

Technical proposal for CMH000126-B-B40 Cavity Filter

Revision History

| Version | Date | Author | Revision description | Comment |
|---------|------------|--------|--------------------------------------|---------|
| V1.0 | 2016/07/28 | Lee | Created | |
| V1.1 | 2017/07/25 | Lee | Update the electrical specifications | |
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1. Mechanical layout

Table 1 Mechanical Specifications

| | |
|---------------------|----------------------------------|
| Dimension | LxWxH: 295mm x 200mm x 38 mm |
| Number of filters | 2 |
| TX Port connectors | SMA 4 hole panel receptacle plug |
| ANT Port connectors | 4.3/10 connector type |
| Ingress Protection | IP67 when coupled with RRH |
| Finish | RAL9010 |
| Notes | Material shall be RoHS 6/6 |

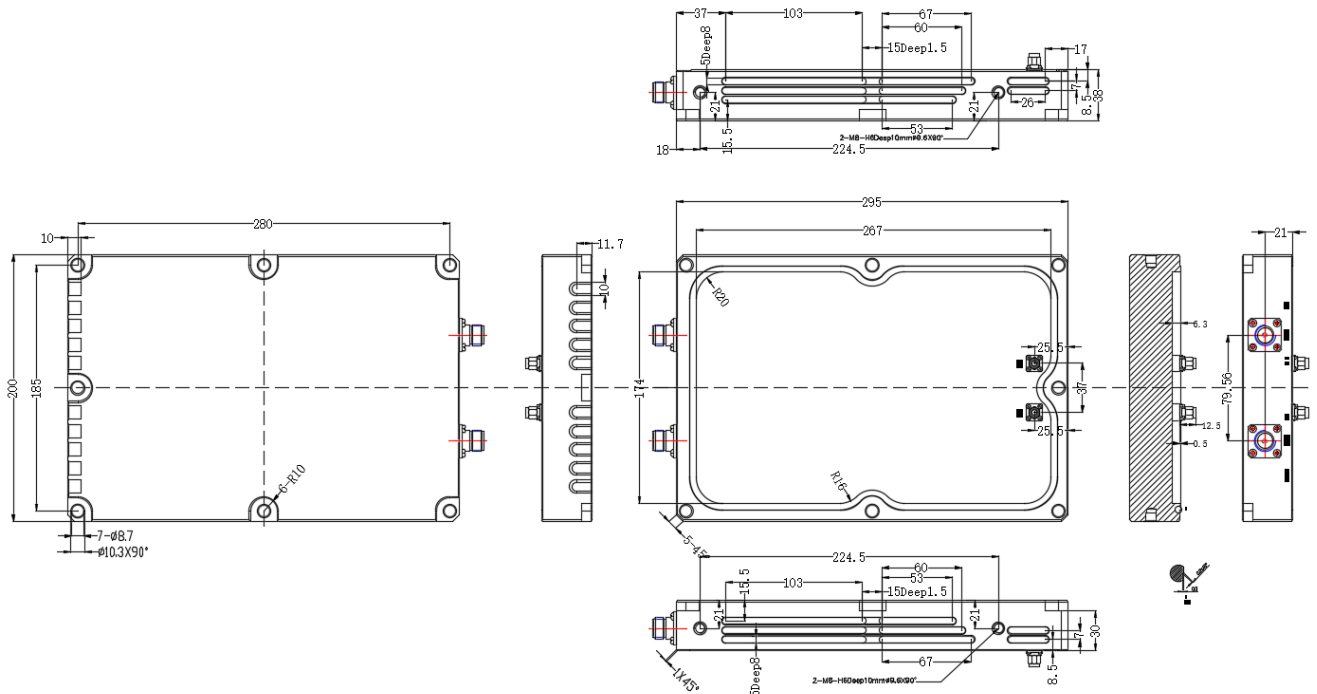


Figure 1 CMH000126-B-B40 front panel layout

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2. Electrical analysis

2.1 Schematic diagram of the Filter

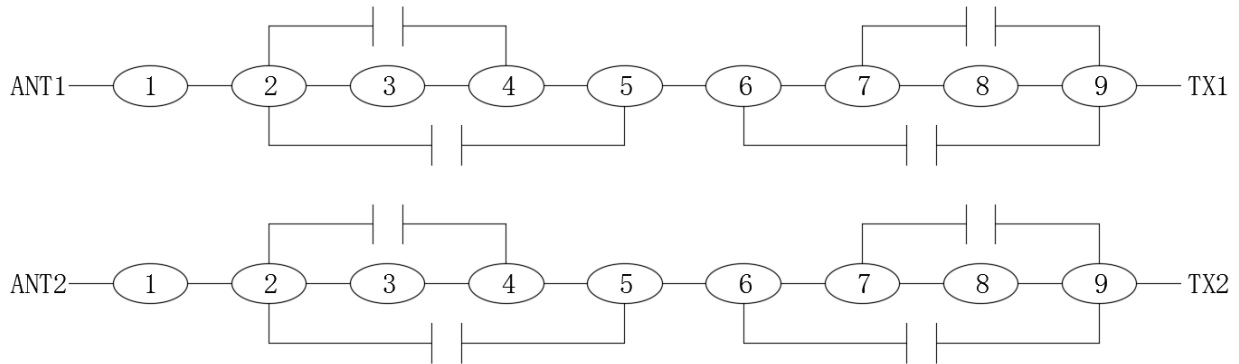


Figure 2 Topology of the Filter

2.2 Insertion loss budget

Table 2 Insertion loss budget @ TX1/2 path

| No. | Parameter Name | Insertion Loss @ TX1/2 path | |
|-----|---------------------------------------|-----------------------------|------|
| | | 2300~2400MHz | |
| 1 | TEMP | Normal | FULL |
| 2 | Simulate | 0.47 | 0.65 |
