | 5.90x5.10x1.10  | B         |
| RFANT2012090AOT | 2.4-2.5               | Omni-directional          | 1.72       | 2.0         | 50            | Linear       | 2.00x1.25x0.90  | A         |
| RFANT3216120A1T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 3.20x1.60x1.20  | A         |
| RFANT3216120A3T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 3.20x1.60x1.20  | A         |
| RFANT3216120A5T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 3.20x1.60x1.20  | A         |
| RFANT5220110A0T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 5.20x2.00x1.10  | A         |
| RFANT5220110A2T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 5.20x2.00x1.10  | A         |
| RFANT7635110A1T | 2.4-2.5               | Omni-directional          | 0 ~ 2      | 2.0         | 50            | Linear       | 7.60x3.50x1.10  | C         |
| RFANT8010080A3T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 8.00x1.00x0.80  | A         |
| RFANT9520120A0T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 9.50x2.00x1.20  | A         |
| RFECA3216060A1T | 2.4-2.5               | Omni-directional          | 2          | 2.1         | 50            | Linear       | 3.20x1.60x0.60  | A         |
| RFECA3216060K1T | 4.9-5.85              | Omni-directional          | 2.8        | 2.0         | 50            | Linear       | 3.20x1.60x0.60  | A         |
| RFANT9030200A1T | 2.4-2.4835            | Omni-directional          | 2          | 2.1         | 50            | Linear       | 9.00x 3.00x2.00 | A         |
| RGFRA1903041A1T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 19.0x3.00x3.80  | E         |
| RGFRA1903041A5T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 19.0x3.00x3.80  | E         |
| RGFRA9937380A3T | 2.4-2.55              | Omni-directional          | 2          | 2.0         | 50            | Linear       | 9.90x3.70x3.80  | D         |
| RGFRA1304011A1T | 2.4-2.5               | Omni-directional          | 2          | 2.1         | 50            | Linear       | 12.8x3.90x1.10  | F         |
| RGFRA1204021A1T | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 12.0x4.00x2.00  | G         |
| RFANT2012090AOT | 2.4-2.5               | Omni-directional          | 2          | 2.0         | 50            | Linear       | 2.00x1.25x0.90  | A         |
| RFECA1608050A0T | 2.4-2.5               | Omni-directional          | 0.7        | 3.0         | 50            | Linear       | 1.60x0.80x0.50  | A         |
| RFECA2012050A3T | 2.4-2.5               | Omni-directional          | 0.29       | 2.6         | 50            | Linear       | 2.00x1.20x0.5   | A         |

WiMAX BAND WORKING FREQUENCY

| Part Number     | Frequency Range (GHz) | Azimuth Beamwidth (MHz ) | Gain (dBi) | VSWR (max.) | Impedance (Ω) | Polarization | Size (mm)      | Structure |
|-----------------|-----------------------|--------------------------|------------|-------------|---------------|--------------|----------------|-----------|
| RFANT32162G6W0T | 2.5-2.69              | Omni-directional         | 1          | 3.0         | 50            | Linear       | 3.20x1.60x1.20 | A         |
| RFANT32163G5W0T | 3.3-3.8               | Omni-directional         | 2-3        | 2.0         | 50            | Linear       | 3.20x1.60x1.20 | A         |

UHF BAND WORKING FREQUENCY

| Part Number     | Frequency Range (MHz) | Azimuth Beamwidth (MHz ) | Gain (dBi) | VSWR (max.) | Impedance (Ω) | Polarization | Size (mm)       | Structure |
|-----------------|-----------------------|--------------------------|------------|-------------|---------------|--------------|-----------------|-----------|
| RGFRA1204011DCT | 900-930               | Omni-directional         | 1          | 2.0         | 50            | Linear       | 12.00x4.00x1.60 | A         |
| RGFRA1204011DET | 855-885               | Omni-directional         | 1          | 2.0         | 50            | Linear       | 12.00x4.00x1.60 | A         |

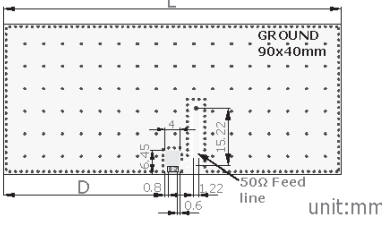
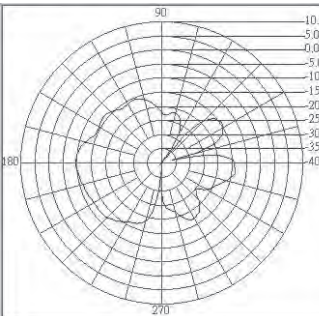
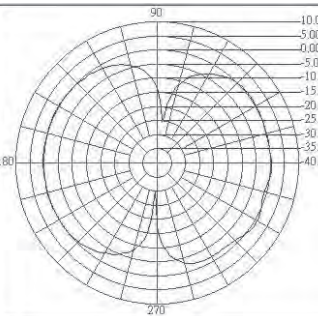
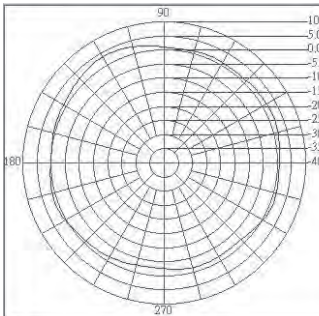
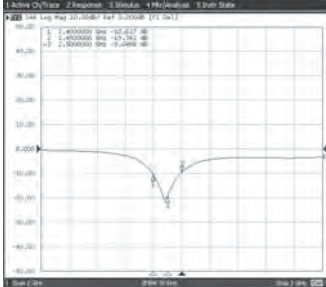
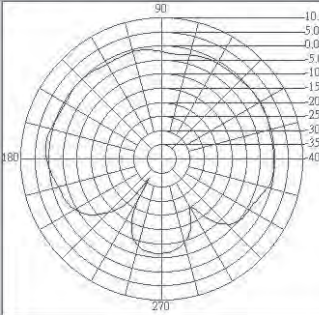
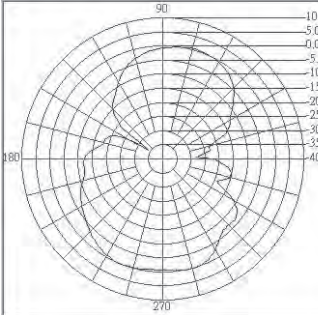
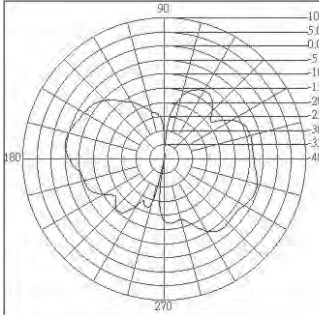
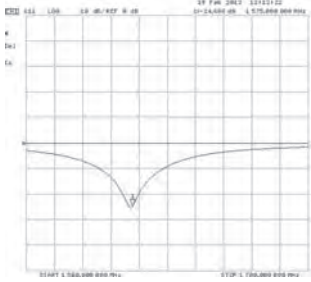
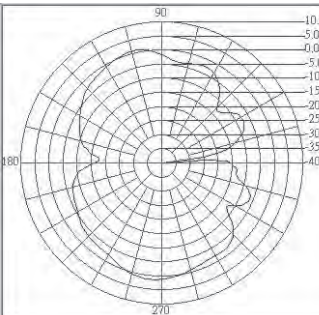
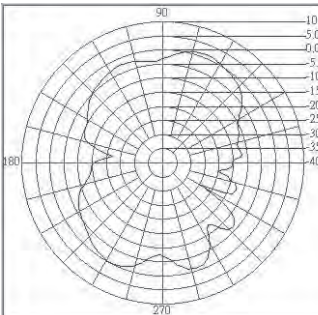
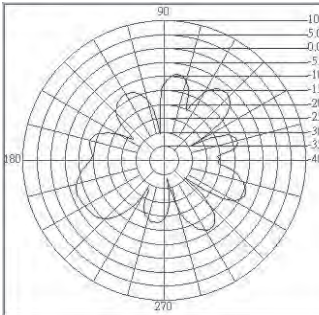
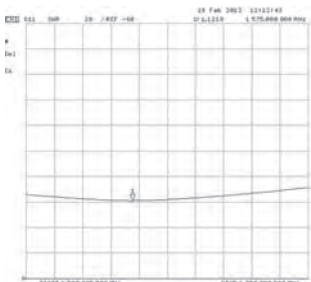
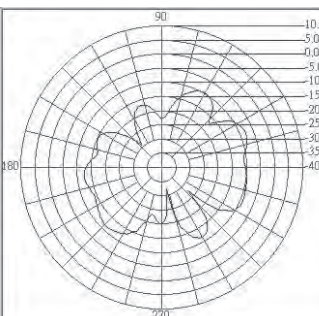
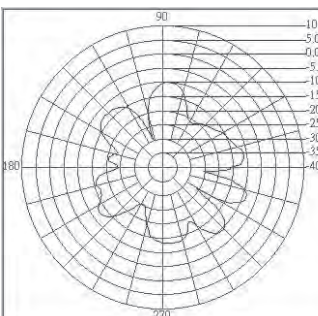
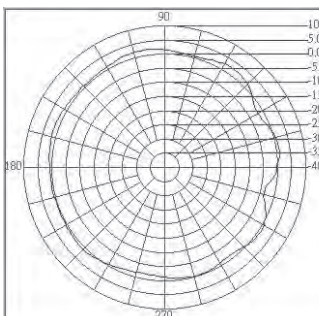
■ For more information, please contact with local sales representative

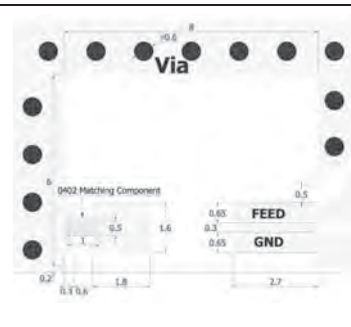
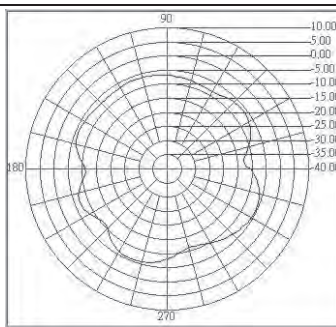
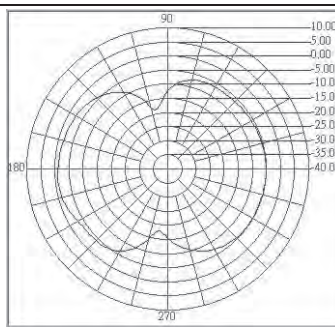
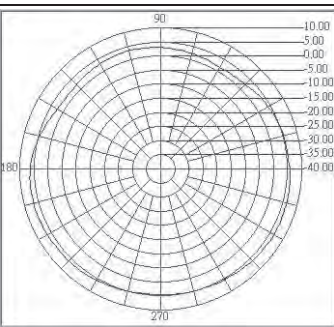
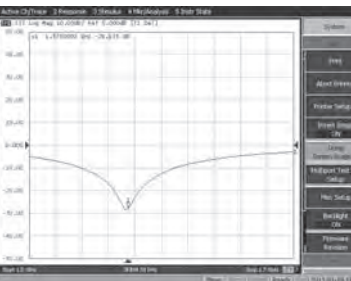
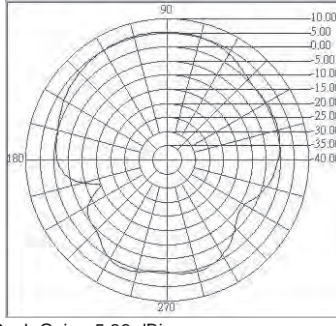
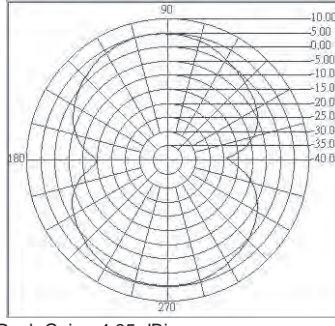
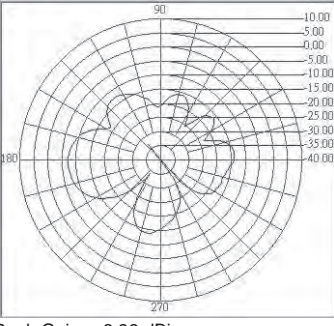
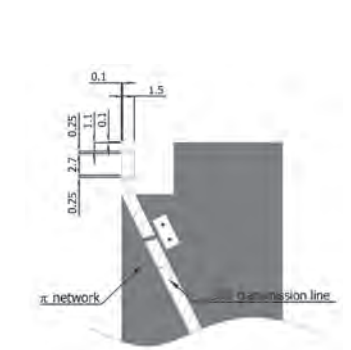
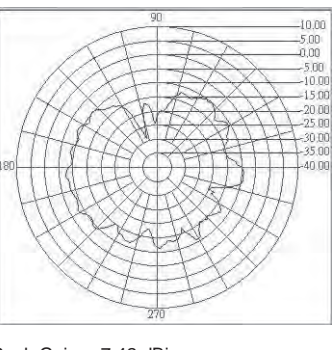
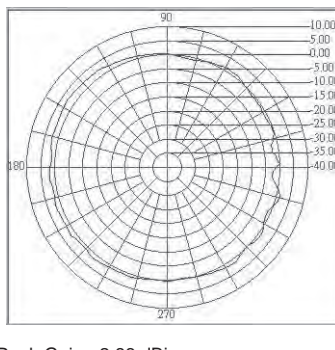
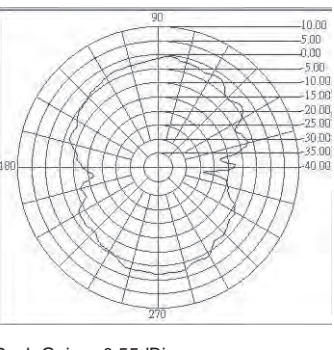
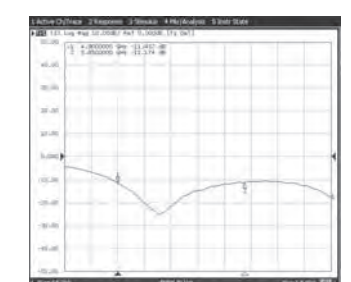
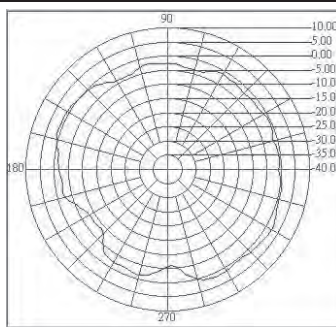
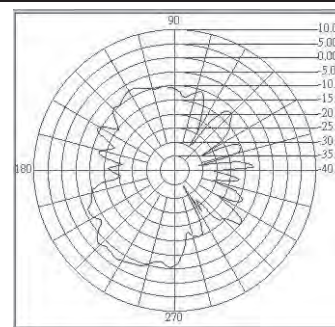
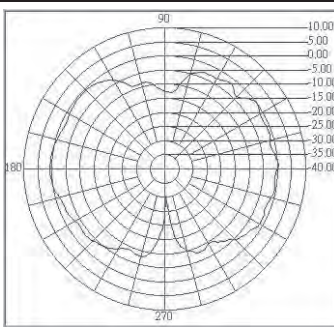
■ All specifications are subject to change without notice

■ **TYPICAL ELECTRICAL CHARACTERISTICS**

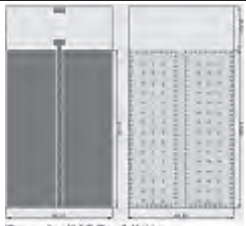
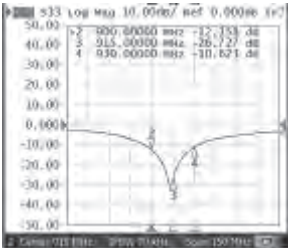
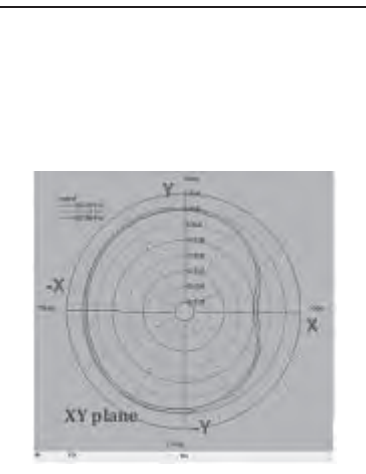

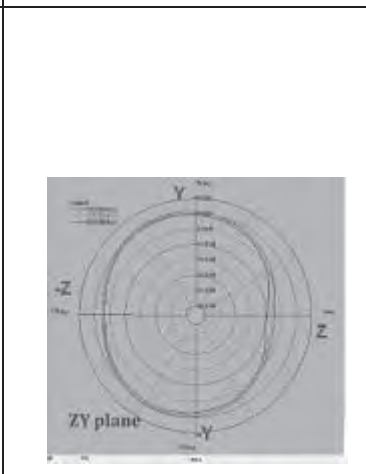
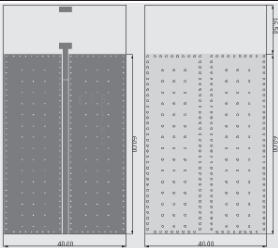
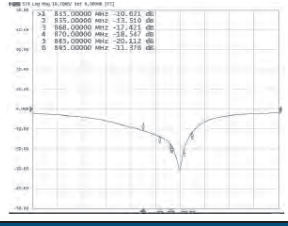


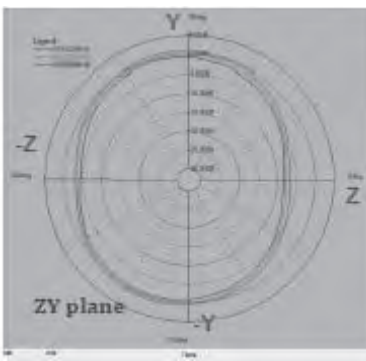
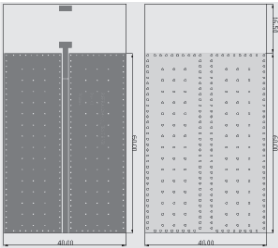

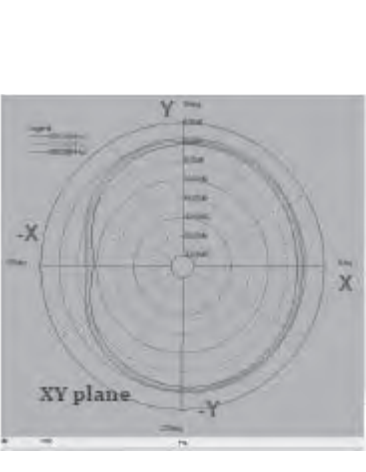
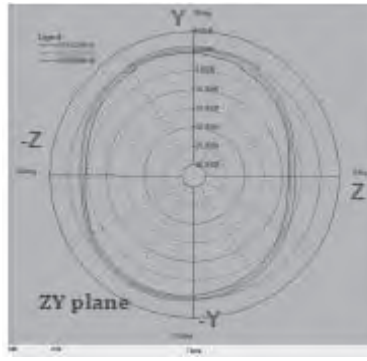
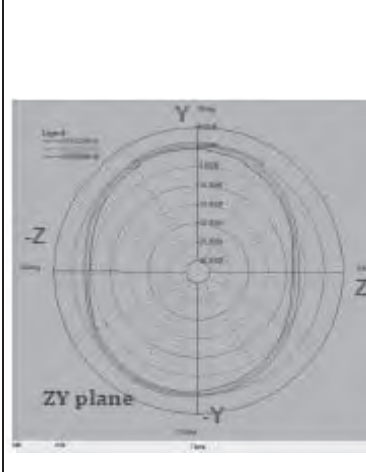
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|-------------------|--|--|---|
| Test Board        | X-Y Plane Vertical                                       | X-Z Plane Vertical                                     | Y-Z Plane Vertical                                    |
|                   | <p>Peak Gain= -5.97dBi<br/>Average Gain=-3.12 dBi</p>    | <p>Peak Gain= -5.97dBi<br/>Average Gain=-3.24 dBi</p>  | <p>Peak Gain= 1.69dBi<br/>Average Gain=-3.22 dBi</p>  |
| Return Loss (S11) | X-Y Plane Horizontal                                     | X-Z Plane Horizontal                                   | Y-Z Plane Horizontal                                  |
|                   | <p>Peak Gain= 2.59dBi<br/>Average Gain=-9.24 dBi</p>     | <p>Peak Gain= 2.66dBi<br/>Average Gain=-8.61 dBi</p>   | <p>Peak Gain= -5.42dBi<br/>Average Gain=-8.98 dBi</p> |
| RGFAR1903041A1T   |  |  |   |
| Test Board        | X-Y Plane Vertical                                       | X-Z Plane Vertical                                     | Y-Z Plane Vertical                                    |
|                   | <p>Peak Gain= -7.42 dBi<br/>Average Gain= -10.48 dBi</p> | <p>Peak Gain= 1.95 dBi<br/>Average Gain= -0.81 dBi</p> | <p>Peak Gain= -0.26dBi<br/>Average Gain=-5 dBi</p>    |
| Return Loss (S11) | X-Y Plane Horizontal                                     | X-Z Plane Horizontal                                   | Y-Z Plane Horizontal                                  |
|                   | <p>Peak Gain= 2.0 dBi<br/>Average Gain= -2.31 dBi</p>    | <p>Peak Gain= -2.65 dBi<br/>Average Gain= -8.4dBi</p>  | <p>Peak Gain= 1.11dBi<br/>Average Gain= -4.37 dBi</p> |

| RFANT8010080A3T   |   |  |  |
|---|---|--|--|
| <p><b>Test Board</b></p>                                      | <p><b>X-Y Plane Vertical</b></p> <p>Peak Gain= 0.76 dBi<br/>Average Gain= -5.81dBi</p>    | <p><b>X-Z Plane Vertical</b></p> <p>Peak Gain= -3.76 dBi<br/>Average Gain= -8.72dBi</p>    | <p><b>Y-Z Plane Vertical</b></p> <p>Peak Gain= 3.03 dBi<br/>Average Gain = 0.71 dBi</p>    |
| <p><b>Return Loss (S11)</b></p>                               | <p><b>X-Y Plane Horizontal</b></p> <p>Peak Gain= 1.37 dBi<br/>Average Gain= -2.67 dBi</p> | <p><b>X-Z Plane Horizontal</b></p> <p>Peak Gain= -0.25 dBi<br/>Average Gain= -4.24 dBi</p> | <p><b>Y-Z Plane Horizontal</b></p> <p>Peak Gain= -1.37 dBi<br/>Average Gain= -8.6 dBi</p>  |
| RGFAR9937380A3T   |   |  |  |
| <p><b>Test Board</b></p>                                      | <p><b>X-Y Plane Vertical</b></p> <p>Peak Gain= -4.48 dBi<br/>Average Gain= -8.02 dBi</p>  | <p><b>X-Z Plane Vertical</b></p> <p>Peak Gain= 2.49 dBi<br/>Average Gain= -2.47 dBi</p>    | <p><b>Y-Z Plane Vertical</b></p> <p>Peak Gain= -4.05dBi<br/>Average Gain= -8.03 dBi</p>    |
| <p><b>Return Loss (S11)</b></p> <p>-10dB bandwidth 140MHz</p> | <p><b>X-Y Plane Horizontal</b></p> <p>Peak Gain= 3.19 dBi<br/>Average Gain= -2.65 dBi</p> | <p><b>X-Z Plane Horizontal</b></p> <p>Peak Gain= 3.05 dBi<br/>Average Gain= -4.10dBi</p>   | <p><b>Y-Z Plane Horizontal</b></p> <p>Peak Gain = 0.95dBi<br/>Average Gain = -4.26 dBi</p> |

| RFECA3216060A1T   |   |  |   |
|---|---|--|---|
| Test Board  | X-Y Plane Vertical  | X-Z Plane Vertical   | Y-Z Plane Vertical  |
|  <p>unit:mm</p> |  <p>Peak Gain = 3.37 dBi<br/>Average Gain = -0.65 dBi</p>  |  <p>Peak Gain= 0.83 dBi<br/>Average Gain= -1.35 dBi</p>    |  <p>Peak Gain= -9.59 dBi<br/>Average Gain= -15.40 dBi</p>  |
| Return Loss (S11)   | X-Y Plane Horizontal  | X-Z Plane Horizontal   | Y-Z Plane Horizontal  |
|               |  <p>Peak Gain= -4.62 dBi<br/>Average Gain=-10.42 dBi</p>  |  <p>Peak Gain= 0.51 dBi<br/>Average Gain= -4.07 dBi</p>   |  <p>Peak Gain= 1.39 dBi<br/>Average Gain= -2.07 dBi</p>   |
| RFECA1003011E0T   |   |  |   |
| Antenna S11 on Test Board   | X-Y Plane Vertical  | X-Z Plane Vertical   | Y-Z Plane Vertical  |
|              |  <p>Peak Gain = 3.12dBi<br/>Average Gain = -3.99 dBi</p> |  <p>Peak Gain= 1.97dBi<br/>Average Gain= -1.44 dBi</p>   |  <p>Peak Gain = 3.32dBi<br/>Average Gain = 1.02 dBi</p>  |
| Antenna VSWR on Test Board  | X-Y Plane Horizontal  | X-Z Plane Horizontal   | Y-Z Plane Horizontal  |
|              |  <p>Peak Gain = +0.48dBi<br/>Average Gain = -4.59dBi</p> |  <p>Peak Gain = +4.99dBi<br/>Average Gain = -1.31dBi</p> |  <p>Peak Gain = +3.02dBi<br/>Average Gain = -0.85dBi</p> |

| RFECA3216060E1T  |  |  |   |
|--|--|--|---|
| Land Pattern   | X-Y Plane Vertical   | X-Z Plane Vertical   | Y-Z Plane Vertical  |
|    |  <p>Peak Gain= -5.51 dBi<br/>Average Gain= -7.48 dBi</p>    |  <p>Peak Gain= -0.85 dBi<br/>Average Gain= -5.22 dBi</p> |  <p>Peak Gain= 6.74 dBi<br/>Average Gain = 4.81 dBi</p>    |
| Return Loss (S11)  | X-Y Plane Horizontal   | X-Z Plane Horizontal   | Y-Z Plane Horizontal  |
|   |  <p>Peak Gain= 5.36 dBi<br/>Average Gain= 1.25 dBi</p>     |  <p>Peak Gain= 4.85 dBi<br/>Average Gain= 1.21 dBi</p>  |  <p>Peak Gain= -6.99 dBi<br/>Average Gain= -14.30 dBi</p> |
| RFECA3216060K1T  |  |  |   |
| Land Pattern   | X-Y Plane Vertical   | X-Z Plane Vertical   | Y-Z Plane Vertical  |
|  |  <p>Peak Gain= -7.42 dBi<br/>Average Gain= -11.78 dBi</p> |  <p>Peak Gain= 2.86 dBi<br/>Average Gain= 0.86 dBi</p> |  <p>Peak Gain= -0.55dBi<br/>Average Gain=-4.9 dBi</p>    |
| Return Loss (S11)  | X-Y Plane Horizontal   | X-Z Plane Horizontal   | Y-Z Plane Horizontal  |
|  |  <p>Peak Gain= 2.3 dBi<br/>Average Gain= -1.1 dBi</p>     |  <p>Peak Gain=-2.49 dBi<br/>Average Gain= -9.61dBi</p> |  <p>Peak Gain = 0.73dBi<br/>Average Gain = -2.86 dBi</p> |

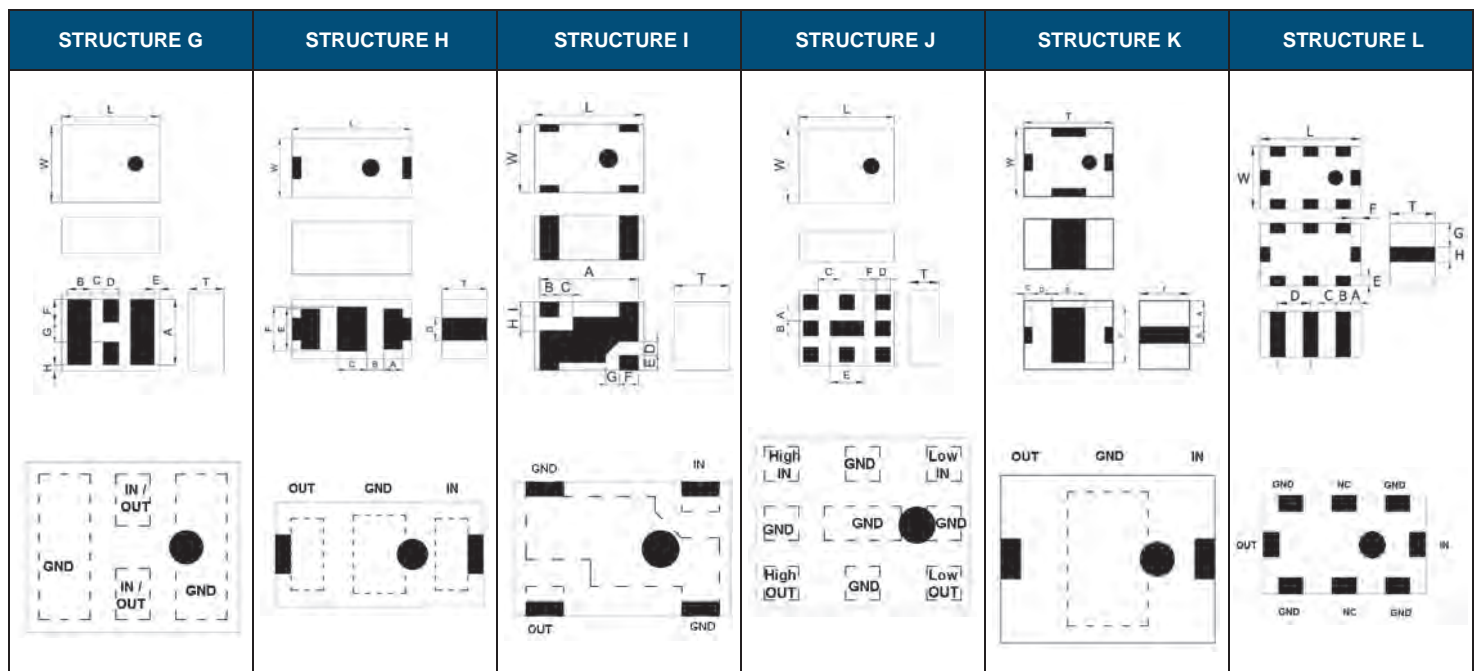
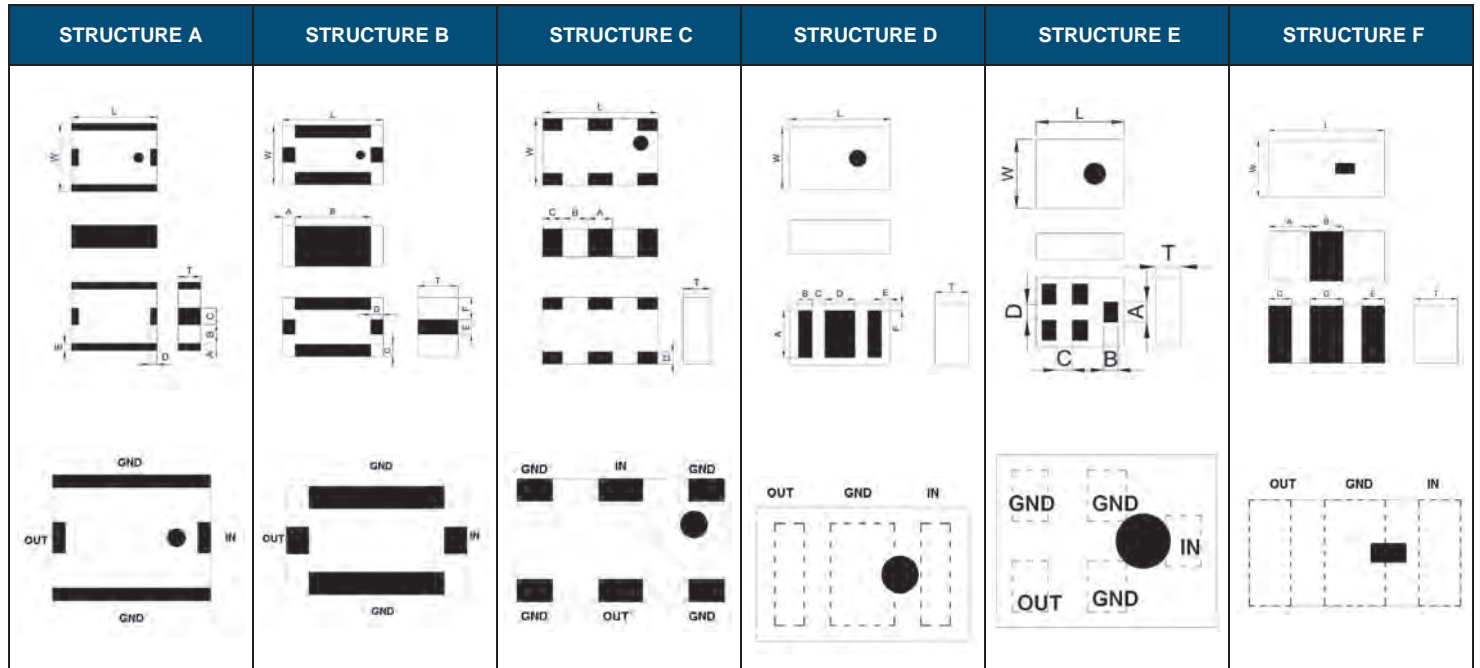


| RGFRA1204011DCT  |   |  |   |
|--|---|--|---|
| Test Board   | X-Y Plane   | X-Z Plane  | Y-Z Plane   |
|  <p>Return Loss (S11)</p>      |  <p>Peak Gain= -0.82 dBi<br/>Average Gain= -1.11 dBi</p>   |  <p>Peak Gain= 0.56 dBi<br/>Average Gain= -3.41 dBi</p>    |  <p>Peak Gain= 0.94dBi<br/>Average Gain=-1.48 dBi</p>    |
| RGFRA1204011DET  |   |  |   |
| Test Board   | X-Y Plane   | X-Z Plane  | Y-Z Plane   |
|  <p>Return Loss (S11)</p>   |  <p>Peak Gain= -0.85 dBi<br/>Average Gain= -0.74 dBi</p> |  <p>Peak Gain= -1.06 dBi<br/>Average Gain= -3.01 dBi</p> |  <p>Peak Gain= -0.82dBi<br/>Average Gain=-1.29 dBi</p> |
| RGFRA1204011DET  |   |  |   |
| Test Board   | X-Y Plane   | X-Z Plane  | Y-Z Plane   |
|  <p>Return Loss (S11)</p>  |  <p>Peak Gain= -0.85 dBi<br/>Average Gain= -0.74 dBi</p> |  <p>Peak Gain= -1.06 dBi<br/>Average Gain= -3.01 dBi</p> |  <p>Peak Gain= -0.82dBi<br/>Average Gain=-1.29 dBi</p> |

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

**HIGH FREQUENCY MULTILAYER BAND PASS FILTER**

■ **STRUCTURE AND PIN ASSOCIATED**



■ **STRUCTURE AND DIMENSION**

Unit: mm

| Structure\ Dimension | L         | W          | T         | A          | B          | C          | D         | E          | F          | G          | H          | I |
|----------------------|-----------|------------|-----------|------------|------------|------------|-----------|------------|------------|------------|------------|---|
| A                    | 2.50±0.20 | 2.00±0.20  | 0.70±0.10 | 0.20±0.20  | 0.55±0.20  | 0.50±0.20  | 0.25±0.20 | 0.20±0.20  | -          | -          | -          | - |
|                      |           |            | 0.90±0.10 | 0.20±0.20  | 0.55±0.20  | 0.50±0.20  | 0.20±0.20 | 0.20±0.20  | -          | -          | -          | - |
|                      |           |            | 1.00±0.10 | 0.20±0.20  | 0.55±0.20  | 0.50±0.20  | 0.25±0.20 | 0.20±0.20  | -          | -          | -          | - |
|                      |           |            | 1.05±0.10 | 0.25±0.20  | 0.50±0.20  | 0.50±0.20  | 0.25±0.20 | 0.25±0.20  | -          | -          | -          | - |
|                      |           |            | 1.20±0.10 | 0.25±0.20  | 0.50±0.20  | 0.50±0.20  | 0.25±0.20 | 0.25±0.20  | -          | -          | -          | - |
|                      | 2.05±0.20 | 0.70±0.20  | 0.25±0.20 | 0.50±0.20  | 0.50±0.20  | 0.25±0.20  | 0.25±0.20 | -          | -          | -          | -          |   |
| 3.20±0.20            | 2.50±0.10 | 1.50±0.10  | 0.20±0.20 | 0.75±0.20  | 0.60±0.20  | 0.20±0.15  | 0.40±0.20 | -          | -          | -          | -          |   |
| B                    | 1.00±0.10 | 0.50±0.10  | 0.40±0.10 | 0.35±0.10  | 0.30±0.10  | 0.15±0.10  | 0.15±0.10 | 0.30±0.10  | -          | -          | -          | - |
|                      | 1.60±0.15 | 0.80±0.15  | 0.50±0.10 | 0.45±0.15  | 0.70±0.15  | 0.20±0.15  | 0.20±0.15 | 0.30±0.15  | 0.25±0.15  | -          | -          | - |
|                      |           |            | 0.60±0.10 | 0.45±0.15  | 0.70±0.15  | 0.20±0.15  | 0.20±0.15 | 0.30±0.15  | 0.25±0.15  | -          | -          | - |
|                      |           |            | 0.70±0.10 | 0.40±0.15  | 0.80±0.15  | 0.20±0.10  | 0.20±0.10 | 0.30±0.15  | 0.25±0.15  | -          | -          | - |
|                      |           |            | 0.70±0.10 | 0.45±0.15  | 0.70±0.15  | 0.20±0.10  | 0.20±0.10 | 0.30±0.15  | 0.25±0.15  | -          | -          | - |
|                      | 2.00±.15  | 1.20±0.15  | 0.50±0.10 | 0.40±0.15  | 0.80±0.15  | 0.20±0.10  | 0.20±0.10 | 0.30±0.15  | 0.45±0.15  | -          | -          | - |
|                      |           |            | 0.90±0.10 | 0.20±0.15  | 1.60±0.15  | 0.20±0.15  | 0.20±0.15 | 0.40±0.15  | 0.40±0.15  | -          | -          | - |
|                      |           |            |           | 0.20±0.15  | 1.60±0.15  | 0.25±0.15  | 0.25±0.15 | 0.30±0.15  | 0.45±0.15  | -          | -          | - |
|                      |           |            |           | 0.45±0.15  | 1.10±0.15  | 0.25±0.15  | 0.25±0.15 | 0.30±0.15  | 0.45±0.15  | -          | -          | - |
|                      |           |            | 0.50±0.15 | 1.00±0.15  | 0.20±0.15  | 0.20±0.15  | 0.30±0.15 | 0.45±0.15  | -          | -          | -          |   |
|                      |           | 1.25±0.15  | 0.60±0.10 | 0.50±0.15  | 1.00±0.15  | 0.25±0.15  | 0.25±0.15 | 0.30±0.15  | 0.475±0.15 | -          | -          | - |
|                      |           |            | 0.80±0.10 | 0.50±0.15  | 1.00±0.15  | 0.25±0.15  | 0.25±0.15 | 0.30±0.15  | 0.475±0.15 | -          | -          | - |
|                      |           |            | 0.90±0.10 | 0.50±0.15  | 1.00±0.15  | 0.25±0.15  | 0.25±0.15 | 0.30±0.15  | 0.475±0.15 | -          | -          | - |
|                      |           |            | 0.95±0.10 | 0.35±0.15  | 1.30±0.15  | 0.20±0.15  | 0.20±0.15 | 0.30±0.15  | 0.475±0.15 | -          | -          | - |
| 0.35±0.15            |           |            |           | 1.30±0.15  | 0.25±0.15  | 0.25±0.15  | 0.30±0.15 | 0.475±0.15 | -          | -          | -          |   |
| 0.50±0.15            | 1.00±0.15 | 0.25±0.15  | 0.25±0.15 | 0.30±0.15  | 0.475±0.15 | -          | -         | -          |            |            |            |   |
| C                    | 2.00±.15  | 1.20±0.20  | 0.55±0.10 | 0.40±0.20  | 0.40±0.20  | 0.40±0.20  | 0.20±0.10 | -          | -          | -          | -          |   |
|                      |           |            | 0.60±0.10 | 0.40±0.20  | 0.40±0.20  | 0.40±0.20  | 0.20±0.10 | -          | -          | -          | -          |   |
|                      |           |            | 0.80±0.10 | 0.40±0.20  | 0.40±0.20  | 0.40±0.20  | 0.20±0.10 | -          | -          | -          | -          |   |
| D                    | 1.60±0.15 | 0.80±0.15  | 0.60±0.10 | 0.55±0.10  | 0.25±0.10  | 0.23±0.10  | 0.40±0.10 | 0.12±0.10  | 0.125±0.10 | -          | -          |   |
|                      | 2.00±.15  | 1.25±0.10  | 0.45±0.10 | 0.95±0.10  | 0.275±0.20 | 0.25±0.10  | 0.60±0.10 | 0.175±0.10 | 0.15±0.10  | -          | -          |   |
|                      |           |            | 0.70 max  | 0.95±0.10  | 0.275±0.10 | 0.25±0.10  | 0.60±0.10 | 0.175±0.10 | 0.15±0.10  | -          | -          |   |
| 0.80±0.10            | 0.95±0.10 | 0.275±0.10 | 0.25±0.10 | 0.60±0.10  | 0.175±0.10 | 0.15±0.10  | -         | -          | -          |            |            |   |
| E                    | 1.10±0.10 | 0.90±0.10  | 0.60±0.10 | 0.25±0.10  | 0.18±0.10  | 0.205±0.10 | 0.25±0.10 | -          | -          | -          | -          |   |
|                      | 1.40±0.15 | 1.10±0.10  | 0.60±0.10 | 0.325±0.10 | 0.25±0.10  | 0.25±0.10  | 0.25±0.10 | -          | -          | -          | -          |   |
|                      | 1.40±0.15 | 1.10±0.15  | 0.70±0.10 | 0.325±0.10 | 0.25±0.10  | 0.25±0.10  | 0.25±0.10 | -          | -          | -          | -          |   |
|                      | 2.00±0.20 | 1.25±0.20  | 1.00 max. | 0.325±0.10 | 0.25±0.10  | 0.25±0.10  | 0.25±0.10 | -          | -          | -          | -          |   |
| F                    | 1.60±0.15 | 0.80±0.15  | 0.40±0.10 | 0.55±0.15  | 0.50±0.15  | 0.35±0.15  | 0.50±0.15 | 0.20±0.15  | -          | -          | -          |   |
|                      |           |            | 0.60±0.10 | 0.55±0.15  | 0.50±0.15  | 0.35±0.15  | 0.50±0.15 | 0.20±0.15  | -          | -          | -          |   |
| G                    | 1.60±0.10 | 0.80±0.10  | 0.70 max. | 0.55±0.10  | 0.25±0.10  | 0.23±0.10  | 0.40±0.10 | 0.12±0.10  | 0.195±0.10 | 0.21±0.10  | 0.125±0.10 |   |
|                      | 2.00±0.15 | 1.25±0.10  | 0.80±0.10 | 0.95±0.10  | 0.40±0.10  | 0.30±0.10  | 0.30±0.10 | 0.15±0.10  | 0.30±0.10  | 0.35±0.10  | 0.15±0.10  |   |
|                      |           |            | 0.90±0.10 | 0.95±0.10  | 0.40±0.10  | 0.30±0.10  | 0.30±0.10 | 0.15±0.10  | 0.30±0.10  | 0.35±0.10  | 0.15±0.10  |   |
| 2.50±0.20            | 2.00±0.20 | 0.90±0.10  | 1.70±0.20 | 0.60±0.20  | 0.30±0.20  | 0.40±0.20  | 0.15±0.10 | 0.60±0.10  | 0.50±0.10  | 0.15±0.10  |            |   |
| H                    | 1.60±0.15 | 0.80±0.10  | 0.60 max. | 0.25±0.10  | 0.23±0.05  | 0.40±0.10  | 0.30±0.10 | 0.55±0.10  | 0.60±0.10  | -          | -          |   |
| I                    | 2.00±0.15 | 1.25±0.10  | 1.00 max. | 1.80±0.10  | 0.35±0.10  | 0.25±0.10  | 0.25±0.10 | 0.275±0.10 | 0.35±0.10  | 0.25±0.10  | 0.25±0.10  |   |
| J                    | 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  | -          | -          |   |
| K                    | 2.00±0.15 | 1.25±0.15  | 1.05±0.15 | 0.475±0.15 | 0.30±0.15  | 0.20±0.15  | 0.50±0.15 | 0.60±0.15  | 0.95±0.15  | -          | -          |   |
|                      | 3.20±0.20 | 2.50±0.20  | 1.80±0.20 | 0.95±0.20  | 0.60±0.20  | 0.30±0.15  | 0.70±0.15 | 1.20±0.15  | 2.00±0.15  | -          | -          |   |
| L                    | 2.00±0.15 | 1.25±0.10  | 1.05 max. | 0.20±0.10  | 0.35±0.10  | 0.30±0.10  | 0.65±0.10 | 0.20±0.10  | 0.20±0.10  | 0.475±0.10 | 0.30±0.10  |   |

■ ELECTRICAL SPECIFICATION

2.4GHz BAND WORKING FREQUENCY

| Part Number        | Frequency Range(GHz) | Insertion Loss (dB)                   | Attenuation (dB min. )   | VSWR (max.) | Impedance (Ω) | Size(mm)        | STRUCTURE |
|--------------------|----------------------|---------------------------------------|--|-------------|---------------|-----------------|-----------|
| RBBPF1005040A1T    | 2.4-2.5              | 2.5                                   | 25(824-960MHz)<br>20(1710-1910MHz)<br>20(4800-5000MHz)<br>15(7200-7500MHz)   | 2.0         | 50            | 1.00x0.50x0.40  | B         |
| RFBPF1005040A3T    | 2.4-2.5              | 1.5max.(25°C)<br>1.7max.(-40~+85°C)   | 13(824-915MHz)<br>5(1545-1605MHz)<br>34(4800-5000MHz)<br>27(7200-7500MHz)  | 2.1         | 50            | 1.00x0.50x0.40  | B         |
| RFBPF1109060A0T    | 2.4-2.5              | 1.8                                   | 35(824-960MHz)<br>38(1545-1605MHz)<br>20(1710-1990MHz)<br>8(2110-2170MHz)<br>35(3600MHz)<br>35(4800-5000MHz)<br>35(7200-7500MHz)     | 2.0         | 50            | 1.10x 0.90x0.60 | E         |
| RFBPF1411060A1T    | 2.4-2.5              | 1.8max.(25°C)<br>2.1max.(-40~+85°C)   | 40(824-960MHz)<br>40(1545-1605MHz)<br>20(1710-1990MHz)<br>8(2110-2170MHz)<br>35(3600MHz)<br>35(4800-5000MHz)<br>35(7200-7500MHz)     | 2.0         | 50            | 1.40x1.10x0.60  | E         |
| RFBPF1411060A2T    | 2.4-2.5              | 1.5                                   | 30(500-960MHz)<br>25(1500-1650MHz)<br>19(3200-3300MHz)<br>40(4800-5000MHz)<br>30(7200-7500MHz)                                       | 2.0         | 50            | 1.40x1.10x0.60  | E         |
| RBBPF1411060A3T    | 2.4-2.5              | 1.1                                   | 20( 50-960MHz)<br>10( 1710-1990MHz)<br>9( 3600MHz)<br>22( 4800-7200MHz)  | 2.0         | 50            | 1.40x1.10x0.60  | E         |
| RBBPF1411060A8T    | 2.4-2.5              | 1.0max.(25°C)<br>1.2max.(-40~+85°C)   | 15(50-960MHz)<br>10(1710-1990MHz)<br>15(3600MHz)<br>25(4800-7200MHz)   | 2.0         | 50            | 1.40x1.10x0.60  | E         |
| RFBPF1608060AA7M1U | 2.4-2.5              | 0.95max.(25°C)<br>1.25max.(-40~+85°C) | 20(500-960MHz)<br>23(3200MHz)<br>30(4800-5000MHz)<br>32(7200-7500MHz)  | 2.0         | 50            | 1.60x0.80x0.60  | H         |
| RFBPF1608060ADT    | 2.4-2.5              | 1.8max.(25°C)<br>2.1max.(-40~+85°C)   | 25(800-1000MHz)<br>22.5(1200-1300MHz)<br>5.5(2000MHz)<br>10.5(3000MHz)<br>23.5(3600-3800MHz)<br>35(4800-5000MHz)<br>35(7200-7500MHz) | 2.0         | 50            | 1.60x0.80x0.60  | B         |
| RFBPF1608060AET    | 2.4-2.5              | 1.7max.(25°C)<br>2.0max.(-40~+85°C)   | 25(880MHz)<br>20(3200MHz)<br>35(4800-5000MHz)<br>25(7200-7500MHz)  | 2.0         | 50            | 1.60x0.80x0.60  | F         |
| RFBPF1608070AFT    | 2.4-2.5              | 2.4max.(25°C)<br>2.7max.(-40~+85°C)   | 24.5(880-960MHz)<br>20(1710-1990MHz)<br>8.5(2170MHz)<br>15(4800-5000MHz)<br>20(7200-7500MHz)   | 2.0         | 50            | 1.60x0.80x0.70  | B         |
| RFBPF1608070AWT    | 2.4-2.5              | 2.0max.(25°C)<br>2.2max.(-40~+85°C)   | 30 (960MHz)<br>25(1910MHz)<br>20(1990MHz)<br>25(4800MHz)<br>15(7200MHz)  | 2.0         | 50            | 1.60x0.80x0.70  | B         |
| RFBPF1608050A0T    | 2.4-2.5              | 2.0max.(25°C)<br>2.2max.(-40~+85°C)   | 20(960MHz)<br>20(1910MHz)<br>15(1990MHz)<br>18(4800MHz)<br>25(7200MHz)   | 2.0         | 50            | 1.60x0.80x0.50  | B         |
| RFBPF1608060A1T    | 2.4-2.5              | 2.8                                   | 25(695-800MHz)<br>20(1910MHz)<br>35(3200MHz)<br>20(4800-5000MHz)<br>20(7200-7500MHz)   | 2.0         | 50            | 1.60x0.80x0.60  | B         |
| RFBPF1608060A7T    | 2.4-2.5              | 3.0                                   | 25(695-800MHz)<br>20(1910MHz)<br>35(3200MHz)<br>20(4800-5000MHz)<br>20(7200-7500MHz)   | 2.0         | 50            | 1.60x0.80x0.60  | B         |

