

Technical proposal for JX-CC5-7912690-40NP Cavity Power Combiner

Revision History

Version	Date	Author	Revision description	Comment
V1.0	2018/04/02	Lee	Created	/
V1.1	2018/04/24	Lee	Update the dimension of the combiner	Height: 88mm→77mm

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1. Mechanical layout

Table 1 Mechanical Specifications @ JX-CC5-7912690-40NP

Dimension	LxWxH: 200mm x 136mm x 77mm
Port connectors	COM: 4310-Female ; Input Port: N-Female ; CPL: SMA-Female
Finish	Metallic
Notes	Material shall be RoHS 6/6

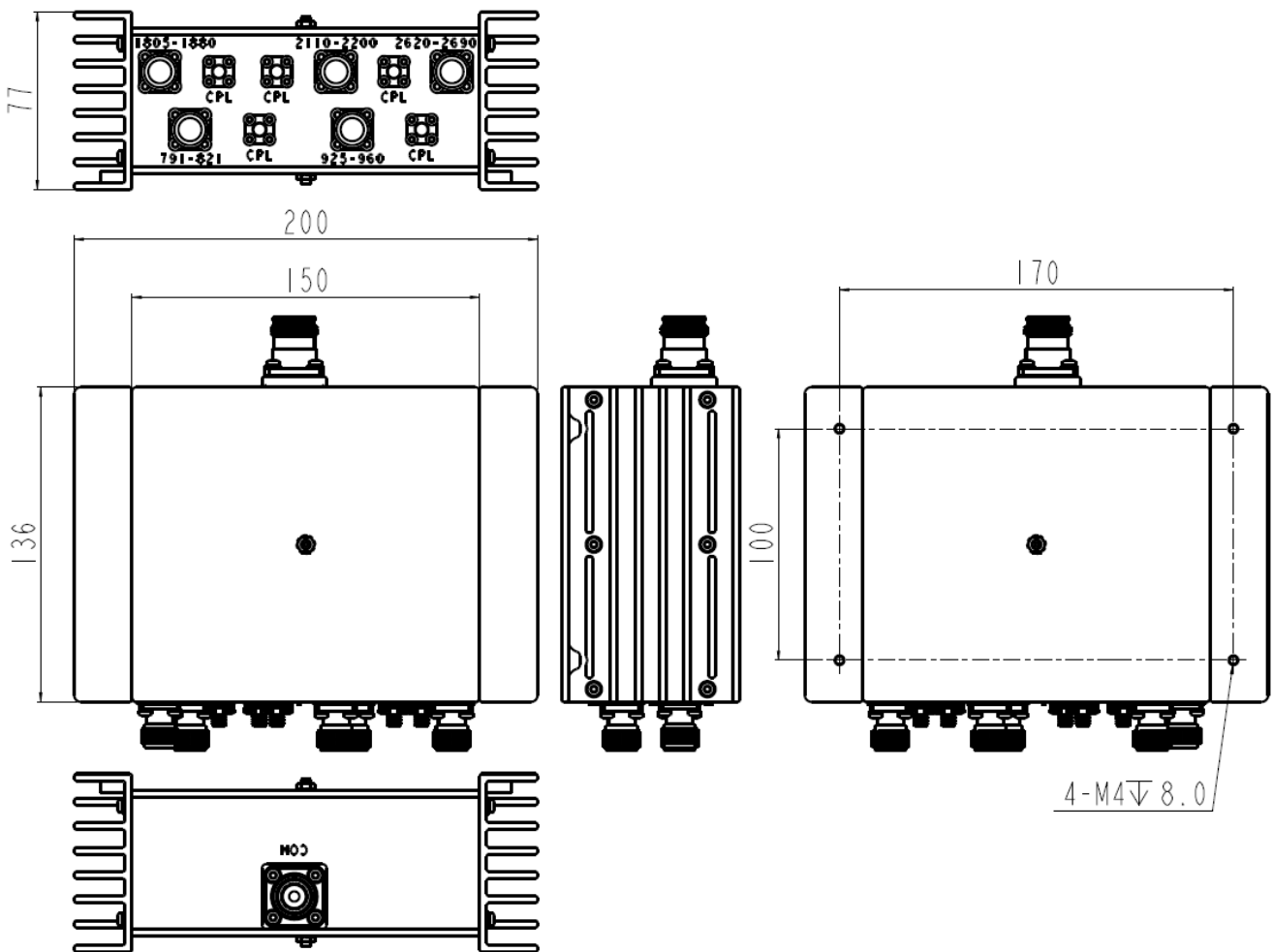


Figure 1 JX-CC5-7912690-40NP front panel layout

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2. Electrical analysis