| 3 | Loss Variation by ambient temperature | / | 0.15 |
| 4 | Coupler+Lowpassfilter+connection link | 0.05 | 0.05 |
| 5 | Margin | 0.1 | 0.1 |
| 6 | Total | 0.62 | 0.95 |
| 7 | Spec | 0.7 | 1.0 |

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2.3 Electrical specifications

Table 3 Electrical specifications of TX1/2 path

| Item | Parameter | Frequency range | Spec | JX Suggest |
|------|---|------------------|---------------|------------|
| 1 | Return loss (Normal Temp) | 2300MHz ~2400MHz | ≥20 dB | OK |
| | Return loss (Full Temp) | 2300MHz ~2400MHz | ≥20 dB | ≥16 dB |
| 2 | Max insertion loss (Normal Temp) | 2300MHz ~2400MHz | ≤0.7 dB | OK |
| | Max insertion loss (Full Temp) | 2300MHz ~2400MHz | ≤1.0 dB | OK |
| 3 | In-band ripple(Full Temp) | 2300MHz ~2400MHz | ≤0.8 dB | OK |
| 4 | Rejections(Full Temp) | 100MHz-2260MHz | ≥60 dB | OK |
| | | 2260MHz-2280MHz | ≥40 dB | OK |
| | | 2420MHz-2440MHz | ≥40 dB | OK |
| | | 2440MHz-2500MHz | ≥60 dB | OK |
| 5 | Isolation between the 2 filters(ANT1 to ANT2) | 2300MHz ~2400MHz | ≥60 dB | OK |
| 6 | Impedance all ports | | 50 Ohm | OK |
| 7 | Admressive Power | | 150W CW | OK |
| 8 | PIMD | | ≤153 dBc | OK |
| 9 | Temperature Range | | -40°C to 85°C | OK |

2.4 The simulation curve

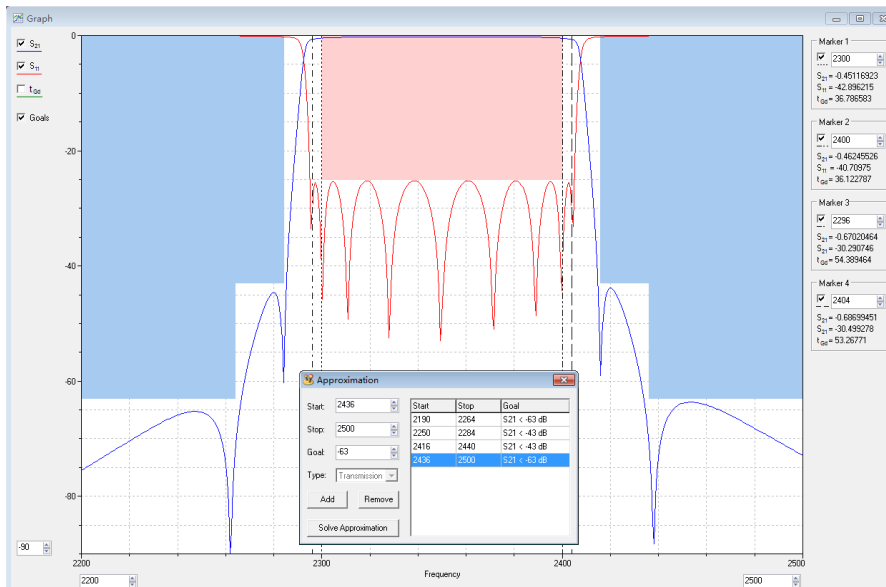


Figure 3 The simulation curve of the Filter

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