**2.4GHz BAND WORKING FREQUENCY**

| Part Number        | Frequency Range(GHz) | Insertion Loss (dB)                   | Attenuation (dB min. )  | VSWR (max.) | Impedance (Ω) | Size(mm)       | STRUCTURE |
|--------------------|----------------------|---------------------------------------|---|-------------|---------------|----------------|-----------|
| RFBPF1608070A3T    | 2.4~2.5              | 1.8max.(25°C)<br>2.1max.(-40~+85°C)   | 27(800-900MHz)<br>25(4800-5000MHz)<br>30(7200-7500MHz)  | 2.0         | 50            | 1.60x0.80x0.70 | B         |
| RFBPF2012080AM0T62 | 2.4~2.5              | 1.8max.(25°C)<br>2.0max.(-40~+85°C)   | 30(860-960MHz)<br>30(1545-1605MHz)<br>35(1710-1990MHz)<br>30(2170MHz)<br>30(4800-5000MHz)   | 2.0         | 50            | 2.00x1.20x0.80 | D         |
| RFBPF2008A38T      | 2.4~2.5              | 1.80max.(25°C)<br>2.00max.(-40~+85°C) | 30(860-960MHz)<br>30(1545-1605MHz)<br>35(1710-1990MHz)<br>30(2170MHz)<br>30(4800-5000MHz)   | 2.0         | 50            | 2.00x1.25x0.80 | G         |
| RFBPF2012090AS1T35 | 2.4~2.5              | 0.9max.(25°C)<br>1.1max.(-40~+85°C)   | 28(824-960MHz)<br>30(1570-1580MHz)<br>15(1710-1910MHz)<br>9.5(1910-1990MHz)<br>25(4800-5000MHz)<br>25(7200-7500MHz)   | 2.0         | 50            | 2.00x1.25x0.90 | G         |
| RFBPF2012060AAT    | 2.4~2.5              | 1.5max.(25°C)<br>1.8max.(-40~+85°C)   | 30(880-960MHz)<br>25(1710-1910MHz)<br>25(4800-5000MHz)<br>30(7200-7500MHz)  | 2.0         | 50            | 2.00x1.20x0.60 | C         |
| RFBPF2012040ABT    | 2.4~2.5              | 2.5                                   | 30(824-849MHz)<br>30(880-915MHz)<br>30(1545-1605MHz)<br>30(1565-1585MHz)<br>35(1710-1785MHz)<br>40(1850-1910MHz)<br>32(1920-1980MHz)<br>7(3168-4752MHz)<br>11(3300-3800MHz)<br>35(4800-4967MHz)<br>26(5150-6000MHz)<br>23(7200-7450MHz) | 2.0         | 50            | 2.00x1.20x0.40 | D         |
| RFBPF2012050ACT    | 2.4~2.5              | 2.5                                   | 35(824-960MHz)<br>38(1710-1910MHz)<br>25(4880-5000MHz)<br>20(7200-7500MHz)  | 2.0         | 50            | 2.00x1.20x0.55 | C         |
| RFBPF2012080ADT    | 2.4~2.5              | 1.5max.(25°C)<br>1.7max.(-40~+85°C)   | 30(860-960MHz)<br>30(1545-1605MHz)<br>30(1710-1990MHz)<br>30(2170MHz)<br>30(4800-5000MHz)   | 2.0         | 50            | 2.00x1.25x0.80 | D         |
| RFBPF2008A40T      | 2.4~2.5              | 1.8max.(25°C)<br>2.0max.(-40~+85°C)   | 30(824-915MHz)<br>30(1545-1605MHz)<br>35(1710-1990MHz)<br>30(2170MHz)<br>30(4800-4967MHz)<br>25(5150-6000MHz)<br>20(7200-7450.5MHz)   | 2.0         | 50            | 2.00x1.25x0.80 | D         |
| RFBPF2008A39T      | 2.4~2.5              | 1.8max.(25°C)<br>2.0max.(-40~+85°C)   | 35(824-960MHz)<br>28(1540-1605MHz)<br>30(1710-1990MHz)<br>30(2170MHz)<br>6(3200MHz)<br>30(4800-4967MHz)<br>20(5150-6000MHz)<br>18(7200-7450MHz)   | 2.0         | 50            | 2.00x1.25x0.80 | D         |
| RFBPF2012040AHT    | 2.4~2.5              | 2.5                                   | 25(746-764MHz)<br>30(824-849MHz)<br>26(869-960MHz)<br>28(1570-1580MHz)<br>28(1710-1785MHz)<br>30(1850-1910MHz)<br>30(1930-1990MHz)<br>30(2110-2170MHz)<br>15(3300-3800MHz)<br>35(4800-5000MHz)<br>20(7200-7450.5MHz)                    | 2.0         | 50            | 2.00x1.25x0.45 | D         |
| RBBPF2012050AHT    | 2.4~2.5              | 2.5max.(typ.2.2)                      | 25(746-764MHz)<br>30(824-849MHz)<br>26(869-960MHz)<br>28(1570-1580MHz)<br>28(1710-1785MHz)<br>30(1850-1910MHz)<br>30(1930-1990MHz)<br>25(2110-2170MHz)<br>15(3300-3800MHz)<br>35(4800-5000MHz)  | 2.0         | 50            | 2.00x1.25x0.45 | D         |

**2.4GHz BAND WORKING FREQUENCY**

| Part Number      | Frequency Range(GHz) | Insertion Loss (dB)                 | Attenuation (dB min. )   | VSWR (max.) | Impedance (Ω) | Size(mm)       | STRUCTURE |
|------------------|----------------------|-------------------------------------|--|-------------|---------------|----------------|-----------|
| RFBPF2012090ALT  | 2.4-2.5              | 1.0max.(25°C)<br>1.2max.(-40~+85°C) | 28(824-960MHz)<br>28(1570-1580MHz)<br>23(1710-1910MHz)<br>17(1920-1990MHz)<br>25(4800-5000MHz)   | 2.0         | 50            | 2.00x1.25x0.90 | G         |
| RFBPF2012090AMT  | 2.4-2.5              | 2.6                                 | 40(880-960MHz)<br>38(1710-1990MHz)<br>16(2170MHz)<br>30(4800-5000MHz)<br>30(7200-7500MHz)  | 2.0         | 50            | 2.00x1.20x0.90 | B         |
| RFBPF2012100ANT  | 2.4-2.5              | 2.3max.(25°C)<br>2.6max.(-40~+85°C) | 40(699-960MHz)<br>40(1428-1448MHz)<br>40(1476-1607MHz)<br>40(1710-1785MHz)<br>33(1805-1880MHz)<br>30(1880-1915MHz)<br>30(1920-1990MHz)<br>22(2110-2170MHz)<br>25(4800-5000MHz)<br>35(7200-7500MHz)                   | 2.0         | 50            | 2.00x1.20x1.00 | I         |
| RFBPF2012090AQT  | 2.4-2.5              | 1.2                                 | 20(1600MHz)<br>25(3200MHz)<br>20(4800-5000MHz)   | 2.0         | 50            | 2.00x1.20x0.90 | B         |
| RFBPF2012090ART  | 2.4-2.5              | 1.0                                 | 20(1600MHz)<br>25(3200MHz)   | 2.0         | 50            | 2.00x1.20x0.90 | B         |
| RFBPF2012100AVT  | 2.4-2.5              | 1.5max.(25°C)<br>1.7max.(-40~+85°C) | 40(699-960MHz)<br>40(1428-1448MHz)<br>40(1476-1607MHz)<br>40(1710-1785MHz)<br>33(1805-1880MHz)<br>30(1880-1915MHz)<br>30(1920-1990MHz)<br>25(4800-5000MHz)<br>30(7200-7500MHz)                                       | 2.0         | 50            | 2.00x1.20x1.00 | I         |
| RBBPF2010A108Q1C | 2.4-2.5              | 1.3max.(25°C)<br>1.5max.(-40~+85°C) | 38(50-960MHz)<br>17(1710-1910MHz)<br>5(3200MHz)<br>30(4800-5000MHz)<br>25(7200-7500MHz)  | 2.0         | 50            | 2.00x1.20x0.90 | E         |
| RFBPF2009A12T    | 2.4-2.5              | 1.0max.(25°C)<br>1.2max.(-40~+85°C) | 28(824-960MHz)<br>28(1570-1580MHz)<br>23(1710-1910MHz)<br>17(1920-1990MHz)<br>4(2100-2170MHz)<br>25(4800-5000MHz)<br>25(7200-7500MHz)  | 2.0         | 50            | 2.00x1.25x0.90 | G         |
| RBBPF2010A16T    | 2.4-2.5              | 1.3max.(25°C)<br>1.5max.(-40~+85°C) | 38(50-960MHz)<br>17(1710-1990MHz)<br>20(3200MHz)<br>30(4800-5000MHz)<br>25(7200-7500MHz)   | 2.0         | 50            | 2.00x1.25x1.00 | E         |
| RFBPF2009A25T    | 2.4-2.5              | 1.7max.(25°C)<br>1.9max.(-40~+85°C) | 30(900MHz)<br>20(1850MHz)<br>30(4800MHz)   | 2.0         | 50            | 2.00x1.20x0.90 | B         |
| RFBPF2009A26T    | 2.4-2.5              | 1.4max.(25°C)<br>1.6max.(-40~+85°C) | 30(824-960MHz)<br>30(1710-1910MHz)<br>20(1920-1990MHz)<br>6(2110-2170MHz)<br>20(4800-5000MHz)  | 2.0         | 50            | 2.00x1.20x0.90 | B         |
| RFBPF2012040A3T  | 2.4-2.5              | 2.0max.(25°C)<br>2.2max.(-40~+85°C) | 25(746-764MHz)<br>30(824-849MHz)<br>26(869-960MHz)<br>28(1570-1580MHz)<br>28(1710-1785MHz)<br>30(1850-1910MHz)<br>30(1930-1990MHz)<br>25(2110-2170MHz)<br>15(3300-3800MHz)<br>35(4800-5000MHz)<br>20(7200-7450.5MHz) | 2.0         | 50            | 2.00x1.25x0.45 | D         |

**2.4GHz BAND WORKING FREQUENCY**

| Part Number     | Frequency Range(GHz) | Insertion Loss (dB)                 | Attenuation ( dB min. )   | VSWR (max.) | Impedance (Ω) | Size(mm)       | STRUCTURE |
|-----------------|----------------------|-------------------------------------|---|-------------|---------------|----------------|-----------|
| RFBPF2012080A6T | 2.4-2.5              | 3.5                                 | 30(880-960MHz)<br>30(1710-1990MHz)<br>20(2110-2170MHz)<br>30(4800-5000MHz)<br>30(7200-7500MHz)  | 2.0         | 50            | 2.00x1.20x0.80 | C         |
| RFBPF2012100A6T | 2.4-2.5              | 1.0max.(25°C)<br>1.2max.(-40~+85°C) | 21(902-928MHz)<br>26(4800-5000MHz)<br>34(7200-7500MHz)<br>29(9600-10000MHz)   | 2.0         | 50            | 2.00x1.20x1.00 | L         |
| RFBPF2012080A7T | 2.4-2.5              | 2.8<br>(typ.2.5)                    | 40(DC-1600MHz)<br>35(1710MHz)<br>25(1900MHz)<br>12(2100MHz)<br>8(2170MHz)<br>30(3100MHz)<br>40(4800-5000MHz)<br>20(7200-7500MHz)  | 2.0         | 50            | 2.00x1.20x0.80 | B         |
| RFBPF2012060A9T | 2.4-2.5              | 2.8                                 | 30(960MHz)<br>30(1600MHz)<br>20(1990MHz)<br>35(3200MHz)<br>40(4800MHz)<br>25(7200MHz)   | 2.0         | 50            | 2.00x1.20x0.60 | B         |
| RFBPF2520090ACT | 2.4-2.5              | 2.1max.(25°C)<br>2.3max.(-40~+85°C) | 43(806-960MHz)<br>43(1570-1580MHz)<br>43(1710-1990MHz)<br>20(2110-2170MHz)<br>30(4800-5000MHz)<br>25(7200-7500MHz)  | 2.0         | 50            | 2.50x2.00x0.90 | G         |
| RFBPF2520070AMT | 2.4-2.5              | 2.0max.(25°C)<br>2.2max.(-40~+85°C) | 45(824-960MHz)<br>45(1570-1580MHz)<br>45(1710-1785MHz)<br>40(1805-1850MHz)<br>35(1850-1910MHz)<br>35(1920-1990MHz)<br>25(2110-2170MHz)<br>5(2750-3000MHz)<br>15(3000-4800MHz)<br>30(4800-5000MHz)<br>30(5150-5850MHz)<br>20(7200-7500MHz) | 2.0         | 50            | 2.50x2.00x0.70 | A         |
| RFBPF2520080AUT | 2.4-2.5              | 2.2                                 | 30(900MHz)<br>30(1850MHz)<br>33(2170MHz)<br>35(4800MHz)<br>25(7200MHz)  | 2.0         | 50            | 2.50x2.00x0.70 | A         |
| RFBPF2520120A1T | 2.4-2.5              | 1.7                                 | 30(900MHz)<br>30(1850MHz)<br>20(2100MHz)<br>40(4800MHz)<br>25(7200MHz)  | 2.0         | 50            | 2.50x2.00x1.20 | A         |
| RFBPF2520120A2T | 2.4-2.5              | 2.1                                 | 30(900MHz)<br>30(1850MHz)<br>30(4800MHz)  | 2.0         | 50            | 2.50x2.00x1.20 | A         |
| RFBPF2520120A3T | 2.4-2.5              | ≤1.2(25°C)                          | 30(900MHz)<br>30(1850MHz)<br>25(4800MHz)  | 2.0         | 50            | 2.50x2.00x1.20 | A         |
| RFBPF2520120A4T | 2.4-2.5              | ≤1.7(25°C)                          | 30(900MHz)<br>30(1850MHz)<br>25(4800MHz)  | 2.0         | 50            | 2.50x2.00x1.20 | A         |
| RFBPF2520100A6T | 2.4-2.5              | 1.4                                 | 35(1900/4800 MHz)   | 2.0         | 50            | 2.50x2.00x1.00 | A         |

**5GHZ BAND WORKING FREQUENCY**

| Part Number        | Frequency Range(GHz) | Insertion Loss (dB)                          | Attenuation (dB min. )  | VSWR (max.) | Impedance (Ω) | Size(mm)       | STRUCTURE |
|--------------------|----------------------|--|---|-------------|---------------|----------------|-----------|
| RFBPF1608060K2T    | 4.9-5.84             | 1.5max.(25°C)<br>1.7max.(-40~+85°C)          | 33(100-2170MHz)<br>29(2170-2500MHz)<br>32(9800-12000MHz)  | 2.0         | 50            | 1.60x0.80x0.70 | B         |
| RFBPF1608060K68Q1C | 4.9-5.9              | 1.3max.(25°C)<br>1.5max.(-40~+85°C)          | 38(30-2700MHz)<br>16(3453-3547MHz)<br>33(3667-3883MHz)<br>9(6900-7093MHz)<br>32(7333-7750MHz)<br>40(10600-11650MHz)<br>18(15540-17760MHz)   | 2.0         | 50            | 1.60x0.80x0.60 | D         |
| RFBPF1608060K78Q1C | 5.15-5.95            | 0.8max.(25°C)<br>1.0max.(-40~+85°C)          | 40(30-2700MHz)<br>45(3400-3800MHz)<br>20(7250-7800MHz)<br>20(10300-11700MHz)  | 1.5         | 50            | 1.60x0.80x0.60 | D         |
| RFBPF1608060K88Q1C | 5.15-5.95            | 0.7max.(25°C)<br>0.85max.(-40~+85°C)         | 35(30-2700MHz)<br>30(3400-3800MHz)<br>12(7250-7800MHz)<br>20(10300-11700MHz)  | 1.5         | 50            | 1.60x0.80x0.60 | D         |
| RFBPF1608060KG8D1T | 5.15-5.95            | 0.8  | 40(30-2700MHz)<br>45(3400-3800MHz)<br>20(6900MHz)<br>20(7250-7800MHz)<br>20(10300-11700MHz)   | 1.67        | 50            | 1.60x0.80x0.60 | D         |
| RFBPF1606K12T      | 5.15-5.925           | 1.1max.(25°C)<br>1.3max.(-40~+85°C)          | 38(10-2700MHz)<br>20(2700-3550MHz)<br>15(3550-4000MHz)<br>3(4000-4500MHz)<br>5(4400MHz)<br>3(6500-7000MHz)<br>11(7000-7400MHz)<br>13(7400-9750MHz)<br>30(9750-10300MHz)<br>27(10300-12750MHz)<br>10(15540-17775MHz) | 2.0         | 50            | 1.60x0.80x0.60 | D         |
| RFBPF2012100KST    | 4.9-5.9              | 1.5(4.90GHz)<br>1.5(5.25GHz)<br>1.5(5.85GHz) | 30(3450MHz)<br>20(11000MHz)   | 2.0         | 50            | 2.00x1.20x1.00 | B         |
| RFBPF2012100K0T    | 4.9-5.9              | 1.7(4.90GHz)<br>1.5(5.25GHz)<br>1.5(5.85GHz) | 30(3450MHz)<br>20(11000MHz)   | 2.0         | 50            | 2.00x1.20x1.00 | B         |
| RFBPF2012090K5T    | 4.9-5.85             | 2.2max.(25°C)<br>2.5max.(-40~+85°C)          | 35(340-1195MHz)<br>19(2140-3580MHz)<br>25(6855-7150MHz)<br>20(8570-8930MHz)   | 2.0         | 50            | 2.00x1.20x0.90 | B         |
| RFBPF2012100K3T    | 4.9-5.85             | 1.8max.(25°C)<br>2.1max.(-40~+85°C)          | 30(500MHz)<br>35(3450MHz)<br>30(4000MHz)<br>20(4200MHz)<br>15(9800MHz)<br>15(11700MHz)  | 2.0         | 50            | 2.00x1.20x0.95 | B         |
| RFBPF2012100K6T    | 5.15-5.85            | 1.6max.(25°C)<br>1.8max.(-40~+85°C)          | 30(500MHz)<br>40(2000MHz)<br>35(3450MHz)<br>30(4000MHz)<br>20(4200MHz)  | 2.0         | 50            | 2.00x1.20x0.95 | B         |
| RFBPF2012090K9T    | 5.725-5.85           | 2.0  | 30(500MHz)<br>30(4000MHz)<br>20(4200MHz)<br>32(5000MHz)<br>15(9800MHz)<br>15(11750MHz)  | 2.0         | 50            | 2.00x1.20x0.95 | B         |
| RFBPF2520090K1T    | 4.9-5.85             | 1.2max.(25°C)<br>1.5max.(-40~+85°C)          | 50(824-1910MHz)<br>15(9880-11700MHz)  | 2.0         | 50            | 2.50x2.00x0.90 | A         |
| KFBPF25204G7W09S5K | 4.4-4.94             | 3.5  | 50(1000MHz)<br>35(2500MHz)<br>20(3500MHz)<br>7(4250MHz)<br>15(5150MHz)<br>20(57500MHz)  | 2.0         | 50            | 2.50x2.00x0.80 | A         |

**WiMAX BAND WORKING FREQUENCY**

| Part Number     | Frequency Range(GHz) | Insertion Loss (dB) | Attenuation (dB min. )   | VSWR (max.) | Impedance (Ω) | Size(mm)       | STRUCTURE |
|-----------------|----------------------|---------------------|--|-------------|---------------|----------------|-----------|
| RFBPF16082G3W0T | 2.3-2.39             | 2.0                 | 29(880-915MHz)<br>29(1710-1785MHz)<br>21(1850-1910MHz)<br>15(1920-1980MHz)<br>18(4600-4780MHz)<br>23(6900-7170MHz) | 2.0         | 50            | 1.60x0.80x0.70 | B         |

**1558 ~ 1606 MHz GNSS Band Applications**

| Part Number     | Frequency Range (MHz) | Insertion Loss (dB)                 | Attenuation (dB min. )   | VSWR (max.) | Impedance (Ω) | Size(mm)       | STRUCTURE |
|-----------------|-----------------------|-------------------------------------|--|-------------|---------------|----------------|-----------|
| RFBPF1109060E0T | 1550-1610             | 1.9max.                             | 25(960MHz)<br>8(1850MHz)<br>15(1990MHz)<br>20(2170MHz)<br>35(2400-2500MHz)<br>35(3400-3800MHz) | 2.0         | 50            | 1.10x0.90x0.60 | E         |
| RFBPF1411070E0T | 1558-1606             | 1.8max.(25°C)<br>2.0max.(-40~+85°C) | 30(824-849MHz)<br>30(880-915MHz)<br>10(1880-1910MHz)<br>22(1920-1980MHz)<br>30(2400MHz)        | 2.0         | 50            | 1.40x1.10x0.70 | E         |

**860~960MHz/1805~2025 MHz Band Application**

| Part Number        | Frequency Range (MHz) | Insertion Loss (dB)                  | Attenuation (dB min. )  | VSWR (max.) | Impedance (Ω) | Size(mm)       | STRUCTURE |
|--------------------|-----------------------|--------------------------------------|---|-------------|---------------|----------------|-----------|
| RFBPF2520090B08Q1C | 869-960               | 0.7max.(25°C)<br>0.75max.(-40~+85°C) | 25(430-490MHz)<br>10(1700-1900MHz)<br>20(2400-2500MHz)<br>20(4905-5845MHz)  | 1.9         | 50            | 2.50x2.00x0.90 | J         |
|                    | 1805-2025             | 1.1max.(25°C)<br>1.2max.(-40~+85°C)  | 25(900-1015MHz)<br>15(2400-2500MHz)<br>15(3610-3980MHz)<br>20(4905-5845MHz) | 2.0         |               |                |           |

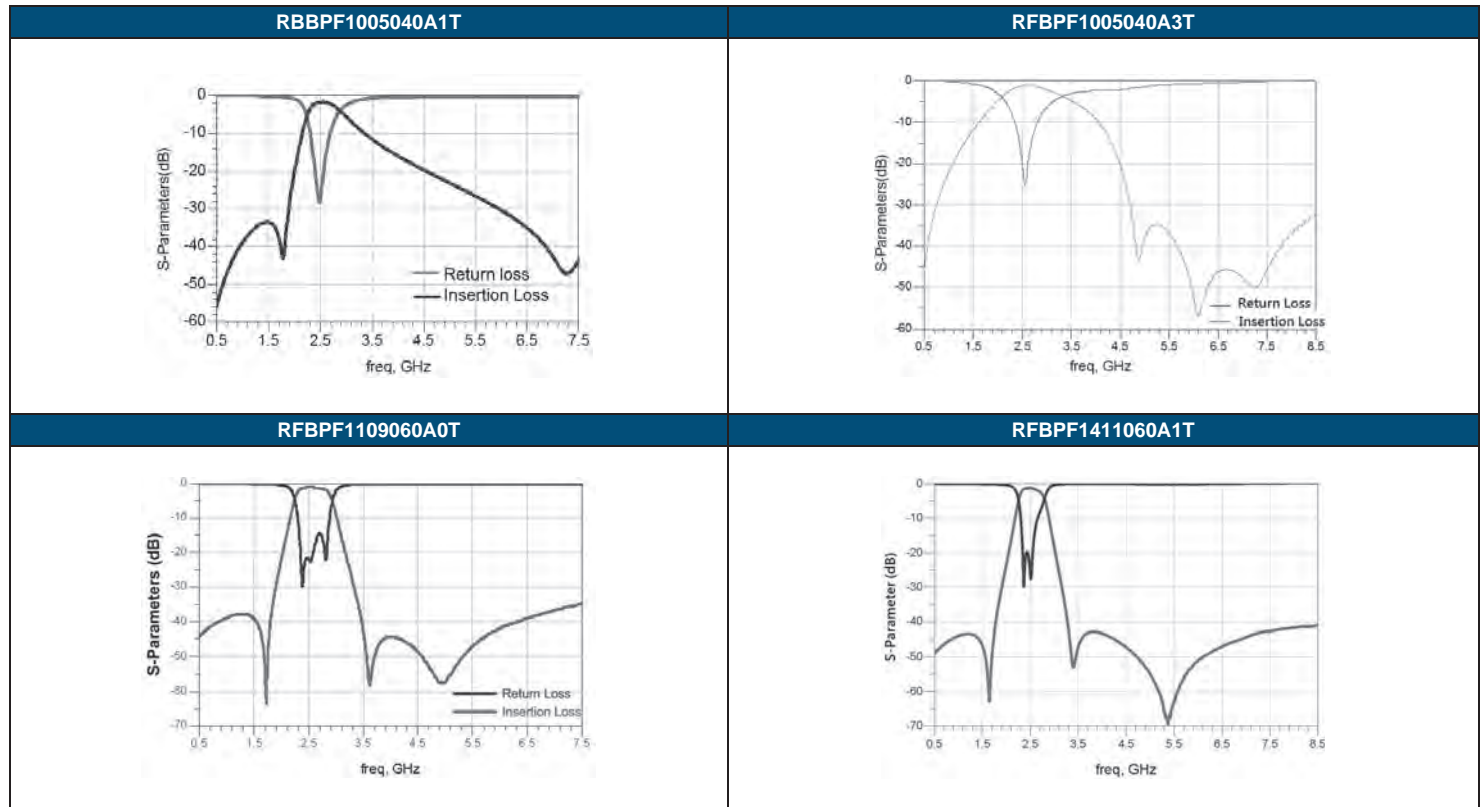
**MoCA / Docsis Application**

| Part Number        | Frequency Range(MHz) | Insertion Loss (dB)                 | Attenuation (dB min. )   | VSWR (max.) | Impedance (Ω) | Size(mm)       | STRUCTURE |
|--------------------|----------------------|-------------------------------------|--|-------------|---------------|----------------|-----------|
| RFBPF3225180Y1T    | 975-1025             | 3.0                                 | 30(54-870MHz)<br>30(1125-1675MHz)<br>30(2300MHz)   | 2.0         | 75            | 3.20x2.50x1.80 | K         |
| RFBPF3225200Y07B1U | 475-675              | 2.5max.(25°C)<br>2.7max.(-40~+85°C) | 60(2.5MHz)<br>40(2.5-100MHz)<br>35(100-200MHz)<br>35(200-300MHz)<br>8(300-400MHz)<br>57(950MHz)<br>47(950-2025MHz)<br>41(2025-2500MHz)<br>35(2500-3000MHz) | 2.0         | 75            | 3.20x2.50x1.80 | K         |
| RBBPF3225180Y27B1U | 400-700              | 2.0                                 | 42(1-200MHz)<br>30(950-2150MHz)<br>35(2150-3000MHz)<br>27(3000-5900MHz)  | 2.0         | 50            | 3.20x2.50x1.80 | K         |
| KFBPF2012100C67B1U | 1125-1675            | 2.5                                 | 35(1-900MHz)<br>20(900-1002MHz)<br>35(2000-2500MHz)<br>20(2500-5900MHz)  | 2.0         | 50            | 2.00x1.25x1.05 | K         |
| RFBPF3225180C07B1U | 1125-1675            | 1.8max.(25°C)<br>2.0max.(-40~+85°C) | 30(5-864MHz)<br>34(864-1002MHz)<br>32(2300-3000MHz)  | 2.0         | 75            | 3.20x2.50x1.80 | K         |
| RBBPF3225180C67B1U | 1125-1675            | 2.0                                 | 40(1-900MHz)<br>25(900-1002MHz)<br>35(2000-2500MHz)<br>27(2500-5900MHz)  | 2.0         | 50            | 3.20x2.50x1.80 | K         |

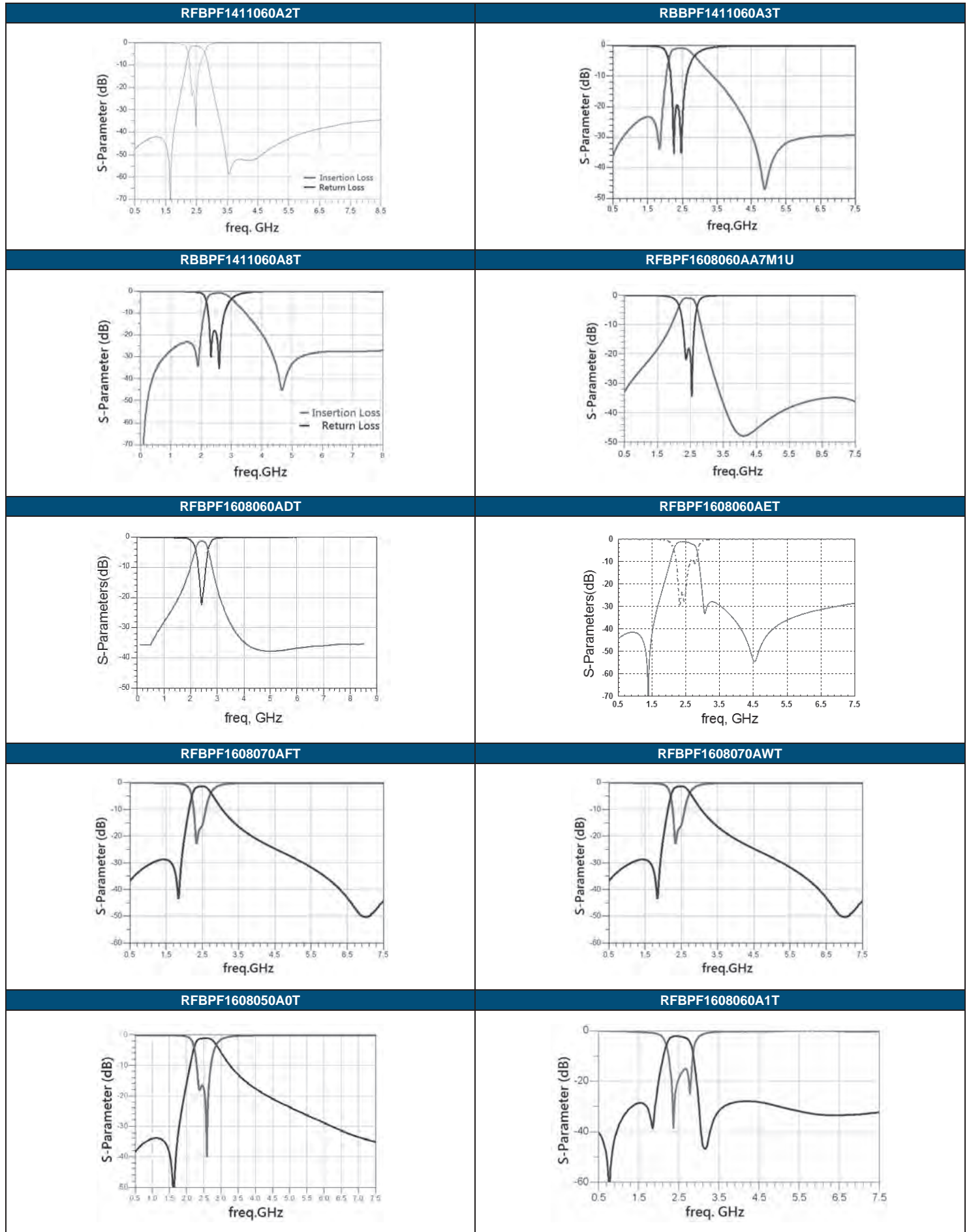
**LTE Band Application**

| Part Number        | Frequency Range(MHz) | Insertion Loss (dB)                 | Attenuation ( dB min. )  | VSWR (max.) | Impedance ( $\Omega$ ) | Size(mm)       | STRUCTURE |
|--------------------|----------------------|-------------------------------------|--|-------------|------------------------|----------------|-----------|
| RFBPF1109B101T     | 2110-2170            | 1.7                                 | 25(4280MHz)  | 2           | 50                     | 1.10x0.90x0.60 | E         |
| RFBPF1109B201T     | 1930-1990            | 1.7                                 | 25(3920MHz)  | 2           | 50                     | 1.10x0.90x0.60 | E         |
| RFBPF1109B301T     | 1805-1880            | 1.4                                 | 25(3685MHz)  | 2           | 50                     | 1.10x0.90x0.60 | E         |
| RFBPF1109B501T     | 869-894              | 0.9                                 | 12(1763MHz)  | 2           | 50                     | 1.10x0.90x0.60 | E         |
| RFBPF1109B701T     | 2620-2690            | 1.2                                 | 25(5310MHz)  | 2           | 50                     | 1.10x0.90x0.60 | E         |
| RFBPF1109B801T     | 925-960              | 0.9                                 | 12(1885MHz)  | 2           | 50                     | 1.10x0.90x0.60 | E         |
| RFBPF16081G9DM1T79 | 1805-2025            | 1.6max.(25°C)<br>1.8max.(-40~+85°C) | 25(700-950MHz)<br>15(950-1050MHz)<br>25(2400-2500MHz)<br>35(2700-5150MHz)<br>40(5150-5850MHz)<br>25(5850-12750MHz)                       | 2           | 50                     | 1.60x0.80x0.70 | G         |
| RFBPF16081G9DMAT79 | 1880-2025            | 2.0max.(25°C)<br>2.2max.(-40~+85°C) | 20(1545-1610MHz)<br>25(2400-2500MHz)<br>25(5150-5850MHz)   | 2           | 50                     | 1.60x0.80x0.70 | G         |
| RFBPF16081G9DS8T60 | 1805-2025            | 1.6                                 | 30(700-950MHz)<br>15(950-1050MHz)<br>25(2400-2500MHz)<br>35(2700-5400MHz)<br>35(5500-6200MHz)<br>35(9350-10150MHz)<br>20(10500-12750MHz) | 2           | 50                     | 1.60x0.80x0.70 | G         |

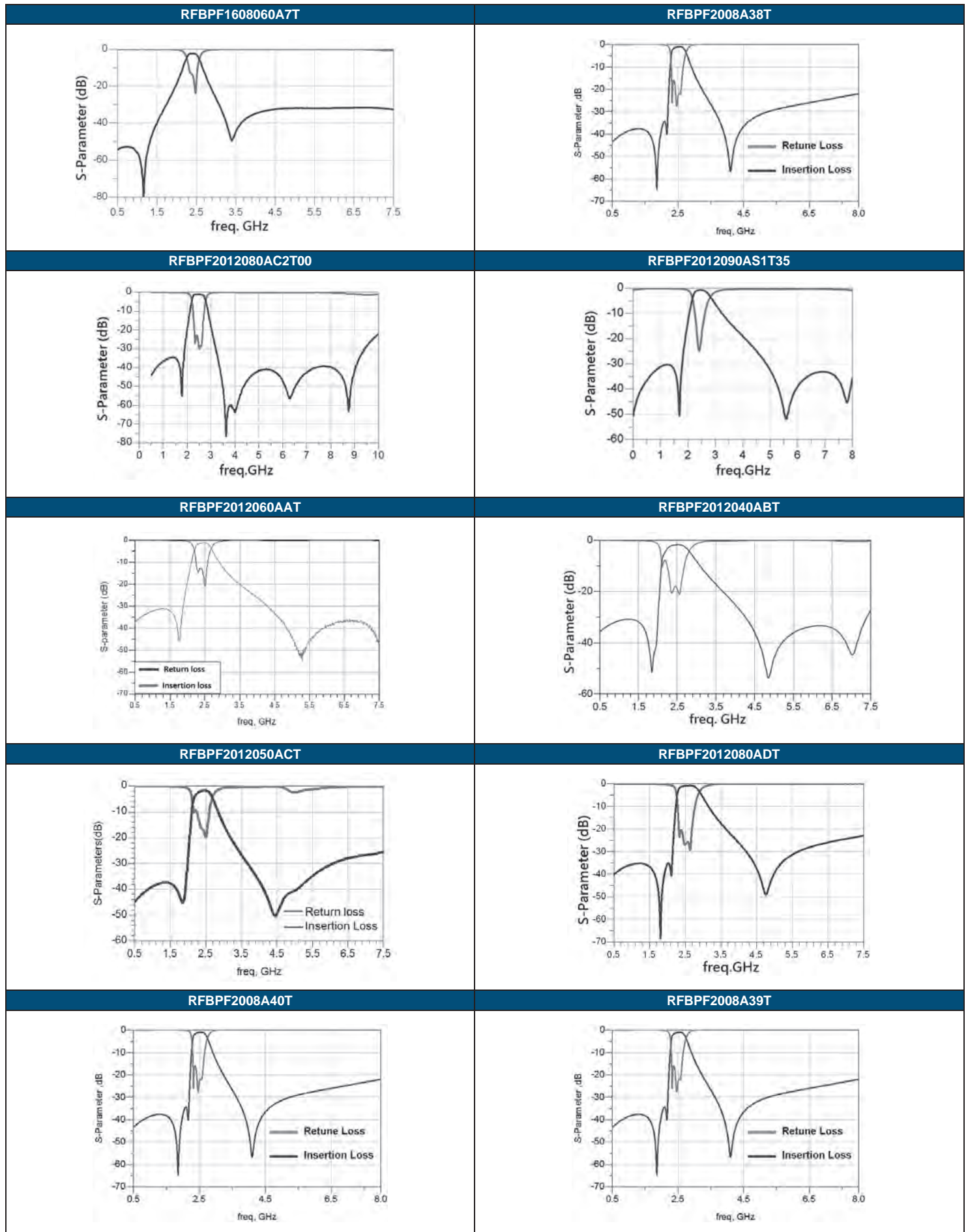
**■ TYPICAL ELECTRICAL CHARACTERISTICS**



**TYPICAL ELECTRICAL CHARACTERISTICS**

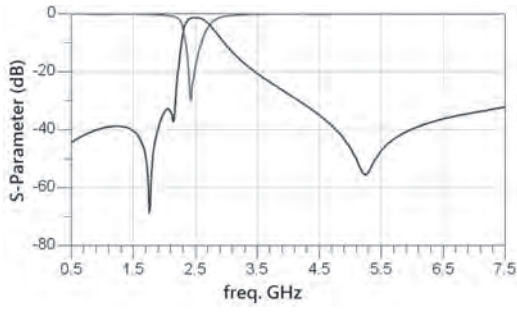


**TYPICAL ELECTRICAL CHARACTERISTICS**

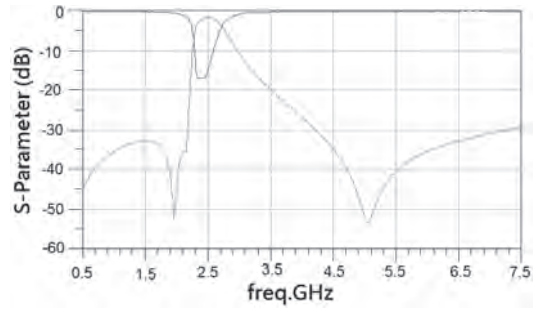


**TYPICAL ELECTRICAL CHARACTERISTICS**

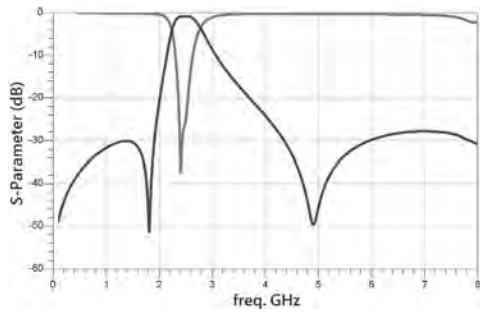
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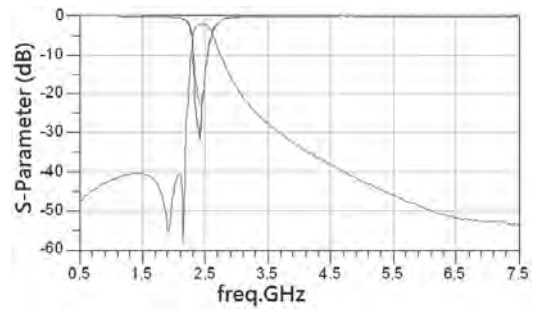
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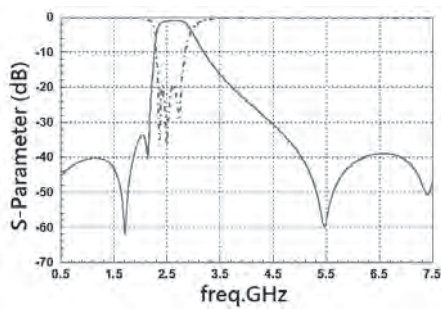
**RFBPF2012090ALT**



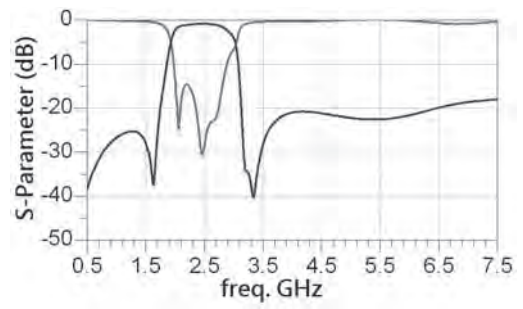
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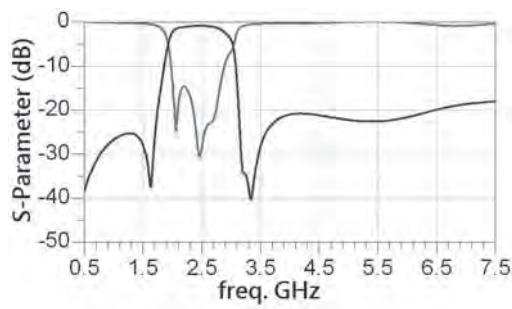
**RFBPF2012100ANT**



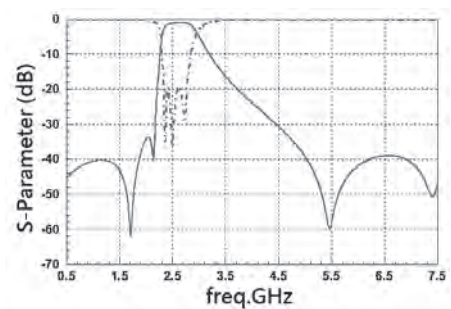
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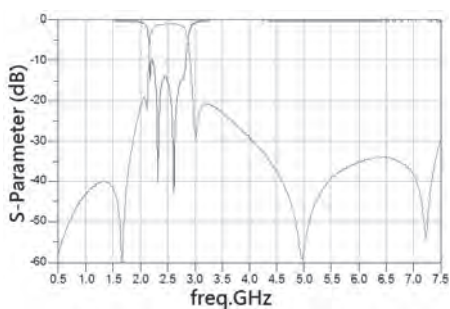
**RFBPF2012090ART**



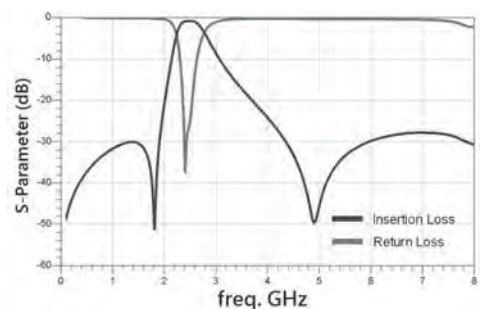
**RFBPF2012100AVT**



**RBBPF2010A108Q1C**

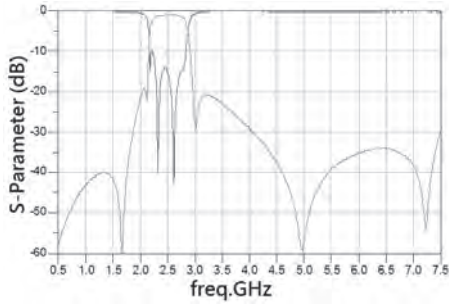


**RFBPF2009A12T**

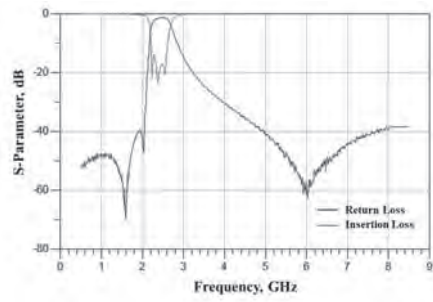


**TYPICAL ELECTRICAL CHARACTERISTICS**

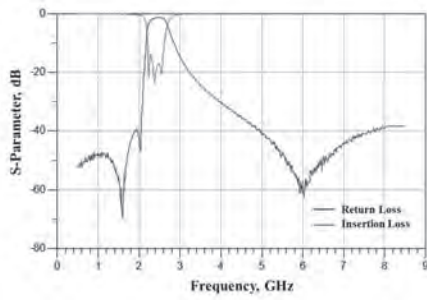
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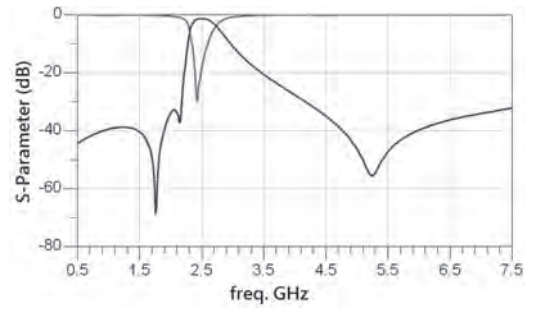
**RFBPF2009A25T**



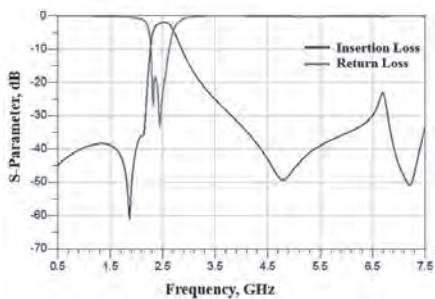
**RFBPF2009A26T**



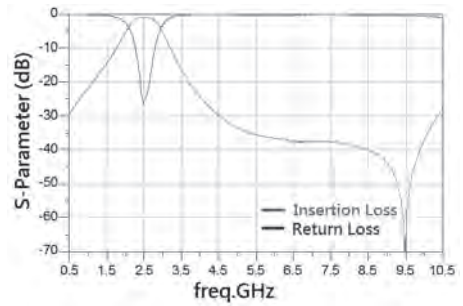
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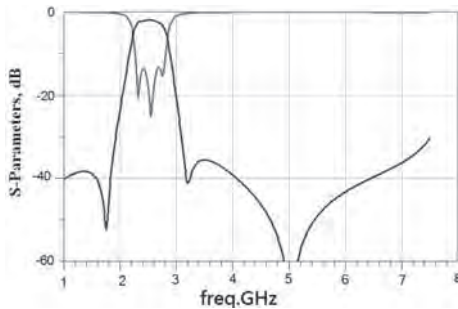
**RFBPF2012080A6T**