2.1 Schematic diagram of the Combiner

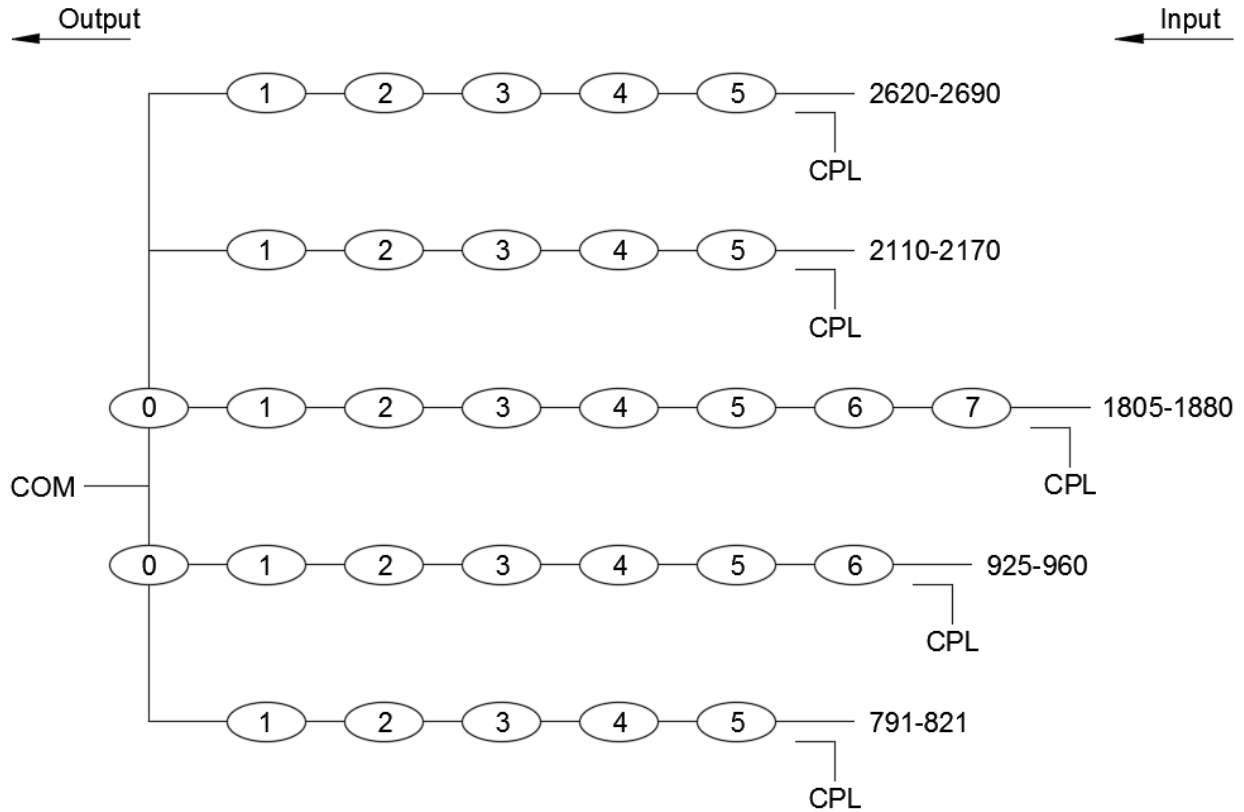


Figure 2 Topology of the Combiner

2.2 Electrical specifications

Table 2 Electrical specifications @ JX-CC5-7912690-40NP

Item	Parameter	791-821	925-960	1805-1880	2110-2200	2620-2690
1	Frequency range	791-821 MHz	925-960 MHz	1805-1880 MHz	2110-2200 MHz	2620-2690 MHz
2	Return loss	≥15 dB	≥15 dB	≥15 dB	≥15 dB	≥15 dB
3	Insertion loss	≤0.7 dB	≤0.7 dB	≤0.7 dB	≤0.5 dB	≤0.5 dB
4	Rejection	≥40dB@832-862MHz	≥40dB@880-915MHz	≥40dB@1710-1785MHz&1920-1980MHz	≥40dB@1920-1980MHz	≥40dB@2500-2570MHz
5	Isolation	≥40dB@791-821MHz&925-960MHz&1805-1880MHz&2110-2200MHz&2620-2690MHz				

