

Microwavefilters® &

Microwave components for telecommunication systems

Diplexer 42 GHz



In Metal Insert Technology

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This new family of **42 GHz Metal Insert Diplexer** covers the **1500 MHz** shifter. Low filter's attenuation in the high filter's bandwidth is more than **60 dB** (and vice versa). These diplexers are also low-loss (typically **IL < 1dB**), and have **RL≥17 dB**, even though they have no tuning.

Shifter 1500 MHz Characteristics

Product Code MW-NS5602667 ext. 001

| | |
|-----------------------|----------------------------|
| Low Filter Bandwidth | 40.550 – 41.098 GHz |
| High Filter Bandwidth | 42.050 – 42.598 GHz |

Product Code MW-NS5602667 ext. 002

| | |
|-----------------------|----------------------------|
| Low Filter Bandwidth | 40.983 – 41.531 GHz |
| High Filter Bandwidth | 42.483 – 43.031 GHz |

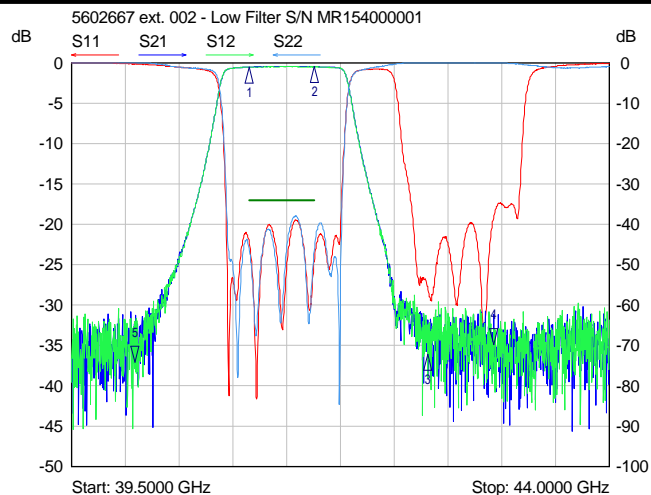
Product Code MW-NS5602667 ext. 003

| | |
|-----------------------|----------------------------|
| Low Filter Bandwidth | 41.416 – 41.964 GHz |
| High Filter Bandwidth | 42.916 – 43.464 GHz |

Electrical Characteristics (common to all codes)

| | |
|--|-------------------------|
| Return Loss (both filters) | > 17 dB |
| Insertion Loss (both filters) | < 1.4 dB |
| Attenuation (Low vs High and vice versa) | > 60 dB |
| Temperature Range | -40 ÷ +85 °C |
| Dimensions | 197 x 30 x 28 mm |
| Waveguide | R400 (WR22) |

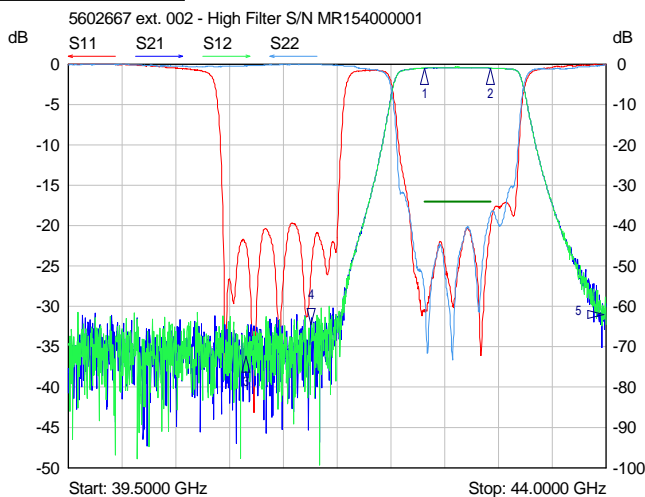
| | |
|---------------------------|---|
| Connectors (on all Ports) | Special Flanges with UBR320 dimensions and holes on TX & RX ports, UG-383/U Flange on Antenna Port |
|---------------------------|---|



Low filter's in-band frequency response

| Mkr | Trace | X-Axis | Value |
|-----|-------|-------------|-----------|
| 1 ▽ | S21 | 40.9830 GHz | -1.01 dB |
| 2 ▽ | S21 | 41.5310 GHz | -0.87 dB |
| 3 ▽ | S21 | 42.4830 GHz | -72.21 dB |
| 4 ▽ | S21 | 43.0310 GHz | -69.79 dB |
| 5 ▽ | S21 | 40.0310 GHz | -74.23 dB |

High filter's in-band frequency response



| Mkr | Trace | X-Axis | Value | Notes |
|-----|-------|-------------|-----------|-------|
| 1 ▽ | S21 | 42.4830 GHz | -0.95 dB | |
| 2 ▽ | S21 | 43.0310 GHz | -0.93 dB | |
| 3 ▽ | S21 | 40.9830 GHz | -72.27 dB | |
| 4 ▽ | S21 | 41.5310 GHz | -64.47 dB | |
| 5 ▽ | S21 | 43.9830 GHz | -62.14 dB | |

Low & high filter's wide-band frequency responses