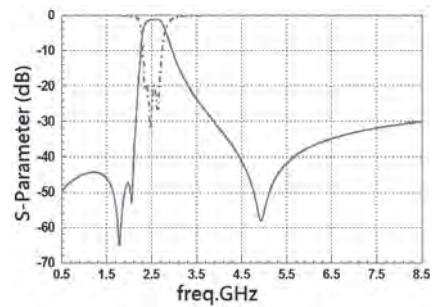
**RFBPF2012100A6T**



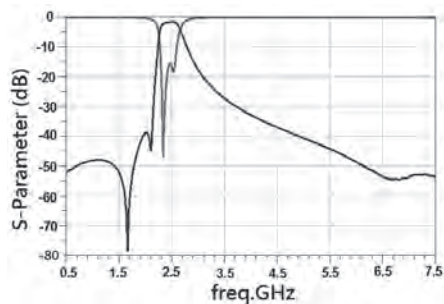
**RFBPF2012080A7T**



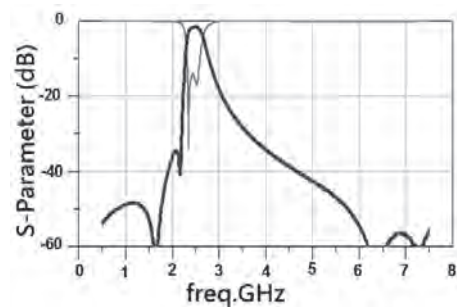
**RFBPF2520090ACT**



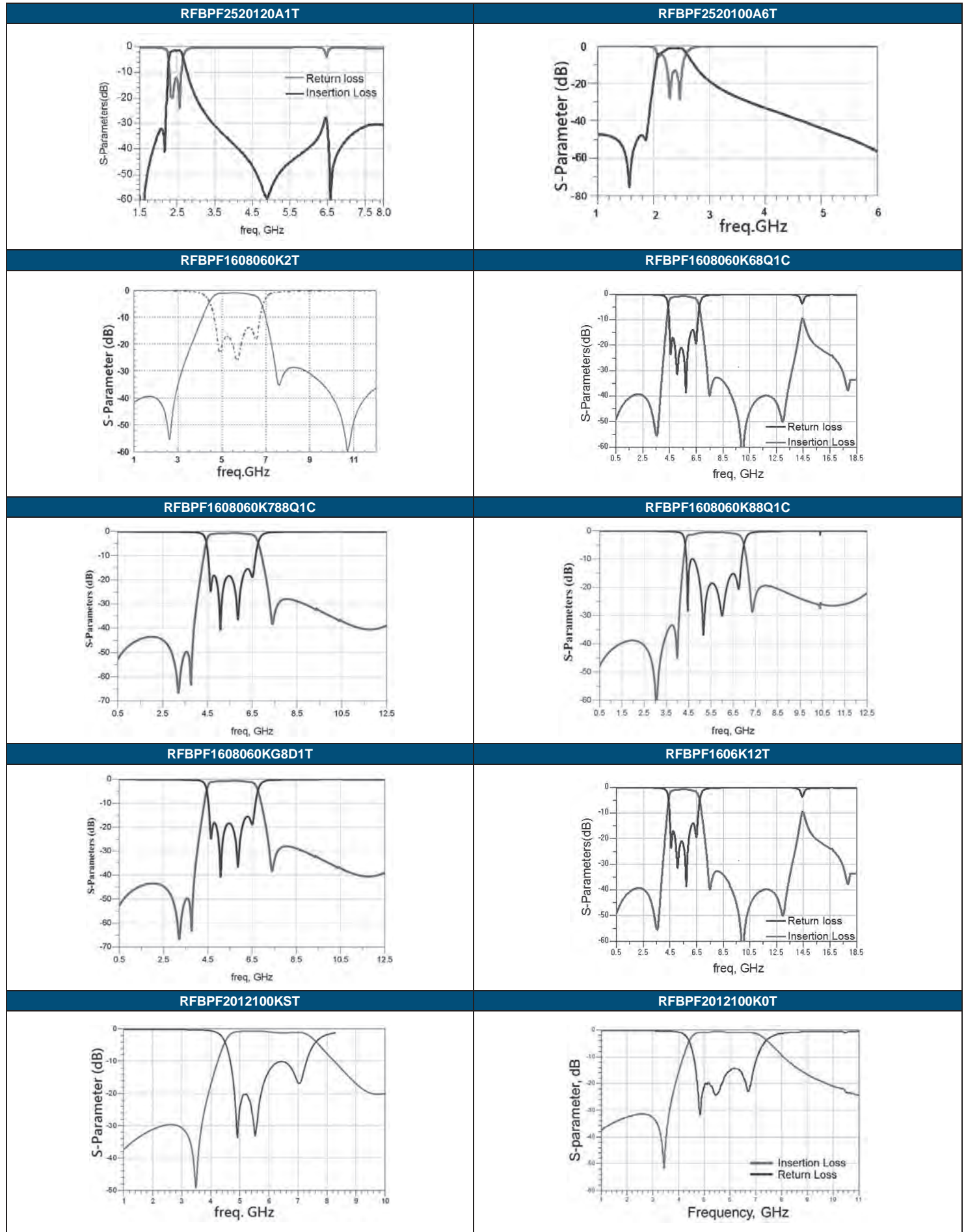
**RFBPF2520070AMT**



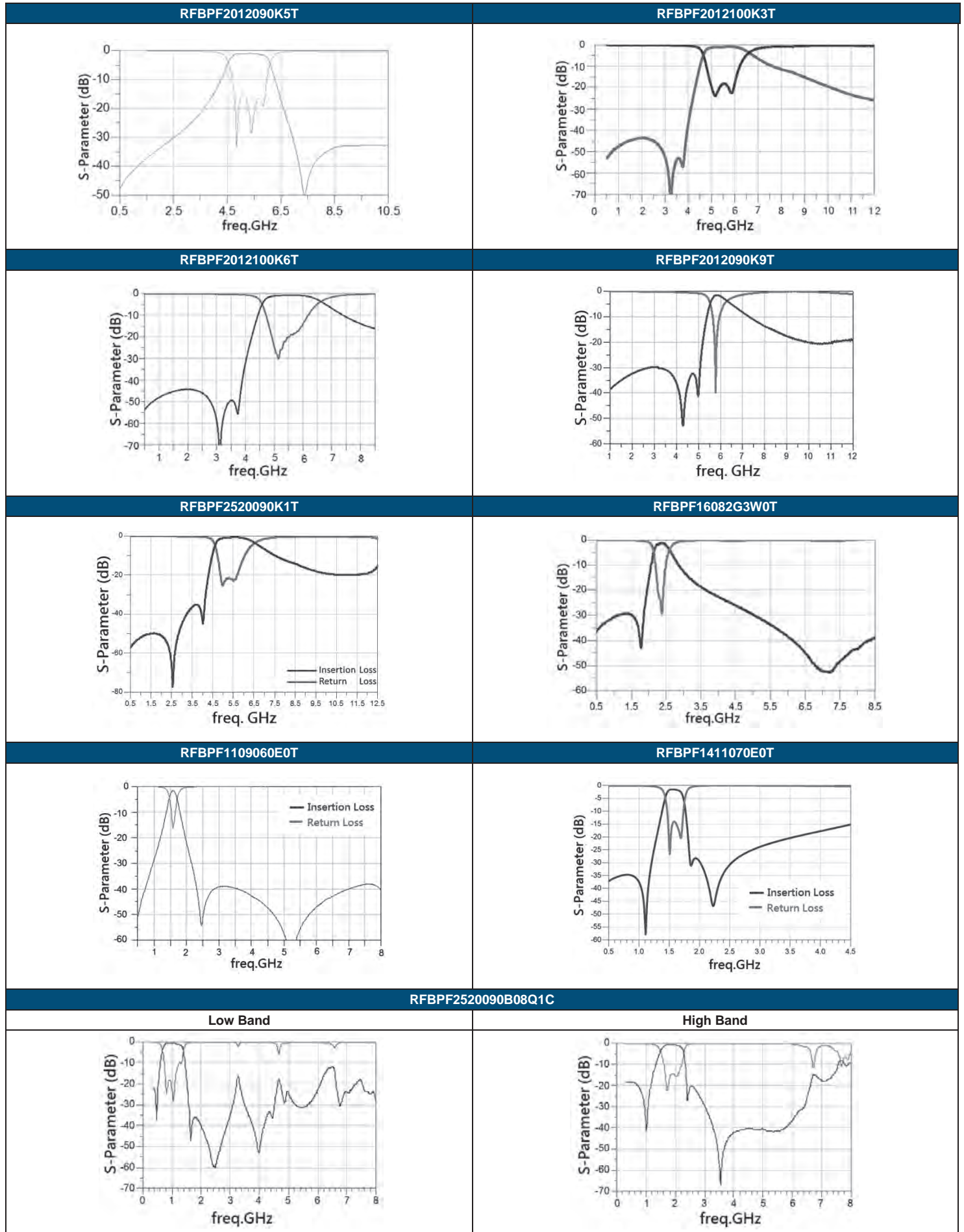
**RFBPF2520080AUT**



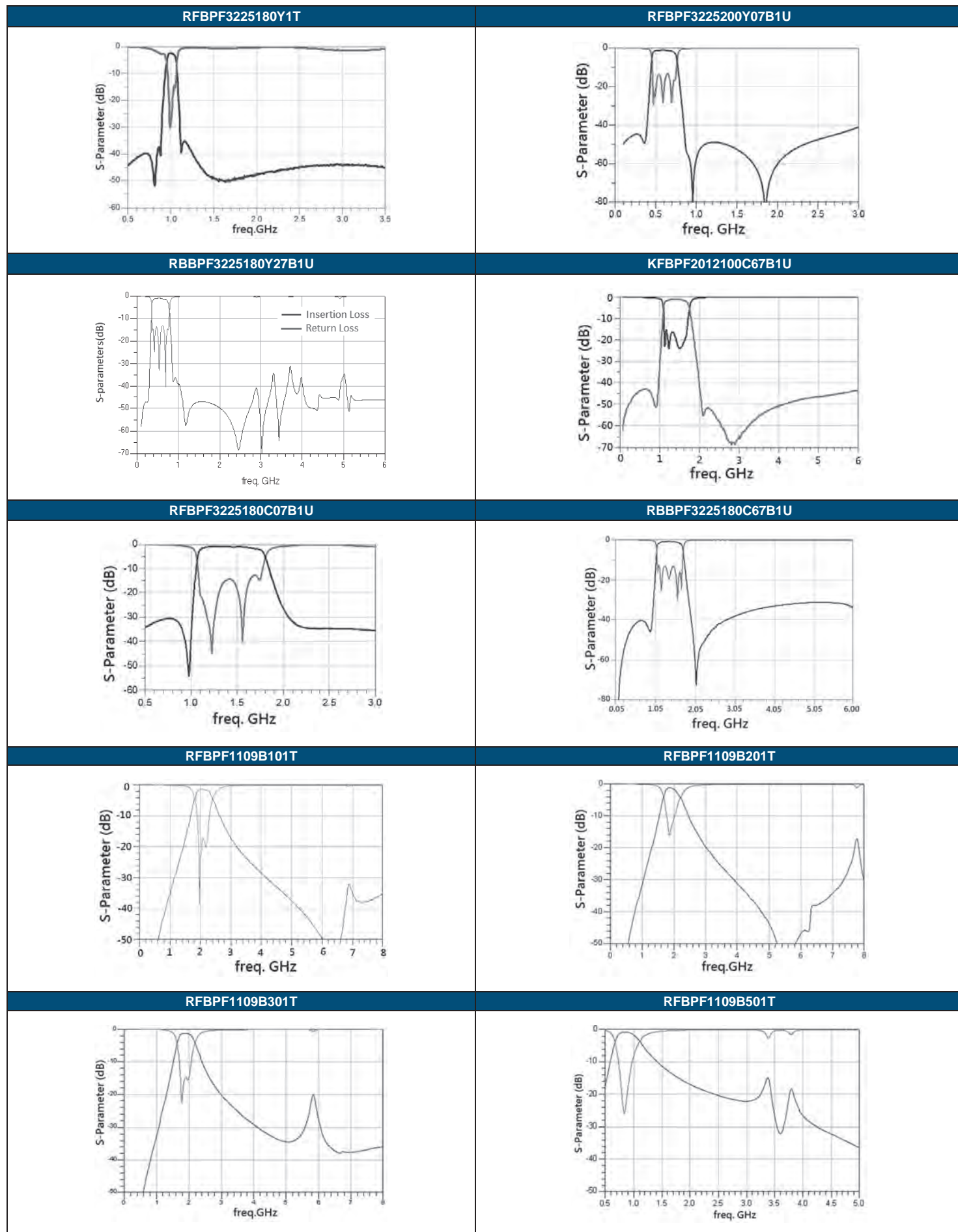
**TYPICAL ELECTRICAL CHARACTERISTICS**



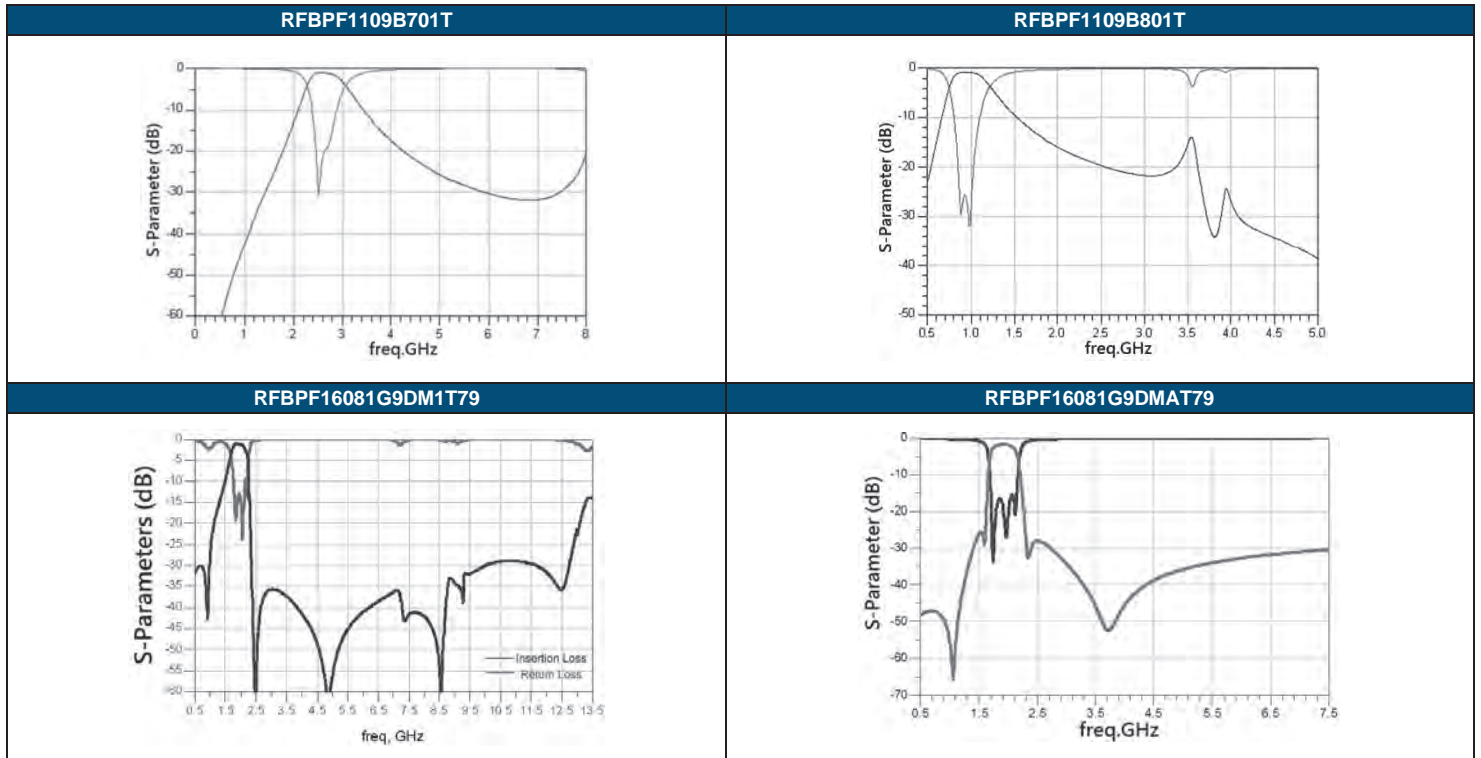
**TYPICAL ELECTRICAL CHARACTERISTICS**



**TYPICAL ELECTRICAL CHARACTERISTICS**



**TYPICAL ELECTRICAL CHARACTERISTICS**



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**HIGH FREQUENCY MULTILAYER BALANCED FILTER**

■ **STRUCTURE AND PIN ASSOCIATED**

**STRUCTURE A**

**STRUCTURE A-1**

**STRUCTURE A-2**

**STRUCTURE B**

■ **STRUCTURE AND DIMENSION**

Unit: mm

| Structure\ Dimension | L         | W         | T         | A          | B          | C         | D         | E             | F             | G         |           |
|----------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|---------------|---------------|-----------|-----------|
| 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     | 0.20±0.15     | 0.30±0.15 |           |
|                      | 2.00±0.15 | 1.25±0.15 | 1.20±0.10 | 0.40±0.10  | 0.175±0.10 | 0.35±0.15 | 0.30±0.15 | 0.65±0.10     | 0.20±0.10     | 0.20±0.15 | 0.50±0.10 |
|                      |           |           | 0.50±0.10 | 0.20±0.15  | 0.30±0.15  | 0.35±0.15 | 0.35±0.15 | 0.65±0.15     | 0.20±0.15     | 0.20±0.15 | 0.30±0.15 |
|                      |           |           | 0.60±0.10 | 0.20±0.15  | 0.30±0.10  | 0.35±0.10 | 0.35±0.10 | 0.65±0.10     | 0.20±0.15     | 0.20±0.15 | 0.50±0.10 |
|                      |           |           | 0.90±0.10 | 0.20±0.15  | 0.30±0.10  | 0.35±0.10 | 0.35±0.10 | 0.65±0.10     | 0.20±0.15     | 0.20±0.15 | 0.30±0.10 |
|                      |           |           | 1.00±0.10 | 0.20±0.15  | 0.30±0.10  | 0.35±0.10 | 0.35±0.10 | 0.65±0.10     | 0.20±0.10     | 0.20±0.15 | 0.50±0.10 |
|                      |           |           | 1.10±0.10 | 0.20±0.15  | 0.30±0.10  | 0.35±0.10 | 0.35±0.10 | 0.65±0.10     | 0.20±0.15     | 0.20±0.15 | 0.55±0.10 |
|                      | 2.50±0.20 | 2.00±0.20 | 0.85±0.10 | 0.35±0.20  | 0.40±0.10  | 0.30±0.10 | 0.70±0.20 | 0.15(Typical) | 0.15(Typical) | 1.20±0.20 |           |
| B                    | 1.95±0.15 | 1.25±0.15 | 0.80±0.10 | 0.175±0.15 | 0.30±0.15  | 0.35±0.15 | 0.65±0.15 | 0.25±0.15     | -             | -         |           |
|                      | 2.00±0.15 | 1.25±0.10 | 0.60±0.10 | 0.20±0.10  | 0.30±0.15  | 0.35±0.15 | 0.65±0.10 | 0.25±0.10     | -             | -         |           |

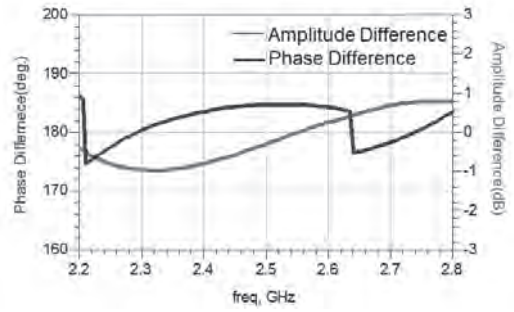
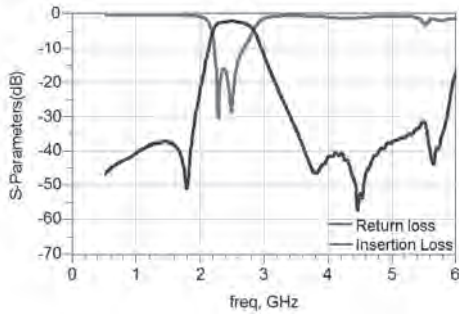
■ ELECTRICAL SPECIFICATION

2.4GHz BAND WORKING FREQUENCY

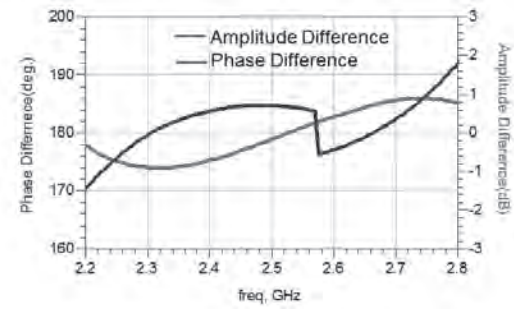
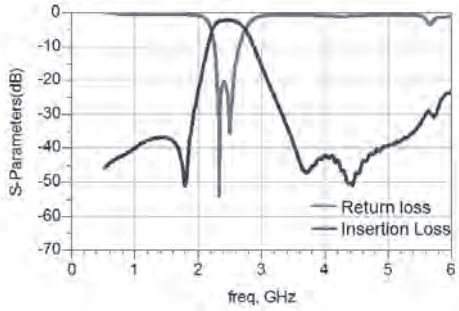
| Part Number        | Frequency Range (MHz) | Impedance( $\Omega$ ) |  | Insertion Loss (dB)                     | Attenuation (dB min.)  | VSWR (Max.) | Phase Difference | Amplitude Difference | Size (mm)      | STRUCTURE |
|--------------------|-----------------------|-----------------------|--|---|--|-------------|------------------|----------------------|----------------|-----------|
|                    |                       | Unbalance             | Balance  |   |  |             |                  |                      |                |           |
| RFBPB2012090A1T    | 2.4-2.5               | 50                    | Conjugate match to BC series of Bluetooth chipset  | 3.5                                     | 35(880-960MHz)<br>30(1710-1880MHz)<br>20(1880-1990MHz)<br>30(4800-5000MHz)               | 2.1         | 180°± 10         | 2                    | 2.00x1.25x0.90 | A-1       |
| RFBPB2012090A9T    | 2.4-2.5               | 50                    | Conjugate match to BC series of Bluetooth chipset  | 2.8                                     | 35(880-960MHz)<br>30(1575MHz)<br>25(1710-1880MHz)<br>30(4800-5000MHz)                    | 2.1         | 180°± 10         | 2                    | 2.00x1.25x0.90 | A-1       |
| RFBPB2012090AAT    | 2.4-2.5               | 50                    | Conjugate match to CSR BC03/ 04 series   | 3.5                                     | 35(880-960MHz)<br>30(1710-1880MHz)<br>20(1880-1990MHz)<br>30(4800-5000MHz)               | 2.1         | 180°± 10         | 2                    | 2.00x1.25x0.90 | A-1       |
| RFBPB2012060ABT    | 2.4-2.5               | 50                    | Impedance match to T.I. CC253X,CC254X, CC257X, CC853X and CC852X Chipsets  | 1.5max.(25°C)<br>1.7max.<br>(-40~+85°C) | 12(1000MHz)<br>15(4800-5000MHz)<br>20(7200-7500MHz)                                      | 2.0         | 180°± 15         | 2                    | 2.00x1.25x0.60 | B         |
| RFBPB2012080AET    | 2.4-2.5               | 50                    | Impedance match to: Atmel AT86RF232, AT86RF233, ATMega256RF R2, Zigbit 256RFR2, Zigbit RF233, ZigBit RF233+FEM, Extension RF233, USB RF233 | 1.5max.(25°C)<br>1.7max.<br>(-40~+85°C) | 20(4800-5000MHz)<br>20(7200-7500MHz)   | 2.0         | 180°± 10         | 2                    | 1.95x1.25x0.80 | B         |
| RFBPB2012090AHT    | 2.4-2.5               | 50                    | 100  | 3.5                                     | 30(880-960MHz)<br>30(1710-1880MHz)<br>20(1880-1990MHz)<br>30(4800-5000MHz)               | 2.0         | 180°± 10         | 2                    | 2.00x1.25x0.90 | A-1       |
| RFBPB2012090AM1T59 | 2.4-2.5               | 50                    | Conjunction to MT5931/MT6628 Chipset   | 2.5 (typ.2.2)                           | 35( 824-960 MHz)<br>32(1990 MHz)<br>18(2170 MHz)<br>40(4800-5000MHz)<br>25(7200-7500MHz) | 2.0         | 180°± 10         | 2                    | 2.00x1.25x0.95 | A-1       |
| RFBPB2012090AM1T61 | 2.4-2.5               | 50                    | Conjugate match to MTK MT6611 Bluetooth chipset  | 2.8                                     | 35(880-960MHz)<br>30(1710-1880MHz)<br>20(1880-1900MHz)<br>30(4800-5000MHz)               | 2.1         | 180°± 10         | 2                    | 2.00x1.25x0.90 | A-1       |
| RFBPB2012100A6T    | 2.4-2.5               | 50                    | Conjugate match to BC series of Bluetooth chipset  | 3.5                                     | 35(880-960MHz)<br>30(1710-1880MHz)<br>20(1880-1900MHz)<br>40(4800-5000MHz)               | 2.0         | 180°± 10         | 2                    | 2.00x1.25x1.00 | A-1       |
| RFBPB2012110A5T    | 2.4-2.5               | 50                    | 50   | 2.8                                     | 30(880-960 MHz)<br>30(1710-1880MHz)<br>20(1880-1990 MHz)<br>30(4800-5000 MHz)            | 2.0         | 180°± 10         | 2                    | 2.00x1.25x1.10 | A-1       |
| RFBPB2520090A7T    | 2.4-2.5               | 50                    | Conjugate match to TI BRF6150  | 3.5                                     | 35(880-960MHz)<br>30(1710-1880MHz)<br>25(1880-1990MHz)<br>25(4800-5000MHz)               | 2.0         | 180°± 15         | 1.5                  | 2.50x2.00x0.90 | A-2       |

■ **TYPICAL ELECTRICAL CHARACTERISTICS**

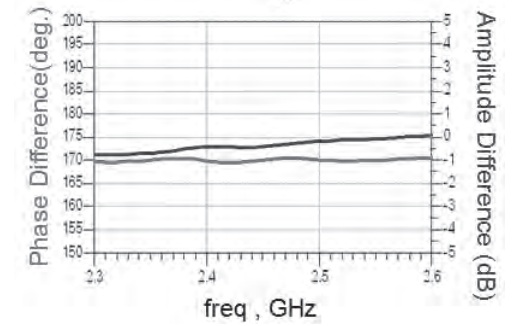
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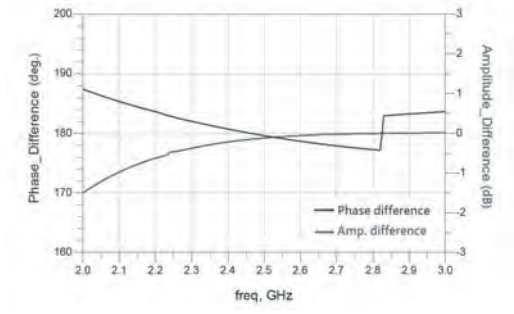
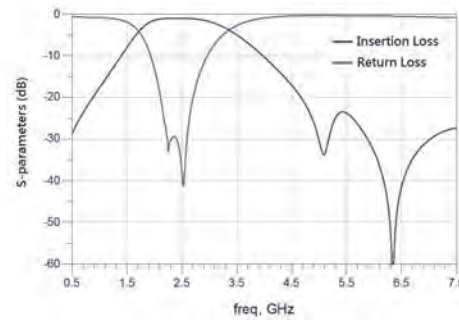
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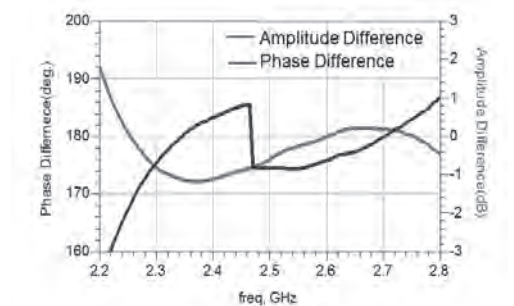
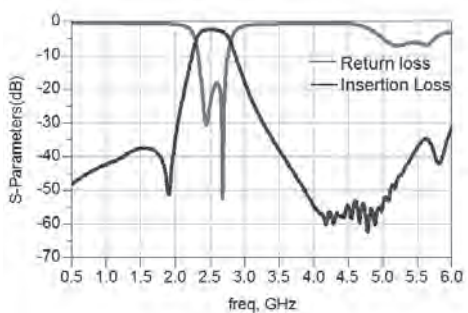
**RFBPB2012060ABT**



**RFBPB2012080AET**

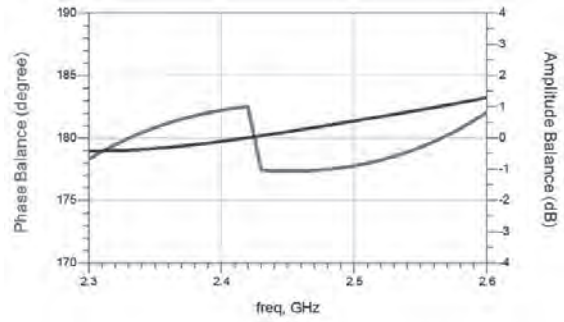
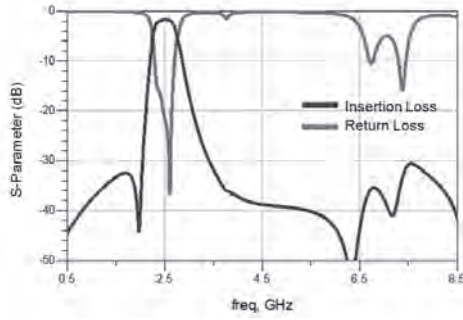


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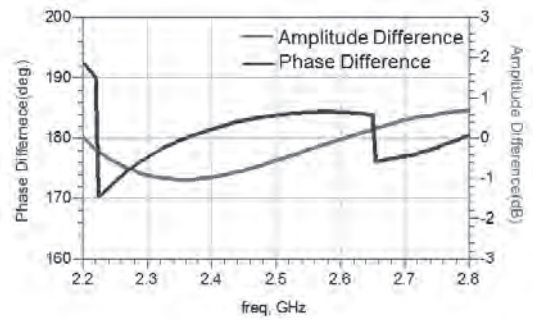
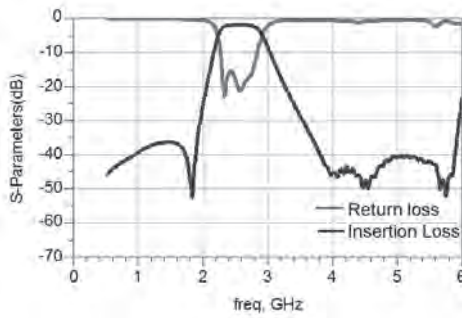


**TYPICAL ELECTRICAL CHARACTERISTICS**

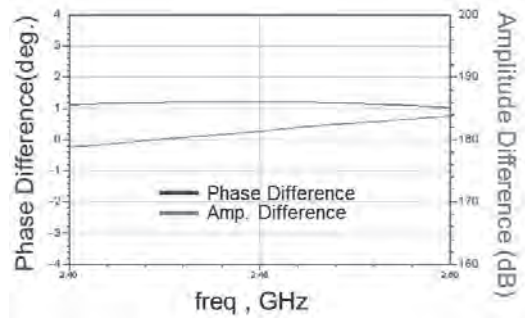
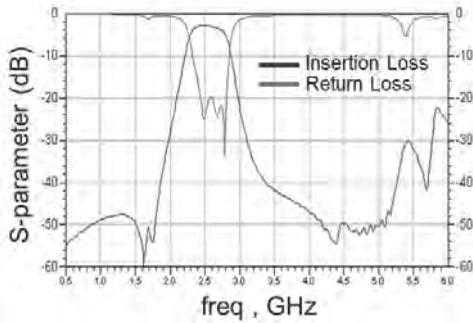
**RFBPB2012090AM1T59**



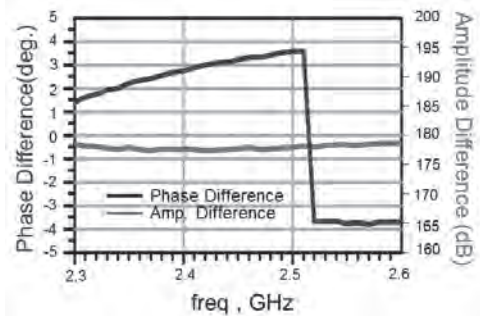
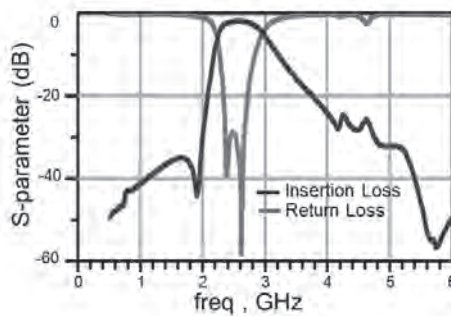
**RFBPB2012090AM1T61**



**RFBPB2012100A6T**



**RFBPB2012090AM1T61**



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**HIGH FREQUENCY MULTILAYER LOW PASS FILTER**

■ **STRUCTURE AND PIN ASSOCIATED**

| STRUCTURE A |                             | STRUCTURE C                 |             |             |             |
|-------------|-----------------------------|-----------------------------|-------------|-------------|-------------|
|             | <p><b>STRUCTURE A-1</b></p> | <p><b>STRUCTURE A-2</b></p> |             |             |             |
|             | <p><b>STRUCTURE A-3</b></p> | <p><b>STRUCTURE A-4</b></p> |             |             |             |
| STRUCTURE B |                             |                             |             |             |             |
|             | <p><b>STRUCTURE B-1</b></p> | <p><b>STRUCTURE B-2</b></p> |             |             |             |
|             | <p><b>STRUCTURE B-1</b></p> | <p><b>STRUCTURE B-2</b></p> |             |             |             |
| STRUCTURE D | STRUCTURE E                 | STRUCTURE F                 | STRUCTURE G | STRUCTURE H | STRUCTURE I |
|             |                             |                             |             |             |             |
|             |                             |                             |             |             |             |

■ **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 | 0.50max.  | 0.20±0.10  | 0.24±0.10  | 0.24±0.10 | 0.50±0.10  | 0.15±0.10  | -          |
|                     |           |           | 0.60±0.10 | 0.175±0.15 | 0.25±0.15  | 0.25±0.15 | 0.50±0.15  | 0.20±0.15  | -          |
|                     |           |           | 0.65±0.10 | 0.175±0.15 | 0.25±0.15  | 0.25±0.15 | 0.50±0.15  | 0.20±0.15  | -          |
|                     |           |           | 0.70max.  | 0.175±0.15 | 0.25±0.15  | 0.25±0.15 | 0.50±0.15  | 0.20±0.15  | -          |
| B                   | 2.00±0.15 | 1.25±0.10 | 0.90±0.10 | 0.20±0.10  | 0.30±0.10  | 0.35±0.10 | 0.65±0.10  | 0.20±0.10  | 0.20±0.10  |
|                     |           |           | 0.95±0.10 | 0.20±0.10  | 0.30±0.10  | 0.35±0.10 | 0.65±0.10  | 0.20±0.10  | 0.20±0.10  |
|                     |           |           | 1.05±0.10 | 0.20±0.10  | 0.30±0.10  | 0.35±0.10 | 0.65±0.10  | 0.20±0.10  | 0.20±0.10  |
|                     |           |           | 3.20±0.20 | 2.50±0.20  | 1.00±0.20  | 0.10min.  | 0.55±0.15  | 0.45±0.15  | 1.00±0.15  |
| C                   | 1.00±0.10 | 0.50±0.10 | 0.40±0.10 | 0.35±0.10  | 0.30±0.10  | 0.15±0.10 | 0.15±0.10  | 0.30±0.10  | -          |
|                     |           |           | 1.60±0.15 | 0.80±0.15  | 0.50max.   | 0.45±0.15 | 0.70±0.15  | 0.20±0.15  | 0.20±0.15  |
| D                   | 0.65±0.10 | 0.50±0.10 | 0.40max.  | 0.225±0.10 | 0.20±0.05  | 0.10±0.05 | 0.25±0.05  | 0.025±0.25 | -          |
| E                   | 1.60±0.15 | 0.80±0.15 | 0.65max.  | 0.23±0.05  | 0.40±0.10  | 0.30±0.10 | 0.65±0.10  | 0.20±0.05  | 0.23±0.05  |
|                     |           |           | 0.60±0.10 | 0.23±0.05  | 0.40±0.10  | 0.30±0.10 | 0.65±0.10  | 0.20±0.05  | 0.23±0.05  |
|                     |           |           | 0.70max.  | 0.25±0.10  | 0.40±0.10  | 0.23±0.10 | 0.55±0.10  | 0.21±0.10  | 0.195±0.10 |
| F                   | 1.60±0.10 | 0.80±0.10 | 0.65max.  | 0.55±0.10  | 0.25±0.10  | 0.25±0.10 | 0.40±0.10  | 0.12±0.10  | 0.125±0.10 |
|                     |           |           |           | 0.60±0.10  | 0.25±0.10  | 0.25±0.10 | 0.40±0.10  | 0.10±0.05  | 0.10±0.05  |
|                     | 2.00±0.15 | 1.25±0.10 | 0.90±0.10 | 0.95±0.10  | 0.275±0.10 | 0.25±0.10 | 0.60±0.10  | 0.175±0.10 | 0.15±0.10  |
|                     |           |           | 1.00max.  | 0.95±0.10  | 0.275±0.10 | 0.25±0.10 | 0.60±0.10  | 0.175±0.10 | 0.15±0.10  |
| G                   | 1.00±0.10 | 0.50±0.10 | 0.40 max. | 0.18±0.05  | 0.18±0.05  | 0.05±0.05 | 0.125±0.05 | 0.15±0.05  | 0.05±0.05  |
| H                   | 3.20±0.20 | 2.50±0.20 | 1.00±0.20 | 0.95±0.20  | 0.60±0.20  | 0.30±0.15 | 0.70±0.15  | 1.20±0.15  | 2.00±0.15  |
|                     |           |           | 1.80±0.20 | 0.95±0.20  | 0.60±0.20  | 0.30±0.15 | 0.70±0.15  | 1.20±0.15  | 2.00±0.15  |
| I                   | 1.60±0.15 | 0.80±0.10 | 0.70±0.10 | 0.20±0.10  | 0.50±0.10  | 0.35±0.10 | 0.15±0.10  | -          | -          |

■ **ELECTRICAL SPECIFICATION**

**GSM850/900GHz BAND WORKING FREQUENCY**

| Part Number        | Frequency Range (MHz) | Insertion Loss (dB)  | Attenuation (dB min.)  | VSWR (max.) | Impedance (Ω) | Size(mm)       | Structure |
|--------------------|-----------------------|--|--|-------------|---------------|----------------|-----------|
| RFLPF06050G9D0T    | 824-915               | 0.5max.(25°C)<br>0.7max.(-40~+85°C)  | 20(2400-2750MHz)   | 2.0         | 50            | 0.65x0.50x0.40 | D         |
| RFLPF06050G9D2T    | 699-960               | 0.5max.(25°C)<br>0.7max.(-40~+85°C)  | 20(2400-2750MHz)   | 2.0         | 50            | 1.00x0.50x0.40 | D         |
| RFLPF10050G9D0T    | 824-915               | 0.6  | 25(1648-1830MHz)<br>25(2472-2745MHz)<br>25(3296-3660MHz)                     | 2.0         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF10050G9D3T    | 824-915               | 0.5max.(25°C)<br>0.7max.(-40~+85°C)  | 25(1648-1830MHz)<br>25(2472-2745MHz)<br>25(3296-3660MHz)                     | 2.0         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF10050G9D4T    | 699-915               | 0.5max.(25°C)<br>0.7max.(-40~+85°C)  | 25(1648-1830MHz)<br>25(2472-2745MHz)<br>25(3296-3660MHz)                     | 2.0         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF10050G9D58Q1C | 814-915               | 0.5max.(25°C)<br>0.65max.(-40~+85°C)   | 18(1648-1830MHz)<br>17(2472-2745MHz)   | 2.0         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF16080G9D4T    | 698-960               | 0.60(698-830MHz)<br>0.70(830-900MHz)<br>0.75(900-915MHz)<br>0.90(915-960MHz) | 30(1554-1830MHz)<br>35(2097-2745MHz)   | 1.6         | 50            | 1.60x0.80x0.65 | A-3       |
| RFLPF16080G9DET    | 698-960               | 0.4max.(25°C)<br>0.45max.(-40~+85°C)   | 15(1574-1605MHz)<br>23(1648-1830MHz)<br>23(1805-1850MHz)<br>23(4944-5850MHz) | 2.0         | 50            | 1.60x0.80x0.60 | E         |
| RFLPF16080G9DJT    | 434-960               | 0.6max.(25°C)<br>0.8max.(-40~+85°C)  | 25(1554-1610MHz)<br>30(1710-2700MHz)   | 2.0         | 50            | 1.60x0.80x0.65 | A-1       |
| RFLPF16080G9DM1T58 | 698-960               | 0.8  | 16(1565-1610MHz)<br>32(2110-2155MHz)   | 2.0         | 50            | 1.60x0.80x0.50 | A-4       |
| RFLPF10050G9DM1T76 | 698-960               | 0.6max.(25°C)<br>0.65max.(-40~+85°C)   | 13(1554-1610MHz)<br>35(1805-1830MHz)<br>35(2110-2170MHz)<br>30(1710-2700MHz) | 2.0         | 50            | 1.00x0.50x0.40 | G         |
| RFLPF20120G9D0T    | 890-915               | 0.6max.(25°C)<br>0.75max.(-40~+85°C)   | 30(1780-1830MHz)<br>30(2670-2745MHz)   | 2.0         | 50            | 2.00x1.25x0.95 | B-2       |
| RFLPF20120G9D1T    | 890-915               | 0.6max.(25°C)<br>0.75max.(-40~+85°C)   | 40(1720-1765MHz)<br>30(1780-1830MHz)<br>30(2670-2745MHz)                     | 2.0         | 50            | 2.00x1.25x0.95 | B-2       |

**DCS/PCS BAND WORKING FREQUENCY**

| Part Number        | Frequency Range (MHz) | Insertion Loss (dB)  | Attenuation (dB min.)   | VSWR (max.) | Impedance (Ω) | Size(mm)       | Structure |
|--------------------|-----------------------|--|---|-------------|---------------|----------------|-----------|
| RFLPF10051G8D0T    | 1710-1910             | 0.8  | 35(3420-3570MHz)<br>35(3700-3820MHz)<br>35(5130-5730MHz)  | 2.0         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF10051G8DM5T51 | 1710-1910             | 0.6  | 26(3420-3570MHz)<br>21(3700-3820MHz)<br>21(5130-5730MHz)  | 2.0         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF10051G8D8T    | 1880-2025             | 1.4max.(25°C)<br>1.6max.(-40~+85°C)  | 10(2400-2500MHz)<br>22(3760-4050MHz)<br>22(5150-5850MHz)<br>22(5640-6075MHz)                    | 2.0         | 50            | 1.00x0.50x0.40 | G         |
| RFLPF16081G8D3T    | 1710-1910             | 0.45max.(25°C)<br>0.55max.(-40~+85°C)  | 30(3420-3570MHz)<br>25(3700-3820MHz)<br>25(5130-5730MHz)  | 2.0         | 50            | 1.60x0.80x0.50 | C         |
| RFLPF16081G8D78Q1C | 1880-2025             | 1.4  | 25(2400-2500MHz)<br>18(4020-4045MHz)<br>25(6030-6075MHz)  | 2.0         | 50            | 1.60x0.80x0.60 | F         |
| RFLPF16081G8DC8Q1C | 1880-2170             | 0.60(1880-1920MHz)<br>0.70(1920-1980MHz)<br>0.80(2010-2170MHz)<br>2.00(2025-2170MHz) | 15(2400-2500MHz)<br>20(3760-4050MHz)<br>12(5150-5850MHz)<br>12(5640-6075MHz)<br>5(7520-8100MHz) | 2.0         | 20            | 1.60x0.80x0.60 | E         |
| RFLPF16081G8DHT    | 1710-1990             | 0.6max.(25°C)<br>0.8max.(-40~+85°C)  | 30.5(3420-3980MHz)<br>28.5(5130-5970MHz)<br>25.0(5970-12500MHz)                                 | 2.0         | 50            | 1.60x0.80x0.70 | I         |
| RFLPF20121G8D1T    | 1880-2025             | 1.35max.(25°C)<br>1.50max.(-40~+85°C)  | 38(2400-2500MHz)<br>25(4020-4045MHz)<br>27(6030-6075MHz)  | 1.9         | 50            | 2.00x1.20x0.90 | F         |

**2.4GHz BAND WORKING FREQUENCY**

| Part Number     | Frequency Range (MHz) | Insertion Loss (dB)                   | Attenuation (dB min.)  | VSWR (max.) | Impedance (Ω) | Size(mm)       | Structure |
|-----------------|-----------------------|---------------------------------------|--|-------------|---------------|----------------|-----------|
| RFLPF1005040A0T | 2450±50               | 0.45max.(25°C)<br>0.55max.(-40~+85°C) | 21(4800-5000MHz)<br>21(7200-7500MHz)   | 1.7         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF1005040A1T | 2450±50               | 0.75                                  | 33(4800-5000MHz)<br>37(7200-7500MHz)   | 2.0         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF1005040A2T | 2450±50               | 0.75max.(25°C)<br>0.90max.(-40~+85°C) | 32(4800-5000MHz)<br>35(7200-7500MHz)   | 2.0         | 50            | 1.00x0.50x0.40 | C         |
| RFLPF1608060AAT | 2450±50               | 0.65                                  | 20(3603-3720MHz)<br>30(4804-4960MHz)<br>10(6005-6200MHz)<br>20(7206-7440MHz)<br>10(8407-8680MHz)<br>20(9608-9920MHz)<br>10(10809-11160MHz)<br>10(12010-12400MHz)<br>10(13211-13640MHz)<br>15(14412-14880MHz)<br>10(15613-16120MHz)<br>10(16814-17360MHz) | 2.0         | 50            | 1.60x0.80x0.70 | A-1       |
| RFLPF1608060ABT | 2450±50               | 0.50                                  | 35(4800-5000MHz)<br>25(7200-7500MHz)   | 2.0         | 50            | 1.60x0.80x0.60 | A-1       |
| RFLPF1608060A0T | 2450±50               | 0.65<br>(typ.0.48)                    | 35(4800MHz(typ.40))<br>27(7200MHz(typ.40))   | 1.5         | 50            | 1.60x0.80x0.60 | A-1       |
| RFLPF1608060A1T | 2450±50               | 0.6                                   | 27(4800-5000MHz)<br>30(7200-7500MHz)   | 2.0         | 50            | 1.60x0.80x0.60 | A-2       |
| RFLPF1608060A2T | 2450±50               | 0.42                                  | 25(4800MHz)<br>18(7200MHz)   | 1.5         | 50            | 1.60x0.80x0.60 | A-1       |
| RFLPF1608060A9T | 2450±50               | 0.50max.(25°C)<br>0.60max.(-40~+85°C) | 20(3400MHz)<br>20(3600MHz)<br>30(4800-5000MHz)<br>30(7200-7500MHz)   | 2.0         | 50            | 1.60x0.80x0.60 | E         |
| RFLPF2012110A0T | 2450±50               | 0.7                                   | 30(2x(fo±BW/2))<br>20(3x(fo±BW/2))   | 1.5         | 50            | 2.00x1.25x1.05 | B-1       |

**5GHz BAND WORKING FREQUENCY**

| Part Number     | Frequency Range (MHz) | Insertion Loss (dB)           | Attenuation (dB min.)  | VSWR (max.) | Impedance (Ω) | Size(mm)       | Structure |
|-----------------|-----------------------|-------------------------------|--|-------------|---------------|----------------|-----------|
| RFLPF1608050K0T | 5400±500              | 0.60(25°C)<br>0.70(-40~+85°C) | 25(9800MHz)<br>30(11900MHz)<br>20(17850MHz)<br>(for reference) | 2.0         | 50            | 1.60x0.85x0.50 | C         |
| RFLPF2012090K0T | 5400±500              | 0.55(25°C)<br>0.65(-40~+85°C) | 30(9800MHz)<br>30(11800MHz)<br>20(17550MHz)<br>(for reference) | 2.0         | 50            | 2.00x1.25x0.90 | B-1       |

