

Technical proposal for JX-CD-380/390-H72 Duplexer

Revision History

Version	Date	Author	Revision description	Comment
V1.0	2017/05/05	Lee	Created	/
V1.1	2017/05/10	Lee	Update the panel layout of height size	/
V1.2	2017/06/21	Lee	Update the Mechanical layout	/
V1.3	2017/08/01	Lee	Modify the Isolation specification	/
V1.4	2017/08/01	Lee	Modify the Isolation specification	/

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Table of content

Technical proposal for JX-CD-380/390-H72 Duplexer	1
1. Mechanical layout.....	3
2. Electrical analysis	4
2.1 Schematic diagram of the Duplexer	4
2.2 Insertion loss budget	4
2.3 Electrical specifications	5
2.4 The test curve	5

Figures

Figure 1 JX-CD-380/390-H72 front panel layout	3
Figure 2 Topology of the Duplexer	4
Figure 3 The test curve of Duplexer	5

Tables

Table 1 Mechanical Specifications	3
Table 2 Insertion loss budget @ HIGH/LOW path.....	4
Table 3 Electrical specifications @ HIGH/LOW path.....	5

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1. Mechanical layout

Table 1 Mechanical Specifications

Dimension	LxWxH: 145mm x 106mm x 72 mm (79mm Max)
Port connectors	SMA 4 hole panel receptacle plug
Finish	Black
Notes	Material shall be RoHS 6/6

