

Technical Proposal for JX-CD4-490M500M-85B Cavity Duplexer

Revision History

Version	Date	Author	Revision description	Comment
V1.0	2018/10/10	Lee	Created	/
V1.1	2018/10/12	Lee	Update the height of the dimension	The customer request
V1.2	2018/11/26	Lee	Update the electrical specifications	Rejection: $\geq 85\text{dB}$ \rightarrow $\geq 80\text{dB}$ Coupling: $30\text{dB} \pm 3\text{dB}$ \rightarrow $30\text{dB} \pm 6\text{dB}$
V1.3	2018/12/10	Lee	Update the electrical specifications	Rejection: $\geq 80\text{dB}$ \rightarrow $\geq 83\text{dB}$ $\geq 45\text{dB}$ @ Crossover INPUT #1 & INPUT #2 Insertion loss: $\leq 3.0\text{dB}$ \rightarrow $\leq 3.5\text{dB}$

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1. Mechanical layout

Table 1 Mechanical Specifications @ JX-CD4-490M500M-85B

Dimension	LxWxH: 325mm x 245mm x 129mm (135 mm Max)
Mounting	4-M5 thread deep 9mm
Port connectors	SMB-Male
Finish	Silver
Notes	Material shall be RoHS 6/6

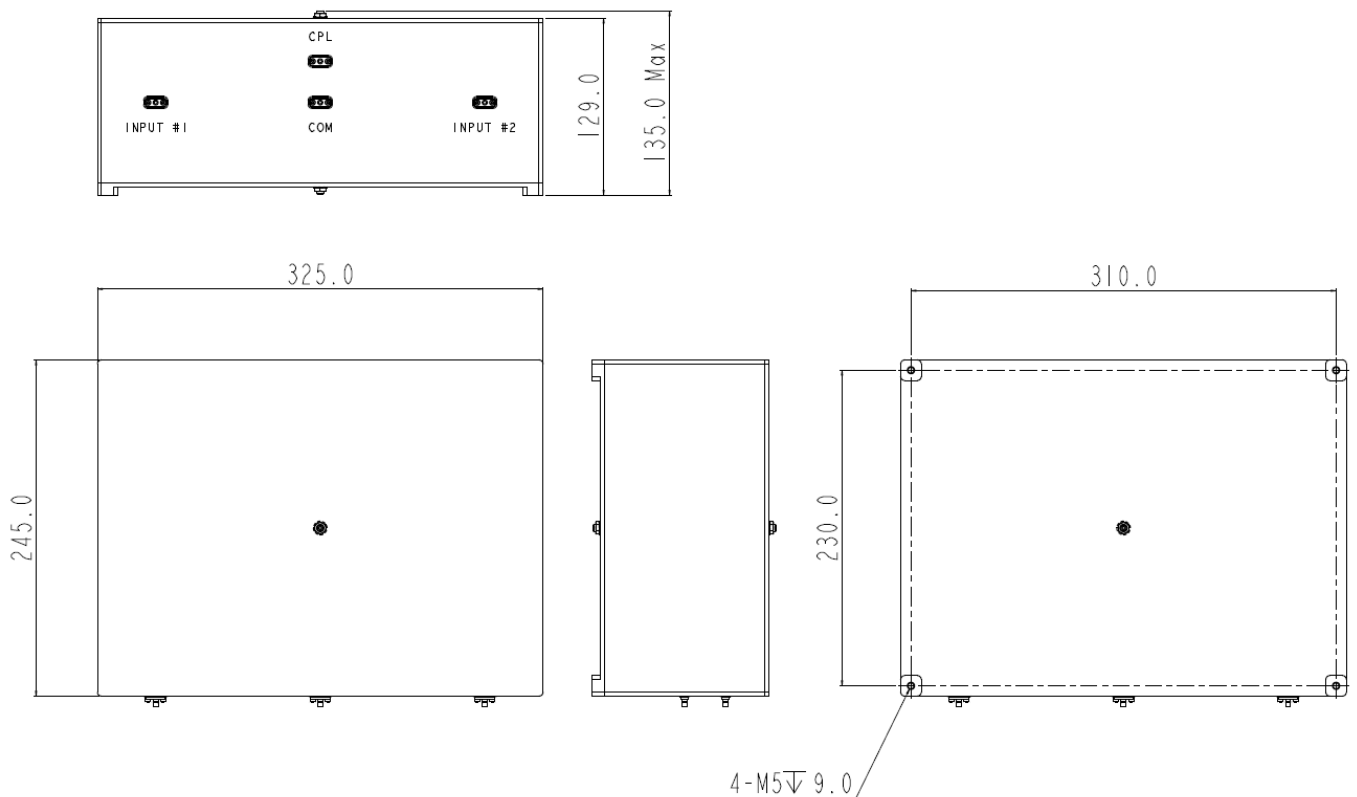


Figure 1 JX-CD4-490M500M-85B front panel layout

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2. Electrical analysis

2.1 Electrical specifications

Table 2 Electrical specifications @ JX-CD4-490M500M-85B

Item	Parameter	INPUT #1		INPUT #2	
		490.7-491MHz	496.3-496.62 MHz	493.7-494MHz	499.3-499.62 MHz
2	Return Loss(Normal temp)	≥18dB		≥18dB	
	Return Loss(Full temp)	≥15dB		≥15dB	
3	Insertion Loss(Normal temp)	≤3.5dB		≤3.5dB	
	Insertion Loss(Full temp)	≤3.8dB		≤3.8dB	
4	Rejection	≥83dB @493.7-494MHz&499.3-499.62MHz ≥45dB@Crossover INPUT #1 & INPUT #2		≥83dB @490.7-491MHz&496.3-496.62MHz ≥45dB@Crossover INPUT #1 & INPUT #2	
5	Coupling	30dB±6dB			
6	Impedance	50 Ω			
7	Operating Temperature Range	-20°C to +55°C			

2.2 The test results

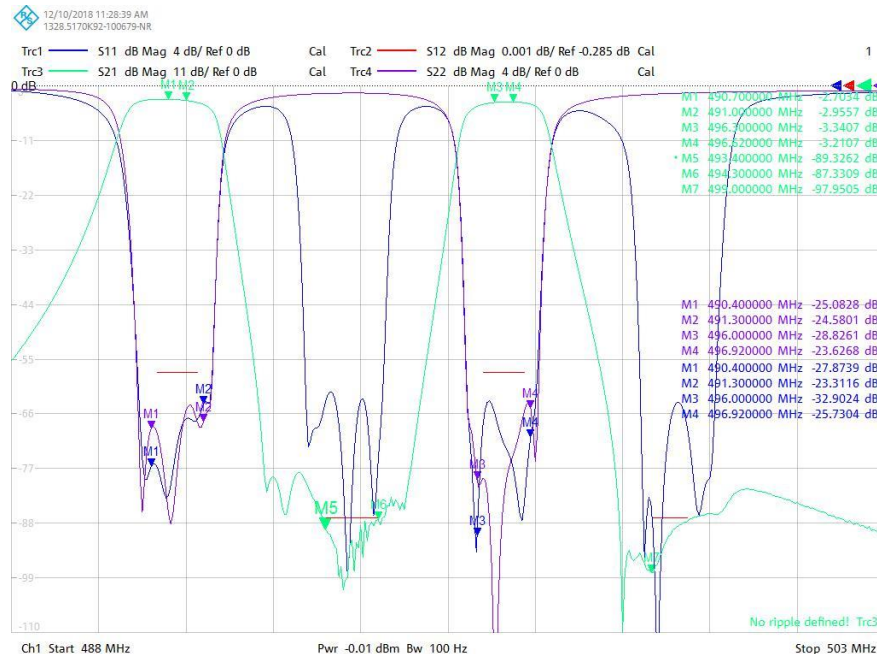


Figure 2 The test curve of INPUT #1

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Professional manufacturer of
passive microwave components