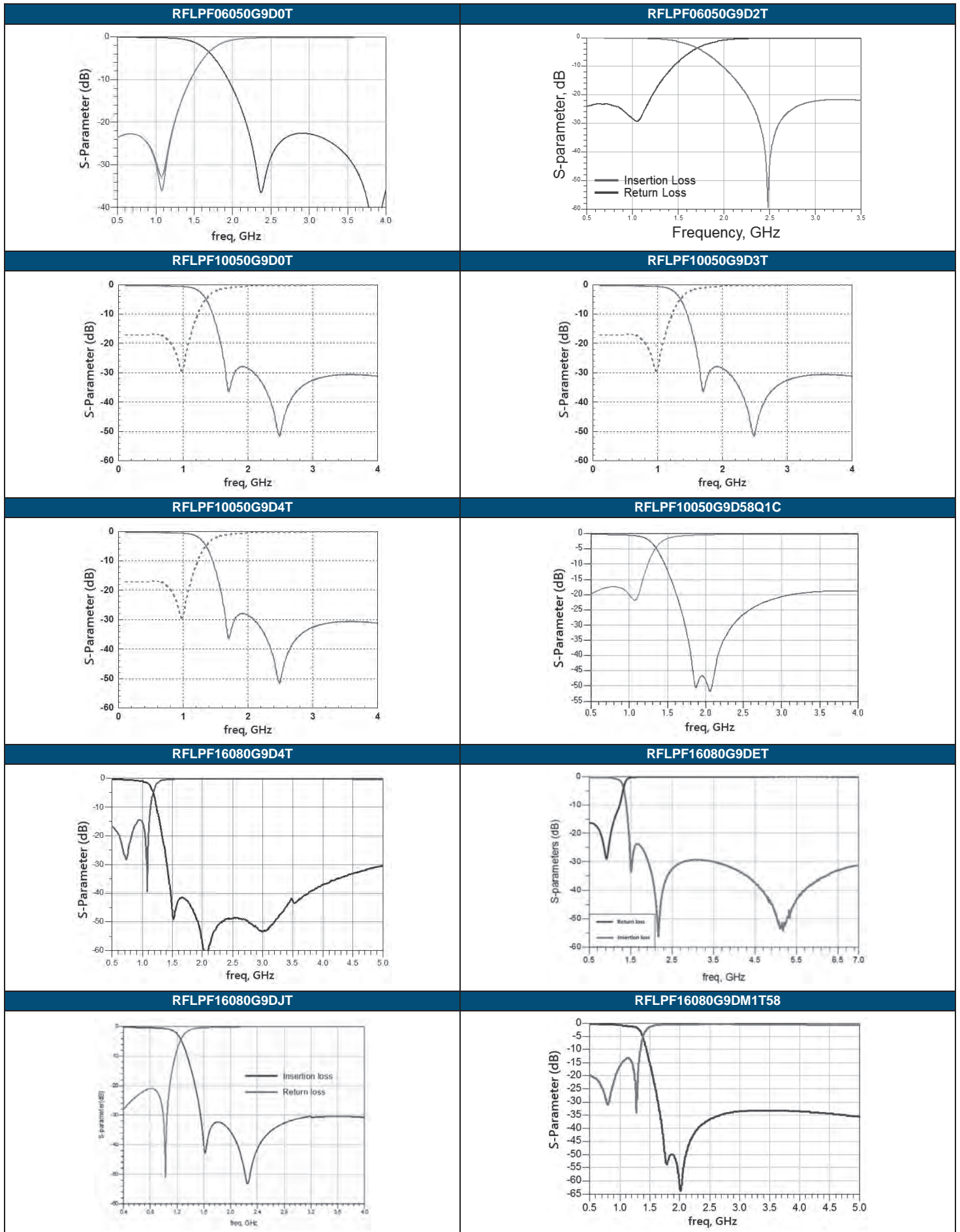
**LTE BAND APPLICATION**

| Part Number        | Frequency Range (MHz)              | Insertion Loss (dB)  | Attenuation (dB min.)  | VSWR (max.) | Impedance (Ω) | Size(mm)       | Structure |
|--------------------|------------------------------------|--|--|-------------|---------------|----------------|-----------|
| RFLPF1005040YM1T76 | 746-878                            | 0.60(25°C)<br>0.65(-40~+85°C)  | 30(1554-1610MHz)<br>25(2238-2361MHz)   | 2.0         | 50            | 1.00x0.50x0.40 | G         |
| RFLPF1608060Y08Q1C | 470-787                            | 0.65(25°C)<br>0.71(-40~+85°C)  | 26(1429-1501MHz)<br>30(1565-1607MHz)<br>35(1570-1580MHz)<br>18(1920-1980MHz)   | 2.0         | 50            | 1.60x0.85x0.65 | A-3       |
| RFLPF1608060Y18Q1C | 698-960                            | 0.60(698-830MHz)<br>0.70(830-900MHz)<br>0.75(900-915MHz)<br>0.90(915-960MHz) | 30(1554-1830MHz)<br>35(2097-2745MHz)   | 1.6         | 50            | 1.60x0.85x0.65 | A-3       |
| RFLPF2012090Y2T    | 400-470                            | 0.50(25°C)<br>0.65(-40~+85°C)  | 33(800-940MHz)   | 2.0         | 50            | 2.00x1.25x0.90 | F         |
| RFLPF2012090Y3T    | 500-700                            | 0.65(25°C)<br>0.80(-40~+85°C)  | 33(1000-1400MHz)   | 2.0         | 50            | 2.00x1.25x0.90 | F         |
| RFLPF2012100Y0T    | DC-500                             | 0.70   | 9(824-960MHz)<br>25(1710-1990MHz)<br>25(2400-4000MHz)  | 2.0         | 50            | 2.00x1.25x0.95 | B-2       |
| RFLPF1608060E0T    | 1400-2690                          | 0.25(25°C)<br>0.30(-40~+85°C)  | 25(4905-5845MHz)   | 1.92        | 50            | 1.60x0.85x0.65 | F         |
| RFLPF1608060F0T    | 600-2700                           | 0.50   | 30(4800-8000MHz)<br>25(8500-12500MHz)  | 2.0         | 50            | 1.60x0.85x0.65 | F         |
| RFLPF1608060F18Q1C | 673-2690                           | 0.50   | 35(4950-6000MHz)<br>35(6000-7500MHz)<br>35(7500-8100MHz)<br>35(8100-10500MHz)<br>27(10500-12500MHz)  | 2.0         | 50            | 1.60x0.85x0.65 | F         |
| RFLPF1608060F88Q1C | 10-2700                            | 0.5  | 30(4900-5950MHz)   | 2.0         | 50            | 1.60x0.85x0.65 | E         |
| RFLPF1608060FAT    | 673-2690                           | 0.25(25°C)<br>0.35(-40~+85°C)  | 25(4905-5845MHz)   | 1.92        | 50            | 1.60x0.85x0.65 | F         |
| RFLPF2012100F18Q1C | 1710-2170                          | 1.30(25°C)<br>1.50(-40~+85°C)  | 15(2400-2500MHz)<br>25(3250-3350MHz)<br>25(3420-3570MHz)<br>23(3700-3820MHz)<br>23(3840-3960MHz)<br>23(4100-4600MHz)<br>25(4905-5845MHz)<br>23(5850-6400MHz)<br>20(6600-7350MHz) | 1.56        | 50            | 2.00x1.25x1.00 | B-2       |
| RFLPF2012100F28Q1C | DC-2170                            | 0.75(25°C)<br>0.85(-40~+85°C)  | 10(2400-2500MHz)<br>23(3250-3350MHz)<br>20(3420-3570MHz)<br>18(3700-3820MHz)<br>18(3840-3960MHz)<br>18(4100-4600MHz)<br>20(4905-5845MHz)<br>18(5850-6400MHz)<br>5(6600-7350MHz)  | 2.0         | 50            | 2.00x1.25x1.00 | F         |
| RFLPF16082G6W0T    | 2400-2690                          | 0.6  | 26(4800-5390MHz)<br>23(7200-8085MHz)   | 2.0         | 50            | 1.60x0.80x0.60 | A-2       |
| RFLPF16082G6W2T    | 2300-2700                          | 0.40(25°C)<br>0.43(-40~+85°C)  | 21(4600-5400MHz)<br>22(6900-8100MHz)   | 2.0         | 50            | 1.60x0.80x0.60 | A-2       |
| RFLPF16082G5W0T    | 2300-2700                          | 0.90(25°C)<br>1.00(-40~+85°C)  | 30(4600-5400MHz)<br>30(6900-8100MHz)<br>20(9200-10800MHz)<br>15(11500-13500MHz)  | 1.8         | 50            | 1.60x0.80x0.60 | A-1       |
| RFLPF16082G5WM0T29 | 2300-2690                          | 0.80<br>(typ.0.40)   | 25(4600-5400MHz)<br>25(6900-8070MHz)   | 2.0         | 50            | 1.60x0.80x0.60 | A-1       |
| RFLPF16083G5W7T    | 3300-3800                          | 0.55   | 17(6600-7600MHz)<br>20(9900-11400MHz)  | 1.9         | 50            | 1.60x0.80x0.60 | A-3       |
| RFLPF2012090BM0T29 | 800-1000<br>1700-1910<br>2010-2025 | 0.5(800-1000MHz)<br>0.8(1700-1910MHz)<br>1.5(2010-2025MHz)                   | 20(2300-3700MHz)<br>30(3700-4100MHz)<br>20(4100-6100MHz)<br>10(6100-8000MHz)   | 2.0         | 50            | 2.00x1.25x0.90 | F         |

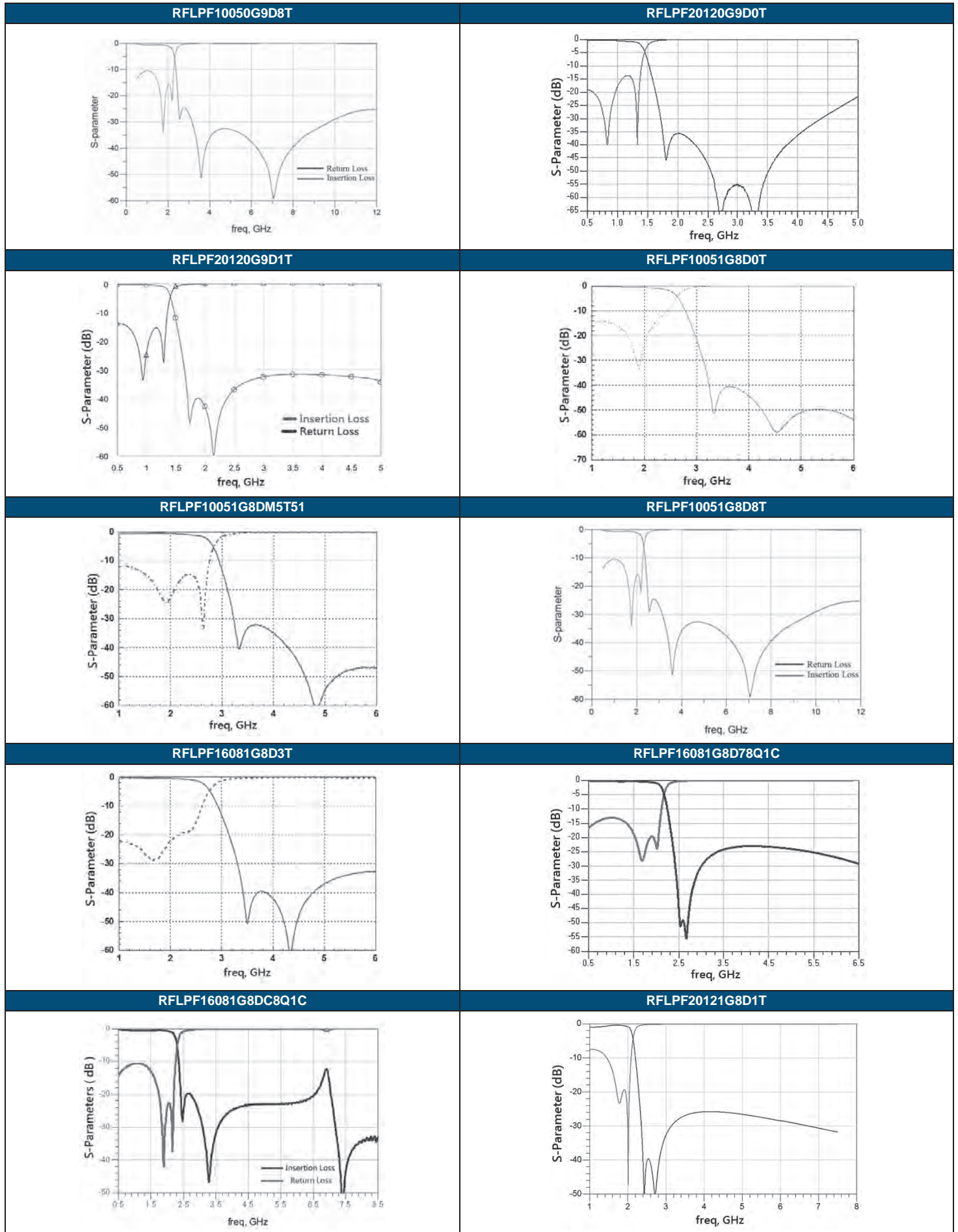
**MoCA APPLICATION**

| Part Number        | Frequency Range (MHz) | Insertion Loss (dB)          | Attenuation (dB min.)                | VSWR (max.) | Impedance (Ω) | Size(mm)       | Structure |
|--------------------|-----------------------|------------------------------|--------------------------------------|-------------|---------------|----------------|-----------|
| RFLPF3225180Y1T    | 54-870                | 2.5                          | 35(975-1675MHz)                      | 2.0         | 75            | 3.20x2.50x1.80 | H         |
| RFLPF3225100Q07B1U | 5-1002                | 2.4(25°C)<br>2.6(-40~+85°C)  | 36(1125-1675MHz)                     | 2.0         | 75            | 3.20x2.50x1.00 | H         |
| RFLPF3225100Q2T    | 5-1002                | 2.4(25°C)<br>2.6(-40~+85°C)  | 28(1125-1675MHz)                     | 1.9         | 75            | 3.20x2.50x1.00 | B-1       |
| RFLPF3225200Q5T    | 5-1002                | 1.8(25°C)<br>2.05(-40~+85°C) | 33(1125-1400MHz)<br>26(1400-1675MHz) | 2.0         | 75            | 3.20x2.50x1.80 | H         |

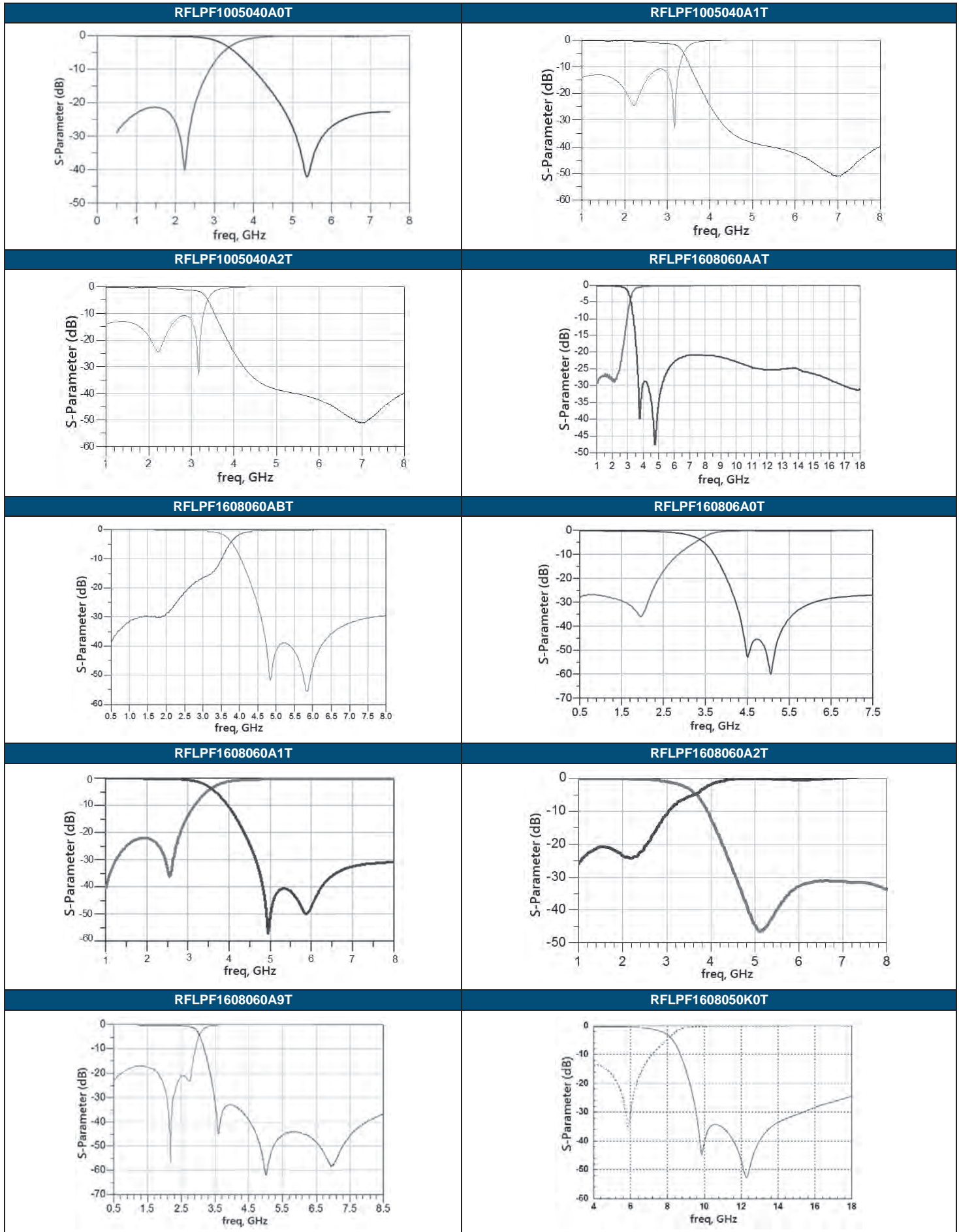
■ **TYPICAL ELECTRICAL CHARACTERISTICS**



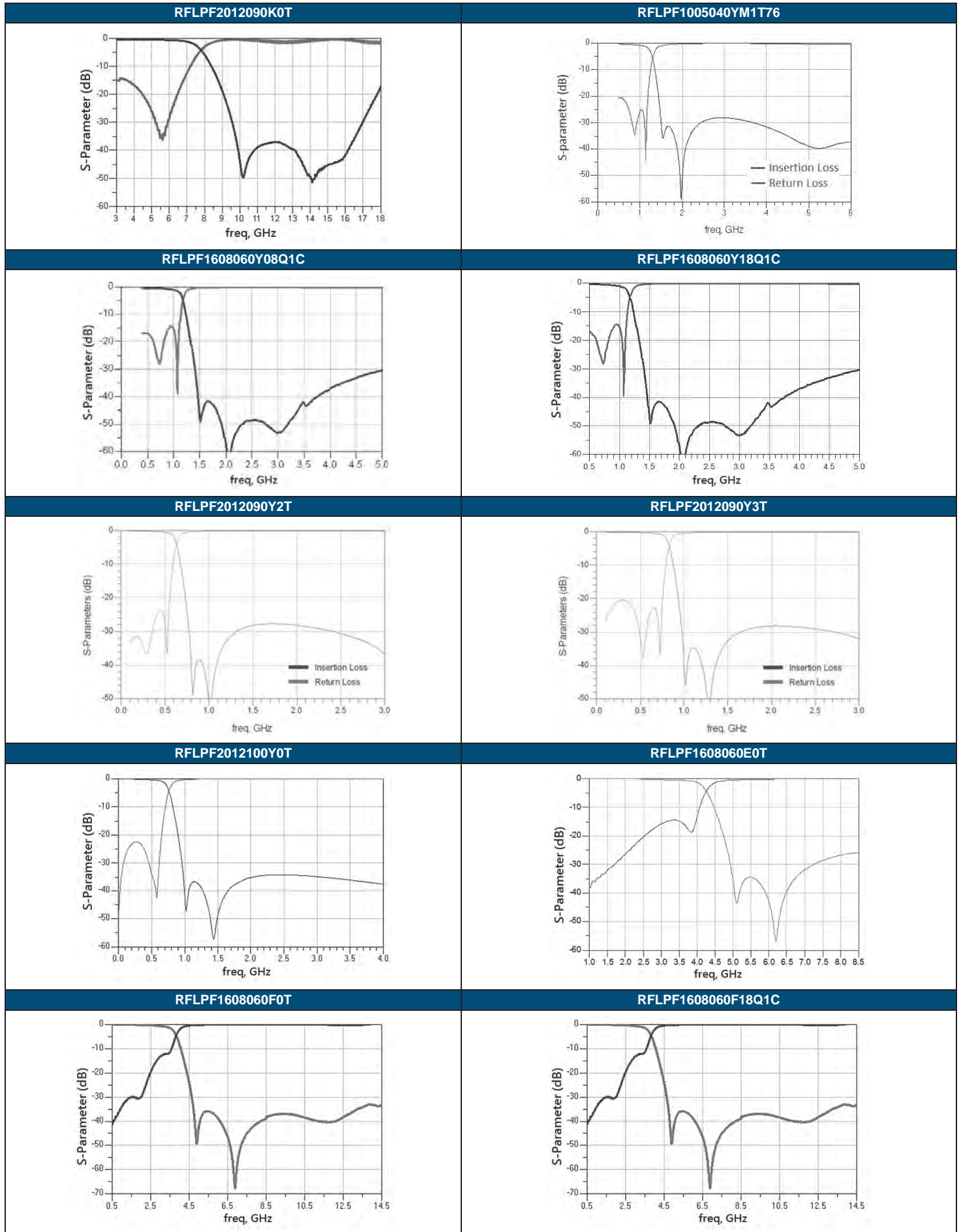
**TYPICAL ELECTRICAL CHARACTERISTICS**



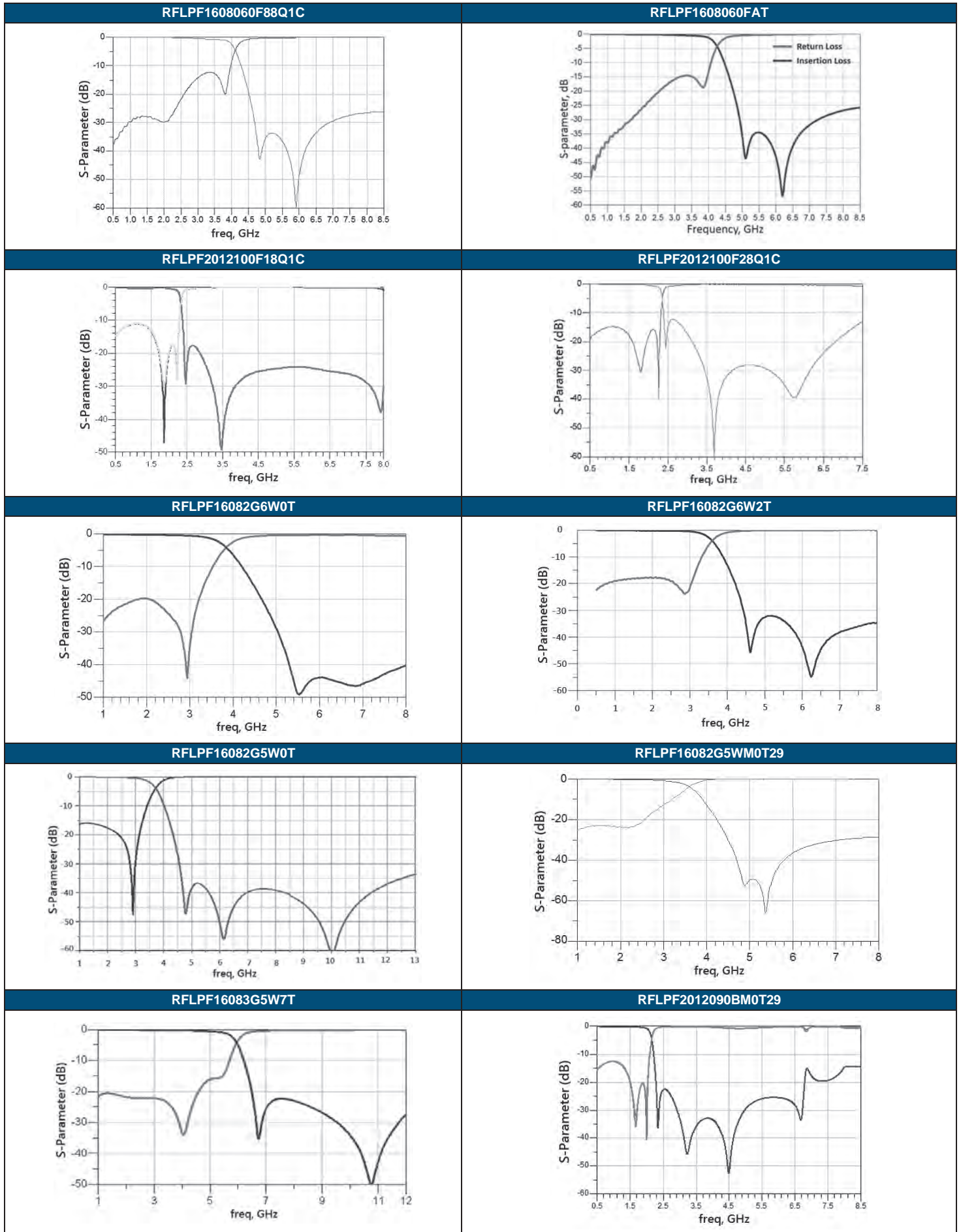
**TYPICAL ELECTRICAL CHARACTERISTICS**



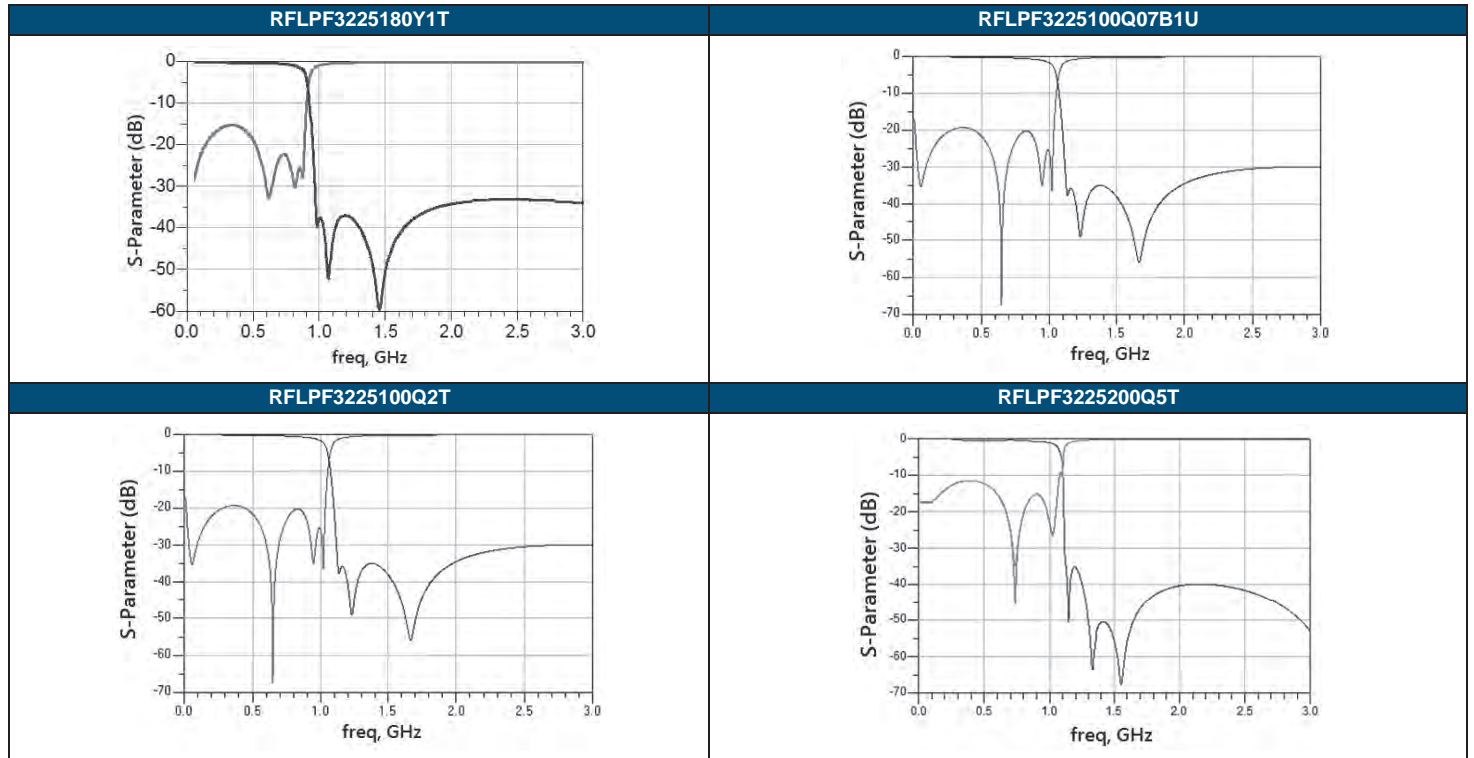
**TYPICAL ELECTRICAL CHARACTERISTICS**



**TYPICAL ELECTRICAL CHARACTERISTICS**



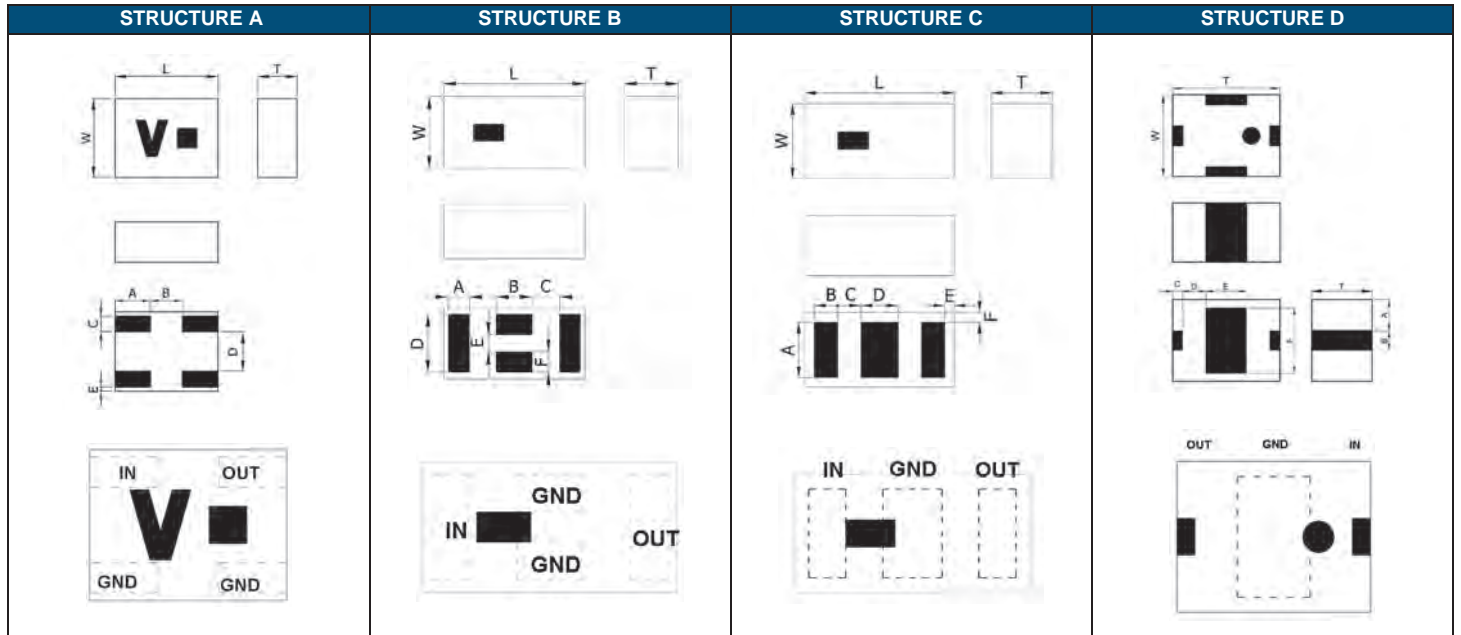
**TYPICAL ELECTRICAL CHARACTERISTICS**



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

**HIGH FREQUENCY MULTILAYER HIGH PASS FILTER**

■ **STRUCTURE AND PIN ASSOCIATED**



■ **STRUCTURE AND DIMENSION**

Unit: mm

| Structure/Dimension | L           | W           | T            | A            | B           | C            | D           | E            | F            |
|---------------------|-------------|-------------|--------------|--------------|-------------|--------------|-------------|--------------|--------------|
| A                   | 0.65 ± 0.10 | 0.50 ± 0.10 | 0.4 max.     | 0.225 ± 0.10 | 0.20 ± 0.05 | 0.10 ± 0.10  | 0.20 ± 0.05 | 0.05 ± 0.05  | -            |
| B                   | 1.60 ± 0.15 | 0.80 ± 0.15 | 0.60 ± 0.1.0 | 0.23 ± 0.05  | 0.40 ± 0.10 | 0.30 ± 0.10  | 0.65 ± 0.10 | 0.20 ± 0.05  | 0.23 ± 0.05  |
| C                   | 1.60 ± 0.10 | 0.80 ± 0.10 | 0.65 max.    | 0.65 ± 0.10  | 0.25 ± 0.10 | 0.275 ± 0.10 | 0.40 ± 0.10 | 0.075 ± 0.05 | 0.075 ± 0.05 |
| D                   | 3.20 ± 0.20 | 2.50 ± 0.20 | 1.7 max.     | 0.95 ± 0.20  | 0.60 ± 0.20 | 0.30 ± 0.15  | 0.70 ± 0.15 | 1.20 ± 0.15  | 2.00 ± 0.15  |

■ **ELECTRICAL SPECIFICATION**

**2496 ~ 2690 MHz BAND WORKING FREQUENCY**

| Part Number      | Frequency Range (MHz) | Insertion Loss (dB)                 | Attenuation (dB min. ) | VSWR (max.) | Size (mm)       | Structure |
|------------------|-----------------------|-------------------------------------|------------------------|-------------|-----------------|-----------|
| RFHPPF16082G5W0T | 2496-2690             | 1.2max.(25°C)<br>1.3max.(-40~+85°C) | 25(1710-1995MHz)       | 2.0         | 1.6 X 0.8 X 0.6 | B         |
| RFHPPF16082G5W1T | 2496-2690             | 0.9max.(25°C)<br>1.2max.(-40~+85°C) | 22(1710-2010MHz)       | 2.0         | 1.6 X 0.8 X 0.6 | C         |

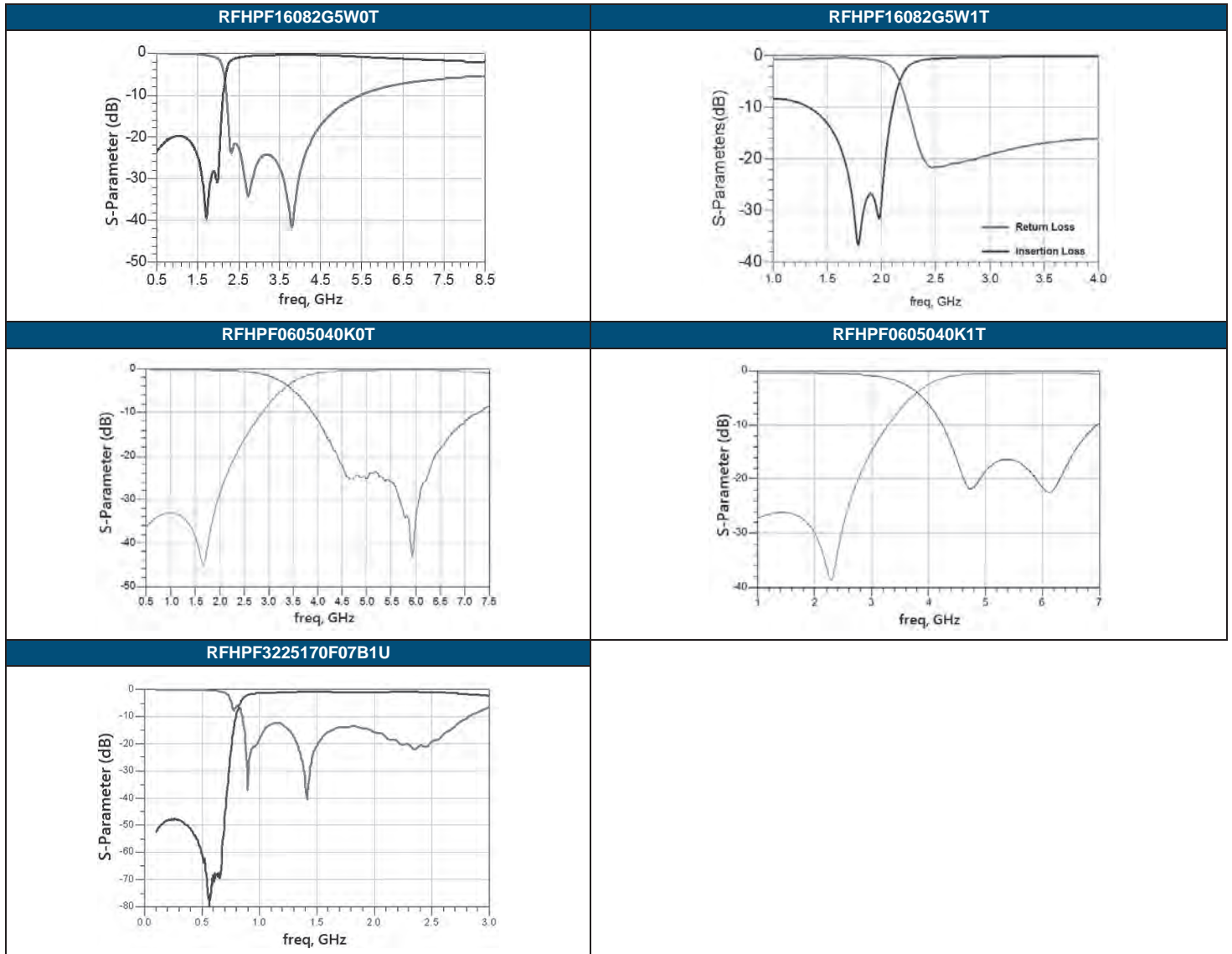
**5GHz BAND WORKING FREQUENCY**

| Part Number      | Frequency Range (MHz) | Insertion Loss (dB)                   | Attenuation (dB min. ) | VSWR (max.) | Size (mm)        | Structure |
|------------------|-----------------------|---------------------------------------|------------------------|-------------|------------------|-----------|
| RFHPPF0605040K0T | 4900-5840             | 0.60max.(25°C)<br>0.65max.(-40~+85°C) | 14(2400-2500MHz)       | 1.6         | 0.65 X 0.5 X 0.4 | A         |
| RFHPPF0605040K1T | 4900-5850             | 0.65                                  | 20(2450-2500MHz)       | 2.0         | 0.65 X 0.5 X 0.4 | A         |

**MoCA Application**

| Part Number         | Frequency Range (MHz) | Insertion Loss (dB)                  | Attenuation (dB min. ) | VSWR (max.) | Size (mm)       | Structure |
|---------------------|-----------------------|--------------------------------------|------------------------|-------------|-----------------|-----------|
| RFHPPF3225170F07B1U | 950-2150              | 2.00max.(25°C)<br>2.2max.(-40~+85°C) | 50(475-675MHz)         | 2.0         | 3.2 X 2.5 X 1.7 | D         |

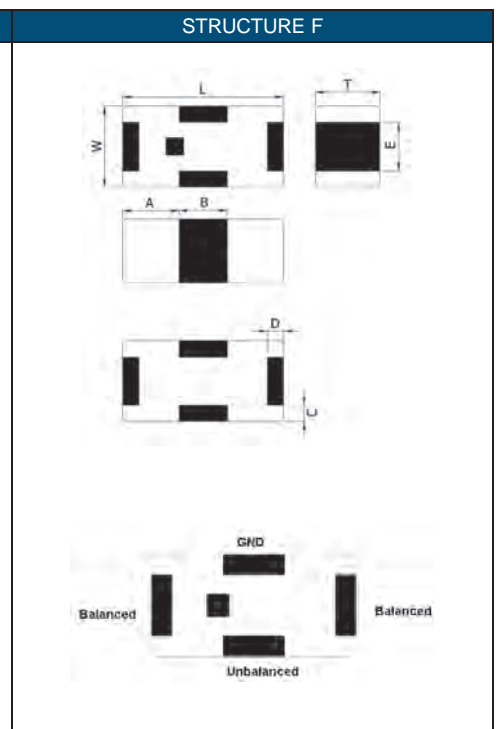
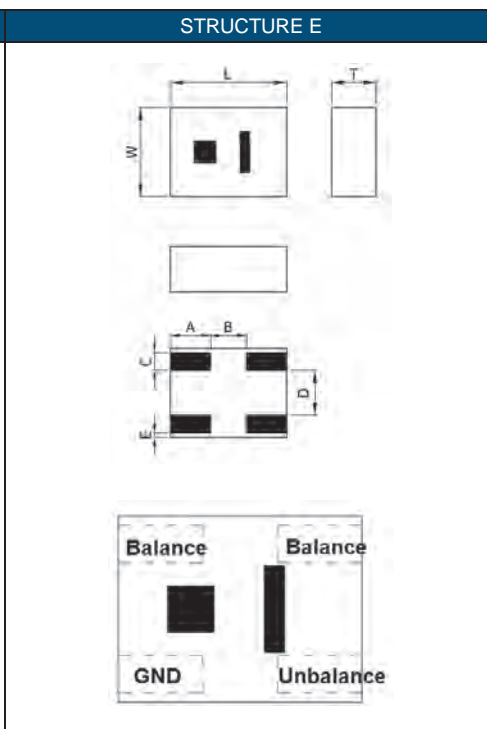
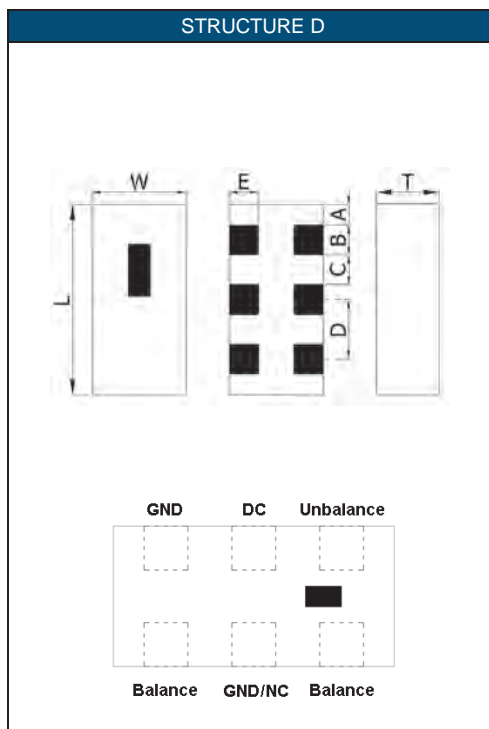
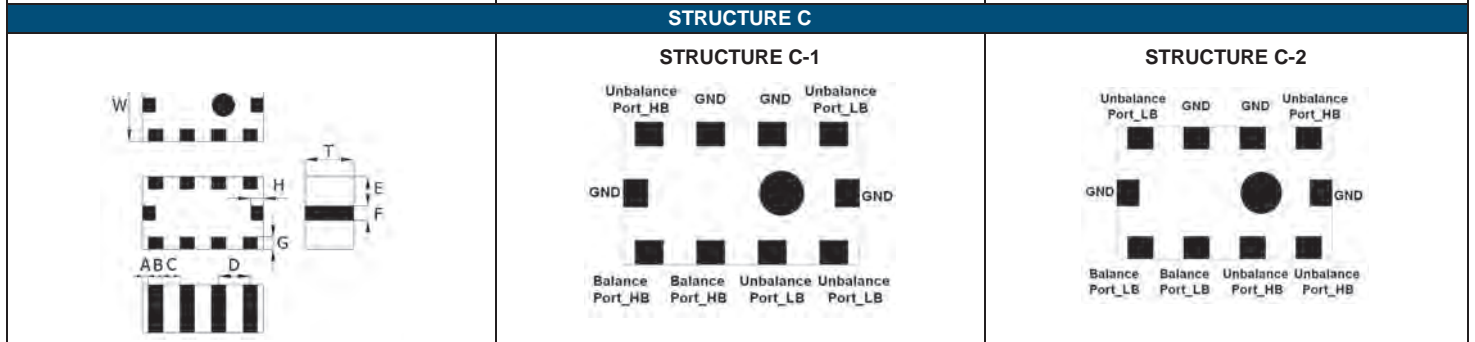
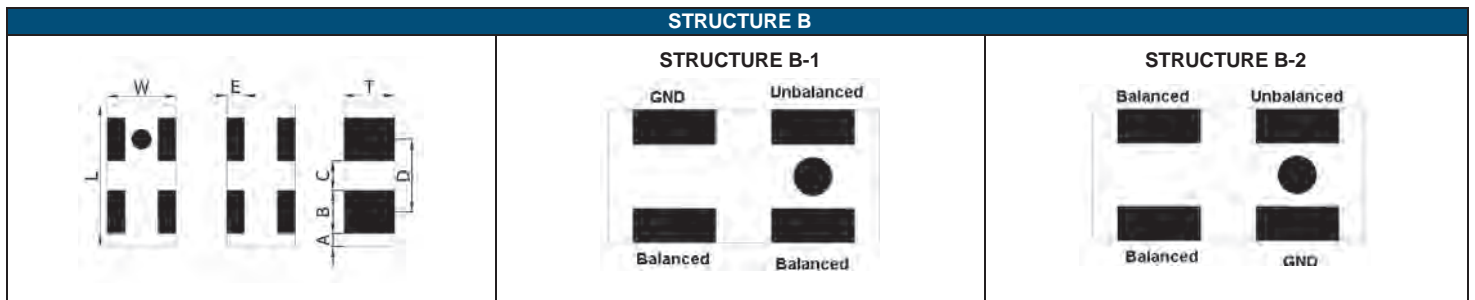
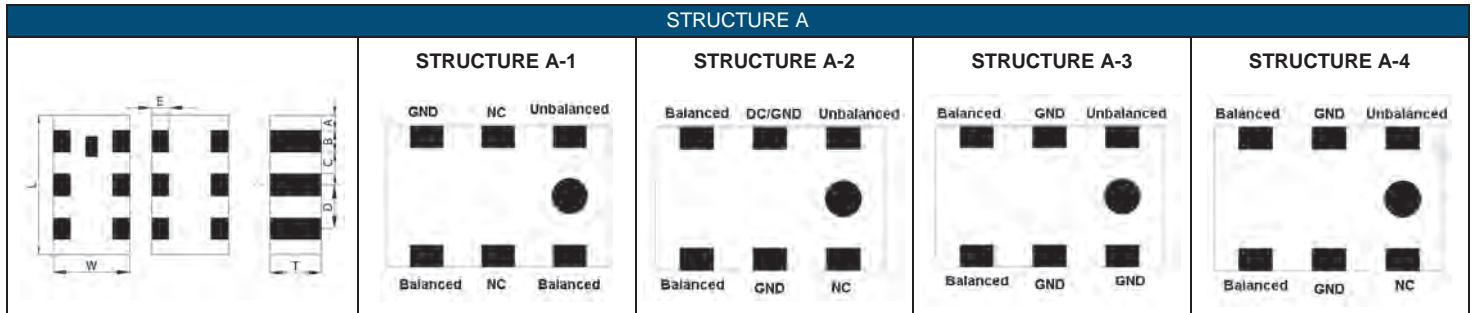
■ **TYPICAL ELECTRICAL CHARACTERISTICS**



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

**BALUN TRANSFORMERS**

■ **STRUCTURE AND PIN ASSOCIATED**



■ **STRUCTURE AND DIMENSION**

Unit: mm

| Structure/Dimension | L         | W         | T         | A          | B          | C           | D         | E          | F           | G         | H         |
|---------------------|-----------|-----------|-----------|------------|------------|-------------|-----------|------------|-------------|-----------|-----------|
| A                   | 1.60±0.10 | 0.85±0.10 | 0.70±0.10 | 0.20±0.10  | 0.20±0.10  | 0.30±0.10   | 0.50±0.05 | 0.50±0.05  | -           | -         | -         |
|                     | 1.60±0.15 | 0.80±0.10 | 0.50±0.10 | 0.175±0.15 | 0.25±0.15  | 0.25±0.15   | 0.50±0.15 | 0.20±0.15  | -           | -         | -         |
|                     |           |           | 0.85±0.10 | 0.40 max.  | 0.175±0.15 | 0.25±0.15   | 0.25±0.15 | 0.50±0.15  | 0.20±0.15   | -         | -         |
|                     |           | 0.85±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  | -           | -         | -         |
|                     |           |           | 0.70±0.10 | 0.175±0.15 | 0.25±0.15  | 0.25±0.15   | 0.50±0.15 | -          | -           | -         | -         |
|                     | 0.65±0.10 | -         | -         |            |            |             |           | -          | -           |           |           |
|                     | 2.00±0.15 | 1.25±0.15 | 0.80±0.10 | 0.20±0.20  | 0.30±0.20  | 0.35±0.20   | 0.65±0.20 | -          | -           | -         | -         |
|                     |           |           | 0.85±0.10 | 0.20±0.20  | 0.30±0.20  | 0.35±0.20   | 0.65±0.20 | -          | -           | -         | -         |
|                     |           |           | 0.80±0.10 | 0.20±0.15  | 0.30±0.20  | 0.35±0.20   | 0.65±0.20 | -          | -           | -         | -         |
|                     |           |           | 0.95±0.10 | 0.20±0.20  | 0.30±0.20  | 0.35±0.20   | 0.65±0.20 | -          | -           | -         | -         |
| B                   | 1.00±0.10 | 0.50±0.10 | 0.37±0.10 | 0.10±0.10  | 0.30±0.10  | 0.20±0.10   | 0.50±0.10 | 0.125±0.10 | -           | -         | -         |
|                     | 1.00±0.10 | 0.50±0.10 | 0.40±0.10 | 0.10±0.10  | 0.30±0.10  | 0.20±0.10   | 0.50±0.10 | 0.125±0.10 | -           | -         | -         |
| C                   | 2.00±0.10 | 1.25±0.15 | 0.90±0.10 | 0.125±0.10 | 0.25±0.10  | 0.25±0.10   | 0.50±0.10 | 0.475±0.10 | 0.30±0.10   | 0.20±0.15 | 0.20±0.15 |
| D                   | 1.60±0.15 | 0.80±0.15 | 0.50±0.10 | 0.175±0.10 | 0.25±0.10  | 0.25±0.10   | 0.50±0.10 | 0.25±0.10  | -           | -         | -         |
| E                   | 0.65±0.10 | 0.50±0.10 | 0.40±0.10 | 0.20±0.05  | 0.20±0.05  | 0.025±0.025 | 0.10±0.05 | 0.25±0.05  | 0.025±0.025 | -         | -         |
| F                   | 1.00±0.10 | 0.50±0.10 | 0.5 max.  | 0.35±0.10  | 0.30±0.10  | 0.15±0.10   | 0.15±0.10 | 0.30±0.10  | -           | -         | -         |

■ **ELECTRICAL SPECIFICATION**

**ISM Band 2.4GHz APPLICATION**

| Part Number        | Frequency Range (MHz) | Impedance(Ω) |                                      | Return Loss (dB) Min. | Insertion Loss (dB)         | Amplitude Difference (dB) Max. | Phase Difference | Size(mm)       | Structure |
|--------------------|-----------------------|--------------|--------------------------------------|-----------------------|-----------------------------|--------------------------------|------------------|----------------|-----------|
|                    |                       | Unbalance    | Balance                              |                       |                             |                                |                  |                |           |
| RFBLN1005040A6T    | 2400~2500             | 50           | 50                                   | 10                    | 0.8                         | 2.0                            | 180± 10          | 1.00x0.50x0.40 | B-2       |
| RFBLN1608050AAT    | 2400~2500             | 50           | Conjugate match to AR6003 chipset    | 10                    | 1.2                         | 2.0                            | 180± 10          | 1.60x0.80x0.50 | D         |
| RFBLN1608050AM8T62 | 2400~2500             | 50           | 50                                   | 10                    | 1.2                         | 2.0                            | 180± 10          | 1.60x0.80x0.50 | A-2       |
| RFBLN1608050AM0T63 | 2400~2500             | 50           | 50                                   | 10                    | 1.0                         | 1.0                            | 180± 10          | 1.60x0.80x0.55 | A-2       |
| RFBLN1608050AM6T30 | 2400~2500             | 50           | 35                                   | 10                    | 1.0                         | 1.0                            | 180± 10          | 1.60x0.80x0.55 | A-2       |
| RFBLN1608060AC6T40 | 2400~2500             | 50           | Conjugate match to TI CC26XX Chipset | 10                    | 1.6(25°C)<br>1.8(-40~+85°C) | 2.3                            | 180± 18          | 1.60x0.80x0.60 | A-3       |
| RGBLN1608070A1T    | 2400~2500             | 50           | 100                                  | 10                    | 1.5                         | 2.0                            | 180± 15          | 1.60x0.85x0.70 | A-1       |
| RGBLN1608070A5T    | 2400~2500             | 50           | 100                                  | 10                    | 1.2                         | 2.0                            | 180± 10          | 1.60x0.80x0.70 | A-2       |
| RGBLN2012080A5T    | 2400~2500             | 50           | 50                                   | 12                    | 1.0                         | 1.0                            | 180± 10          | 2.00x1.25x0.85 | A-2       |
| RFBLN2012080A7T    | 2400~2500             | 50           | 100                                  | 10                    | 1.0                         | 2.0                            | 180± 10          | 2.00x1.25x0.80 | A-2       |
| RGBLN2012090A0T    | 2400~2500             | 50           | 50                                   | 10                    | 1.2                         | 2.0                            | 180± 10          | 2.00x1.25x0.95 | A-2       |
| RFBLN2012090A1T    | 2400~2500             | 50           | 100                                  | 10                    | 1.0                         | 2.0                            | 180± 10          | 2.00x1.25x0.95 | A-2       |