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6	Coupling	30dB ~ 50dB
7	Input power	80W max (Average) ; 250W max (Peak)
8	Output power	400W max (Average) ; 1250W max (Peak)
9	Impedance	50 Ω
10	Temperature range	-20 $^{\circ}\text{C}$ ~ +70 $^{\circ}\text{C}$

2.3 The simulation curve

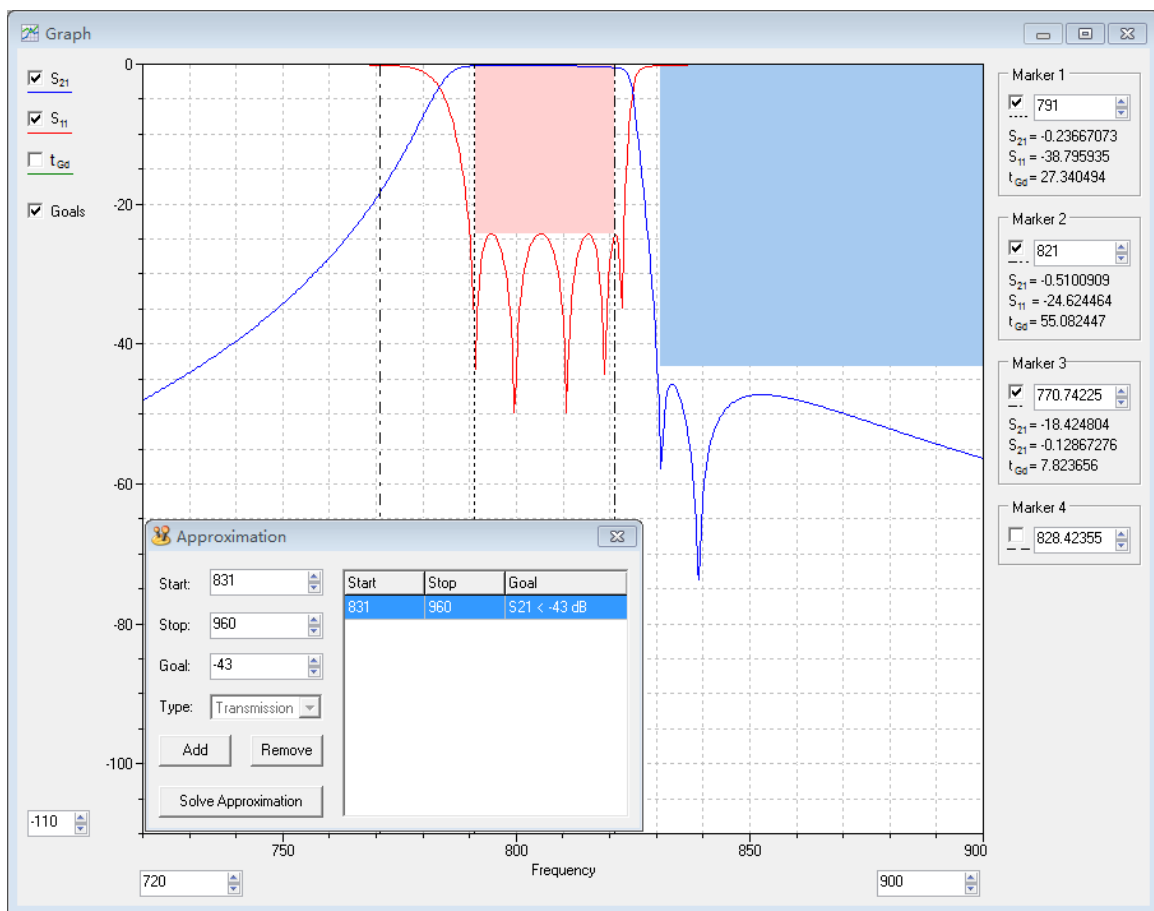


Figure 3 The simulation curve of 791-821

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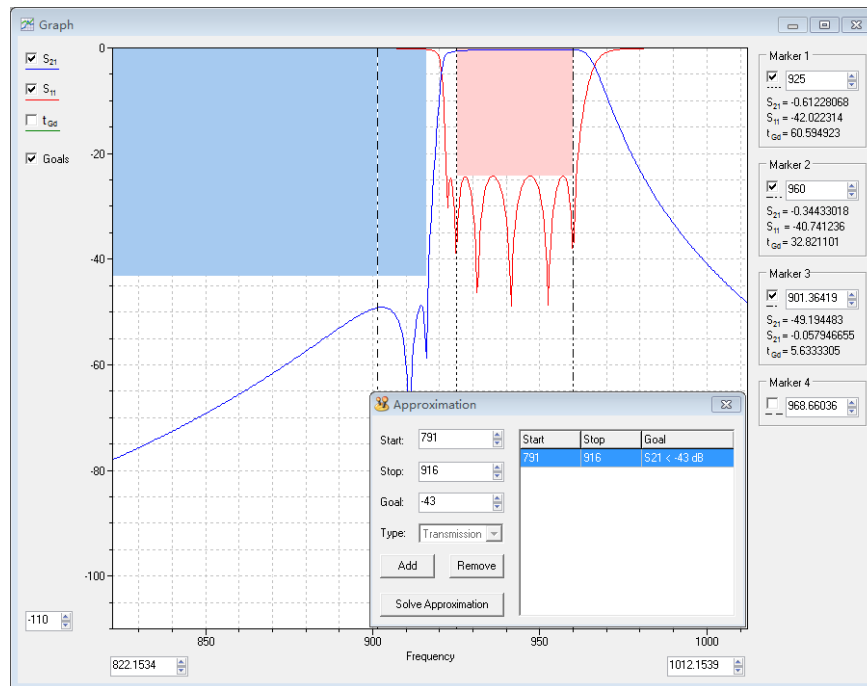