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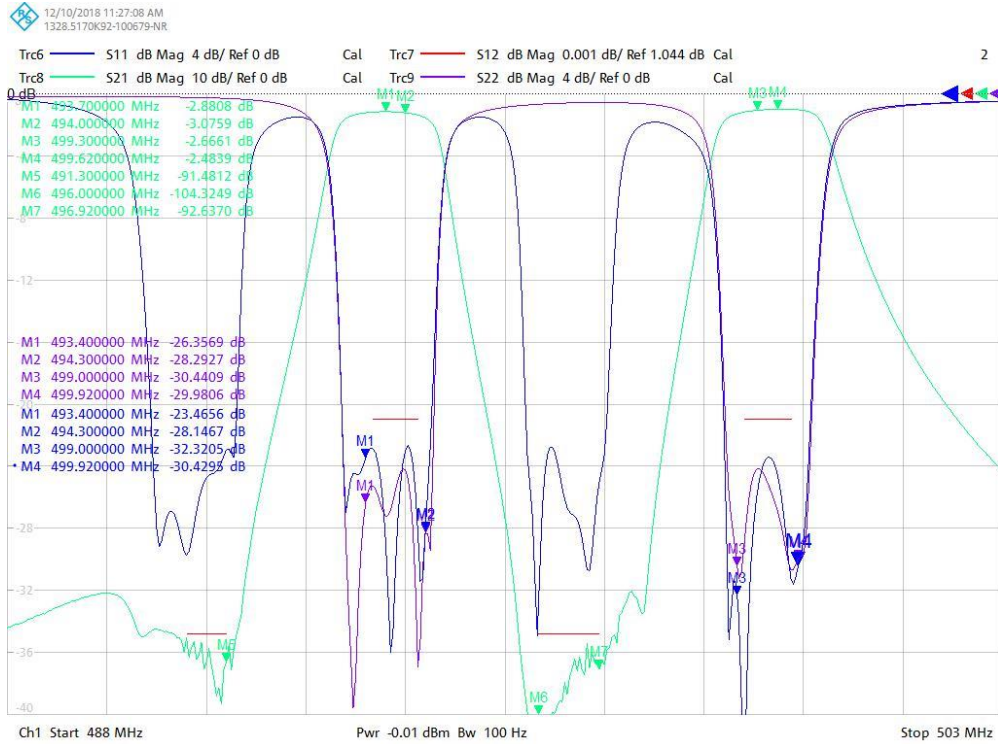


Figure 3 The test curve of INPUT #2

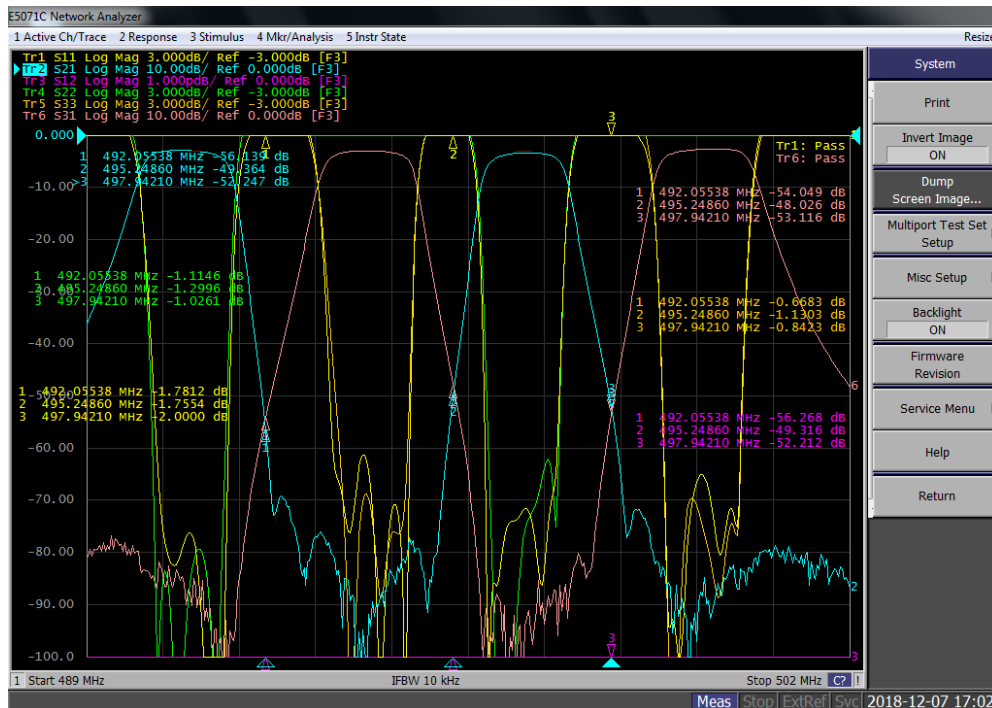


Figure 4 The test curve of Crossover

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