**ISM Band 5GHz APPLICATION**

| Part Number     | Frequency Range (MHz) | Impedance(Ω) |         | Return Loss (dB) Min | Insertion Loss (dB)           | Amplitude Difference (dB) Max. | Phase Difference | Size (mm)      | Structure |
|-----------------|-----------------------|--------------|---------|----------------------|-------------------------------|--------------------------------|------------------|----------------|-----------|
|                 |                       | Unbalance    | Balance |                      |                               |                                |                  |                |           |
| RFBLN1005040K1T | 4900~5950             | 50           | 50      | 10                   | 1.2                           | 2.0                            | 180± 10          | 1.00x0.50x0.40 | B-2       |
| RFBLN1005040K5T | 4900~5950             | 50           | 100     | 10                   | 0.55(25°C)<br>0.75(-40~+85°C) | 2.5                            | 180± 10          | 1.00x0.50x0.40 | B-2       |
| RFBLN1005040K6T | 4900~5950             | 50           | 50      | 10                   | 0.60(25°C)<br>0.80(-40~+85°C) | 2.5                            | 180± 15          | 1.00x0.50x0.40 | B-2       |
| RFBLN2012090K1T | 4900~5900             | 50           | 100     | 10                   | 1.2                           | 2.0                            | 180± 10          | 2.00x1.25x0.95 | A-4       |

**LTE Band APPLICATION**

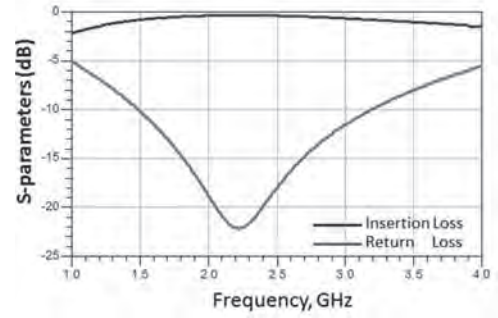
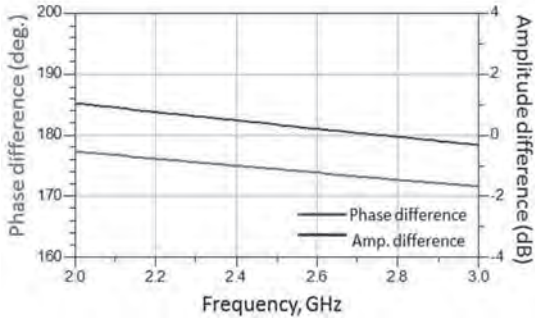
| Part Number        | Frequency Range (MHz)  | Impedance(Ω) |         | Return Loss (dB)Min | Insertion Loss (dB)           | Amplitude Difference (dB) Max. | Phase Difference | Size (mm)      | Structure |
|--------------------|------------------------|--------------|---------|---------------------|-------------------------------|--------------------------------|------------------|----------------|-----------|
|                    |                        | Unbalance    | Balance |                     |                               |                                |                  |                |           |
| RFBLN0605040Y1T    | 717-821                | 50           | 100     | 15                  | 0.55(25°C)<br>0.65(-40~+85°C) | 2.0                            | 180± 10          | 0.65x0.50x0.40 | E         |
| RFBLN0605040YM9T16 | 729-821                | 50           | 100     | 10                  | 0.55(25°C)<br>0.65(-40~+85°C) | 2.0                            | 180± 10          | 0.65x0.50x0.40 | E         |
| RFBLN1005040YM1T69 | 703-803                | 50           | 100     | 10                  | 0.8                           | 2.0                            | 180± 12          | 1.00x0.50x0.40 | F         |
| RFBLN06050G9D0T    | 729-960                | 50           | 100     | 15                  | 0.85(25°C)<br>0.95(-40~+85°C) | 4.8                            | 180± 10          | 0.65x0.50x0.40 | E         |
| RFBLN16080G9D2T    | 699-960                | 50           | 100     | 10                  | 1.05(25°C)<br>1.15(-40~+85°C) | 2.5                            | 180± 15          | 1.60x0.80x0.70 | A-4       |
| RFBLN16080G9D3T    | 824-894                | 50           | 50      | 10                  | 1.2                           | 1.0                            | 180± 10          | 1.60x0.80x0.60 | A-2       |
| RFBLN20120G9D0T    | 824-894                | 50           | 100     | 10                  | 1.2                           | 1.0                            | 180± 10          | 2.00x1.25x0.90 | A-2       |
| RFBLN20120G9D5T    | 880-960                | 50           | 100     | 10                  | 1.1                           | 1.0                            | 180± 10          | 2.00x1.25x0.90 | A-2       |
| RFBLN20120G9D8T    | 800-1000               | 50           | 50      | 10                  | 1.2                           | 2.0                            | 180± 10          | 2.00x1.25x0.90 | A-2       |
| RFBLN06051G8DM1T69 | 1805-1990              | 50           | 100     | 10                  | 0.60(25°C)<br>0.65(-40~+85°C) | 1.8                            | 180± 10          | 0.65x0.50x0.40 | E         |
| RFBLN06051G8D1T    | 1805-2170              | 50           | 100     | 10                  | 0.65(25°C)<br>0.70(-40~+85°C) | 3.0                            | 180± 15          | 0.65x0.50x0.40 | E         |
| RFBLN20121G8D1T    | 1700-2000              | 50           | 100     | 10                  | 1.0                           | 2.0                            | 180± 10          | 2.00x1.25x0.95 | A-2       |
| RFBLN10051G9D0T    | 1805-2020              | 50           | 100     | 10                  | 0.65(25°C)<br>0.75(-40~+85°C) | 2.0                            | 180± 10          | 1.00x0.50x0.40 | B-2       |
| RFBLN10051G9D1T    | 1805-1990              | 50           | 100     | 10                  | 0.60(25°C)<br>0.70(-40~+85°C) | 2.2                            | 180± 12          | 1.00x0.50x0.40 | B-2       |
| RFBLN1005040F0T    | 1805-2170              | 50           | 100     | 10                  | 0.70(25°C)<br>0.80(-40~+85°C) | 1.2                            | 180± 15          | 1.00x0.50x0.40 | F         |
| RFBLN1608070F48Q1C | 673-2700               | 50           | 100     | 10                  | 1.7(25°C)<br>2.0(-40~+85°C)   | 1.5                            | 180± 17          | 1.60x0.80x0.70 | A-4       |
| RFBLN1608060FET    | 1710-2200              | 50           | 50      | 10                  | 1.20(25°C)<br>1.40(-40~+85°C) | 2.0                            | 180± 10          | 1.60x0.80x0.60 | A-2       |
| RFBLN2012090F0T    | 1920-1980<br>2110-2170 | 50           | 50      | 10                  | 1.0                           | 2.0                            | 180± 10          | 2.00x1.25x0.95 | A-2       |
| RFBLN0605040E0T    | 2000-2500              | 50           | 100     | 10                  | 0.60(25°C)<br>0.70(-40~+85°C) | 3.5                            | 180± 10          | 0.65x0.50x0.40 | E         |
| RFBLN2012090E0T    | 1500-3000              | 50           | 100     | 10                  | 1.0                           | 2.0                            | 180± 10          | 2.00x1.25x0.90 | A-4       |
| RFBLN06052G5W9T16  | 2300-2690              | 50           | 100     | 10                  | 0.55(25°C)<br>0.65(-40~+85°C) | 2.5                            | 180± 10          | 0.65x0.50x0.40 | E         |
| RFBLN10052G5W9T16  | 2300-2690              | 50           | 100     | 10                  | 0.55(25°C)<br>0.65(-40~+85°C) | 2.5                            | 180± 10          | 1.00x0.50x0.40 | B-1       |
| RFBLN10052G5W37N2T | 2300-2690              | 50           | 100     | 10                  | 0.65(25°C)<br>0.75(-40~+85°C) | 2.5                            | 180± 10          | 1.00x0.50x0.40 | B-2       |
| RFBLN16082G5W0T    | 2300-2700              | 50           | 100     | 10                  | 1.1                           | 2.0                            | 180± 10          | 1.60x0.80x0.70 | A-2       |
| RFBLN16082G5W38Q1C | 2300-2700              | 50           | 100     | 10                  | 0.55(25°C)<br>0.65(-40~+85°C) | 1.0                            | 180± 10          | 1.60x0.80x0.40 | A-4       |
| RFBLN16082G5W4T    | 2300-2700              | 50           | 50      | 10                  | 1.2                           | 2.0                            | 180± 10          | 1.60x0.80x0.50 | A-2       |

**GSM 850/ GSM 900/ DCS1800/ PCS1900 APPLICATION**

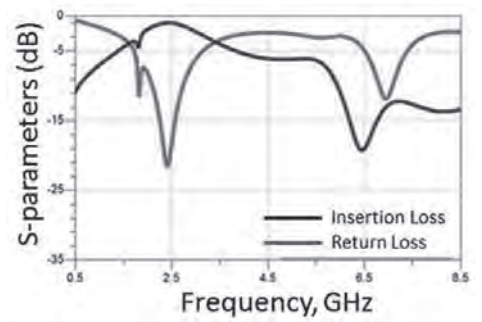
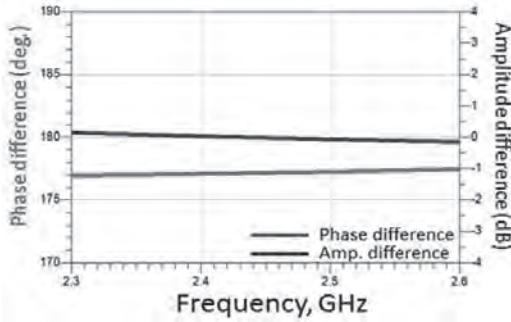
| Part Number        | Frequency Range (MHz) | Unbalance | Balance | Return Loss (dB) Min | Insertion Loss (dB)         | Amplitude Difference (dB) Max | Attenuation (dB min.)                                    | Phase Difference | Size(mm)       | Structure |
|--------------------|-----------------------|-----------|---------|----------------------|-----------------------------|-------------------------------|--|------------------|----------------|-----------|
| RFBLN2012090BM5T25 | 869-960               | 50        | 200     | 10                   | 1.1                         | 2.0                           | 10(1738-1920MHz)<br>20(2400-2500MHz)<br>20(2607-2880MHz) | 180± 10          | 2.00x1.25x0.95 | C-1       |
|                    | 1805-2025             | 50        | 200     | 10                   | 1.8                         | 2.0                           | 15(2400-2500MHz)<br>20(3610-3980MHz)<br>20(5415-5970MHz) | 180± 15          |                |           |
| RFBLN2012090BS0T53 | 869-960               | 50        | 200     | 10                   | 1.1(25°C)<br>1.3(-40~+85°C) | 2.0                           | 10(1738-1920MHz)<br>20(2400-2500MHz)<br>20(2607-2880MHz) | 180± 15          | 2.00x1.25x0.95 | C-1       |
|                    | 1805-1990             | 50        | 200     | 10                   | 1.6(25°C)<br>1.8(-40~+85°C) | 2.0                           | 15(2400-2500MHz)<br>15(3610-3980MHz)<br>20(5415-5970MHz) | 180± 15          |                |           |
| RFBLN2012090BS0T50 | 869-960               | 50        | 200     | 10                   | 1.1(25°C)<br>1.3(-40~+85°C) | 2.0                           | 10(1738-1920MHz)<br>20(2400-2500MHz)<br>20(2607-2880MHz) | 180± 15          | 2.00x1.25x0.95 | C-2       |
|                    | 1805-2025             | 50        | 200     | 10                   | 1.8(25°C)<br>2.0(-40~+85°C) | 2.0                           | 15(2400-2500MHz)<br>15(3610-3980MHz)<br>20(5415-5970MHz) | 180± 15          |                |           |

■ **TYPICAL ELECTRICAL CHARACTERISTICS**

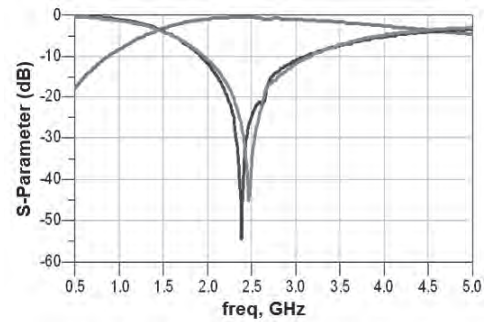
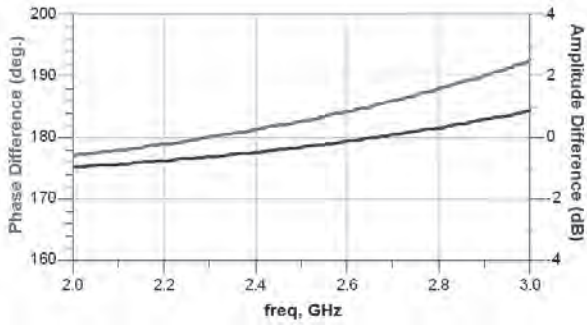
**RFBLN1005040A6T**



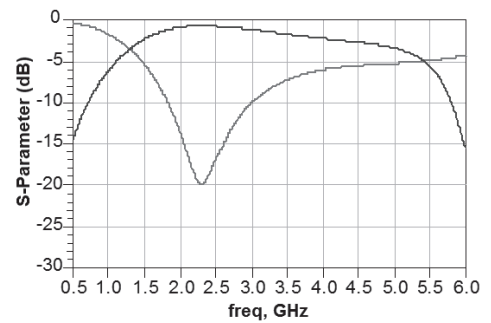
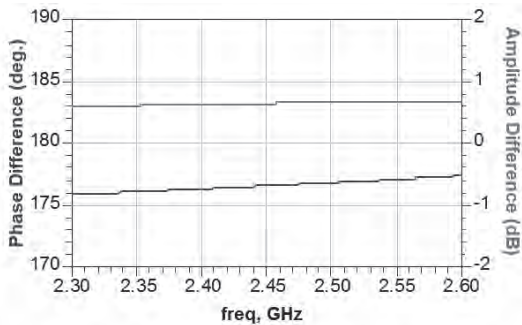
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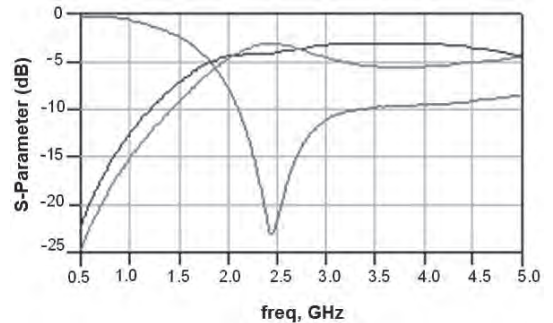
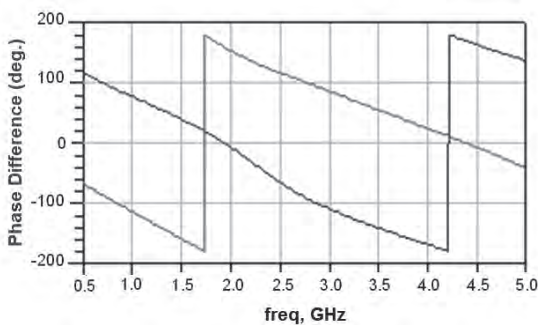
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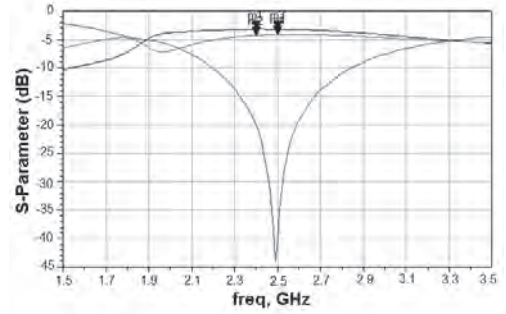
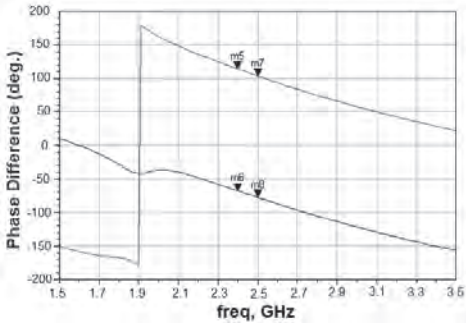


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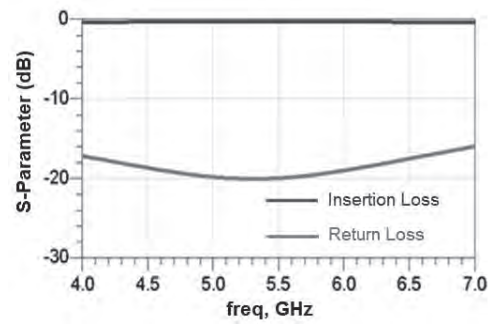
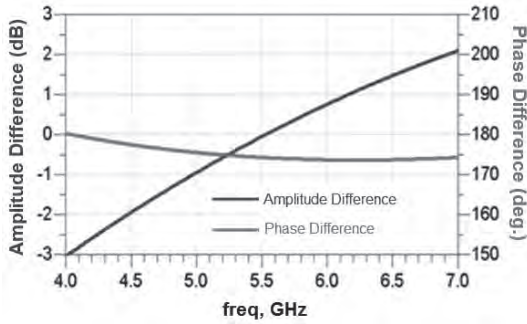


**TYPICAL ELECTRICAL CHARACTERISTICS**

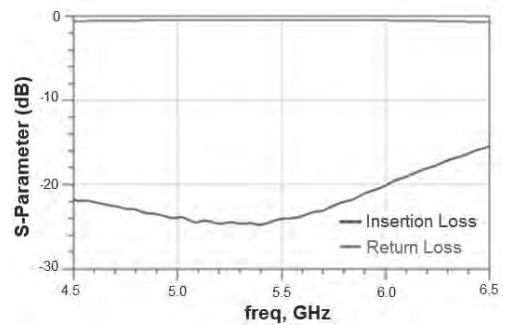
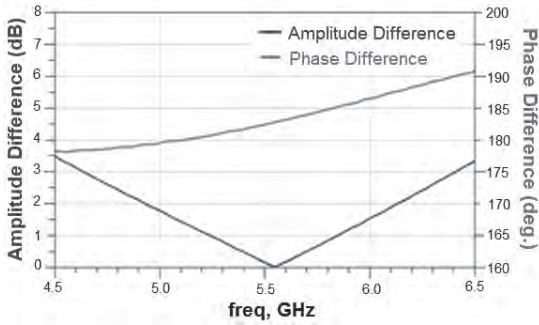
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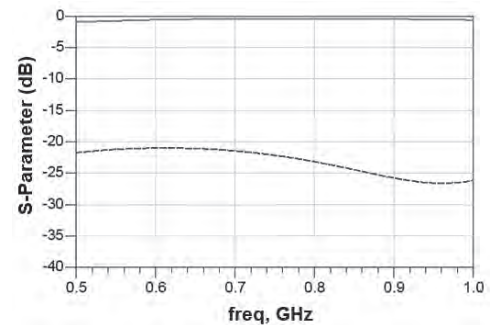
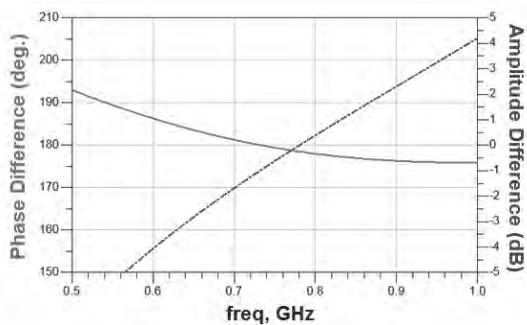
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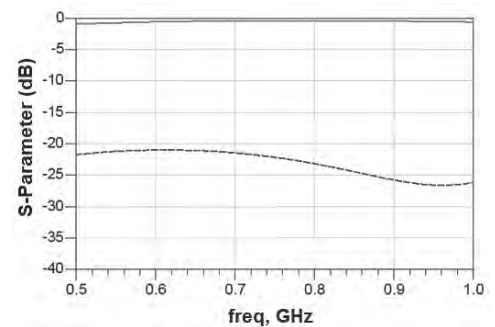
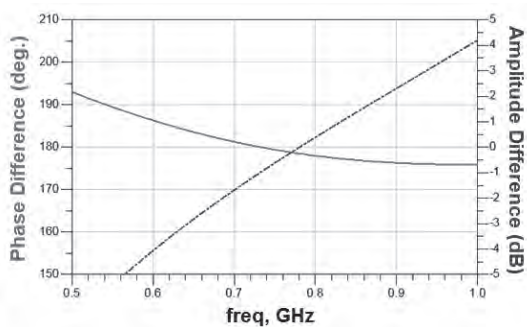
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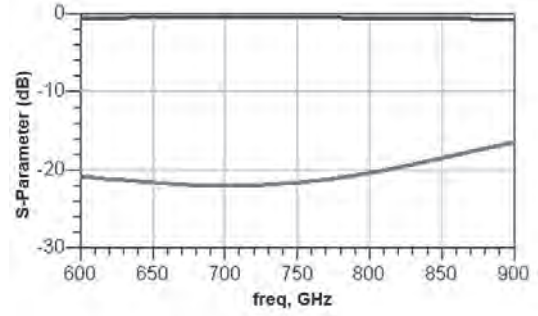
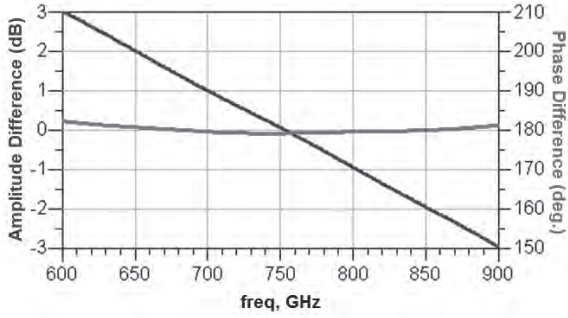


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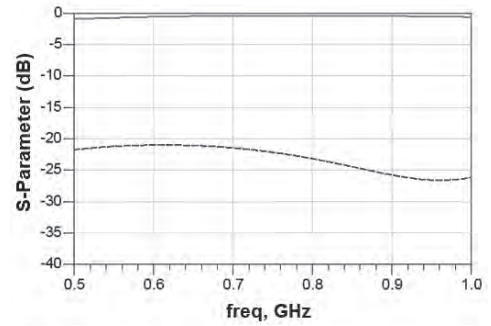
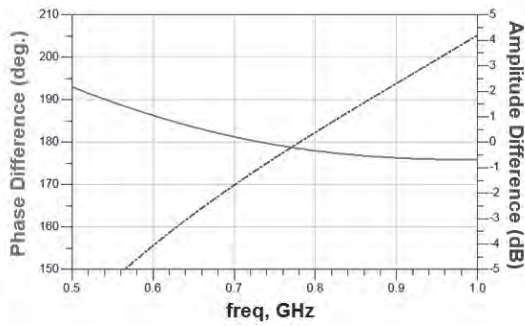


**TYPICAL ELECTRICAL CHARACTERISTICS**

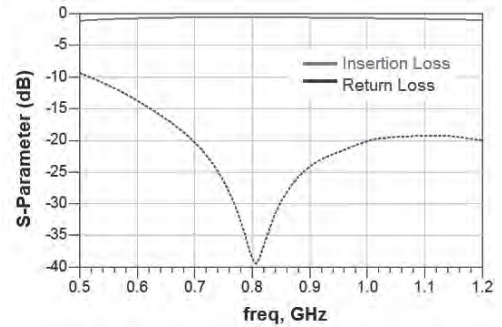
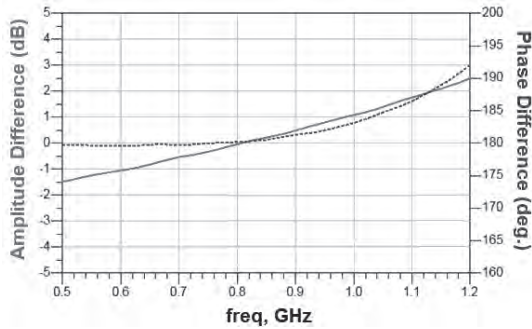
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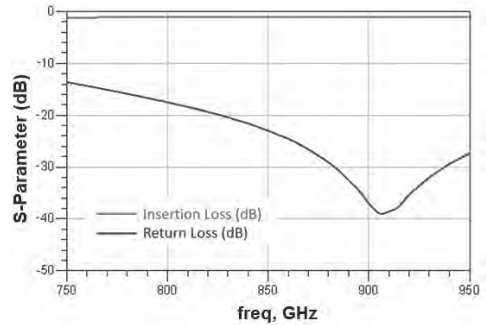
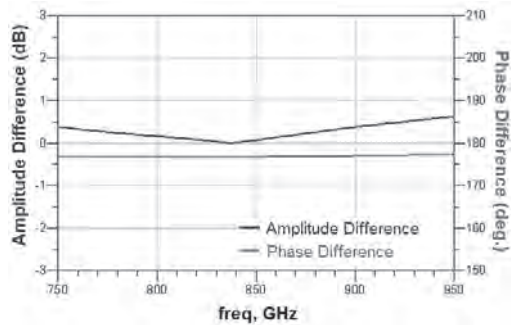
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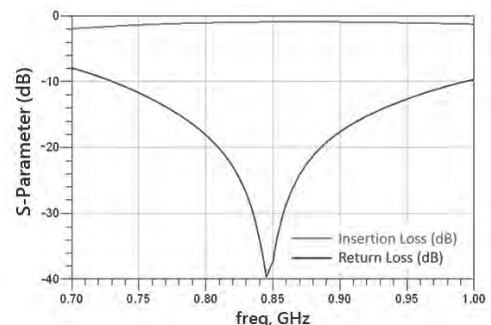
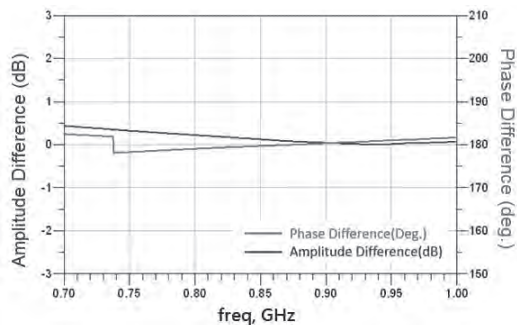
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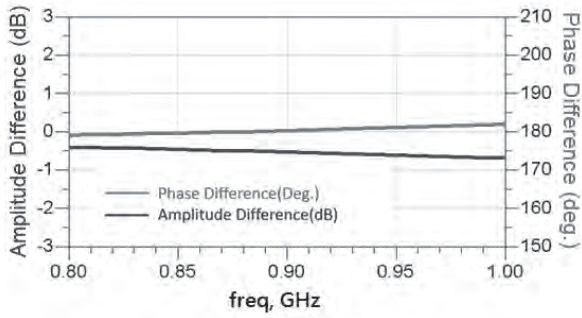


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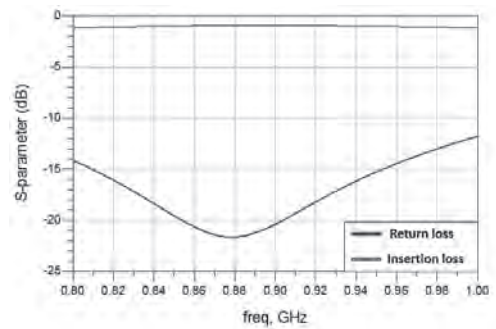
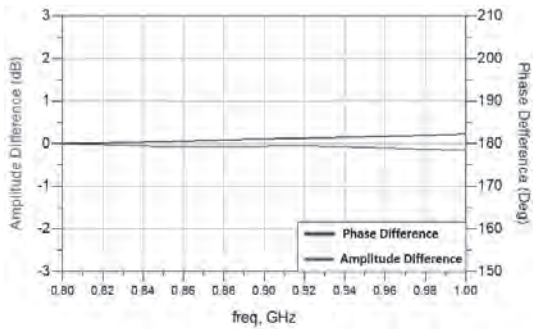


**TYPICAL ELECTRICAL CHARACTERISTICS**

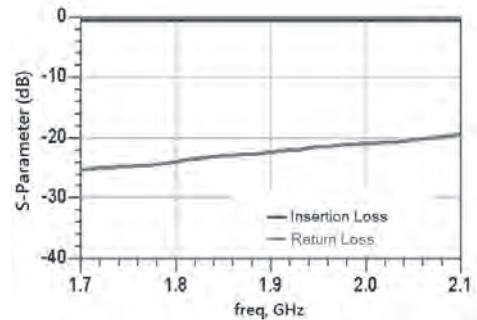
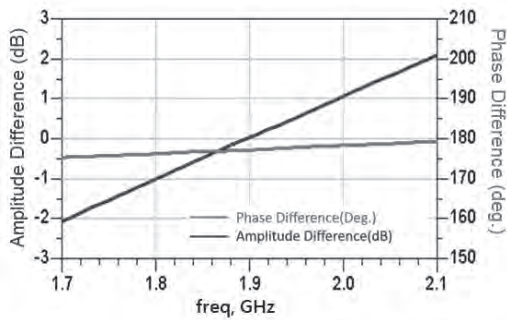
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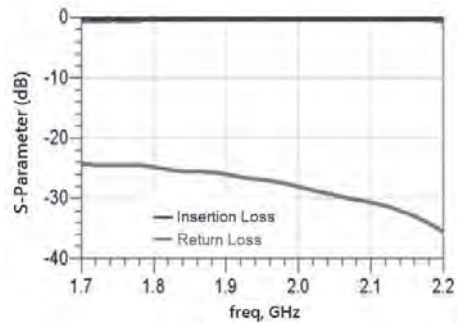
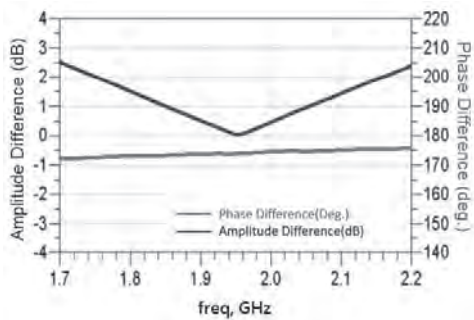
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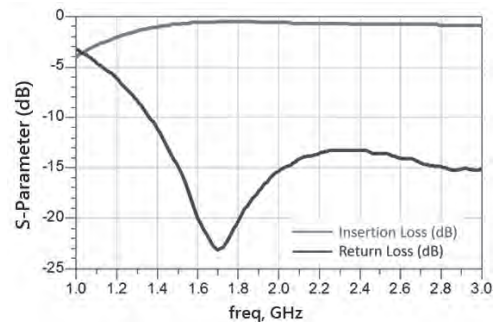
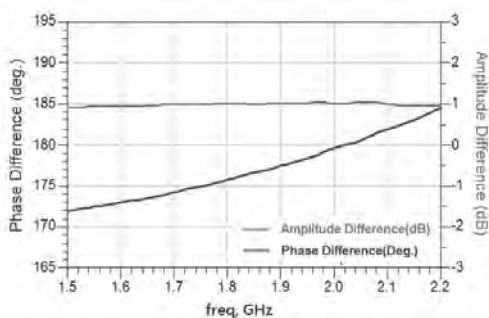
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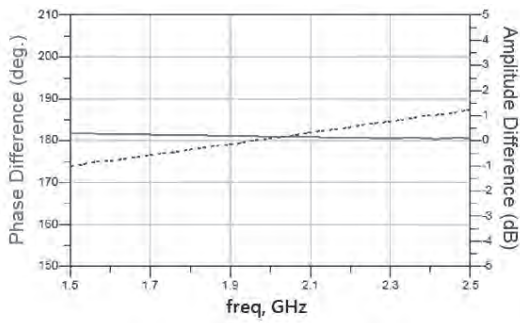


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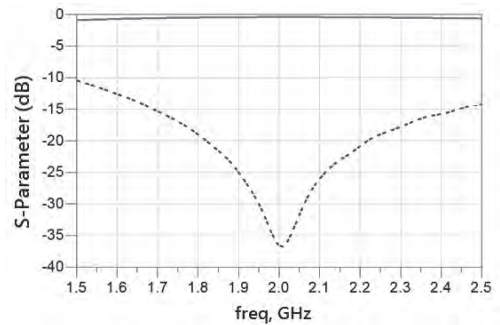
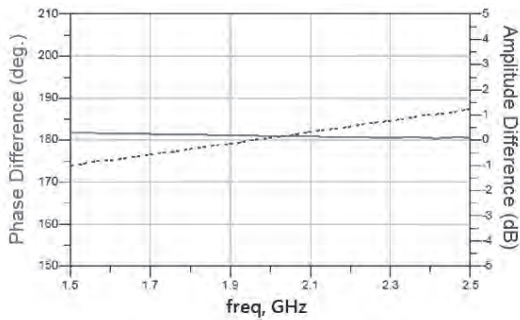


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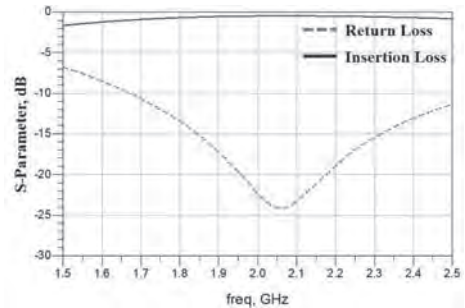
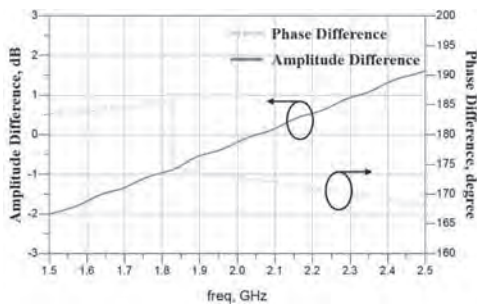
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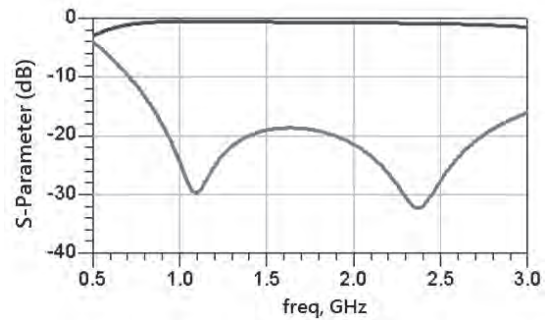
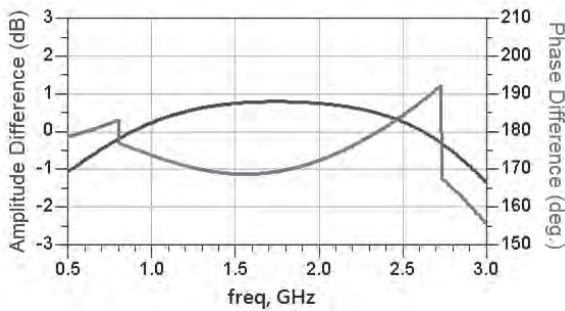
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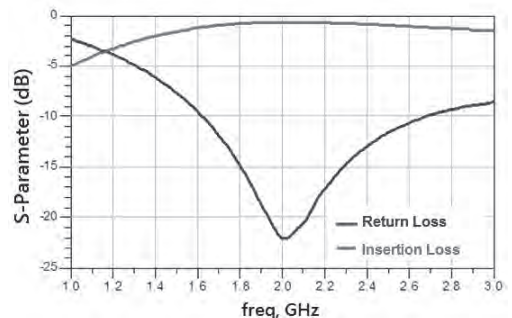
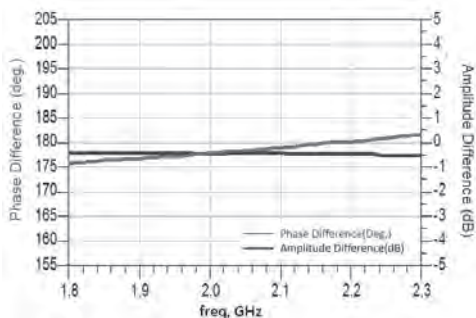
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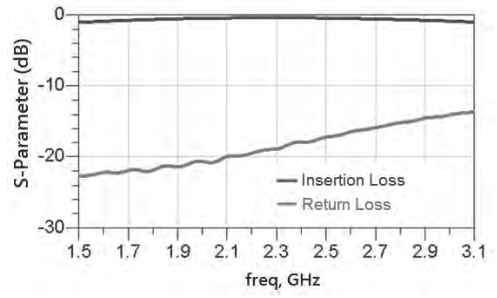
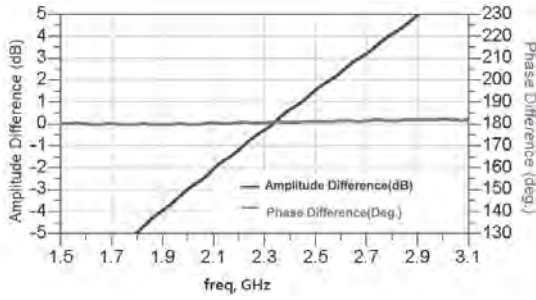


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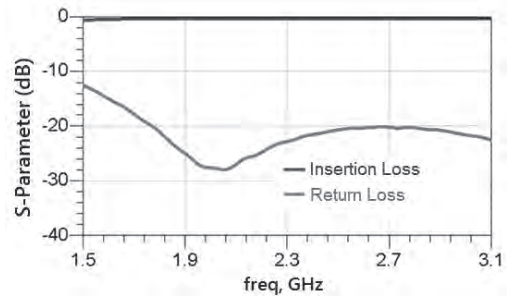
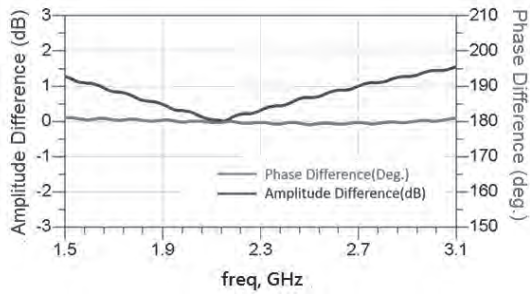


**TYPICAL ELECTRICAL CHARACTERISTICS**

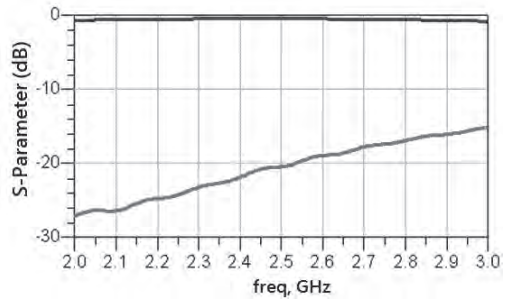
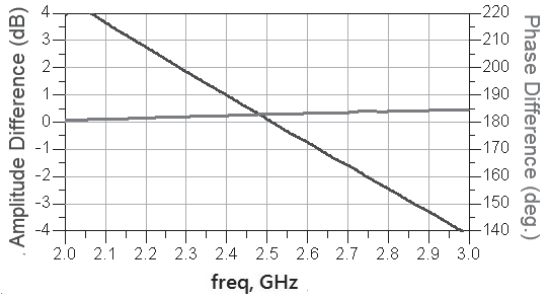
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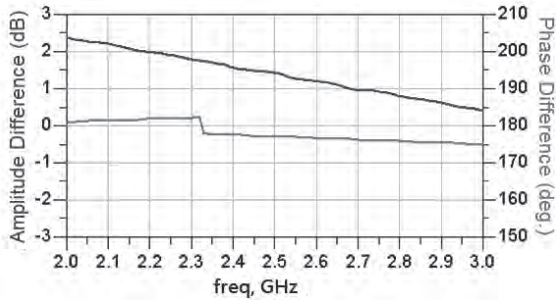
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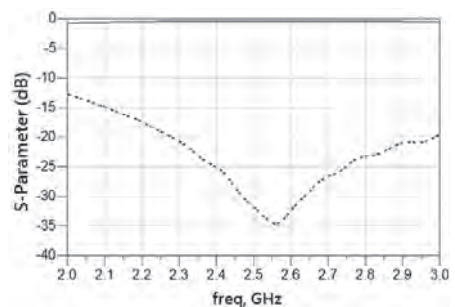
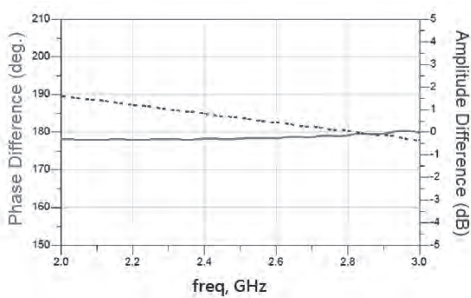
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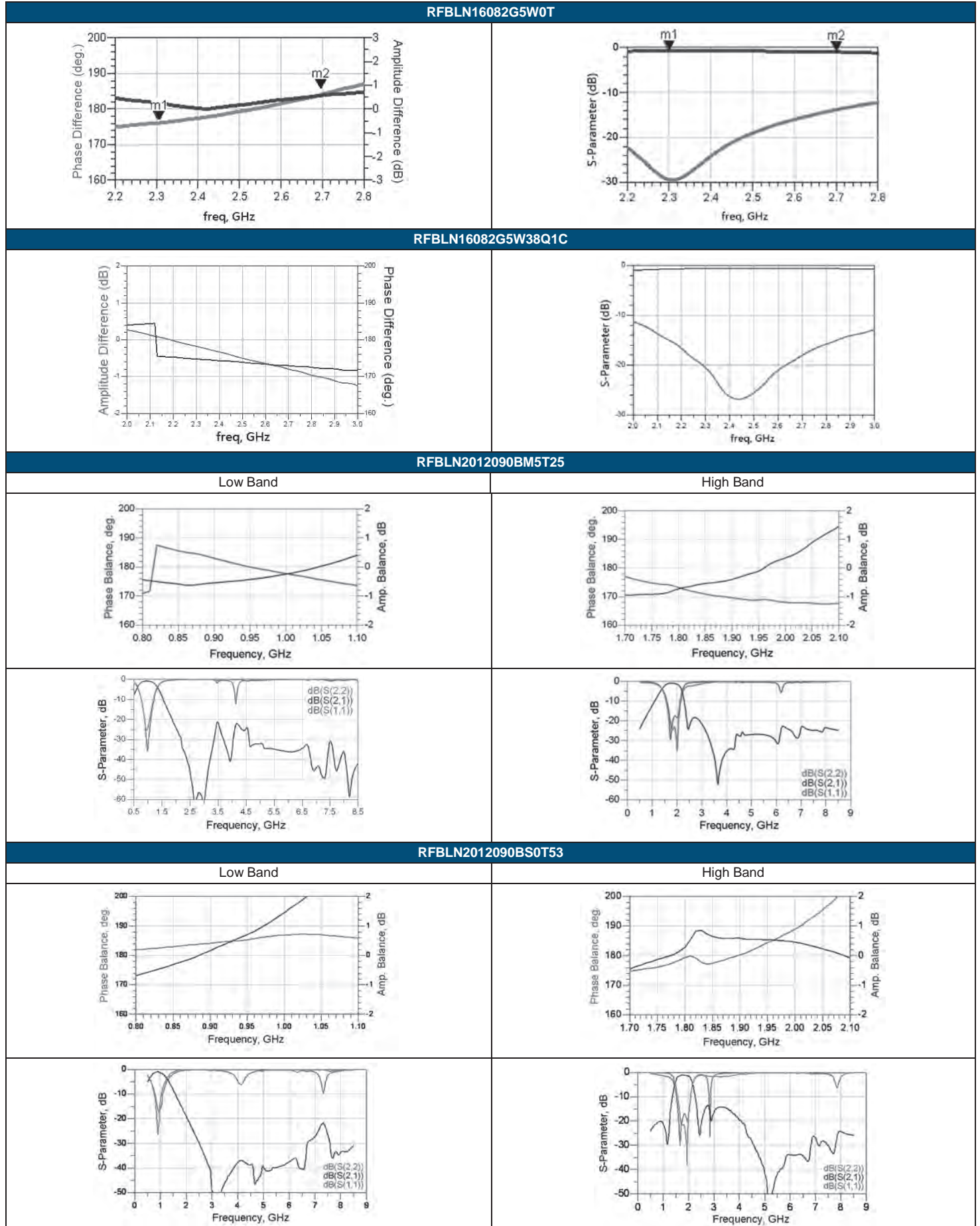
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**RFBLN10052G5W37N2T**



**TYPICAL ELECTRICAL CHARACTERISTICS**



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

**DIPLEXER**

■ **STRUCTURE AND PIN ASSOCIATED**

| STRUCTURE A   |   |   |   |   |
|---------------|---|---|---|---|
|               | <p><b>STRUCTURE A-1</b></p> <p>GND Common GND</p> <p>High Band GND Low Band</p> | <p><b>STRUCTURE A-2</b></p> <p>GND Common GND</p> <p>Low Band GND High Band</p> | <p><b>STRUCTURE A-3</b></p> <p>Low Band GND High Band</p> <p>GND Common GND</p> | <p><b>STRUCTURE A-4</b></p> <p>High Band GND Low Band</p> <p>GND Common GND</p> |
| STRUCTURE B   | STRUCTURE C   | STRUCTURE D   | STRUCTURE E   |   |
|               |   |   |   |   |
| STRUCTURE B-1 | STRUCTURE C-1   | STRUCTURE D-1   | STRUCTURE E-1   |   |
|               |   |   |   |   |
| STRUCTURE B-2 | STRUCTURE C-2   | STRUCTURE D-2   | 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°C)<br>0.6(-40~+85°C)   | 25(4800~6000MHz)<br>25(7200~7500MHz)  | 10                   | -                                    | 1.00x0.50x0.40 | H         |
|                    | 4900~5900       | 50            | 0.8(25°C)<br>1.3(-40~+85°C)   | 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) |                      |                                      |                |           |
| 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)  |                      |                                      |                |           |
| RFDIP1608060LM0T60 | 2400~2500       | 50            | 0.75(25°C)<br>0.95(-40~+85°C) | 20(4800~5000MHz)<br>20(7200~7500MHz)  | 10                   | -                                    | 1.60x0.80x0.60 | A-2       |
|                    | 4900~5950       | 50            | 1.0(25°C)<br>1.3(-40~+85°C)   | 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°C)<br>0.65(-40~+85°C) | 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°C)<br>0.75(-40~+85°C) | 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°C)<br>0.6(-40~+85°C)   | 22(4800-5000MHz)<br>24(7200-7500MHz)   | 10                   | -                                     | 1.60x0.80x0.60 | G         |
|                    | 5100-5900       | 50            | 1.1(25°C)<br>1.3(-40~+85°C)   | 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°C)<br>0.60(-40~+85°C) | 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°C)<br>0.80(-40~+85°C) | 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°C)<br>0.95(-40~+85°C) | 25(4800-5000MHz)<br>20(7200-7500MHz)   | 10                   | -                                     | 1.60x0.80x0.60 | A-2       |
|                    | 4900-5950       | 50            | 1.10(25°C)<br>1.30(-40~+85°C) | 20(1800-2500MHz)<br>15(9800-11900MHz)  |                      |                                       |                |           |
| RFDIP1606L51T      | 2400-2500       | 50            | 0.35(25°C)<br>0.45(-40~+85°C) | 20(4800-5000MHz)<br>22(5000-5950MHz)<br>20(7200-7500MHz)   | 10                   | -                                     | 1.60x0.80x0.60 | B-2       |
|                    | 4900-5850       | 50            | 0.50(25°C)<br>0.60(-40~+85°C) | 26(824-2170MHz)<br>30(2400-2500MHz)<br>25(9500-11900MHz)   |                      |                                       |                |           |
| RFDIP1606L52T      | 2400-2500       | 50            | 0.40(25°C)<br>0.45(-40~+85°C) | 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°C)<br>0.60(-40~+85°C) | 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 ( $\Omega$ ) | 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°C)<br>1.05(-40~+85°C) | 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°C)<br>0.95(-40~+85°C) | 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°C)<br>0.58(-40~+85°C) | 20(4800-5000MHz)<br>22(5000-5950MHz)<br>20(7200-7500MHz)   | 10                  | -                                    | 1.60x0.80x0.60 | A-3       |
|                    | 4900-5950       | 50                     | 0.68(25°C)<br>0.78(-40~+85°C) | 26(824-2170MHz)<br>30(2400-2500MHz)<br>25(9800-11900MHz)<br>20(15450-17550MHz)   |                     |                                      |                |           |
| RFDIP1608060LS3T55 | 2400-2500       | 50                     | 0.60(25°C)<br>0.65(-40~+85°C) | 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°C)<br>0.80(-40~+85°C) | 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°C)<br>0.8(-40~+85°C)  | 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 ( $\Omega$ ) | 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°C)<br>0.55(-40~+85°C)  | 23(4800-6000MHz)<br>20(7200-7500MHz)  | 10                   | -         | 2.00x1.25x0.55 | A-1       |
|                  | 4900-5950       | 50                     | 0.65(25°C)<br>0.75(-40~+85°C) | 20(800-2500MHz)<br>15(9800-11900MHz)  |                      |           |                |           |
| RFDIP2012050LQT  | 2400-2500       | 50                     | 0.5(25°C)<br>0.55(-40~+85°C)  | 23(4800-6000MHz)<br>20(7200-7500MHz)  | 10                   | -         | 2.00x1.25x0.55 | A-2       |
|                  | 4900-5950       | 50                     | 0.65(25°C)<br>0.75(-40~+85°C) | 20(800-2500MHz)<br>15(9800-11900MHz)  |                      |           |                |           |
| RFDIP2008L107N3T | 2400-2500       | 50                     | 2.2(25°C)<br>2.4(-40~+85°C)   | 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°C)<br>1.5(-40~+85°C)   | 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°C)<br>2.4(-40~+85°C)   | 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°C)<br>1.5(-40~+85°C)   | 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°C)<br>2.7(-40~+85°C)   | 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°C)<br>1.5(-40~+85°C)   | 25(1545-1610MHz)<br>25(2400-2500MHz)<br>15(10300-11700MHz)  |                      |           |                |           |
| AMDIP2520070L4T  | 2400-2500       | 50                     | 2.4(25°C)<br>2.7(-40~+85°C)   | 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°C)<br>1.5(-40~+85°C)   | 25(1545-1610MHz)<br>25(2400-2500MHz)<br>15(10300-11700MHz)  |                      |           |                |           |

