

Technical Proposal for JX-CC2-2300M3800M-60S Cavity Combiner

- ◆ Low Insertion Loss
- ◆ High Reliability
- ◆ High Rejection
- ◆ Small Volume

Revision History

| Version | Date | Author | Revision description | Comment |
|---------|------------|--------|--|-----------------|
| V1.0 | 2020/03/24 | Lee | Created | / |
| V1.1 | 2020/04/07 | Lee | Updated the position of the connectors | JingXin request |
| V1.2 | 2020/04/30 | Lee | Updated the return loss @ full temp | JingXin request |

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1. Mechanical layout

Table 1 Mechanical specifications @ JX-CC2-2300M3800M-60S

| | |
|-----------------|--|
| Dimension | LxWxH: 91mm x 59mm x 24.5mm (29.0mm Max) |
| Port connectors | SMA-Female |
| Finish | Black (Paint spraying) |
| Mounting | 4- ϕ 3.2 through |
| Application | Indoor |
| Notes | Material shall be RoHS 6/6 |

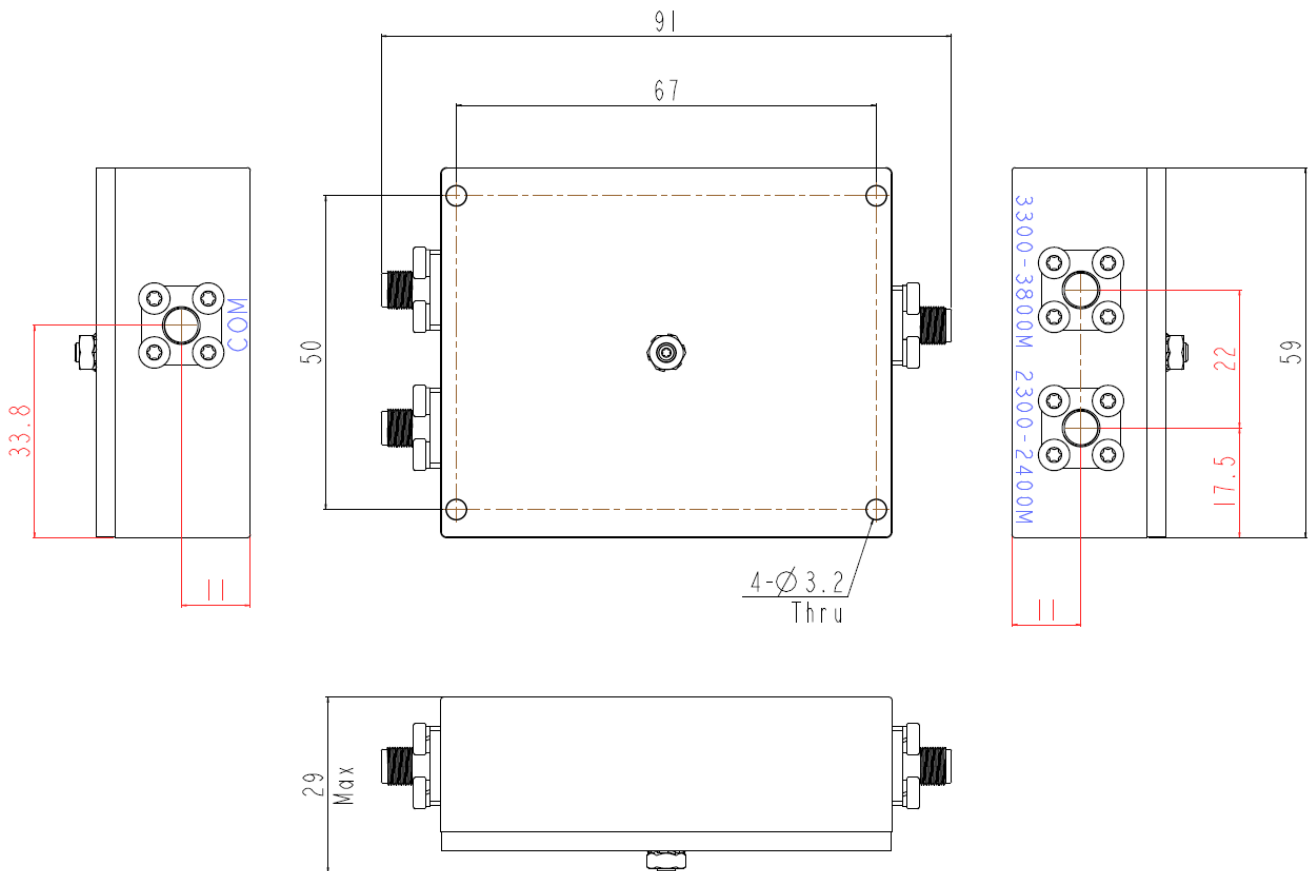


Figure 1 JX-CC2-2300M3800M-60S front panel layout

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2. Electrical analysis