Figure 4 The simulation curve of 925-960

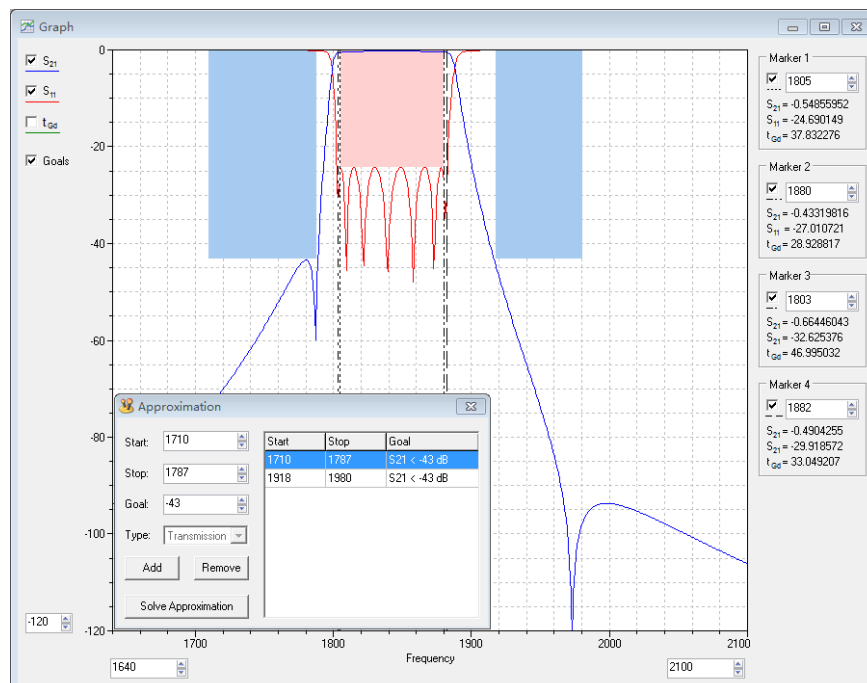


Figure 5 The simulation curve of 1805-1880

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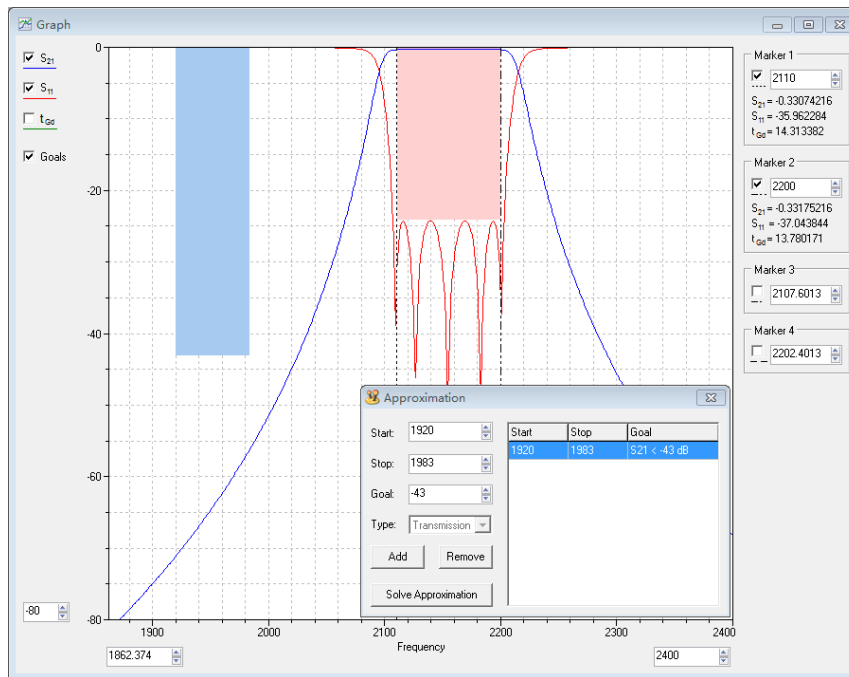