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

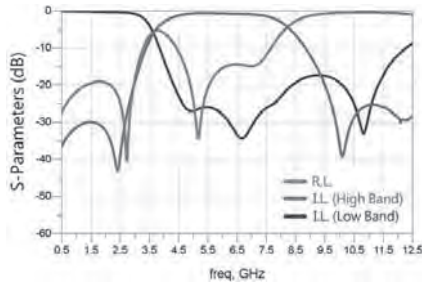
| Part Number        | Frequency (MHz)                     | Impedance ( $\Omega$ ) | Insertion Loss (dB)           | Attenuation (dB)   | Return Loss (dB)Min. | Size (mm)      | Structure |
|--------------------|-------------------------------------|------------------------|-------------------------------|--|----------------------|----------------|-----------|
| 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°C)<br>0.75(-40~+85°C) | 13(2170MHz)<br>20(2400-2500MHz)                          | 10                   | 1.60x0.80x0.60 | B-2       |
|                    | 2400-2500                           | 50                     | 0.80(25°C)<br>0.90(-40~+85°C) | 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°C)<br>0.65(-40~+85°C) | 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**

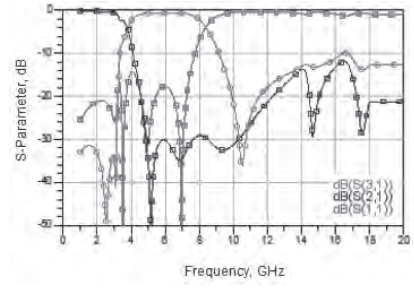
| Part Number        | Frequency (MHz) | Impedance ( $\Omega$ ) | Insertion Loss (dB)           | Attenuation (dB)                     | Return Loss (dB)Min. | Size (mm)      | Structure |
|--------------------|-----------------|------------------------|-------------------------------|--------------------------------------|----------------------|----------------|-----------|
| 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°C)<br>0.45(-40~+85°C)  | 13(1710-2690MHz)                     | 10                   | 2.00x1.25x0.90 | C-1       |
|                    | 1710-2690       |                        | 0.55(25°C)<br>0.65(-40~+85°C) | 19(698-960MHz)                       |                      |                |           |
| RFDIP2520100G2T    | 698-960         | 50                     | 0.35(25°C)<br>0.45(-40~+85°C) | 20(1710-2690MHz)                     | 10                   | 2.50x2.00x1.00 | F         |
|                    | 1710-2690       |                        | 0.55(25°C)<br>0.65(-40~+85°C) | 25(698-960MHz)<br>5(3420-3820MHz)    |                      |                |           |

■ **TYPICAL ELECTRICAL CHARACTERISTICS**

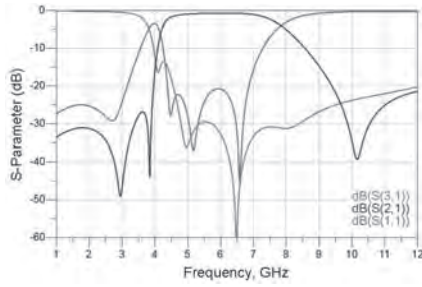
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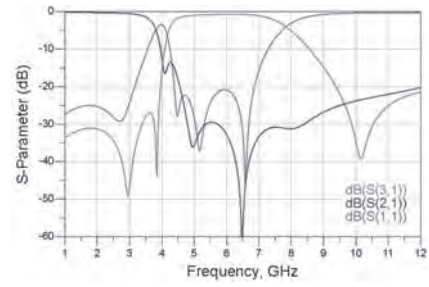
**RFDIP1608060LCT**



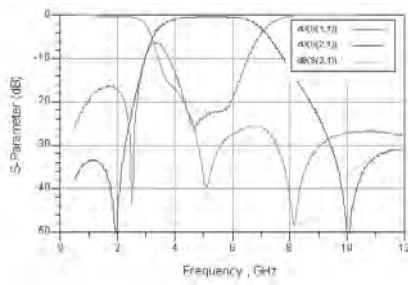
**RFDIP1608060LET**



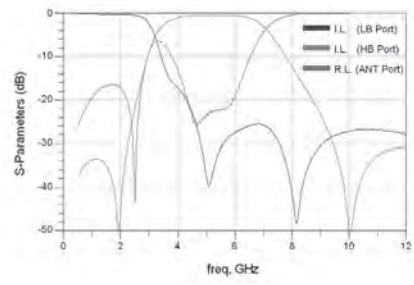
**RFDIP1608060LFT**



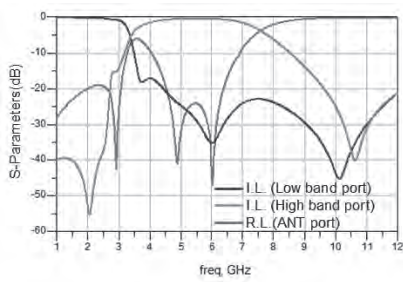
**RFDIP160806BLM6T25**



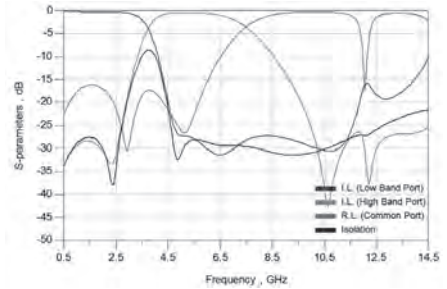
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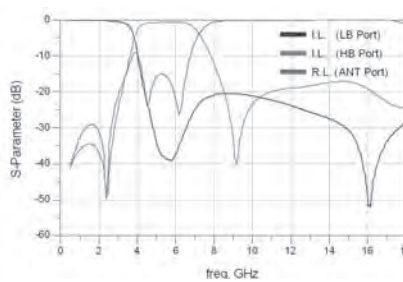
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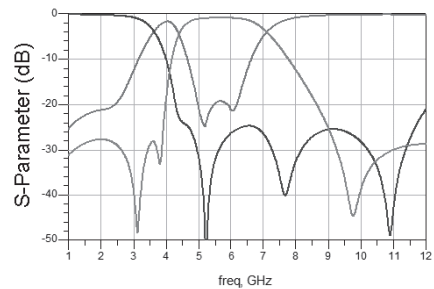
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**RFDIP1608060LVT**

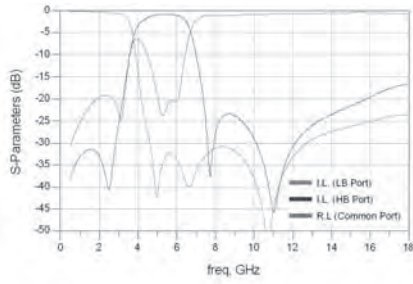


**RFDIP1608060LST**

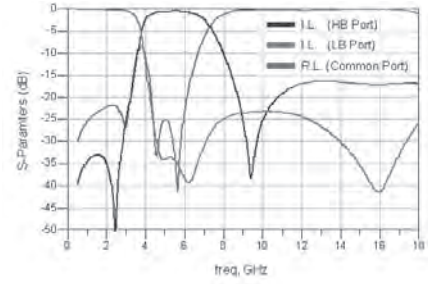


**TYPICAL ELECTRICAL CHARACTERISTICS**

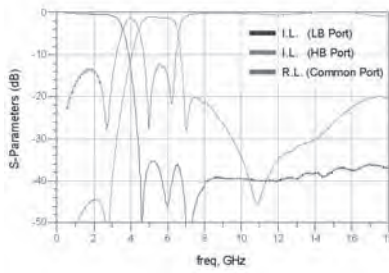
**RFDIP1608060LY8Q1C**



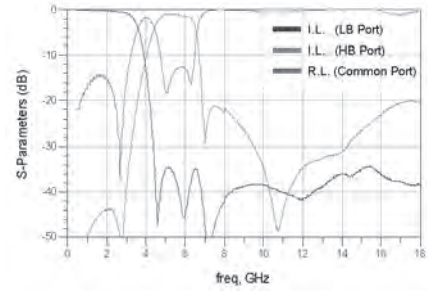
**RFDIP1606L168M1U**



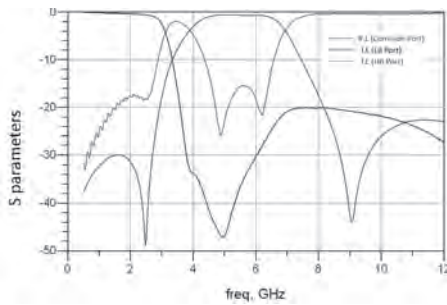
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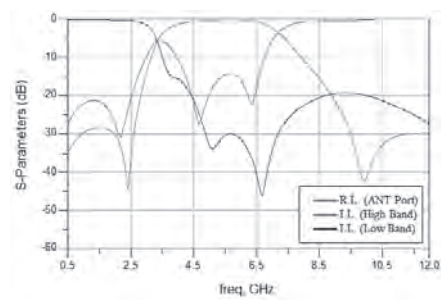
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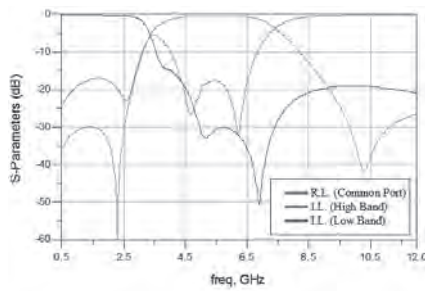
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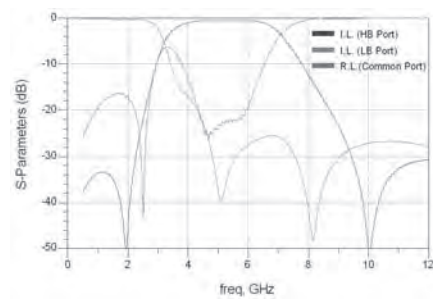
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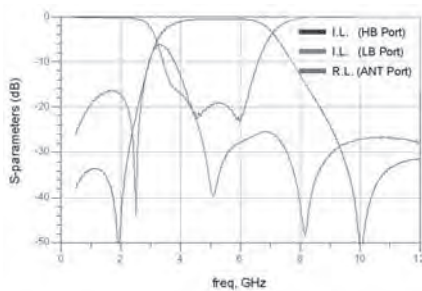
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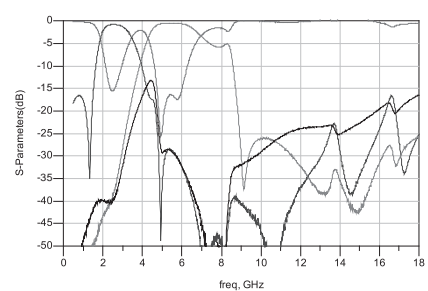
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**RFDIP1606L54T**

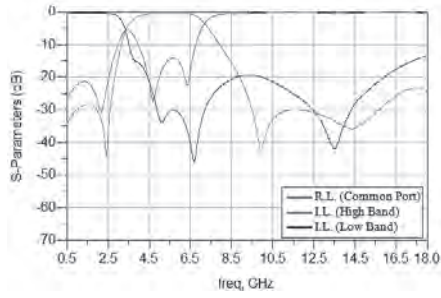


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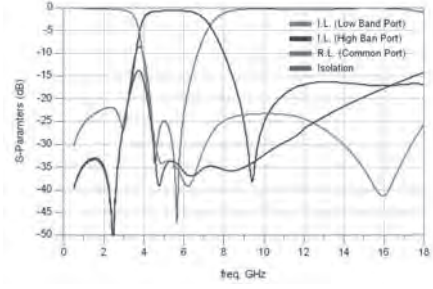


**TYPICAL ELECTRICAL CHARACTERISTICS**

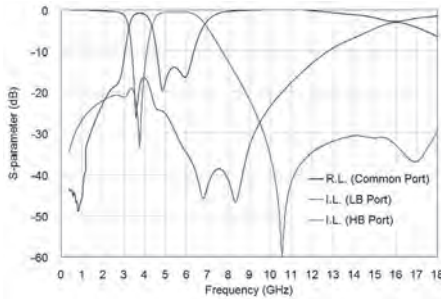
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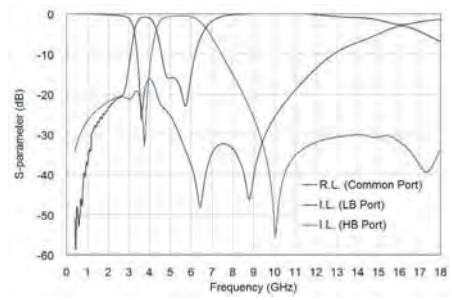
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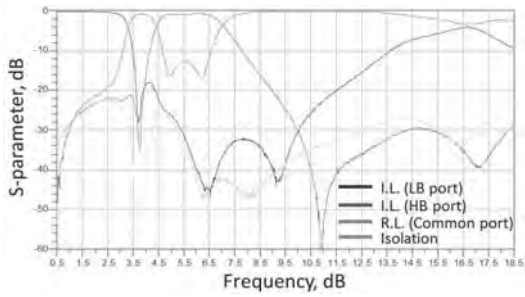
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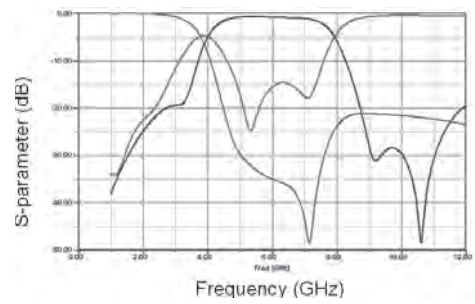
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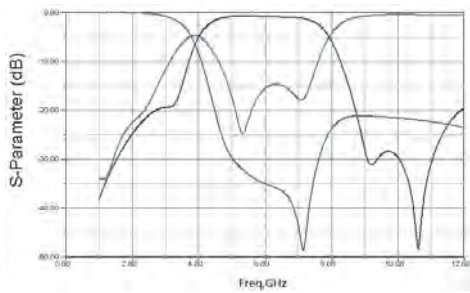
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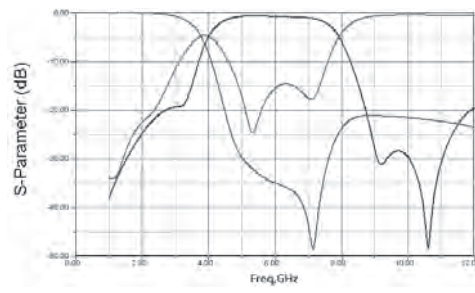
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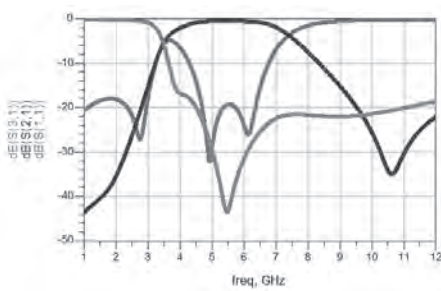
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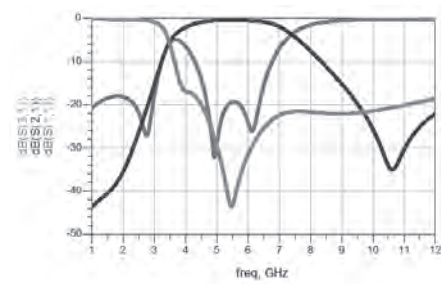
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**RFDIP2012050LPT**

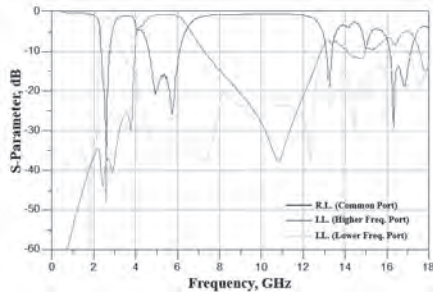


**RFDIP2012050LQT**

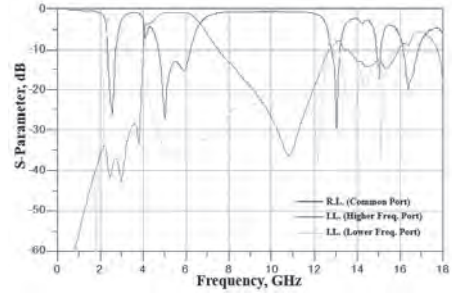


**TYPICAL ELECTRICAL CHARACTERISTICS**

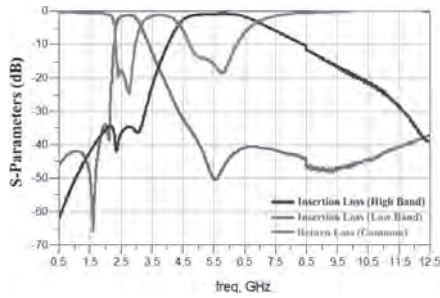
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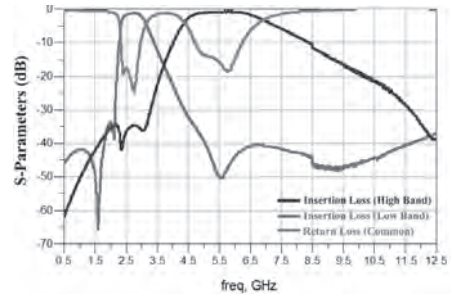
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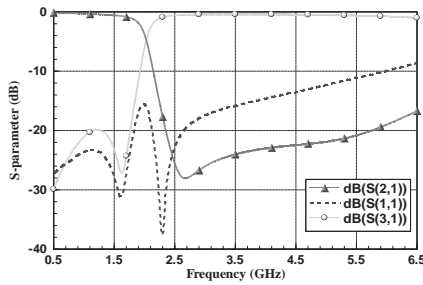
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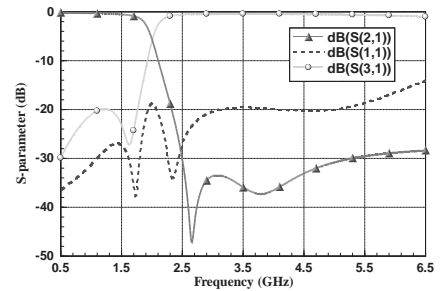
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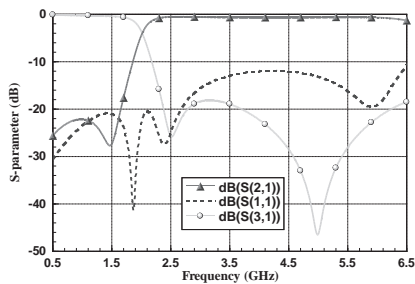
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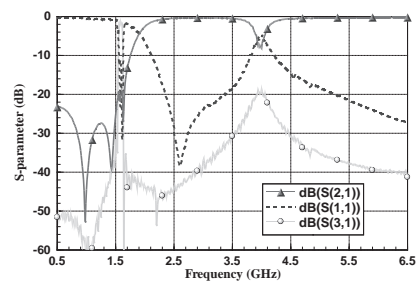
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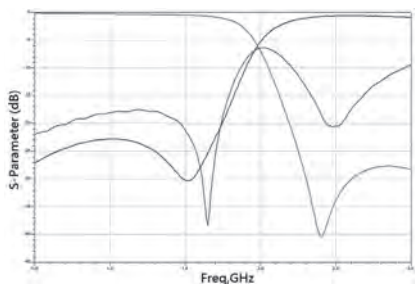
**RFDIP1608060TAT**



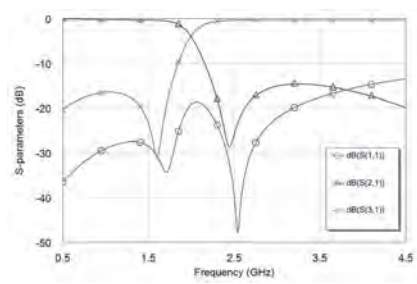
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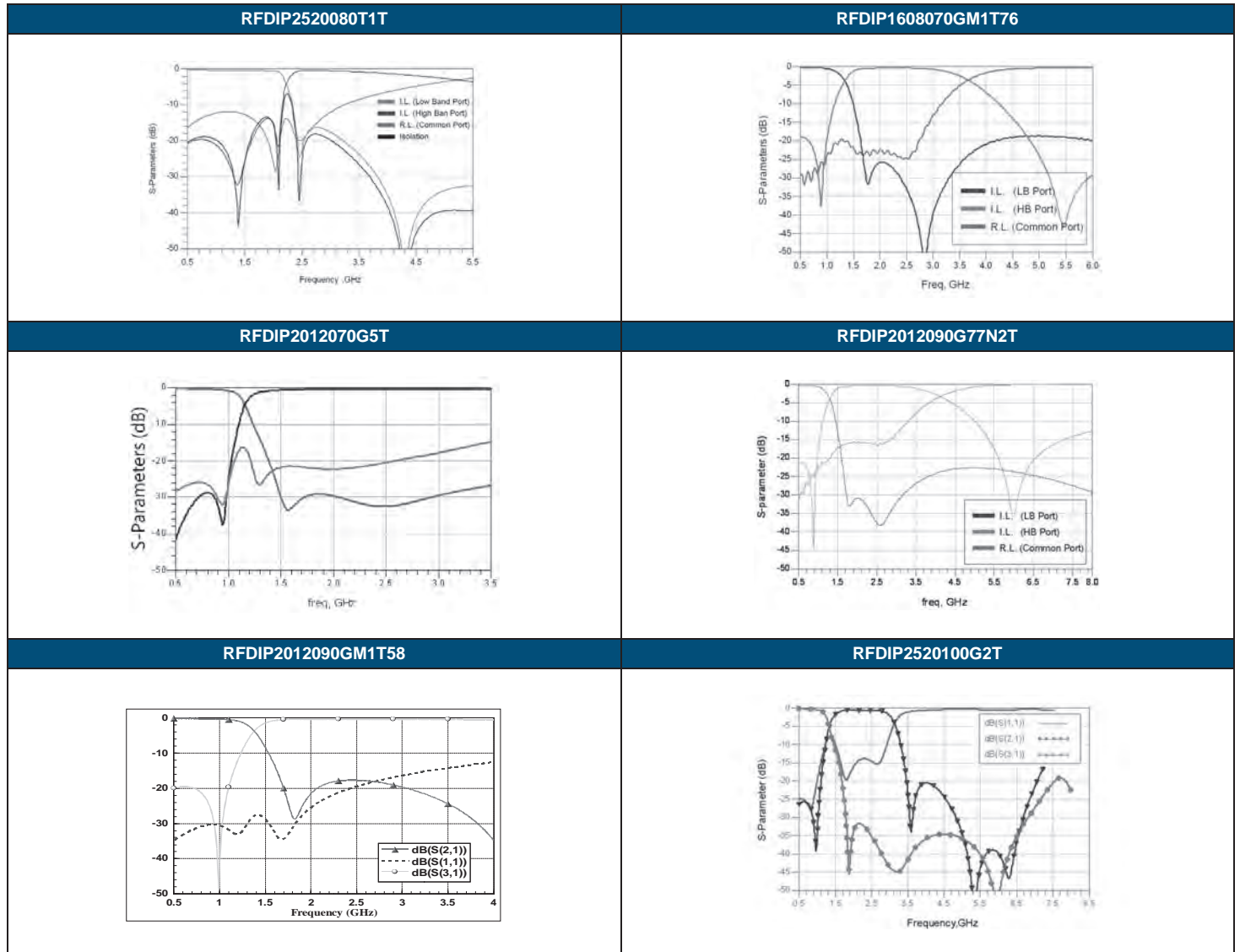
**RFDIP1608060TDT**



**RFDIP2012090T2T**



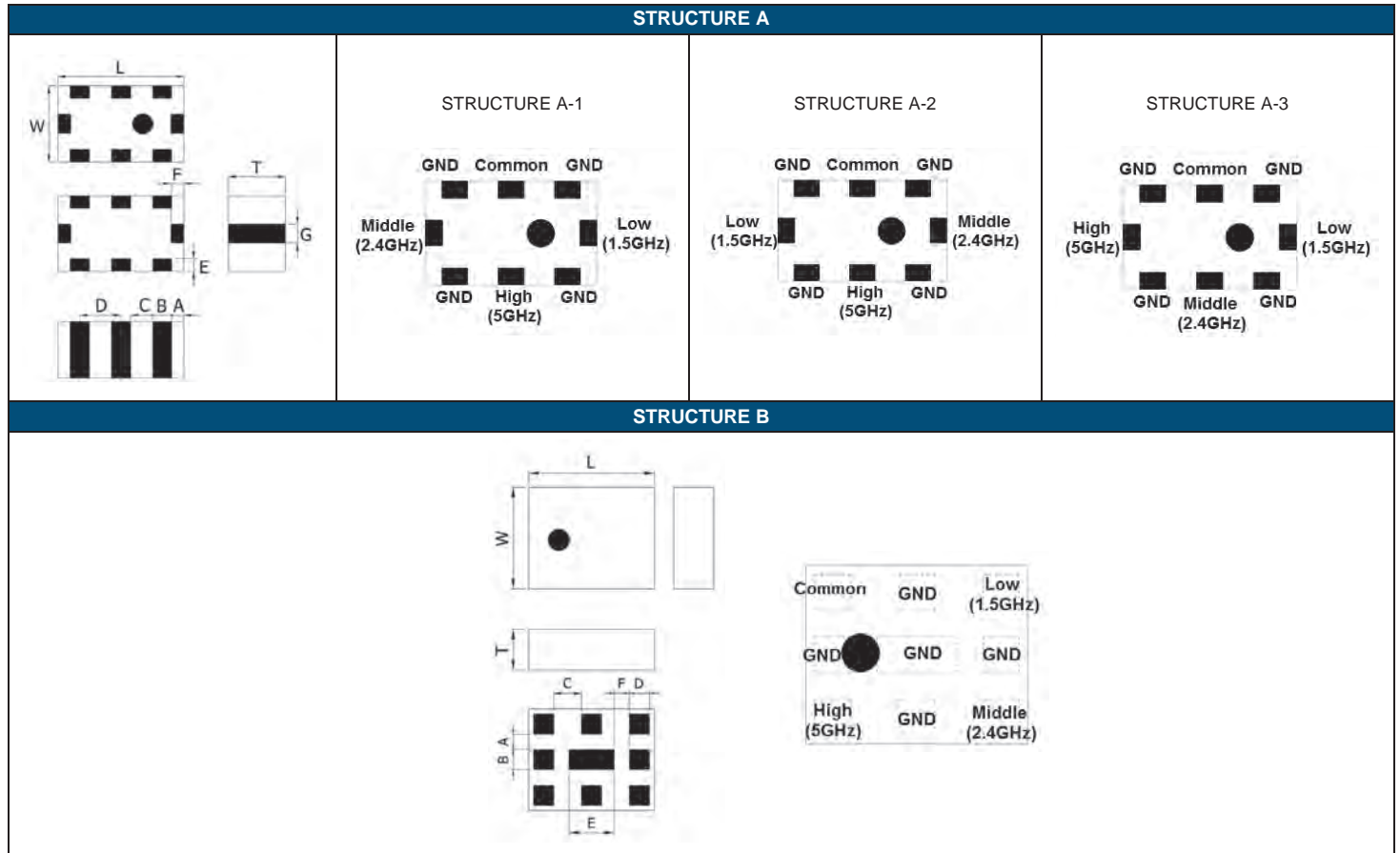
**TYPICAL ELECTRICAL CHARACTERISTICS**



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

**TRIPLEXER**

■ **STRUCTURE AND PIN ASSOCIATED**



■ **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

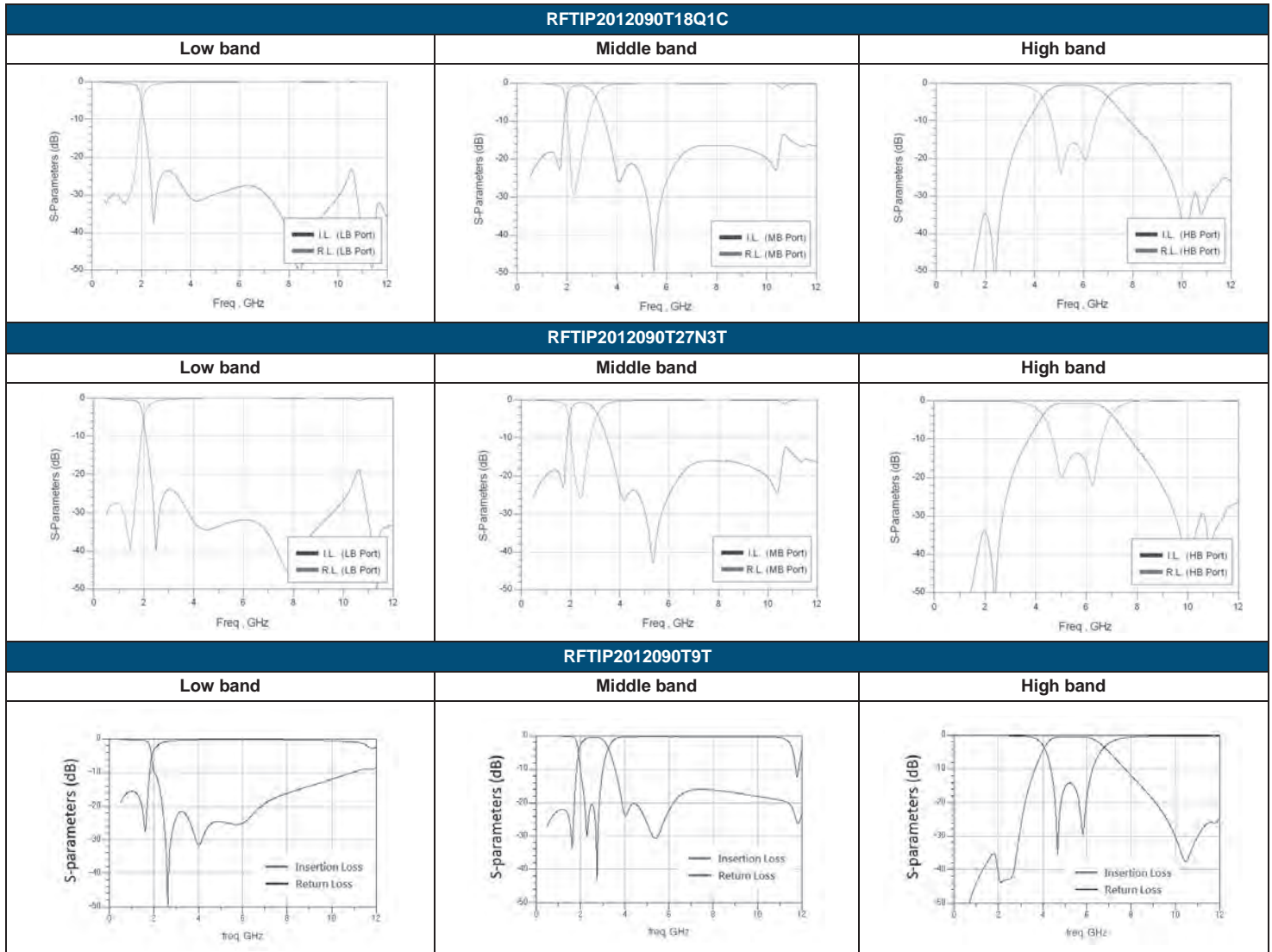
GPS 1.575GHz/ ISM 2.4GHz/5GHz band RF application

| 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°C)<br>0.70(-40~+85°C) | 20(2400-2500 MHz)<br>20(4900-6000 MHz)   | 10                   | -                                      | 2.00x1.25x0.90 | A-2       |
|                    | 2400-2500       | 50            | 0.70(25°C)<br>0.85(-40~+85°C) | 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°C)<br>0.95(-40~+85°C) | 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°C)<br>0.80(-40~+85°C) | 14(2400-2500 MHz)<br>15(4800-6000 MHz)   | 10                   | -                                      | 2.00x1.25x0.90 | A-1       |
|                    | 2400-2500       | 50            | 0.80(25°C)<br>0.95(-40~+85°C) | 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°C)<br>1.10(-40~+85°C) | 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°C)<br>0.80(-40~+85°C) | 15(2400-2500 MHz)<br>15(4800-6000 MHz)   | 10                   | -                                      | 2.00x1.25x0.90 | A-1       |
|                    | 2400-2500       | 50            | 0.70(25°C)<br>0.90(-40~+85°C) | 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°C)<br>1.00(-40~+85°C) | 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)                      |                |           |

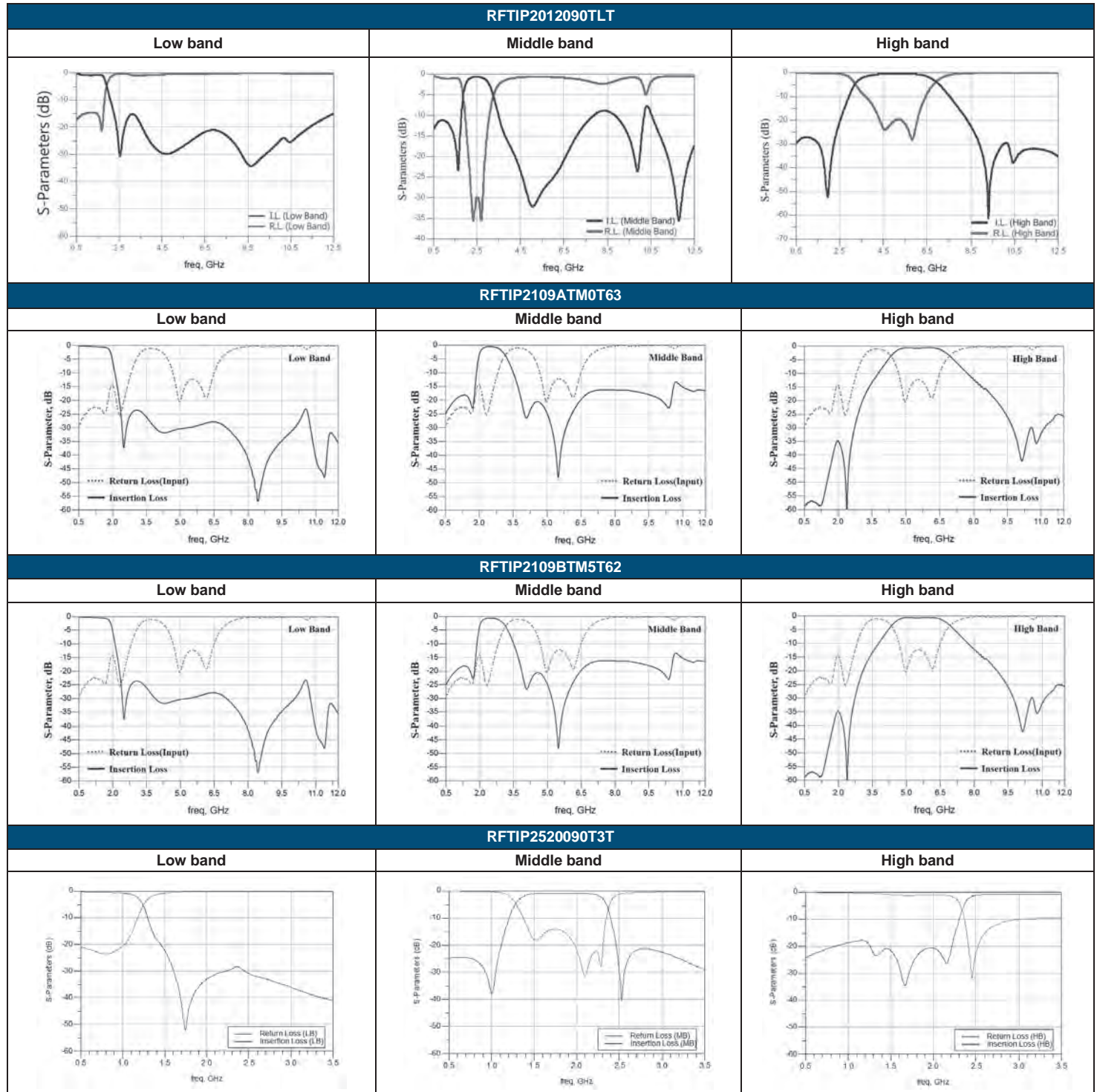
**GPS 1.575GHz/ ISM 2.4GHz/5GHz band RF application**

| Part Number      | Frequency (MHz) | Impedance ( $\Omega$ ) | Insertion Loss (dB)           | Attenuation (dB)  | Return Loss (dB) Min | Isolation                              | Size (mm)      | Structure |
|------------------|-----------------|------------------------|-------------------------------|---|----------------------|--|----------------|-----------|
| RFTIP2109BTM5T62 | 1560-1606       | 50                     | 0.60(25°C)<br>0.80(-40~+85°C) | 15(2400-2500 MHz)<br>15(4800-6000 MHz)  | 10                   | -                                      | 2.00x1.25x0.90 | A-2       |
|                  | 2400-2500       | 50                     | 0.70(25°C)<br>0.90(-40~+85°C) | 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°C)<br>1.00(-40~+85°C) | 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°C)<br>0.80(-40~+85°C) | 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°C)<br>1.60(-40~+85°C) | 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°C)<br>2.00(-40~+85°C) | 15(698-960 MHz)<br>15(1710-2200 MHz)  | 10                   | 20(698-960 MHz)<br>20(1710-2200 MHz)   |                |           |

**■ TYPICAL ELECTRICAL CHARACTERISTICS**



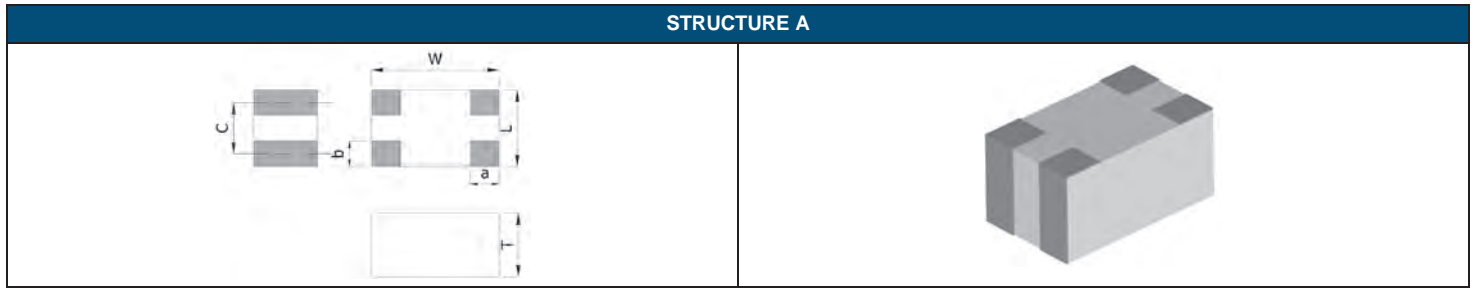
**TYPICAL ELECTRICAL CHARACTERISTICS**



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**COMMON MODE FILTER**

■ **STRUCTURE AND PIN ASSOCIATED**



■ **STRUCTURE AND DIMENSION**

Unit: mm

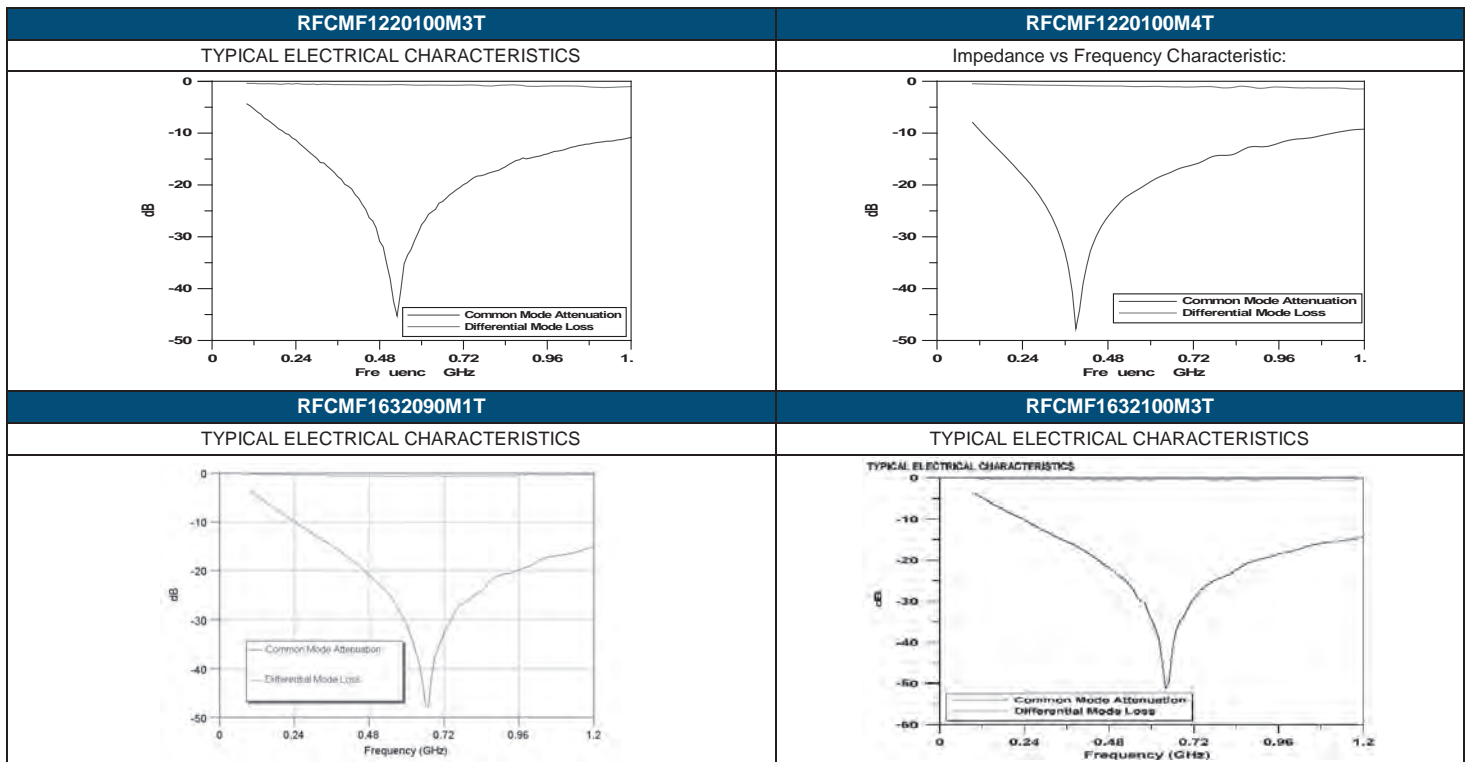
| Structure\ Dimension | L                  | W                  | T         | a         | b         | c         |
|----------------------|--------------------|--------------------|-----------|-----------|-----------|-----------|
| A                    | 1.20+0.40<br>-0.20 | 2.00+0.40<br>-0.20 | 1.00±0.20 | 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         |

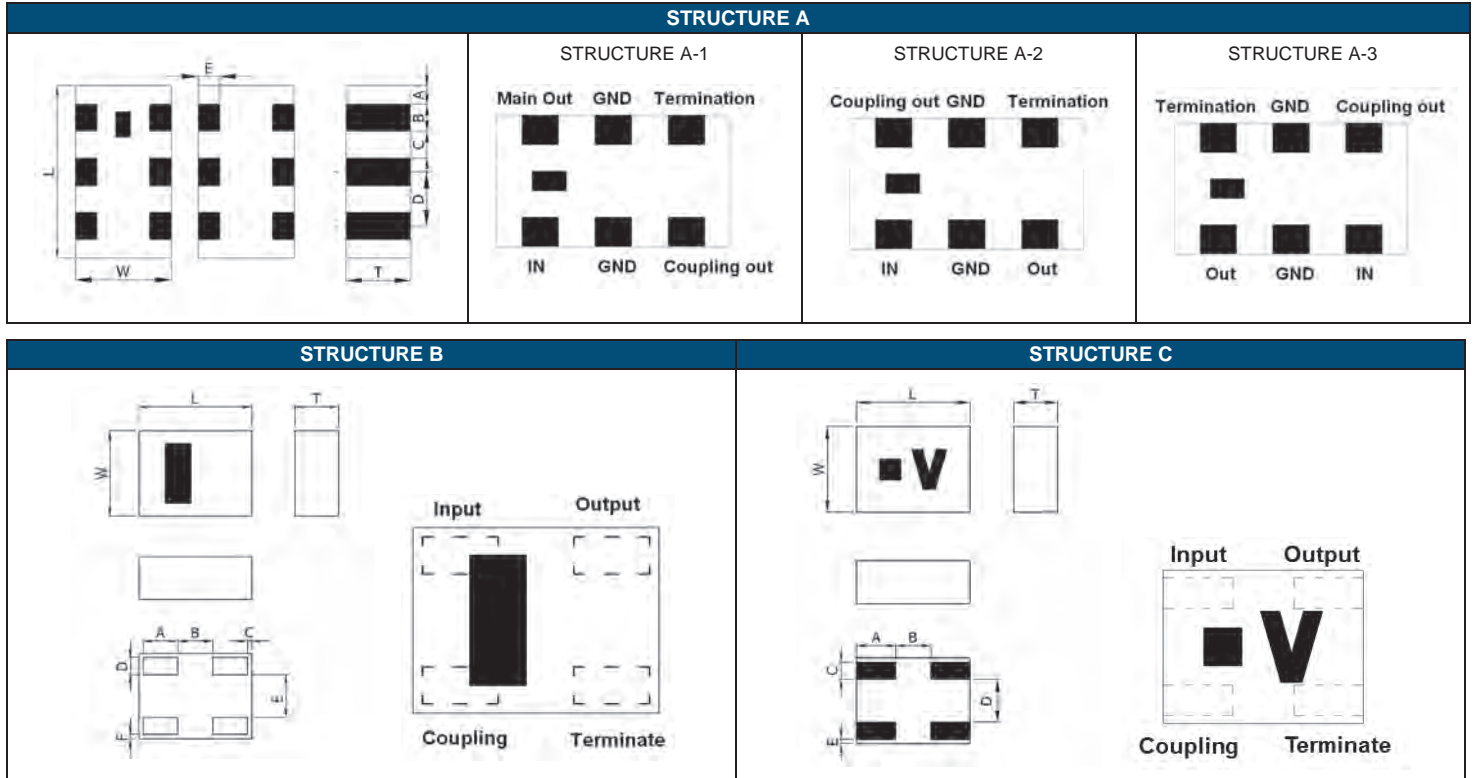
■ **TYPICAL ELECTRICAL CHARACTERISTICS**



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- All specifications are subject to change without notice

**COUPLER**

■ **STRUCTURE AND PIN ASSOCIATED**



■ **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 (mm <sup>3</sup> ) | 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°C)<br>0.40(-40~+85°C) | 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 (mm <sup>3</sup> ) | 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  |                              |           |