2.1 Schematic diagram of the combiner

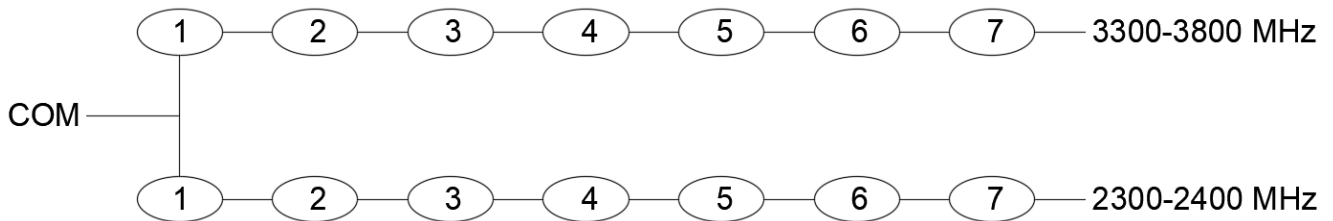


Figure 2 Topology of the combiner

2.2 Electrical specifications

Table 2 Electrical specifications @ JX-CC2-2300M3800M-60S

| SN | Parameters | Input port1 | Input port2 |
|----|---------------------------|--|---|
| 1 | Frequency range | 2300-2400MHz | 3300-3800MHz |
| 2 | Return loss (normal temp) | ≥18dB | ≥18dB |
| | Return loss (full temp) | ≥18dB | ≥16dB |
| 3 | Insertion loss | ≤0.9dB@-40 to +40°C ≤1.0dB@+40 to +85°C | ≤0.8dB |
| 4 | Ripple | ≤0.8dB | ≤0.8dB |
| 5 | Rejection | ≥60dB@DC-2200MHz ≥60dB@2450-3800MHz | ≥60dB@DC-2870MHz ≥55dB@2870-3200MHz ≥45dB@4000MHz |
| 6 | Input port power | 30W Average | |
| 7 | Common port power | 50W Average | |
| 8 | Impedance | 50Ω | |
| 9 | Temperature range | -40 °C to +85 °C | |

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2.3 The simulation curve

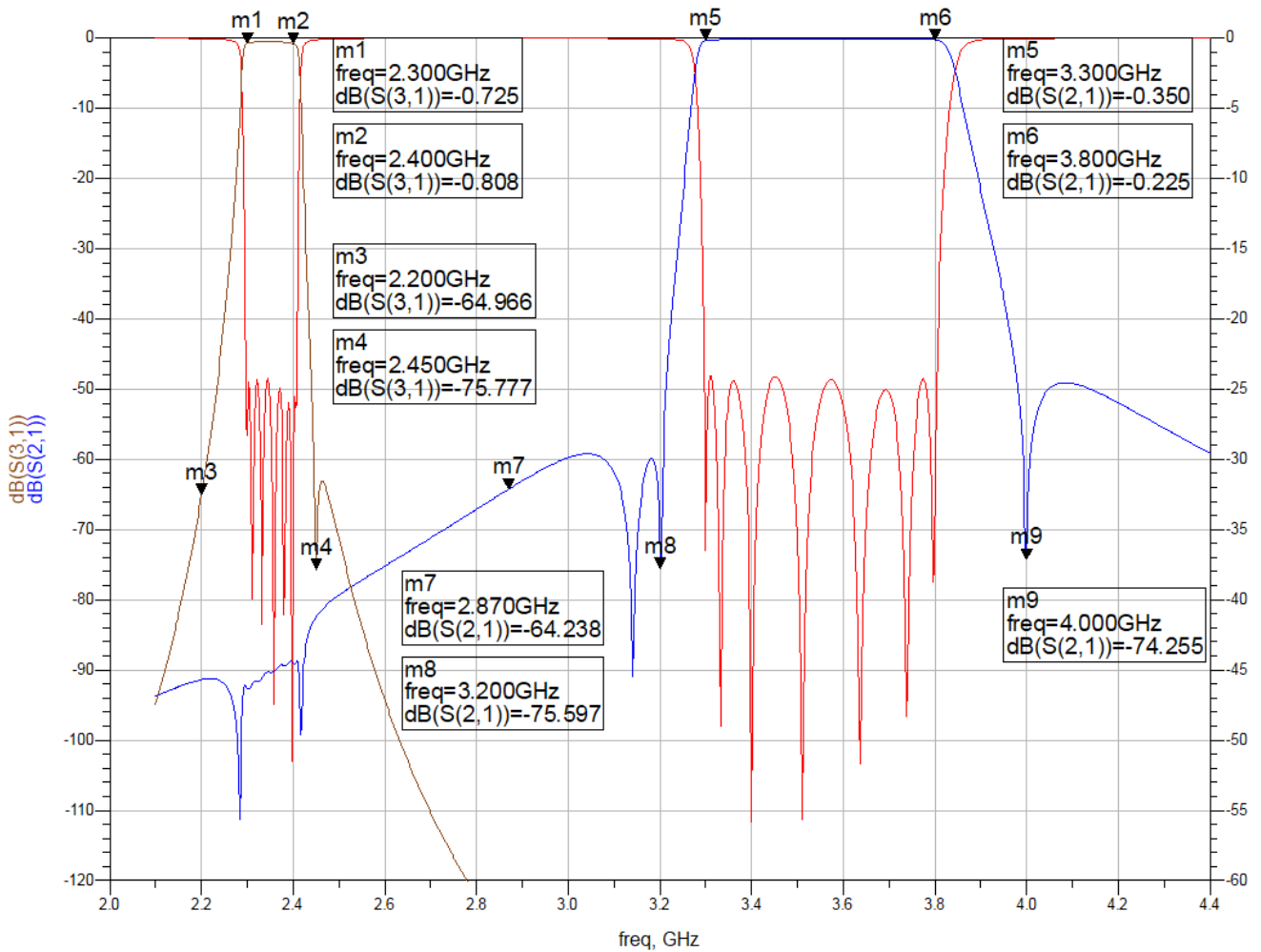


Figure 3 The simulation curve of the duplexer

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