Figure 6 The simulation curve of 2110-2200

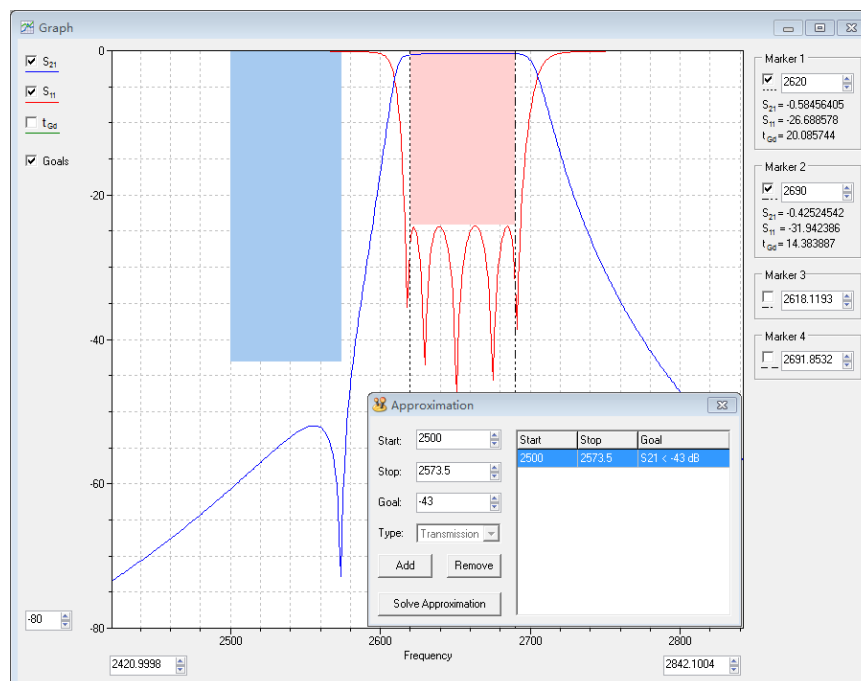


Figure 7 The simulation curve of 2620-2690

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