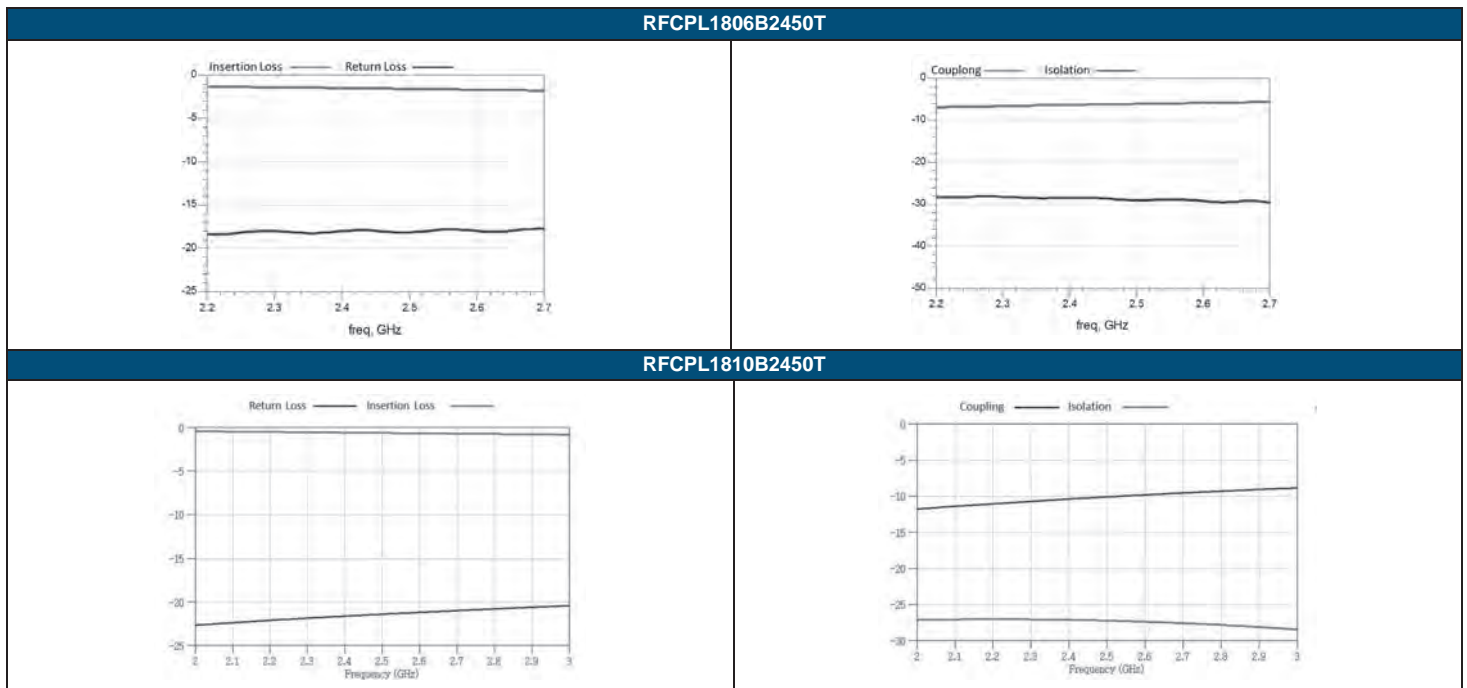
**ISM Band 2.4/5GHz Application**

| Part Number     | Frequency (MHz) | Insertion Loss (dB)           | Coupling in BW | Directivity in BW dB (min.) | Isolation in BW dB (min.) | VSWR | Dimension (mm <sup>3</sup> ) | Structure |
|-----------------|-----------------|-------------------------------|----------------|-----------------------------|---------------------------|------|------------------------------|-----------|
| RFCPL0605030L6T | 2400-2500       | 0.40(25°C)<br>0.45(-40~+85°C) | 21.5±1.5dB     | 15 dB min.                  | -                         | 1.3  | 0.65x0.50x0.35               | C         |
|                 | 4900-5850       | 0.40(25°C)<br>0.45(-40~+85°C) | 15.0±1.5dB     | 15 dB min.                  | -                         | 1.3  |                              |           |
| RFCPL0605030L9T | 2400-2500       | 0.20(25°C)<br>0.25(-40~+85°C) | 19.3±0.7dB     | 15 dB min.                  | -                         | 1.3  | 0.65x0.50x0.35               | C         |
|                 | 4900-5850       | 0.50(25°C)<br>0.55(-40~+85°C) | 13.0±1.5dB     | 15 dB min.                  | -                         | 1.3  |                              |           |
| RFCPL0605030LFT | 2400-2500       | 0.22(25°C)<br>0.24(-40~+85°C) | 21.5±1.0dB     | 14 dB min.                  | -                         | 1.3  | 0.65x0.50x0.35               | C         |
|                 | 4900-5850       | 0.32(25°C)<br>0.35(-40~+85°C) | 15.0±1.2dB     | 14 dB min.                  | -                         | 1.3  |                              |           |
| RFCPL0605030LHT | 2400-2500       | 0.40(25°C)<br>0.45(-40~+85°C) | 21.5±1.5dB     | 15 dB min.                  | -                         | 1.3  | 0.65x0.50x0.35               | C         |
|                 | 4900-5850       | 0.40(25°C)<br>0.45(-40~+85°C) | 15.0±1.5dB     | 15 dB min.                  | -                         | 1.3  |                              |           |

**LTE BAND APPLICATION**

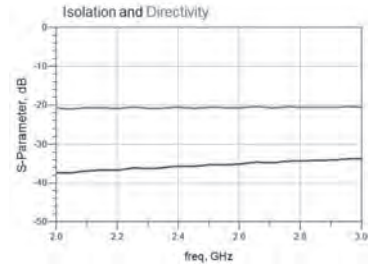
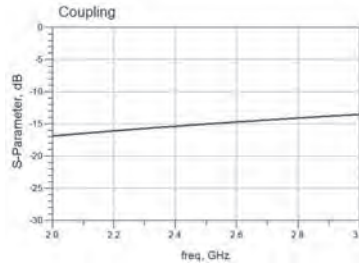
| Part Number        | Frequency (MHz) | Insertion Loss (dB)  | Coupling in BW   | Directivity in BW dB (min.) | Isolation in BW dB (min.)  | VSWR | Dimension (mm <sup>3</sup> ) | Structure |
|--------------------|-----------------|--|--|-----------------------------|--|------|------------------------------|-----------|
| 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**

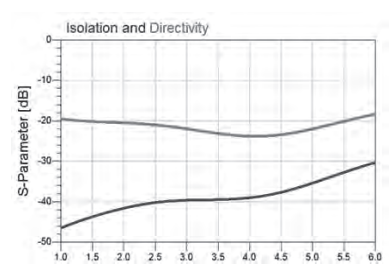
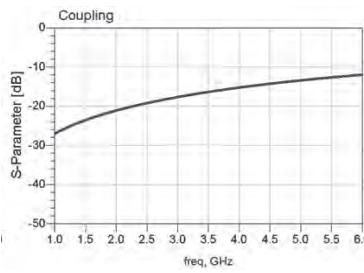
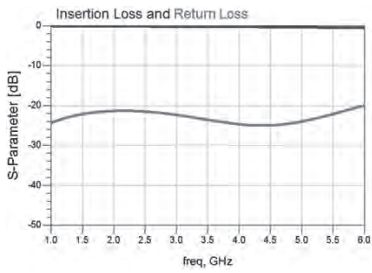


**TYPICAL ELECTRICAL CHARACTERISTICS**

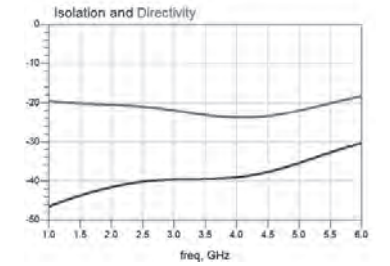
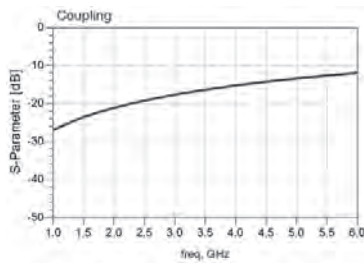
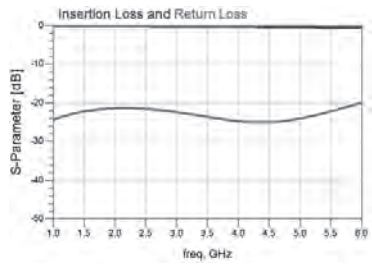
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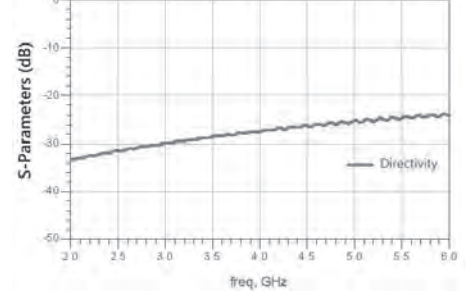
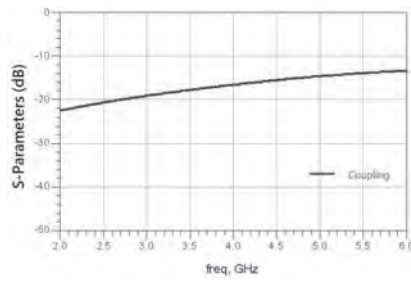
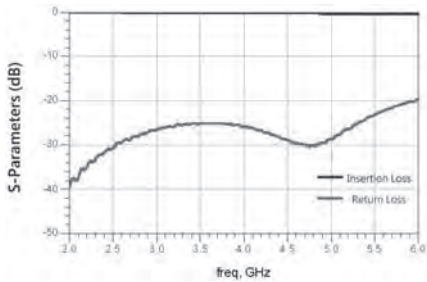
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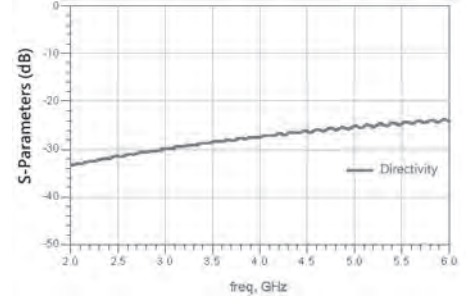
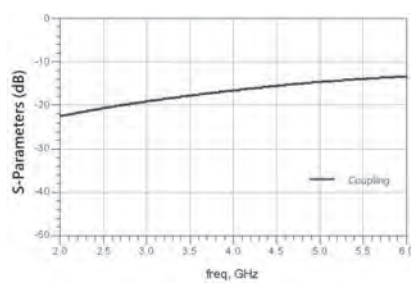
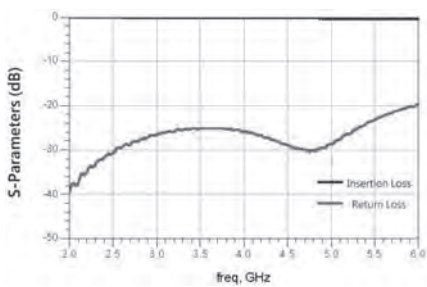
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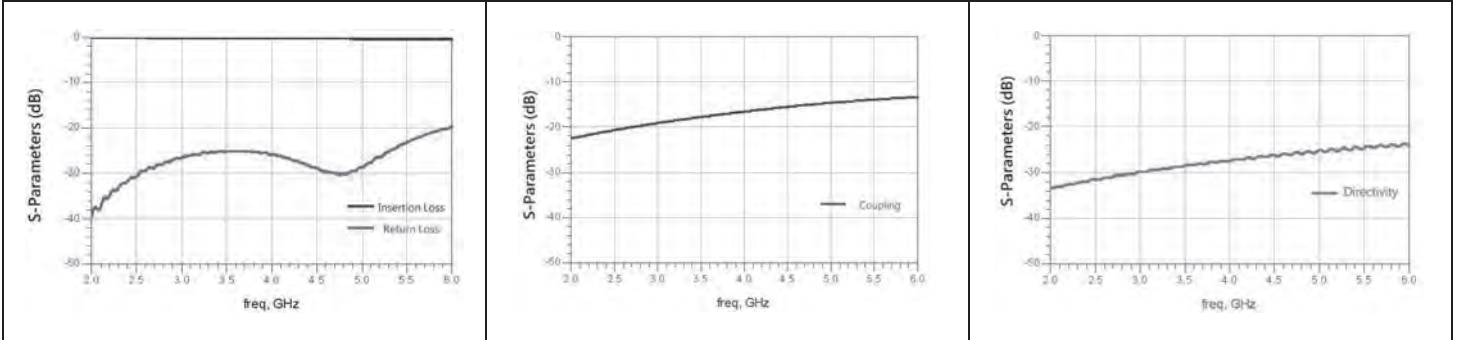


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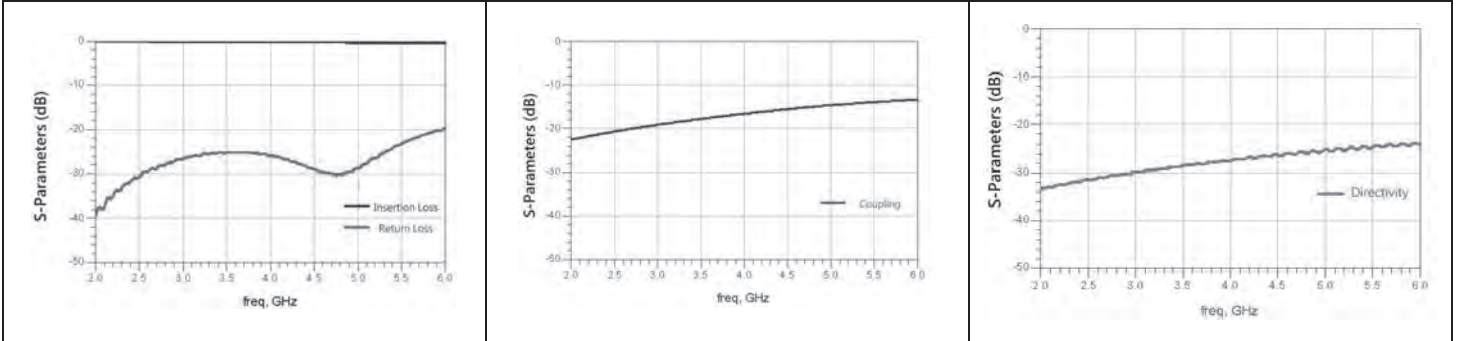


**TYPICAL ELECTRICAL CHARACTERISTICS**

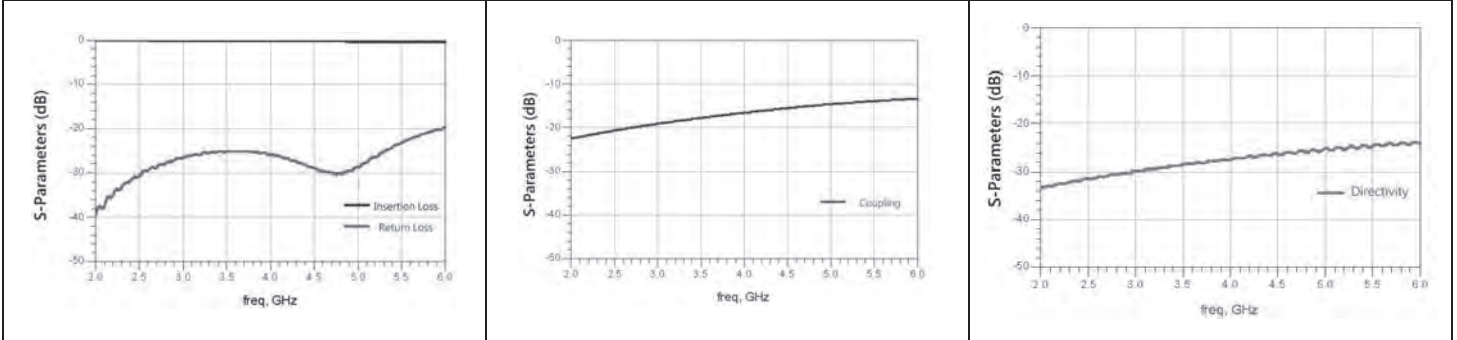
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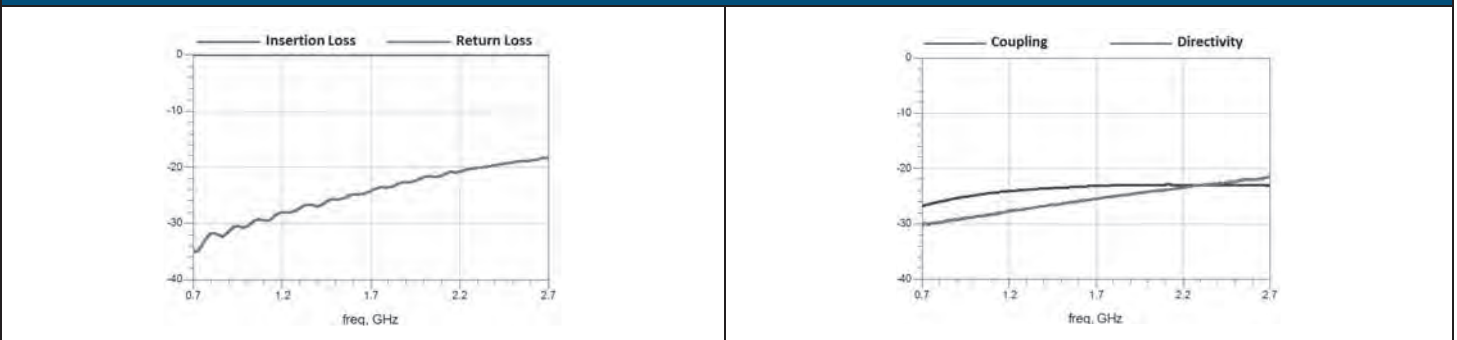
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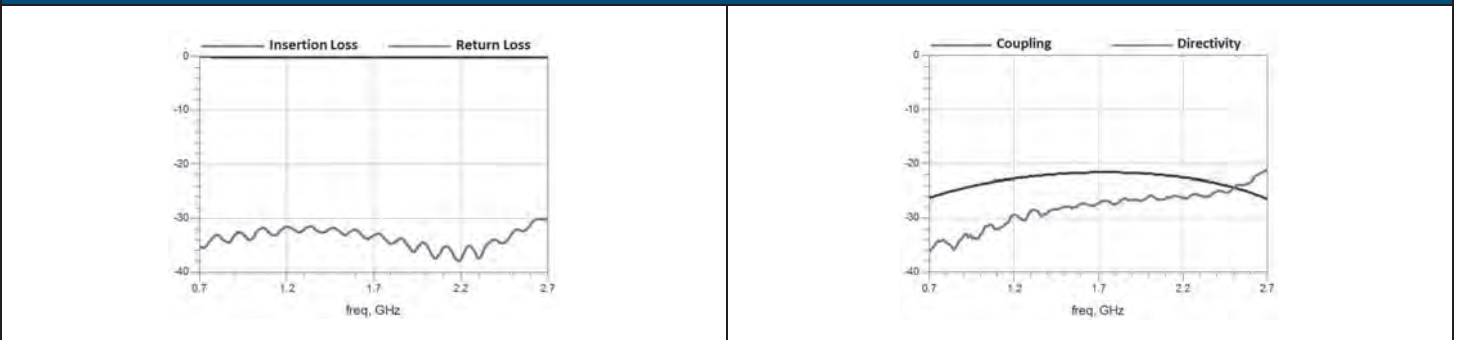
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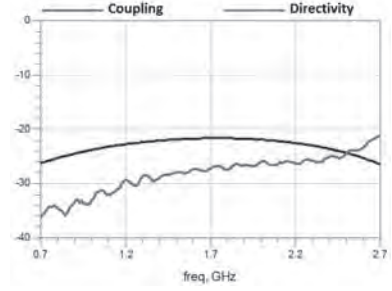
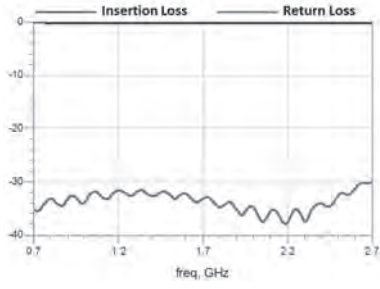


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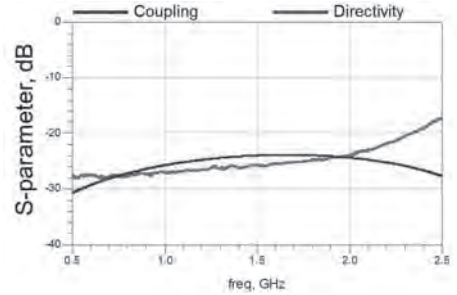
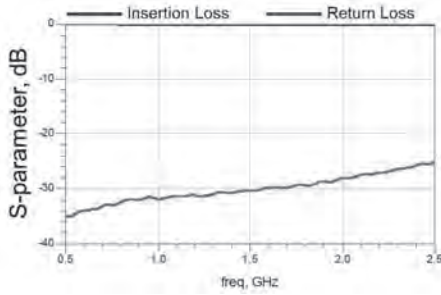


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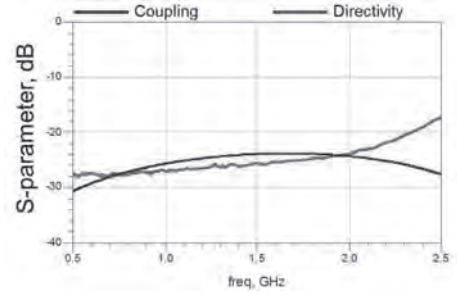
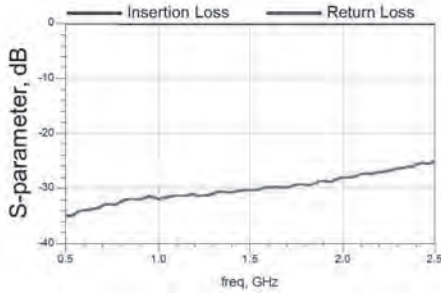
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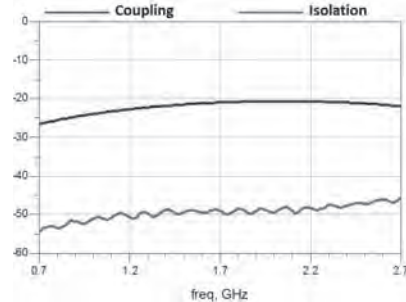
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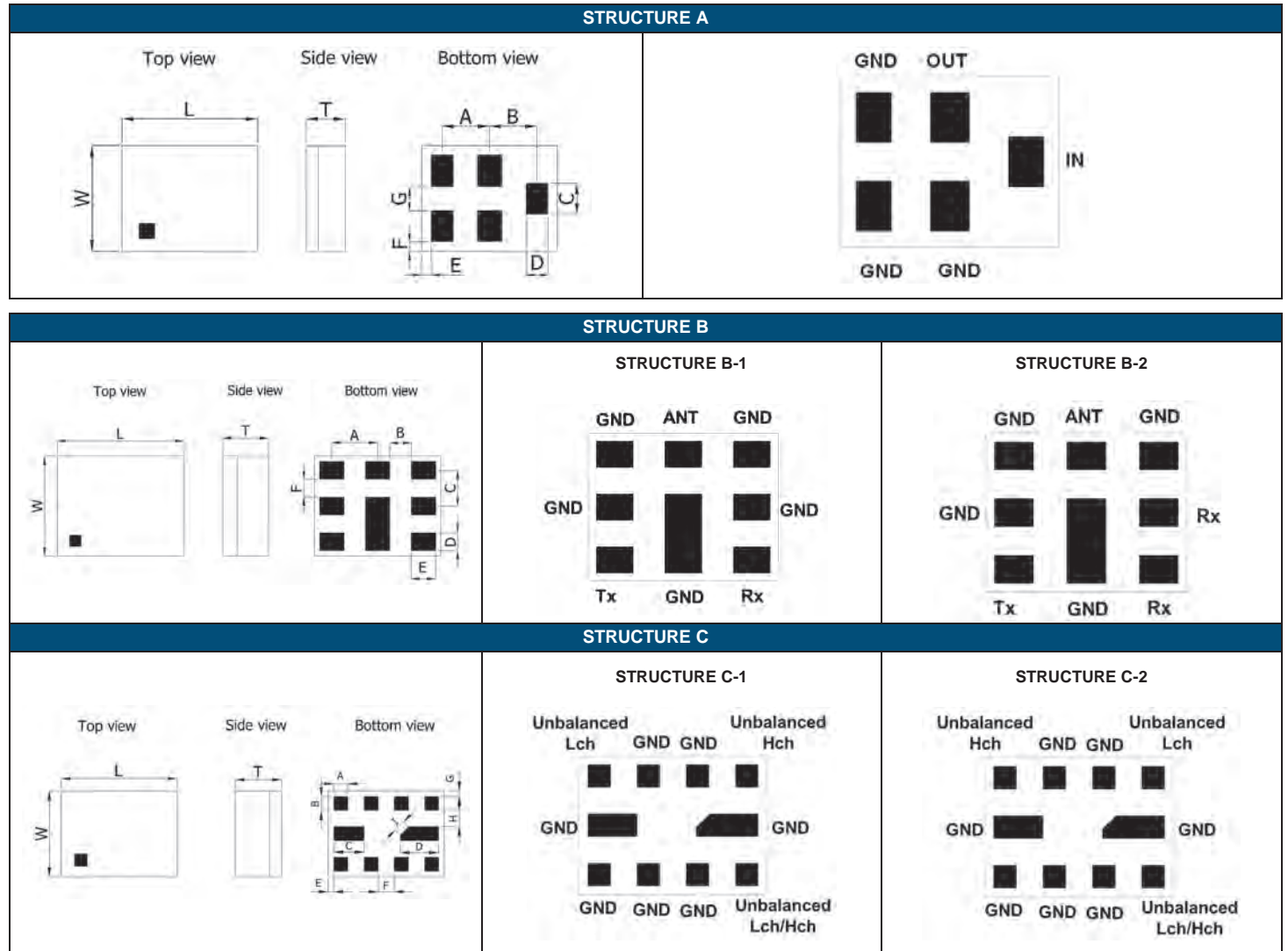
**RFCPL1608070PM9T16**



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

SAW Filter

■ STRUCTURE AND PIN ASSOCIATED



■ STRUCTURE AND DIMENSION

Unit: mm

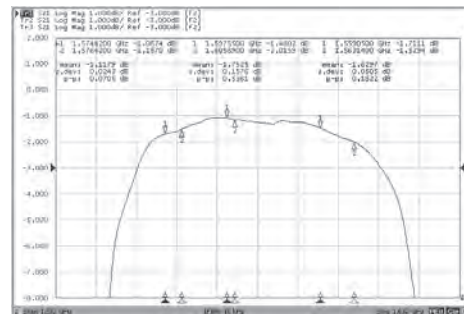
| Structure Dimension | L         | W         | T        | A    | B    | C     | D    | E     | F     | G    | H    | I    |
|---------------------|-----------|-----------|----------|------|------|-------|------|-------|-------|------|------|------|
| A                   | 1.10±0.10 | 0.90±0.10 | 0.50max. | 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

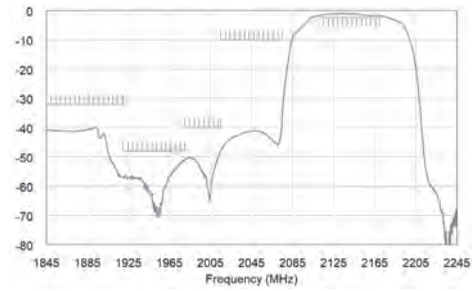
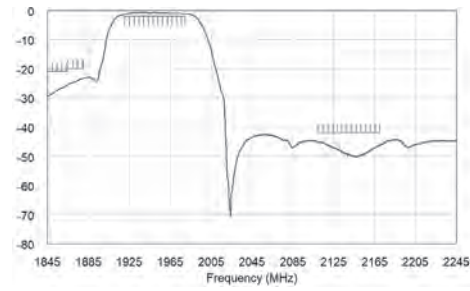
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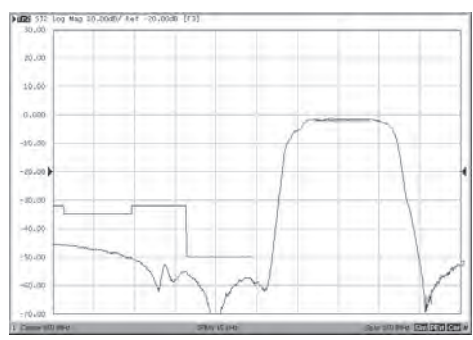
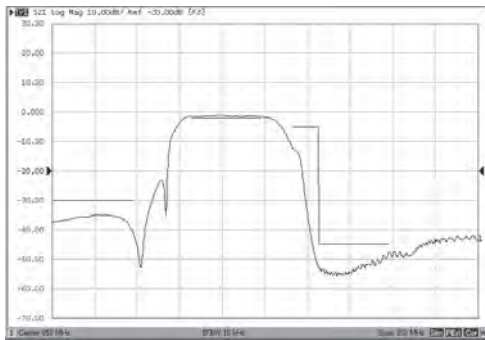


**TYPICAL ELECTRICAL CHARACTERISTICS**

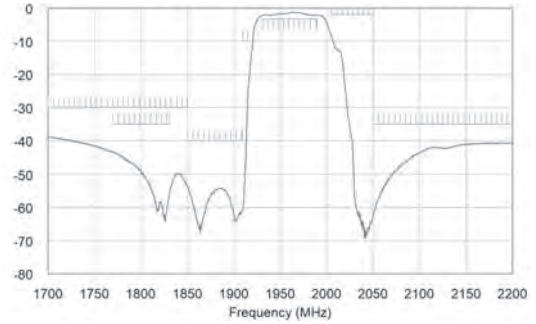
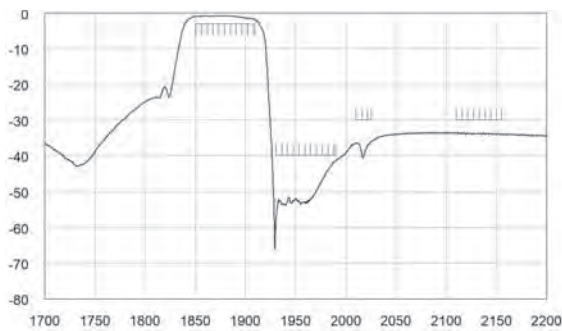
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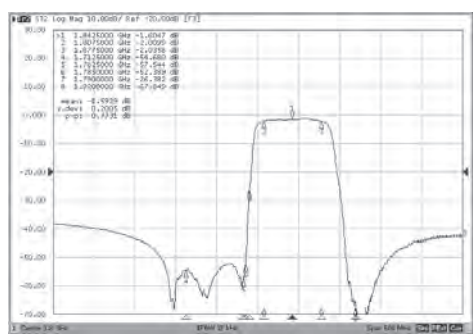
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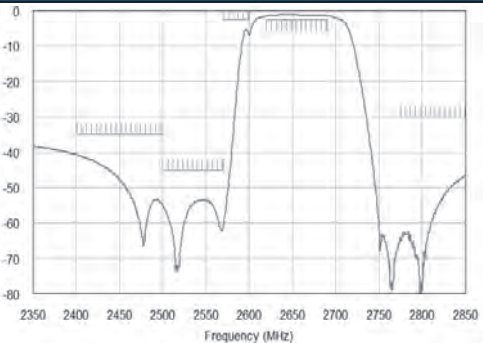
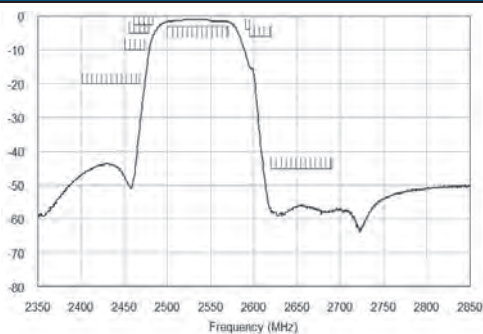
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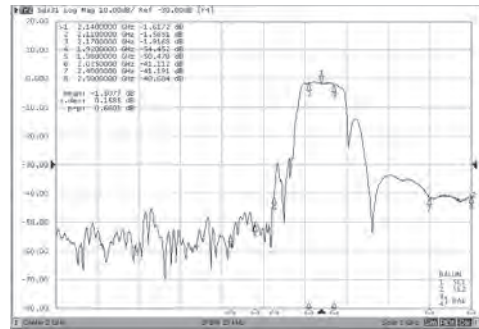
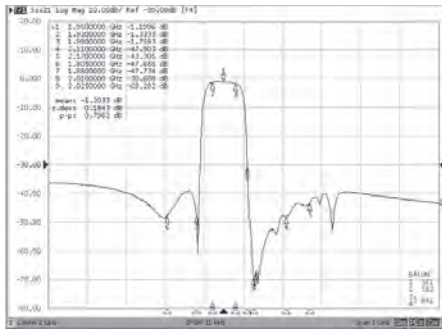


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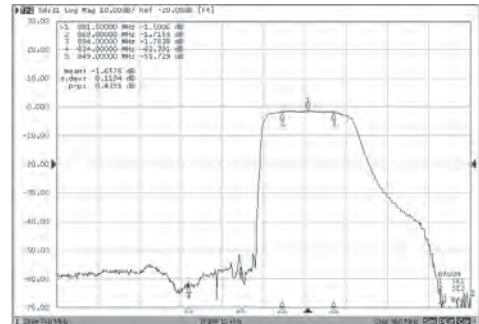
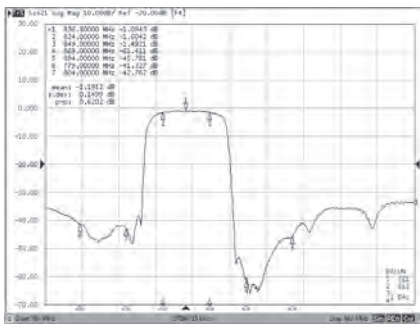


TYPICAL ELECTRICAL CHARACTERISTICS

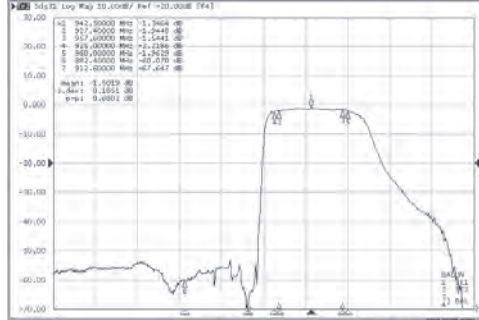
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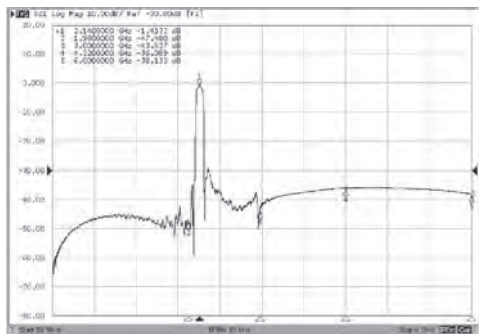
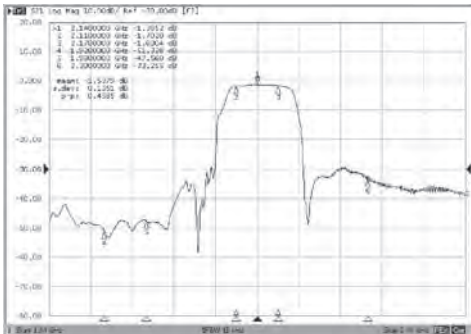
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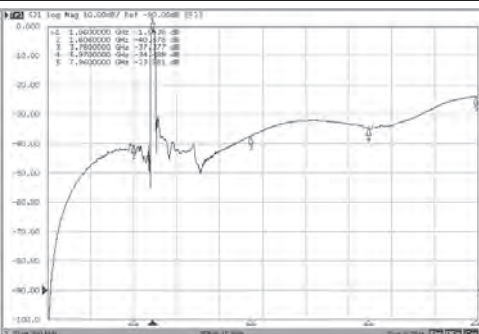
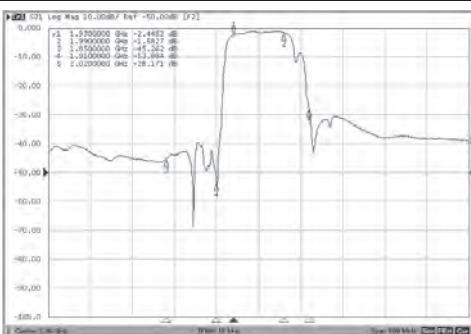
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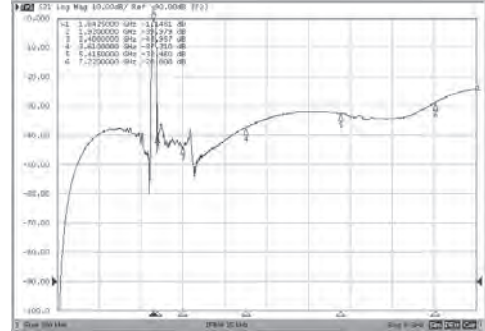
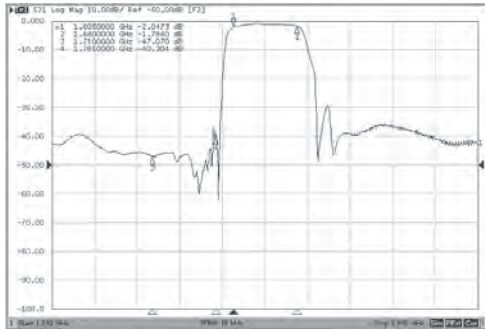


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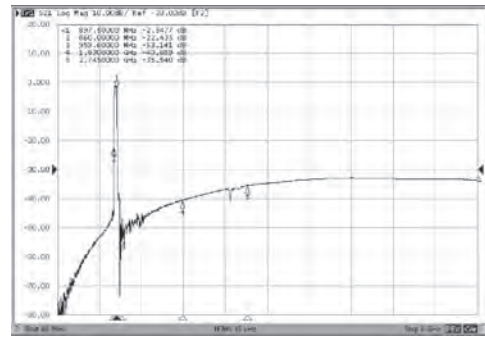
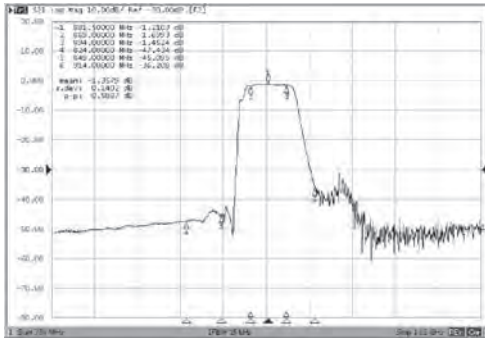


TYPICAL ELECTRICAL CHARACTERISTICS

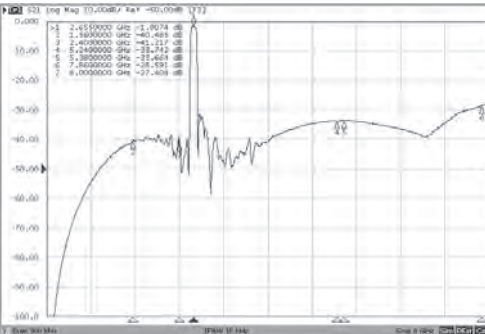
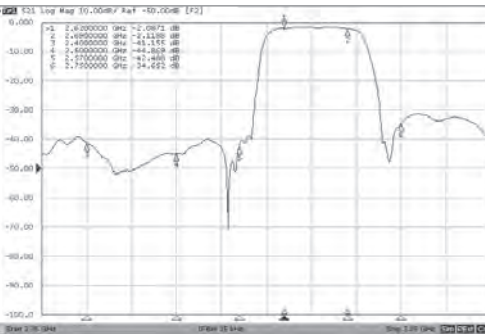
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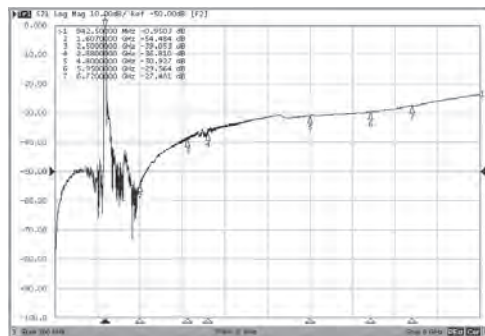
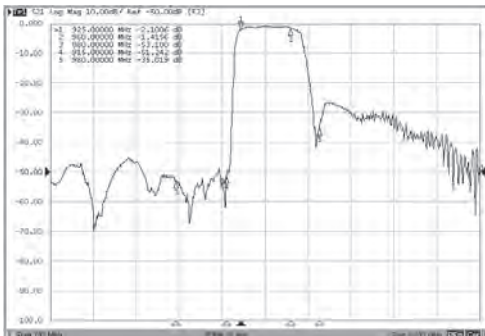
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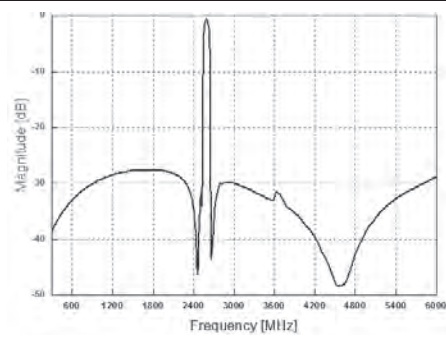
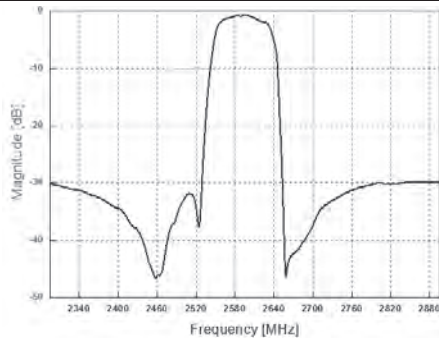
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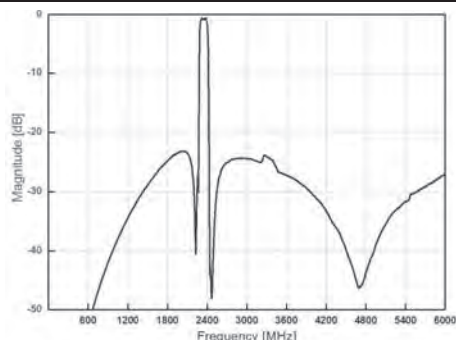
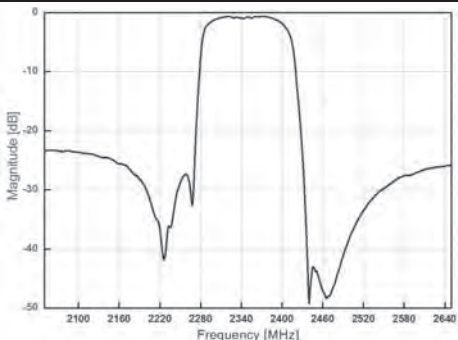


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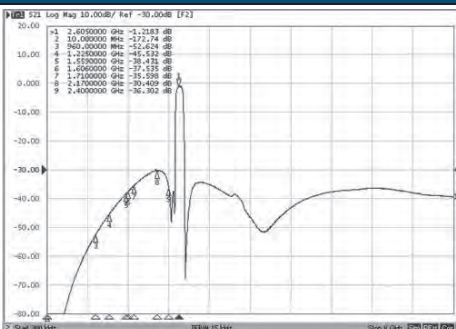
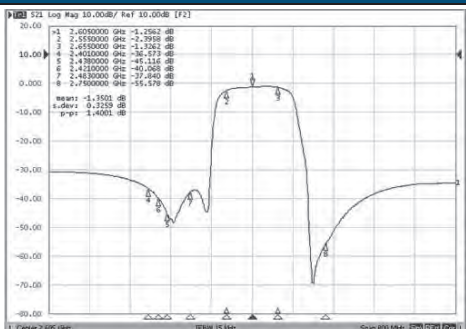


TYPICAL ELECTRICAL CHARACTERISTICS

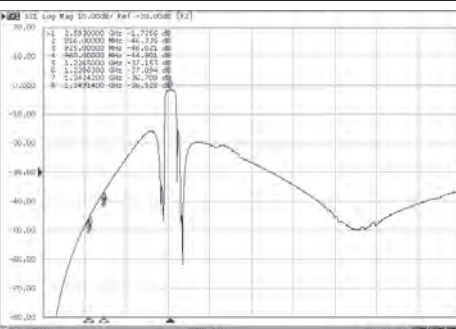
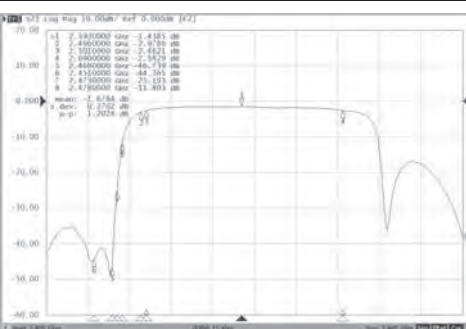
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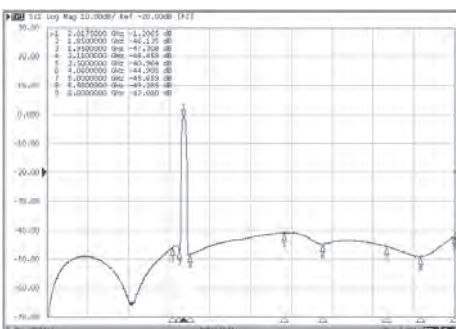
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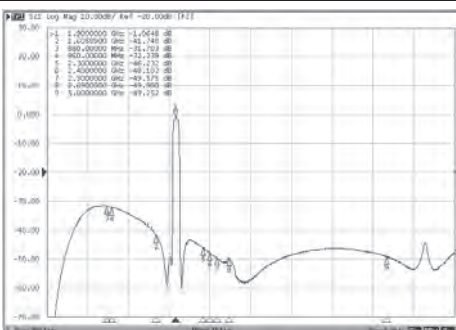
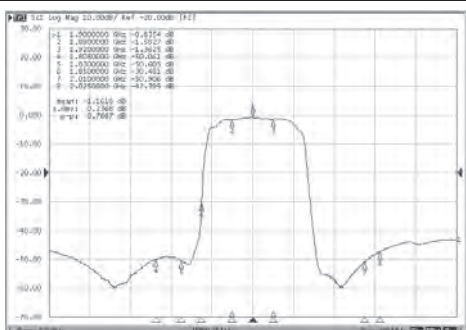
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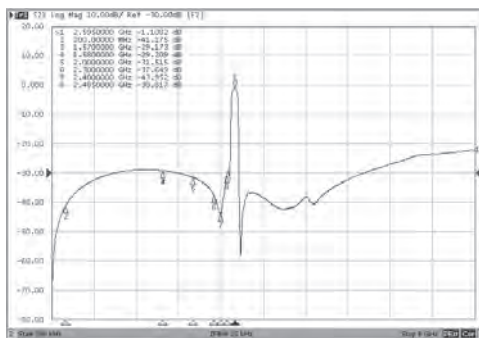


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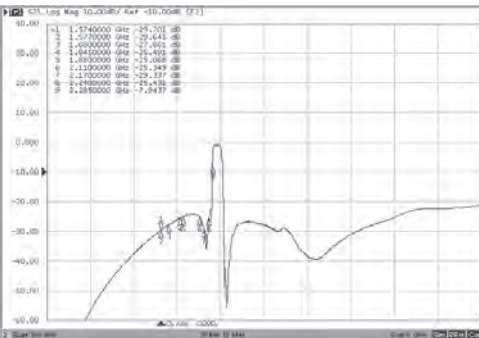
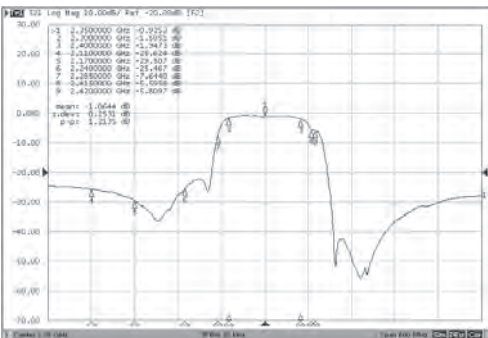


TYPICAL ELECTRICAL CHARACTERISTICS

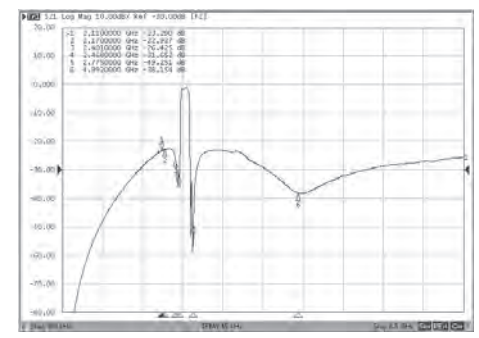
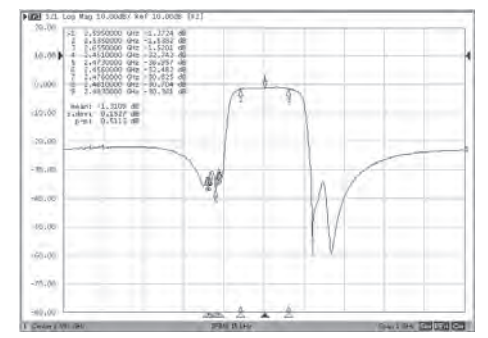
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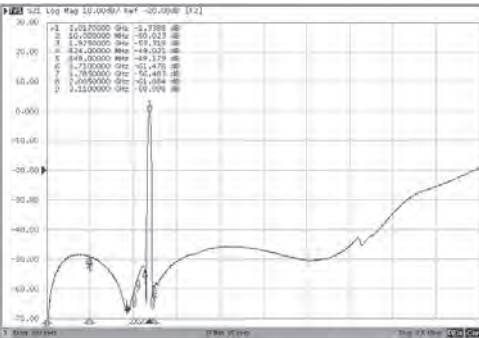
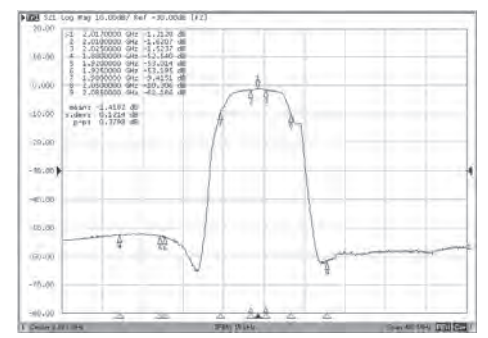
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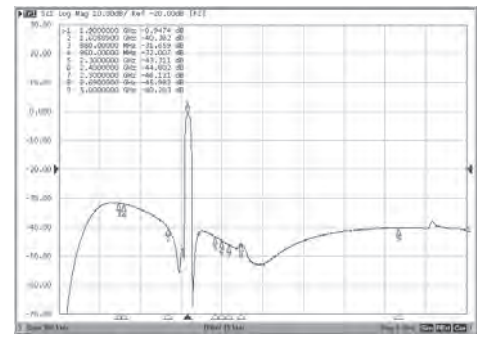
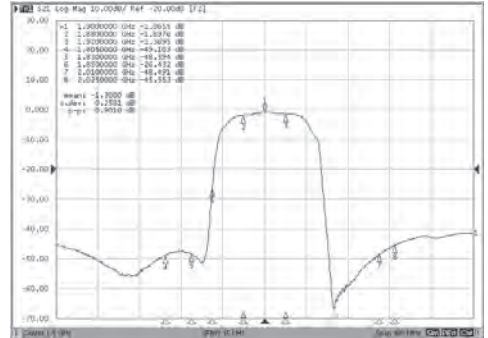
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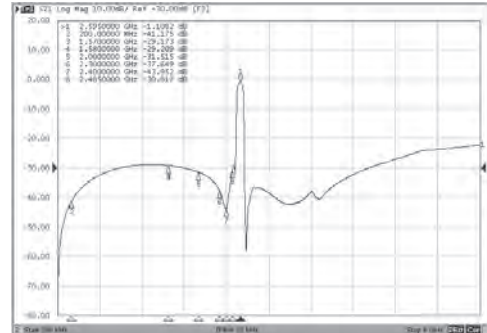


