

# Technical proposal for JX-CC5-758M2690M-70NSDL Cavity Combiner

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

## Revision History

Version	Date	Author	Revision description	Comment
V1.0	2019/10/16	Lee	Created	/
V1.1	2019/10/21	Lee	Updated the position of the connector Show more detail in insertion loss and ripple	Customer request JingXin suggest
V1.2	2019/10/22	Lee	Updated the width dimension:185mm→182mm	Customer request
V1.3	2019/12/20	Lee	Updated the mechanical specifications	Customer request

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## 1. Mechanical layout

Table 1 Mechanical specifications @ JX-CC5-758M2690M-70NSDL

Dimension	LxWxH: 260mm x 182mm x 36mm (41.0mm Max)
Input connectors	SMA-Female
COM connector	N-Female
Thread size & Hole callout info	Front: 8-M3 deep 8.0mm Bottom: 4-M4 deep 10.0mm
Finish	Black (Paint spraying)
Weight	≤1.7kg
Notes	Material shall be RoHS 6/6

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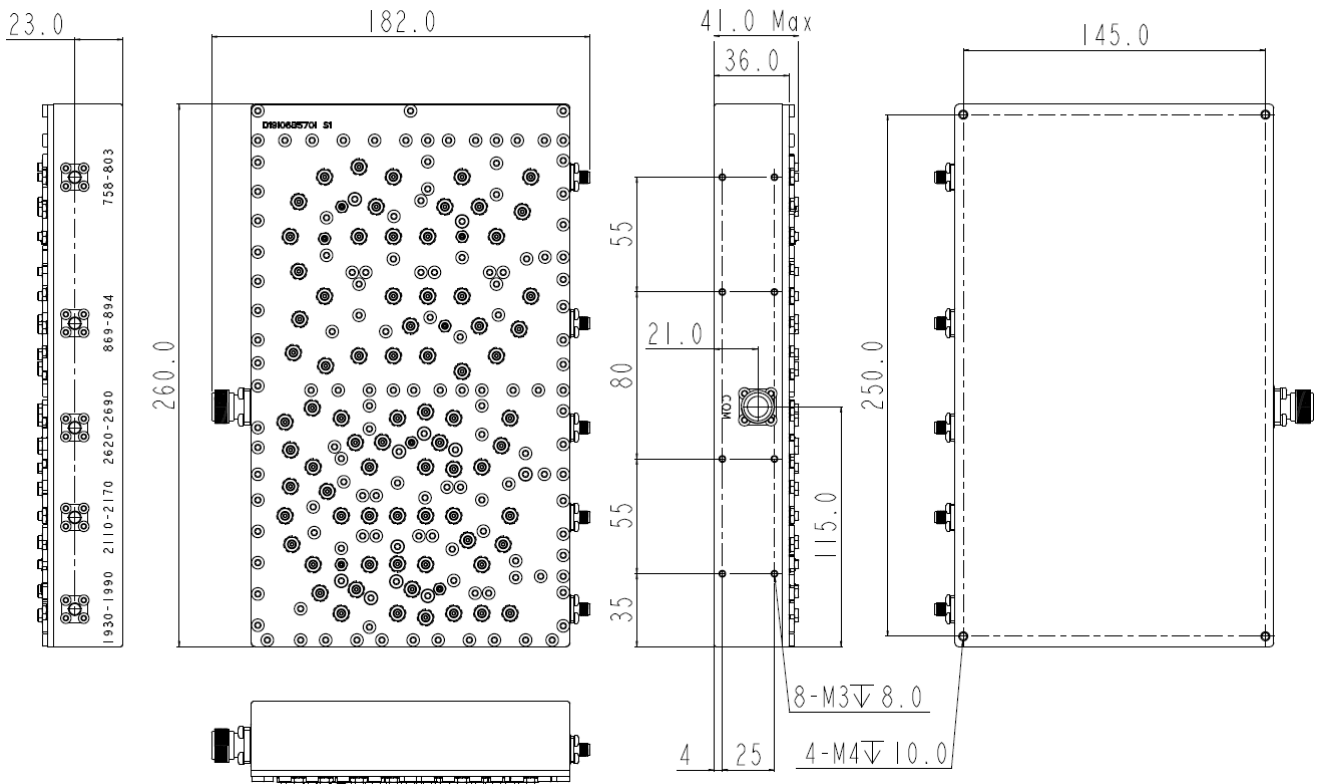
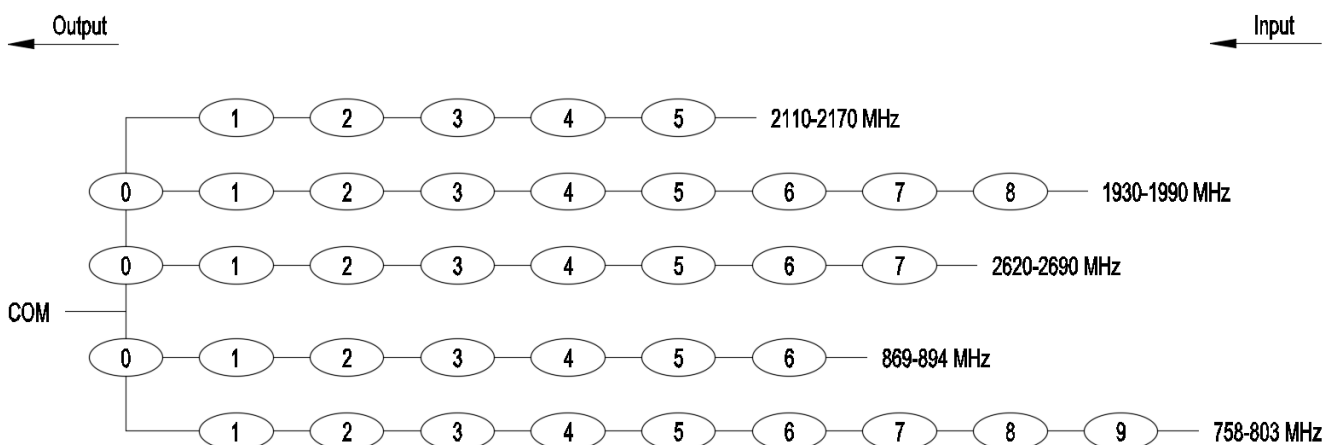