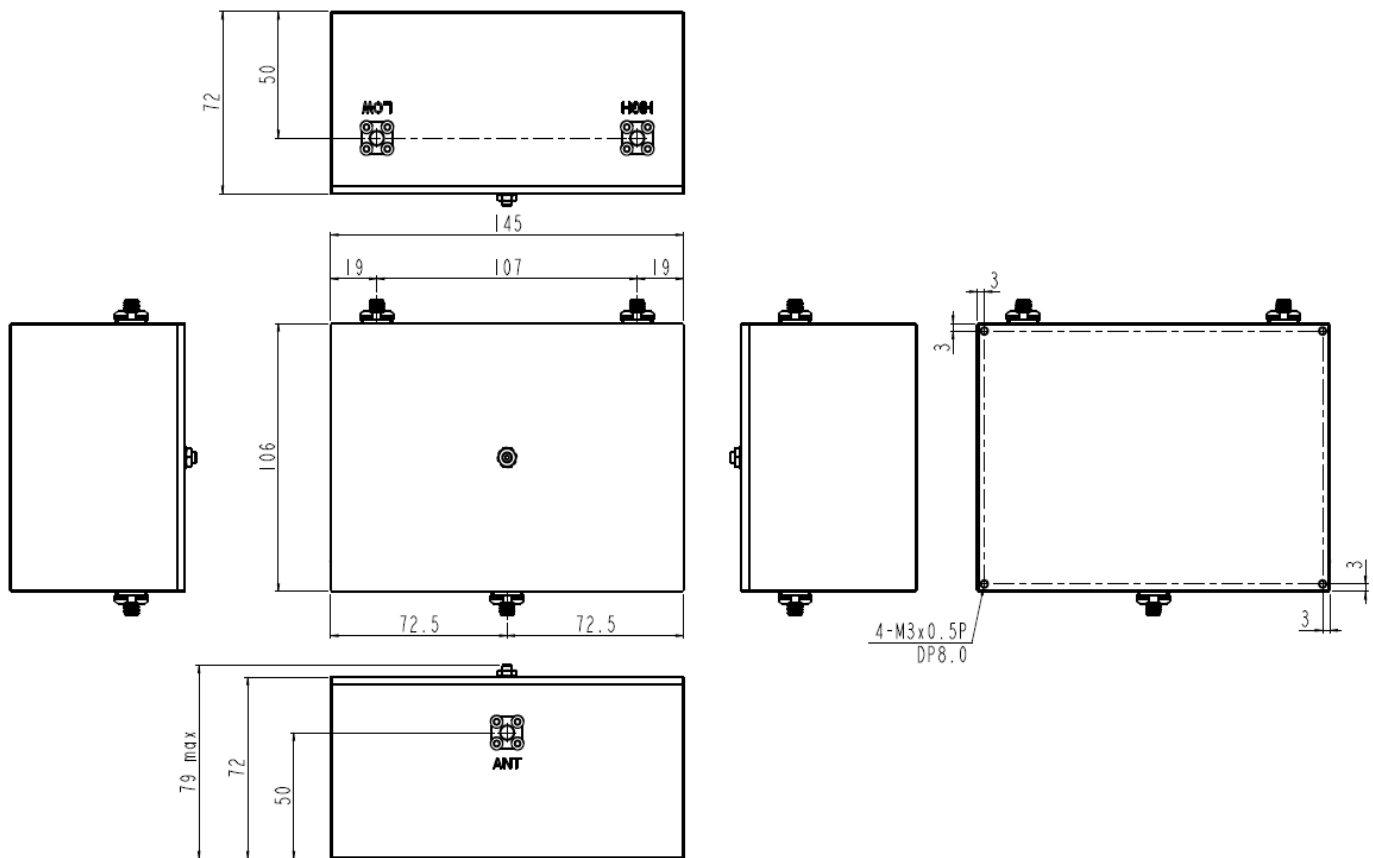


Figure 1 JX-CD-380/390-H72 front panel layout

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2. Electrical analysis

2.1 Schematic diagram of the Duplexer

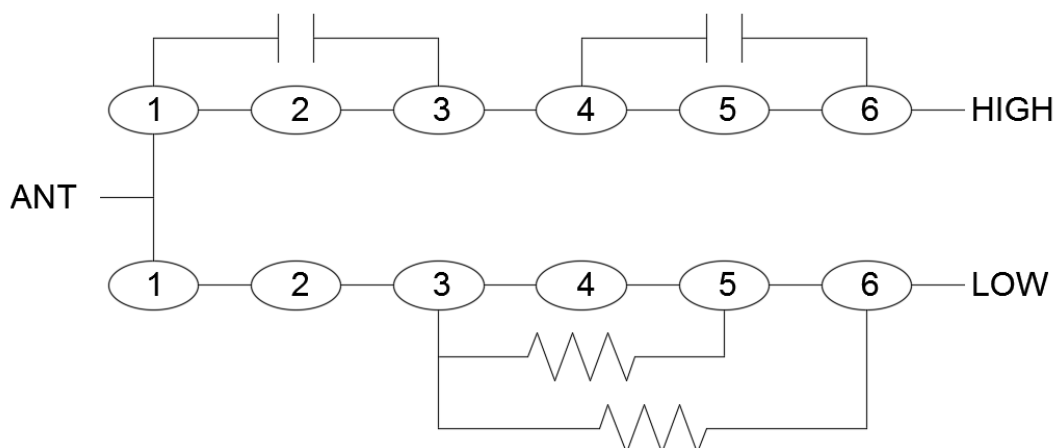


Figure 2 Topology of the Duplexer

2.2 Insertion loss budget

Table 2 Insertion loss budget @ HIGH/LOW path

No.	Parameter Name	Insertion Loss @ LOW path		Insertion Loss @ HIGH path	
		380~386.5MHz		390~396.5MHz	
1	TEMP	Normal	FULL	Normal	FULL
2	Simulate	1.655	1.744	1.642	1.731
3	Loss Variation by ambient temperature	/	0.1	/	0.1
4	Coupler+Lowpassfilter+connection link	0.05	0.05	0.05	0.05
5	Margin	0.1	0.1	0.1	0.1
6	Total	1.805	1.994	1.792	1.981
7	Spec	2.0	2.0	2.0	2.0

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2.3 Electrical specifications

Table 3 Electrical specifications @ HIGH/LOW path

Item	Parameter	HIGH	LOW	Spec	JX Suggest
1	Return loss (Normal Temp)	390-396.5MHz	380-386.5MHz	≥18 dB	OK
	Return loss (Full Temp)	390-396.5MHz	380-386.5MHz	≥18 dB	OK
2	Max insertion loss (Normal Temp)	390-396.5MHz	380-386.5MHz	≤2.0 dB	OK
	Max insertion loss (Full Temp)	390-396.5MHz	380-386.5MHz	≤2.0 dB	OK
3	Attenuation (Full Temp)	@ LOW path	@ HIGH path	≥65 dB	OK
4	Isolation (Full Temp)	@ 380-386.5MHz&390-396.5MHz		≥65 dB	OK
		@ 386.5-390MHz		≥45 dB	OK
5	Impedance all ports			50 Ohm	OK
6	Input Power			20 Watt	OK
7	Operating Temperature Range			-10°C to +60°C	OK

2.4 The test curve

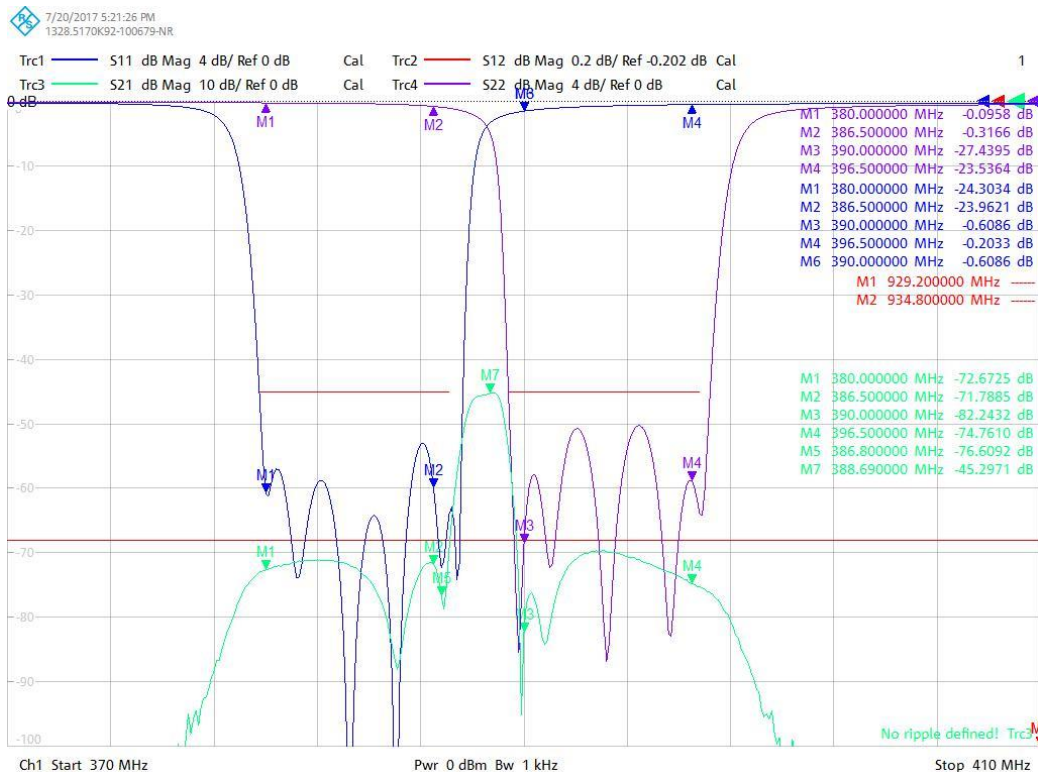


Figure 3 The test curve of Duplexer

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