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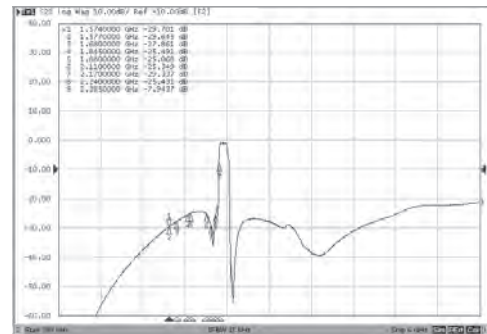
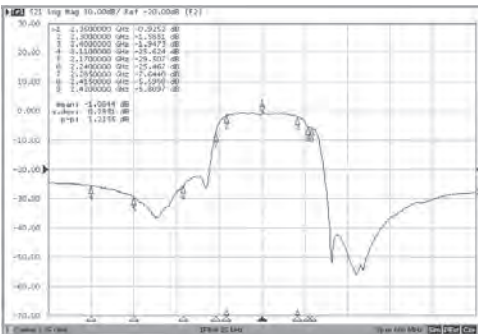


TYPICAL ELECTRICAL CHARACTERISTICS

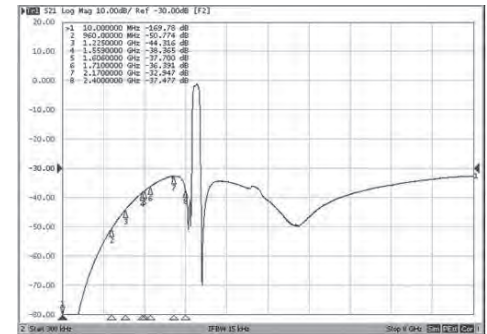
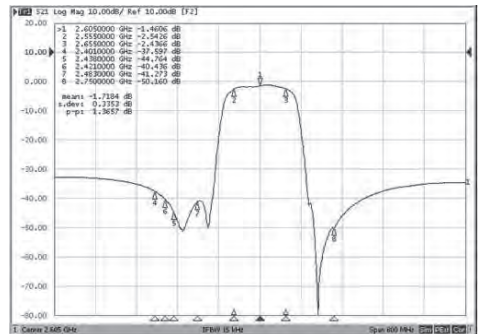
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SF11092602B41W9T



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

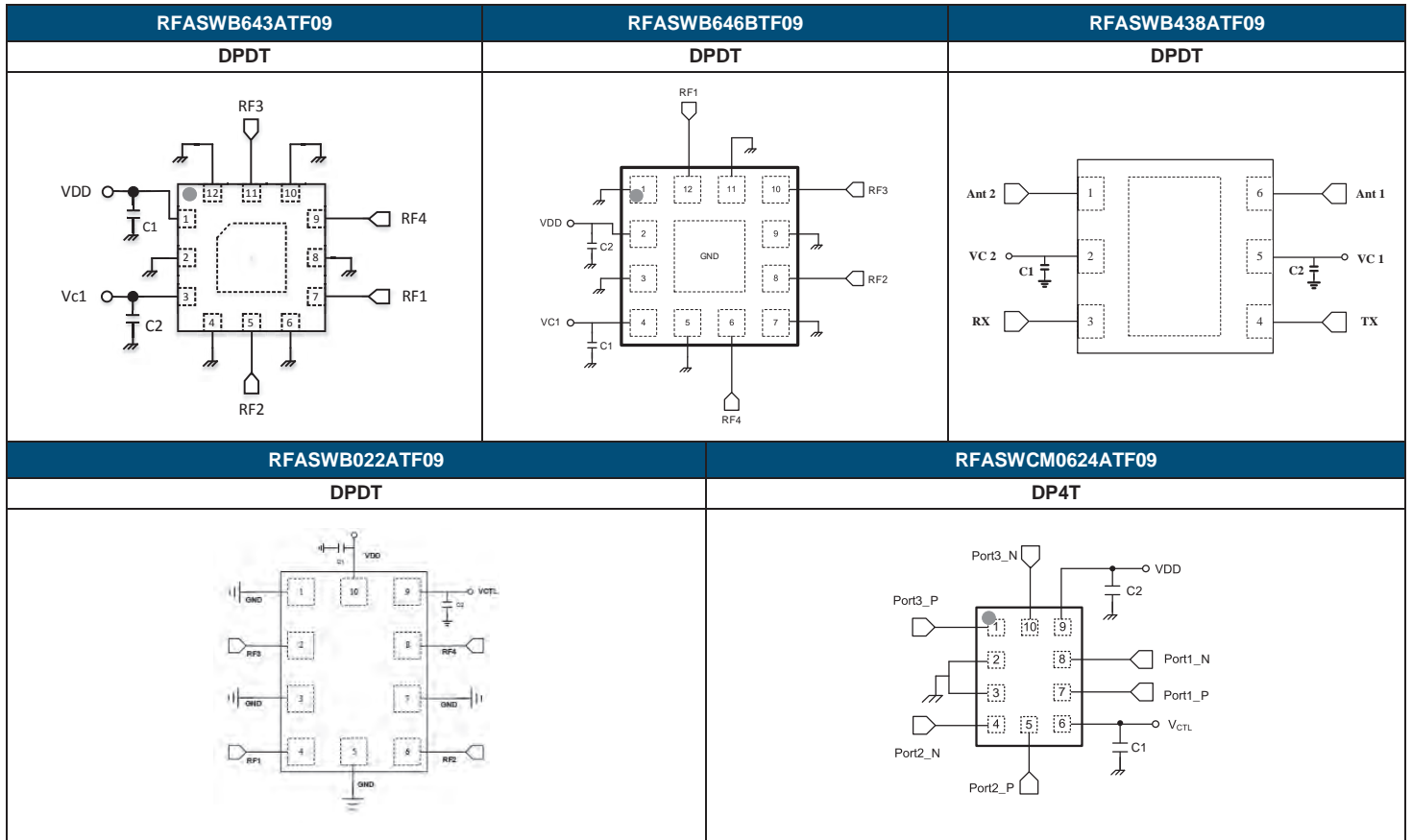
**ANTENNA SWITCH**

■ **Application Circuit (GPIO)**

|   |   |   |
|---|---|---|
| <p style="text-align: center;"><b>RFASWA630PTF06</b></p> <p style="text-align: center;"><b>SPDT</b></p>   | <p style="text-align: center;"><b>RFASWA697ATF09</b></p> <p style="text-align: center;"><b>SPDT</b></p>   | <p style="text-align: center;"><b>RFASWAM3489ATF09</b></p> <p style="text-align: center;"><b>SPDT</b></p> |
| <p style="text-align: center;"><b>RFASWMT2628PTF09</b></p> <p style="text-align: center;"><b>SP3T</b></p> | <p style="text-align: center;"><b>RFASWMT2628BTF09</b></p> <p style="text-align: center;"><b>SP3T</b></p> | <p style="text-align: center;"><b>RFASWMH6373ATF09</b></p> <p style="text-align: center;"><b>SP3T</b></p> |
| <p style="text-align: center;"><b>RFASWKH4414PTF06</b></p> <p style="text-align: center;"><b>SP4T</b></p> | <p style="text-align: center;"><b>RFASWK626ATF09</b></p> <p style="text-align: center;"><b>SP4T</b></p>   | <p style="text-align: center;"><b>RFASWHH1416PTF06</b></p> <p style="text-align: center;"><b>SP6T</b></p> |
| <p style="text-align: center;"><b>RFASWDH2418PTF06</b></p> <p style="text-align: center;"><b>SP8T</b></p> |   |   |

**ANTENNA SWITCH**

■ **Application Circuit (GPIO)**



■ **ELECTRICAL SPECIFICATION**

| Part Number       | Description | Frequency (GHz )Min. | Frequency (GHz )Max. | Insertion loss | Isolation | VSWR | Package (mm) |
|-------------------|-------------|----------------------|----------------------|----------------|-----------|------|--------------|
|                   |             |                      |                      | (dB)           | (dB)      |      |              |
| 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    |
| RFASWMMH6373ATF09 |             | 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 |              |

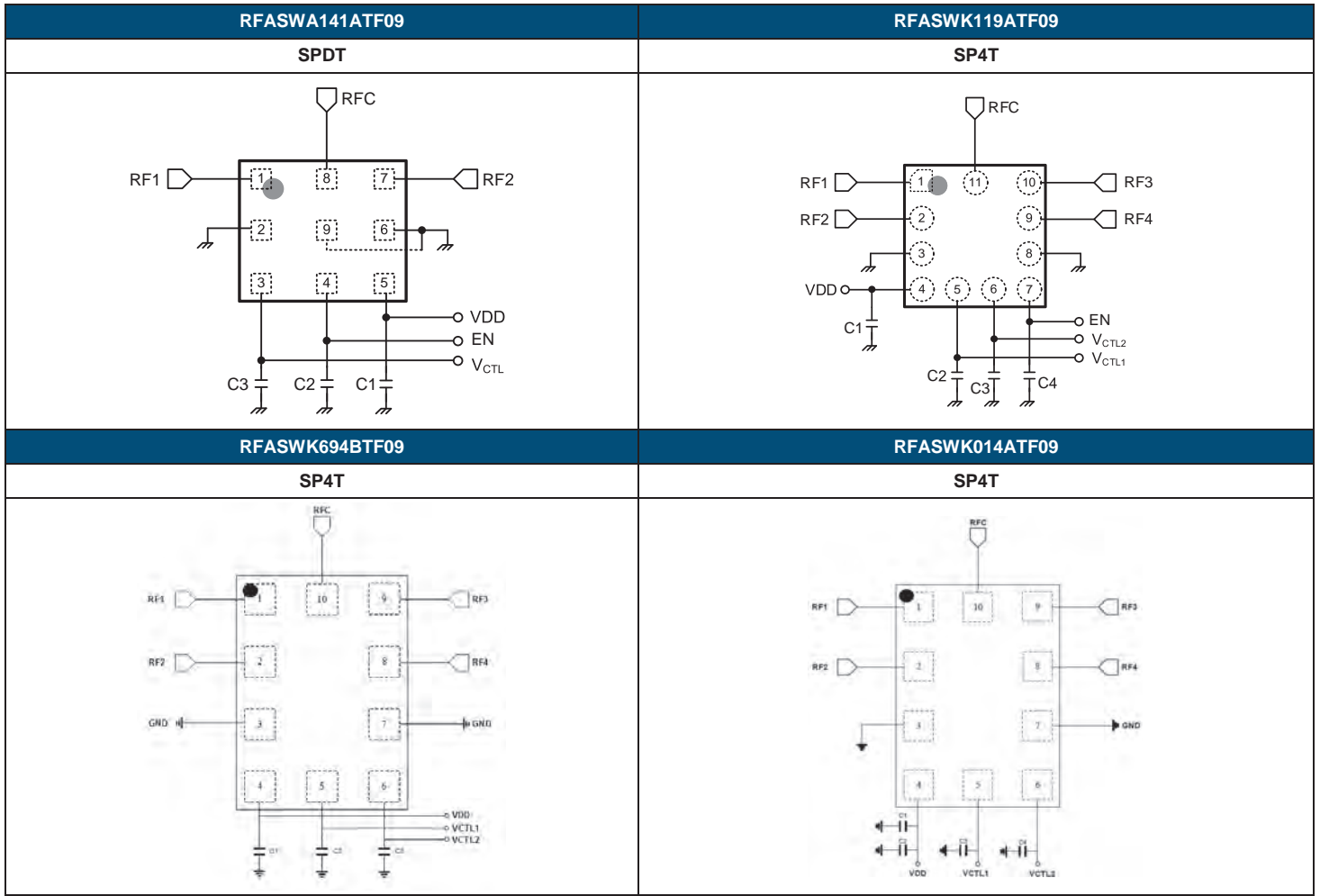
■ **Application Circuit (MIPI)**

| RFASWH526BTF03<br>SP6T              | RFASWH656FTF03<br>SP6T              | RFASWD658FTF03<br>SP8T               |
|-------------------------------------|-------------------------------------|--------------------------------------|
|                                     |                                     |                                      |
| RMASME494ATF03<br>SP10T             | RFASWE660DTF03<br>SP10T             | RFASWF662DTF03<br>SP12T              |
|                                     |                                     |                                      |
| RMASMF496ATF03<br>SP12T             | RMASMP491ATF03<br>SP14T             | RMASMT1492ATF03<br>SP16T             |
|                                     |                                     |                                      |
| RMASMU532ATF03<br>DP14T (SP8T+SP6T) | RMASMU890ATF03<br>DP14T (SP7T+SP7T) | RMASMS535ATF03<br>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    |

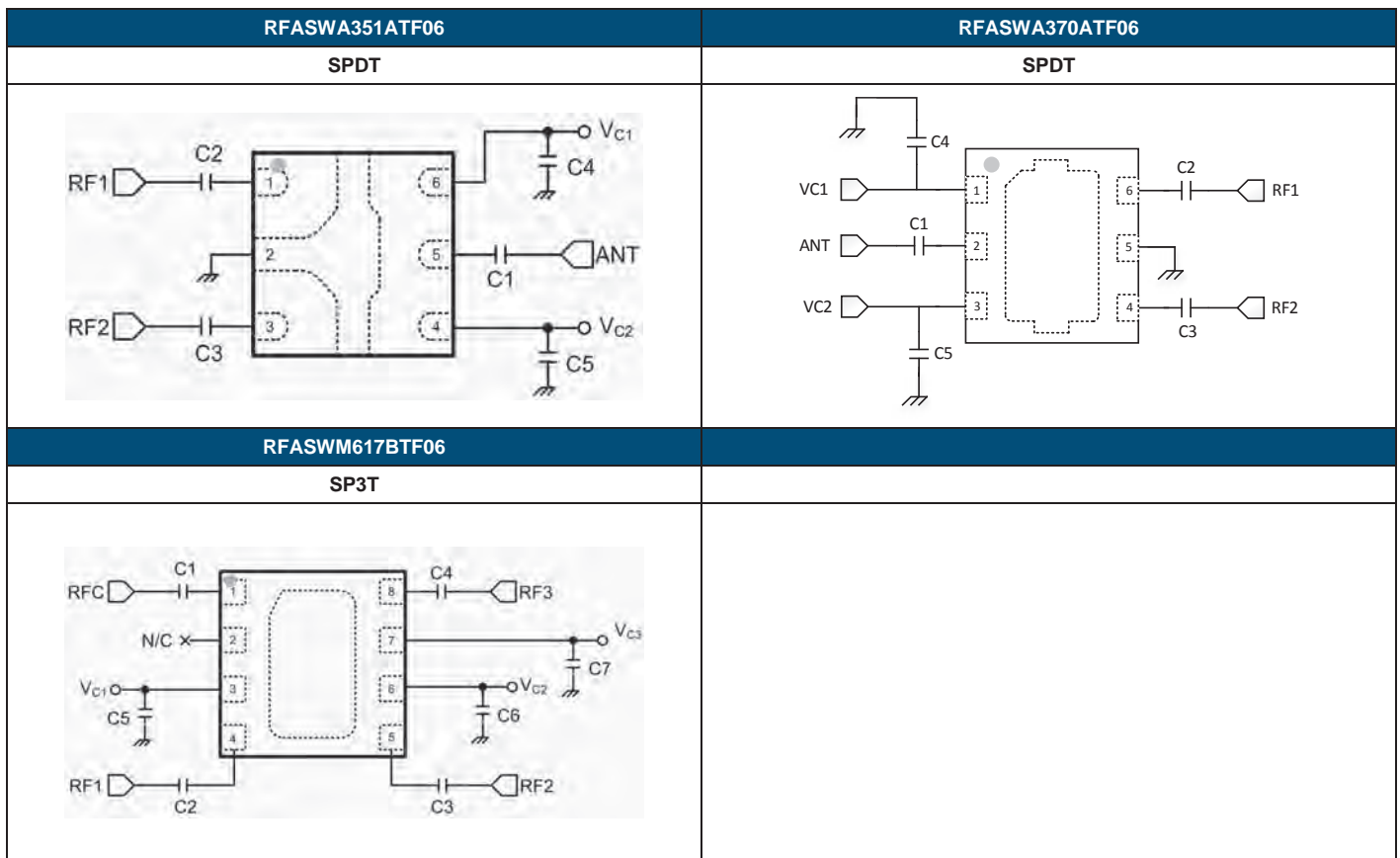
■ **Application Circuit (LTE Antenna Tuner-GPIO)**



■ **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)**



■ **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**

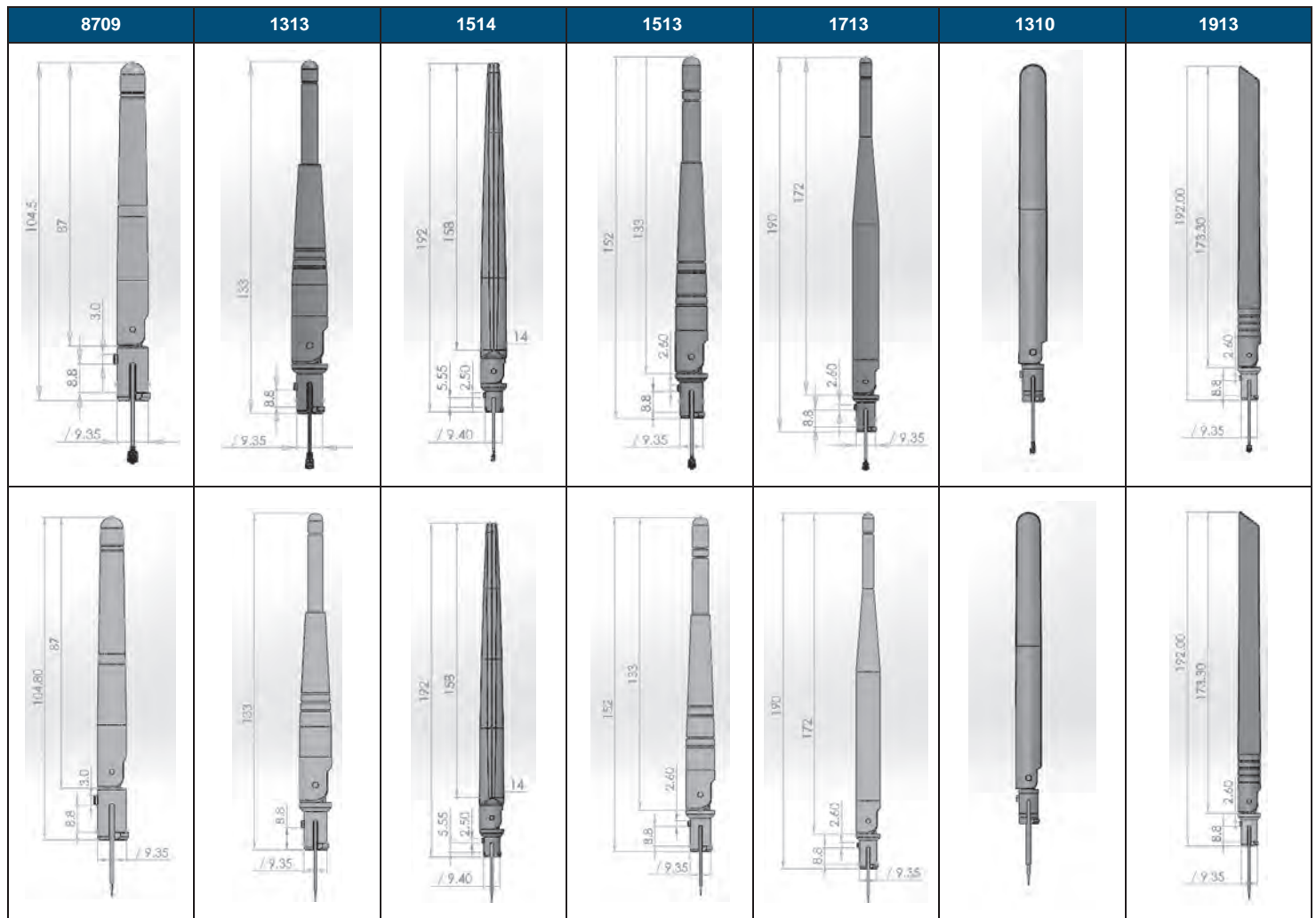
| Series | Size(mm) |       | Working Frequency Range    | Gain   | VSWR   | Return Loss   |
|--------|----------|-------|----------------------------|--|--|---|
|        | L        | Ø     |                            |  |  |   |
| 8709   | 87       | 9.95  | 2.4~2.5 GHz                | 2dBi   | <2   | <-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**

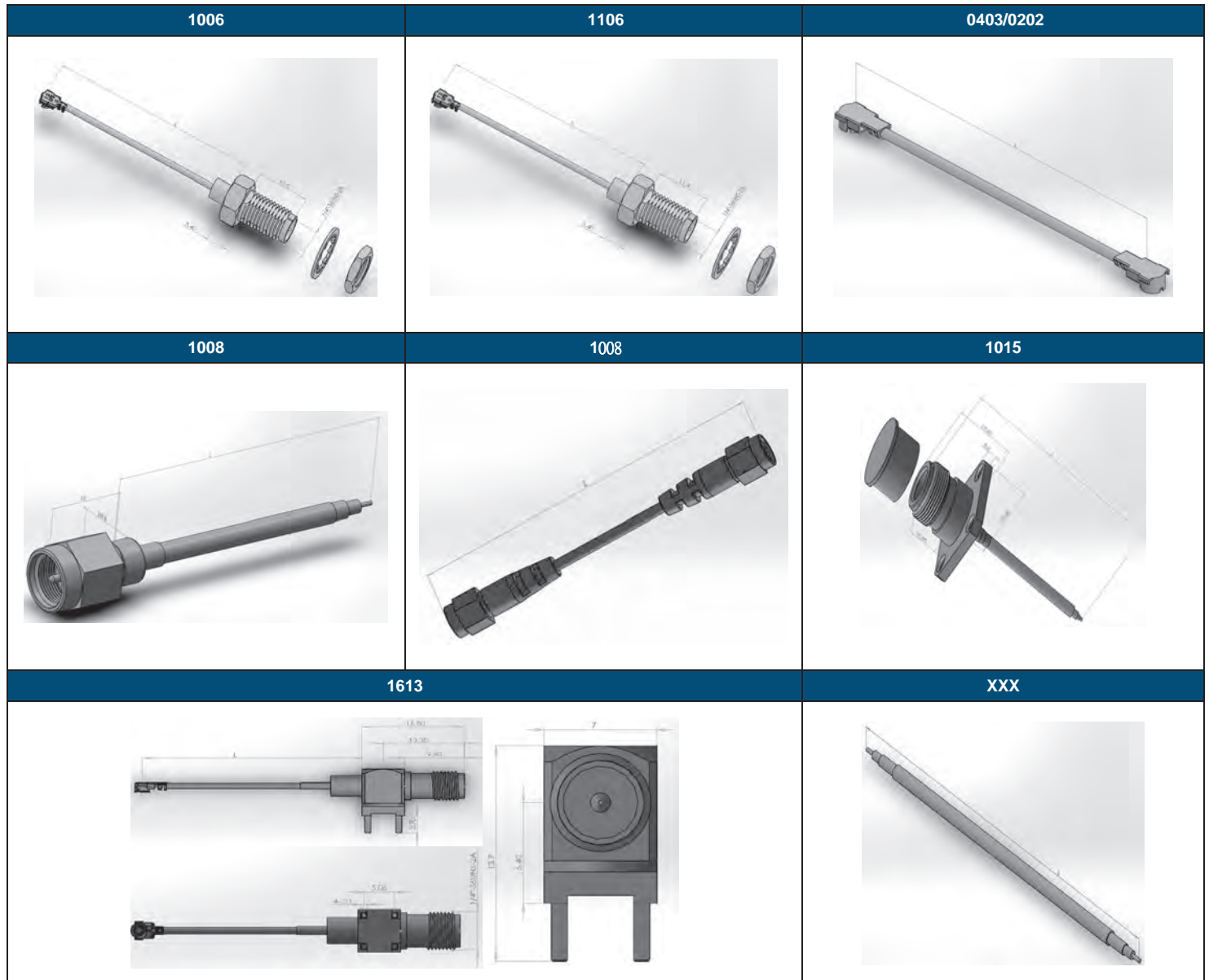
| Series | Size(mm) |      | Working Frequency Range | Gain                                       | VSWR | Return Loss |
|--------|----------|------|-------------------------|--|------|-------------|
|        | L        | Ø    |                         |  |      |             |
| 8709   | 87       | 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      |



## 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  |



PCB Antenna

■ ELECTRICAL SPECIFICATION

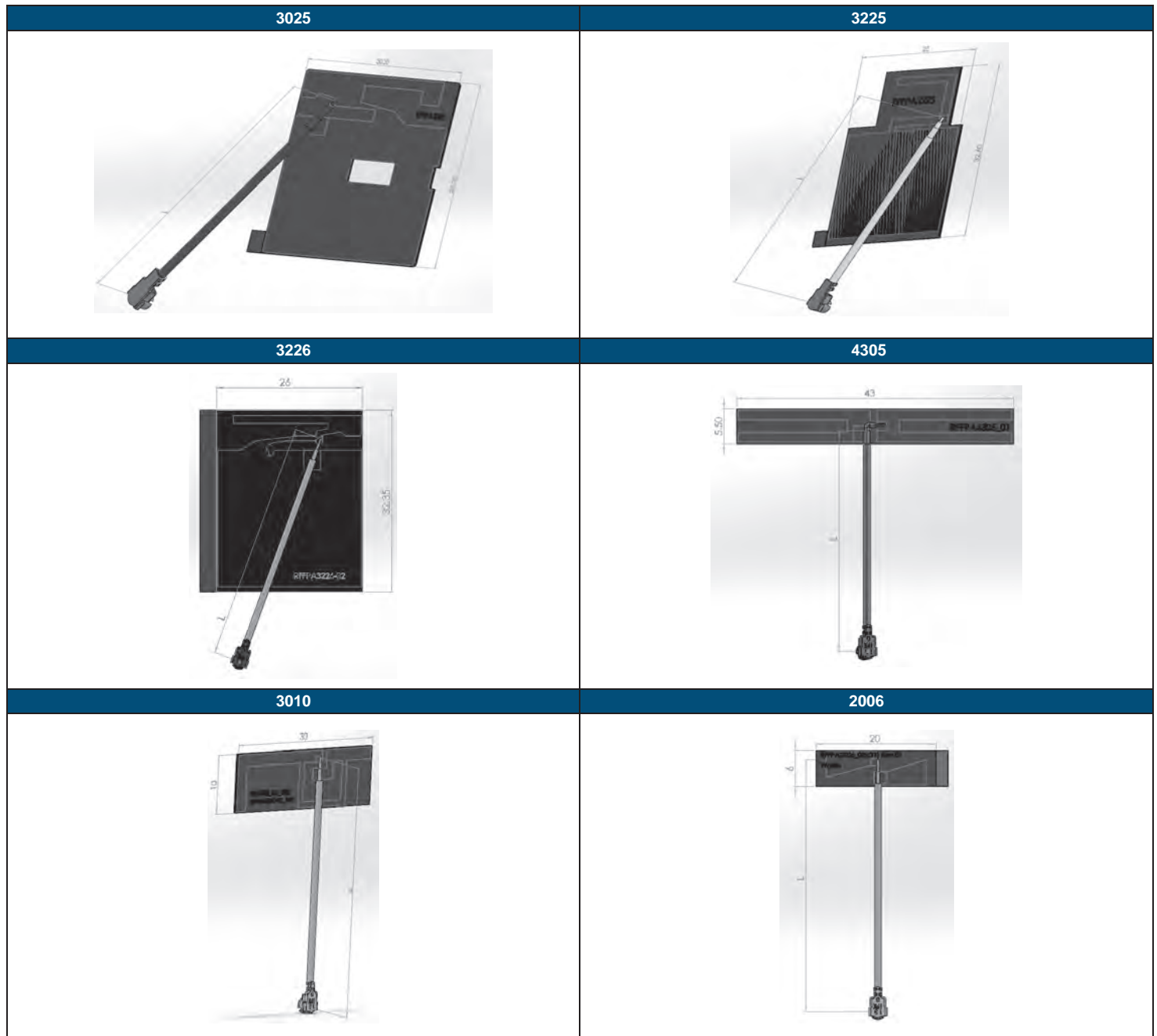
| Series | PCB Size(mm) |     | Cable Length (mm) L | Working Frequency Range | Gain  | VSWR  | Return Loss   |
|--------|--------------|-----|---------------------|-------------------------|---|---|---|
|        | L            | w   |                     |                         |   |   |   |
| 1118   | 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  |



FPA Antenna

■ ELECTRICAL SPECIFICATION

| Series | Size(mm) |      | Cable Length(mm)<br>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      |

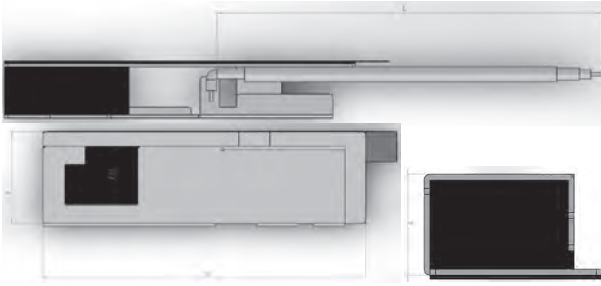


**Metal Antenna**

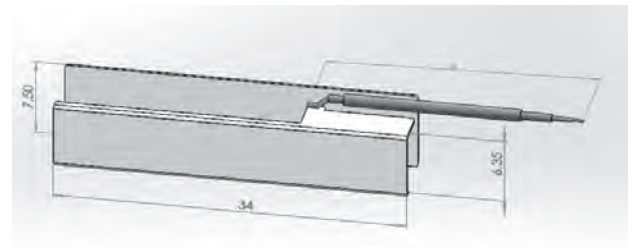
■ **ELECTRICAL SPECIFICATION**

| Series | Size(mm) |      | Cable Length(mm)<br>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      |

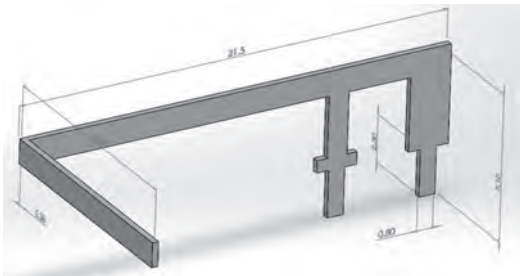
3109



3407



2107



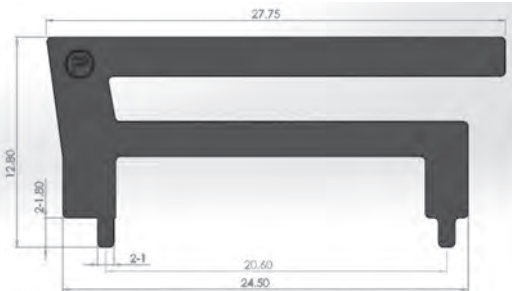
2807



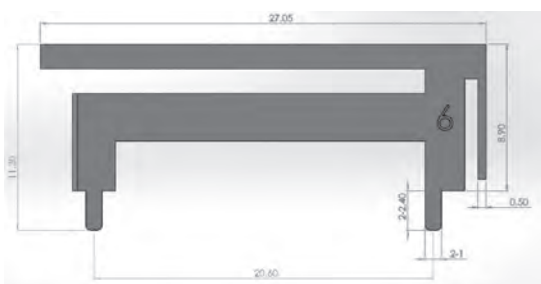
3706



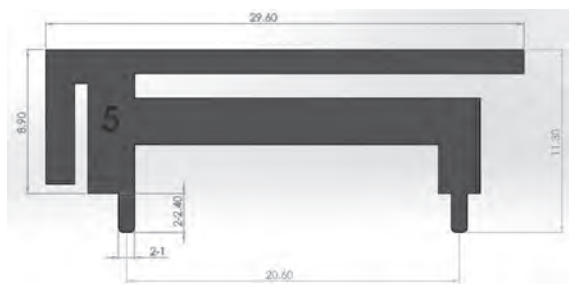
2712



2811



2911

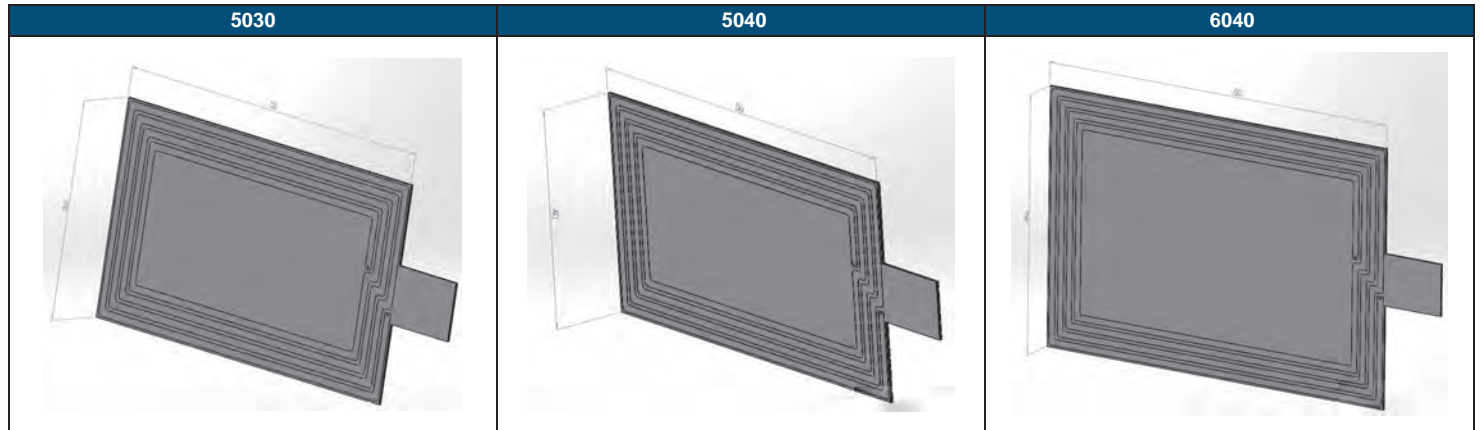


NFC Antenna (NFC/WPC/WNC)

■ ELECTRICAL SPECIFICATION

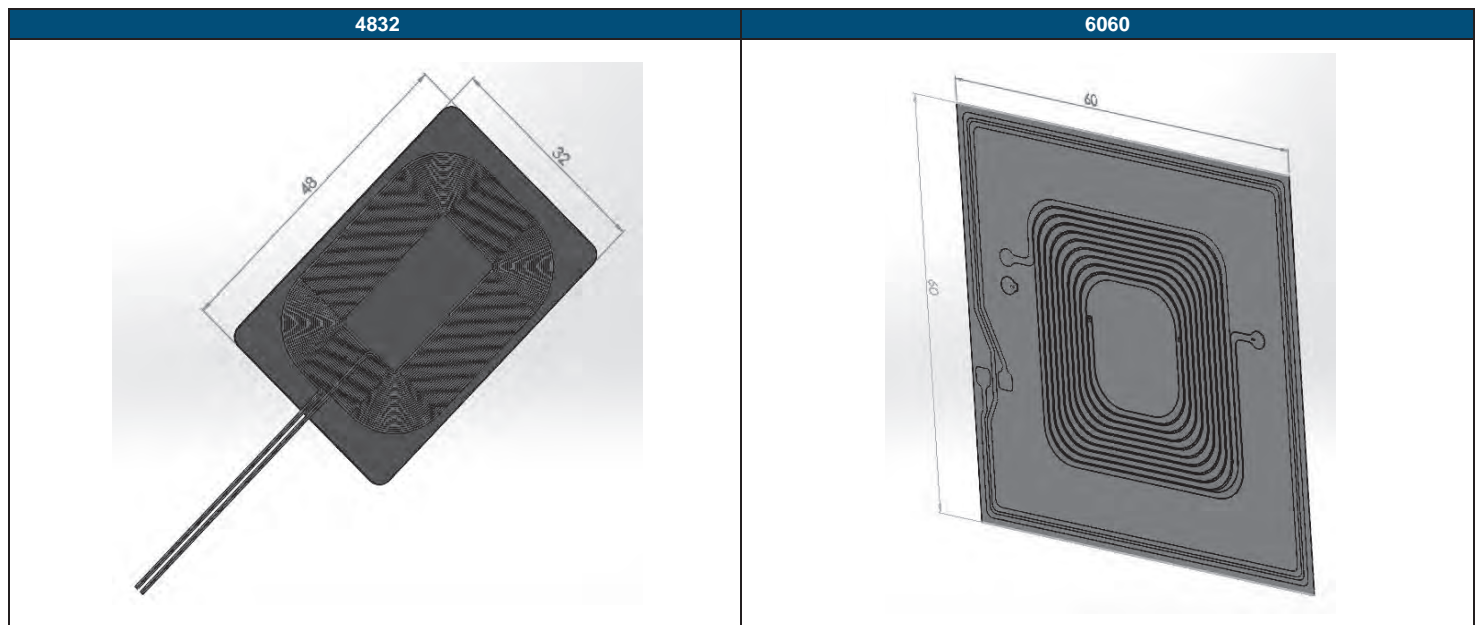
NFC

| 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)  |



WPC & WNC

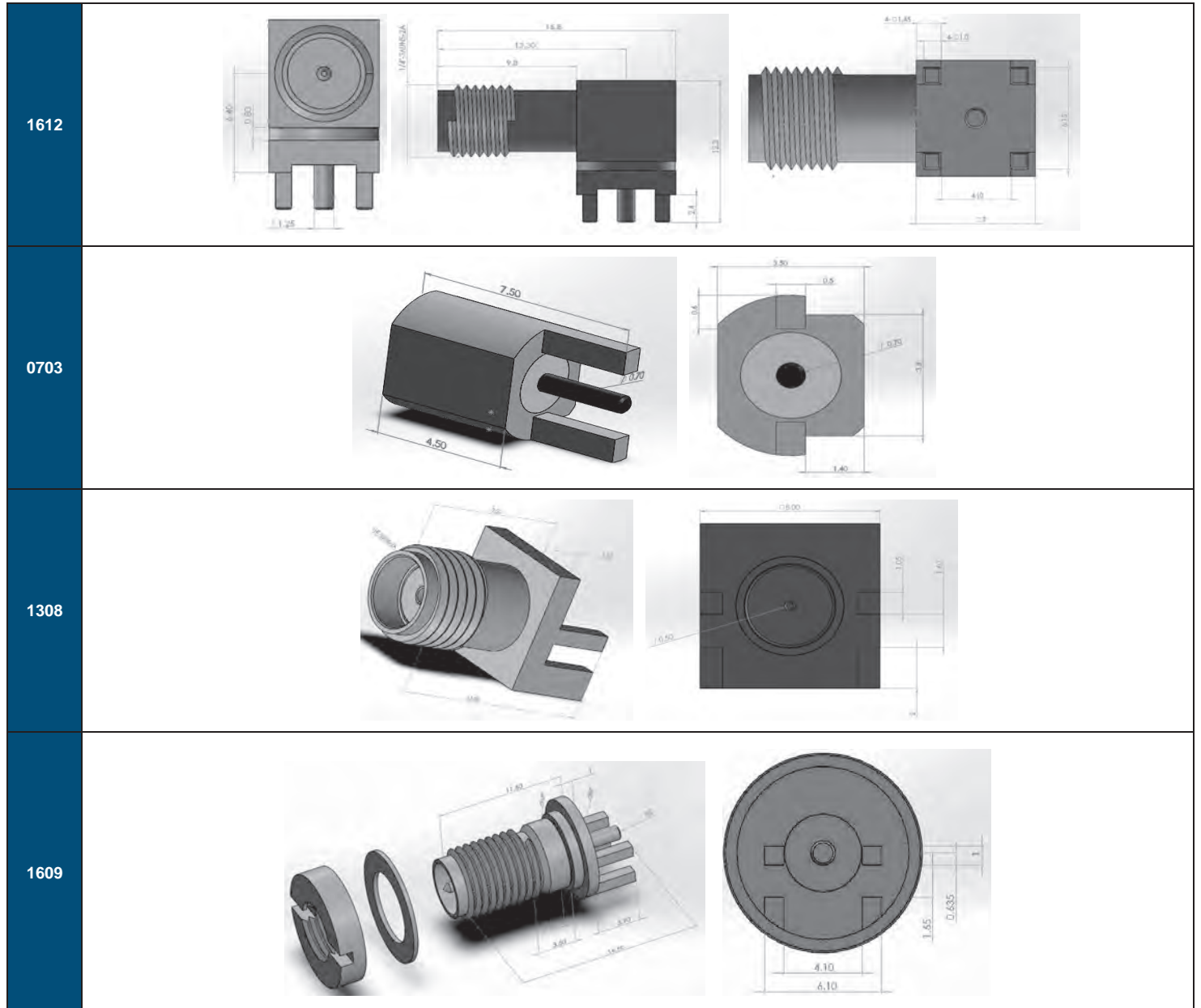
| TYPE | Series | Size(mm) |    | Ls         |             | Rs        |             | Q              |                 |
|------|--------|----------|----|------------|-------------|-----------|-------------|----------------|-----------------|
|      |        | L        | w  | NFC        | WPC         | NFC       | WPC         | NFC            | WPC             |
| 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) |



Connector

■ ELECTRICAL SPECIFICATION

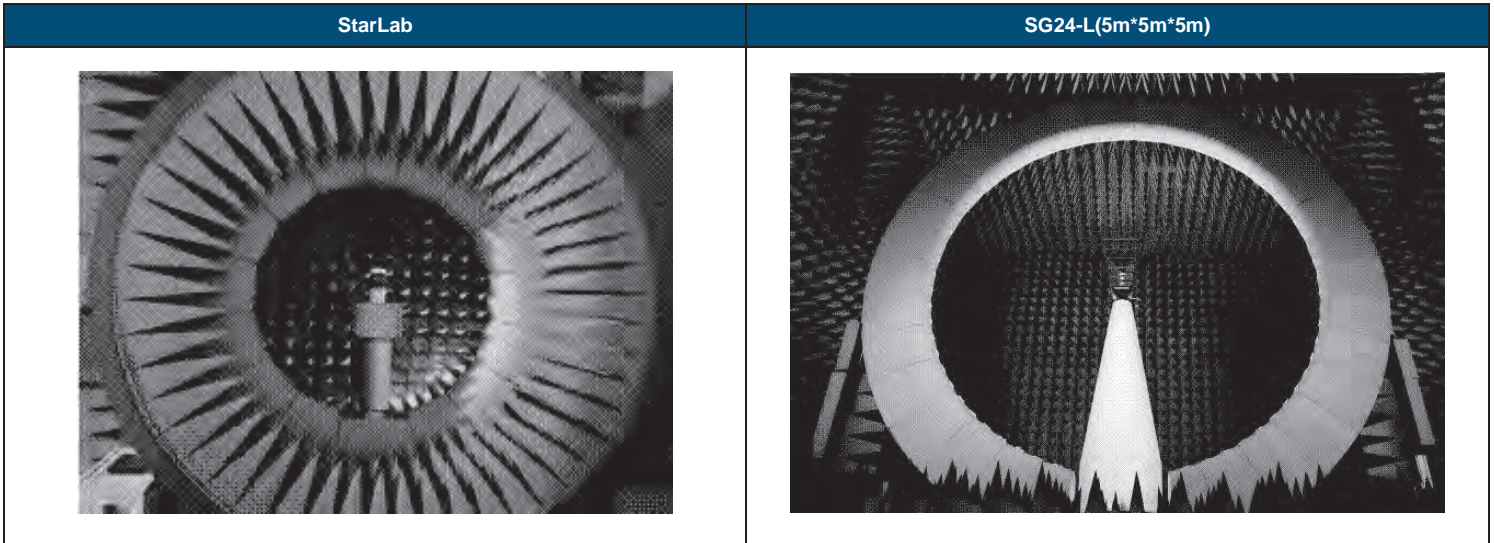
| Series | Size(mm) |      | Working Frequency Range | VSWR |
|--------|----------|------|-------------------------|------|
|        | L        | w    |                         |      |
| 1612   | 16.8     | 12.3 | DC ~ 6 GHz              | 2.0  |
| 0703   | 7.5      | 3.3  | DC ~ 6 GHz             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



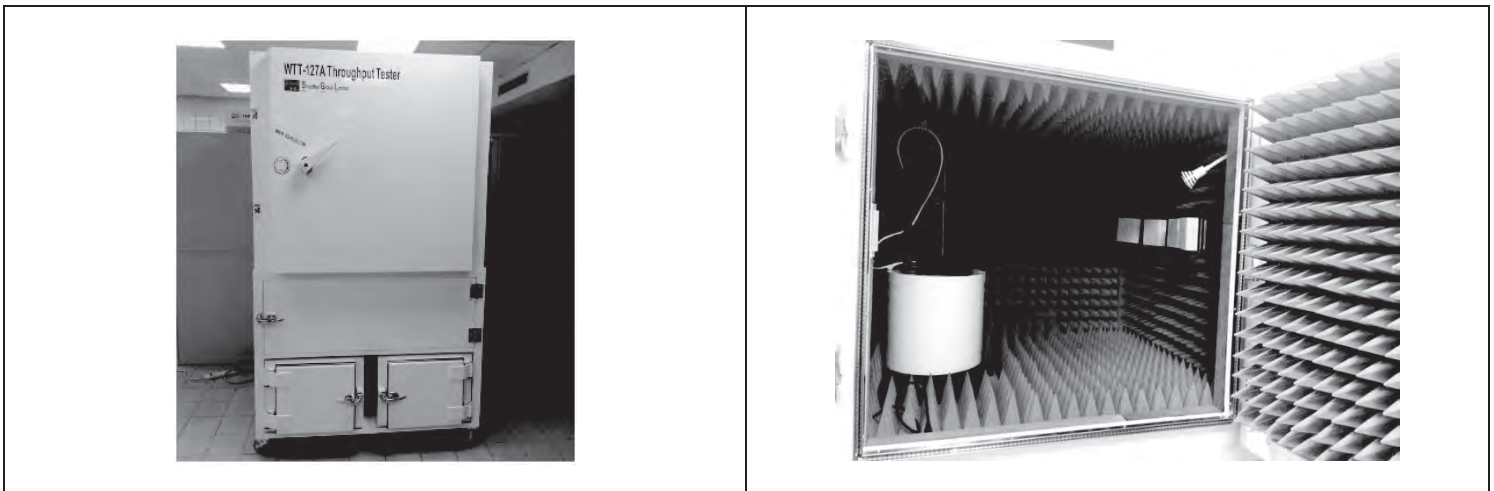
**Measurement Equipment**

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

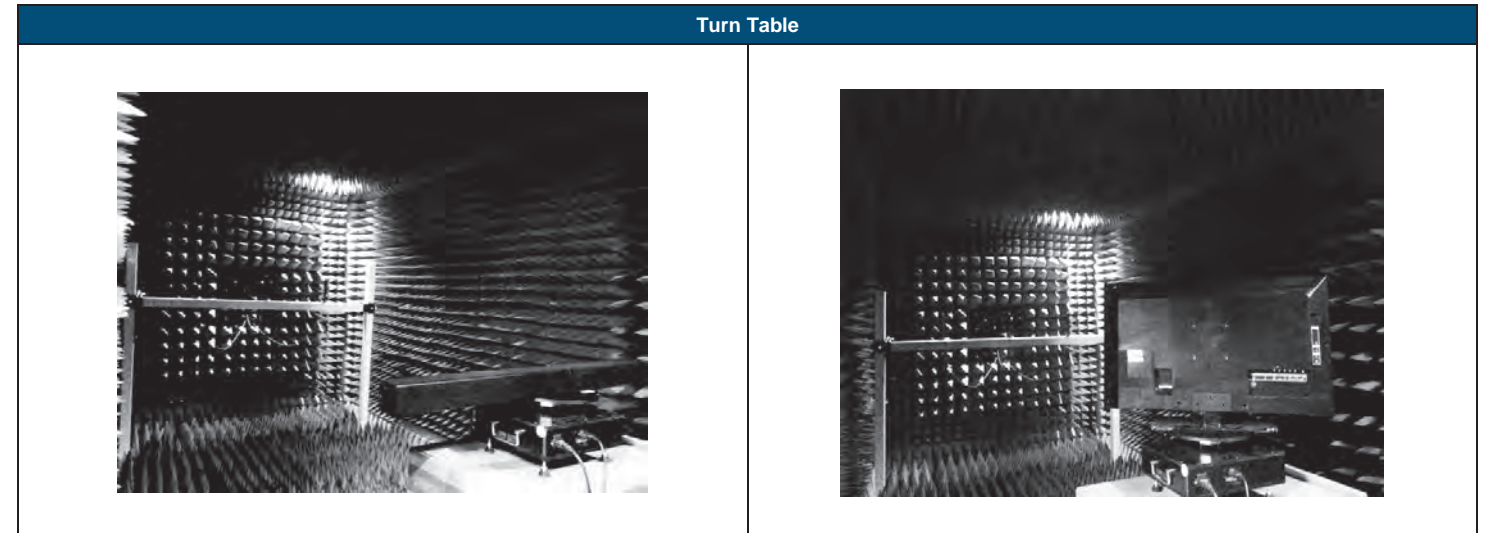
■ Active Measurement TRP & TIS Measurement for GSM/WCDMA/TD-CDMA/TDD-LTE/FDD-LTE



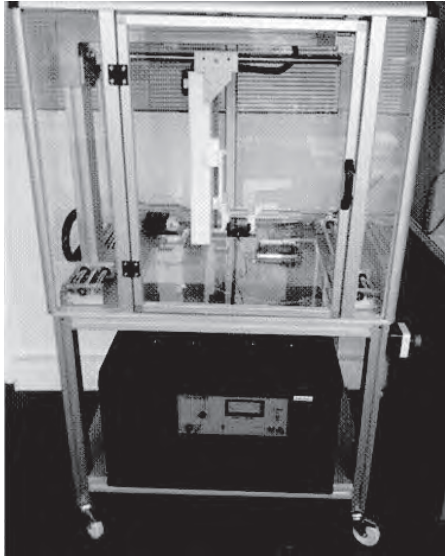
■ 2D Antenna Lab (Wireless Throughput Test)



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



FIME EMVCo/ISO10373-6 / NFC Forum



Comprion (NFC Forum)



Suzhou Smart TV Antenna Chamber



Shenzhen RayZone 1800





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