Figure 1 JX-CC5-758M2690M-70NSDL front panel layout

## 2. Electrical analysis

### 2.1 Schematic diagram of the combiner



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Figure 2 Toplogy of the combiner

## 2.2 Electrical specifications

Table 2 Electrical specifications @ JX-CC5-758M2690M-70NSDL

Item	Parameter	Specifications				
		758-803MHz	869-894MHz	1930-1990M Hz	2110-2170M Hz	2620-2690 MHz
1	Frequency range	758-803MHz	869-894MHz	1930-1990M Hz	2110-2170M Hz	2620-2690 MHz
2	Center frequency	780.5MHz	881.5MHz	1960MHz	2140MHz	2655MHz
3	Return loss	≥18dB	≥18dB	≥18dB	≥18dB	≥18dB
4	Center frequency insertion loss(Normal temp)	≤0.6dB	≤0.6dB	≤0.6dB	≤0.5dB	≤0.6dB
	Center frequency insertion loss(Full temp)	≤0.65dB	≤0.65dB	≤0.65dB	≤0.5dB	≤0.65dB
5	Insertion loss (Normal temp)	≤1.3dB	≤1.2dB	≤1.3dB	≤1.2dB	≤1.2dB
	Insertion loss (Full temp)	≤1.3dB	≤1.2dB	≤1.6dB	≤1.2dB	≤1.2dB
6	Ripple (Normal temp)	≤0.9dB	≤0.7dB	≤0.7dB	≤0.7dB	≤0.7dB
	Ripple (Full temp)	≤1.0dB	≤0.7dB	≤1.3dB	≤0.7dB	≤0.8dB
7	Rejection	≥40dB@DC-700 MHz	≥40dB@DC-700 MH	≥40dB@DC-700 MHz	≥40dB@DC-700 MHz	≥40dB@DC-7 00MHz
		≥75dB@703-74 8MHz	≥70dB@703-74 8MHz	≥70dB@703-74 8MHz	≥70dB@703-74 8MHz	≥70dB@703-7 48MHz
		≥70dB@824-84 9MHz	≥75dB@ 824-849MHz	≥70dB@824-84 9MHz	≥70dB@824-84 9MHz	≥70dB@824-8 49MHz
		≥70dB@1850-1 910MHz	≥70dB@1850-1 910MHz	≥75dB@1850-1 910MHz	≥75dB@1850-1 910MHz	≥70dB@1850- 1910MHz
		≥70dB@1710-1 770MHz	≥70dB@1710-1 770MHz	≥75dB@1710-1 770MHz	≥75dB@1710-1 770MHz	≥70dB@1710- 1770MHz
		≥70dB@2500-2 570MHz	≥70dB@2500-2 570MHz	≥70dB@2500-2 570MHz	≥70dB@2500-2 570MHz	≥75dB@2500- 257 MHz
		≥40dB@2750-3 700MHz	≥40dB@2750-3 700MHz	≥40dB@2750-3 700MHz	≥40dB@2750-3 700MHz	≥40dB@2750- 3700MHz
8	Input power	≤60W Average handling power at every input port				
9	Output power	≤300W Average handling power at COM port				
10	Impedance	50 Ω				
11	Temperature range	-40°C to +85°C				

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### 2.3 The simulation curve

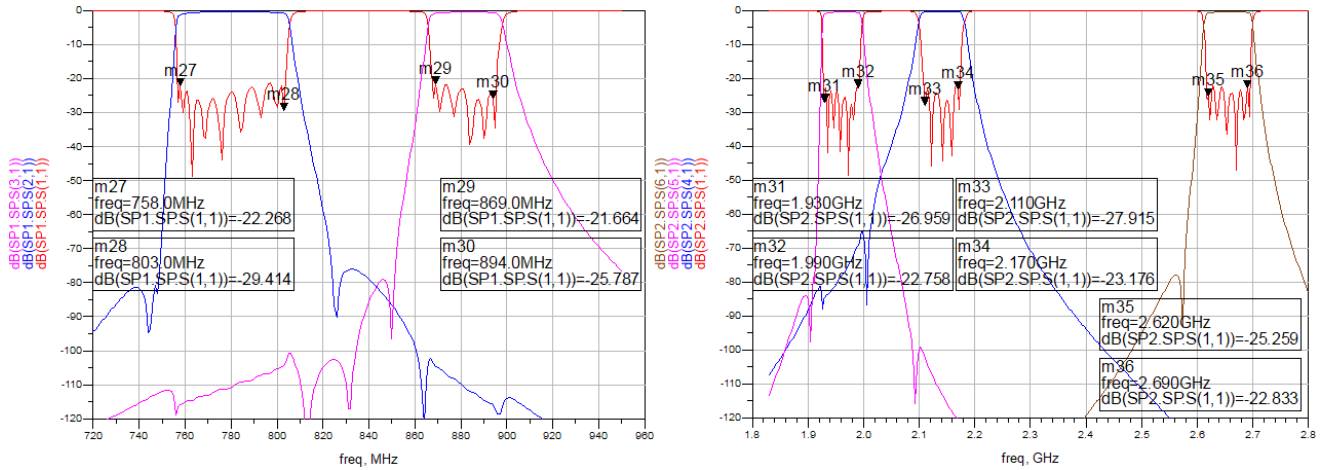


Figure 3 The simulation curve of the combiner

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