

Technical proposal for JX-CD4-GSMR-70S1 Cavity Duplexer

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

Revision History

Version	Date	Author	Revision description	Comment
V1.0	2020/05/27	Sam Chen	Created	/
V1.1	2020/07/06	Sam Chen	Update Rejection	/

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1. Mechanical layout

Table 1 Mechanical specifications @ JX-CD4-GSMR-70S1

Dimension	L x W x H: 178mm x 94mm x 77mm (89.0mm Max)
Port connectors	SMA-Female
Finish	Silver
Notes	Material shall be RoHS 6/6

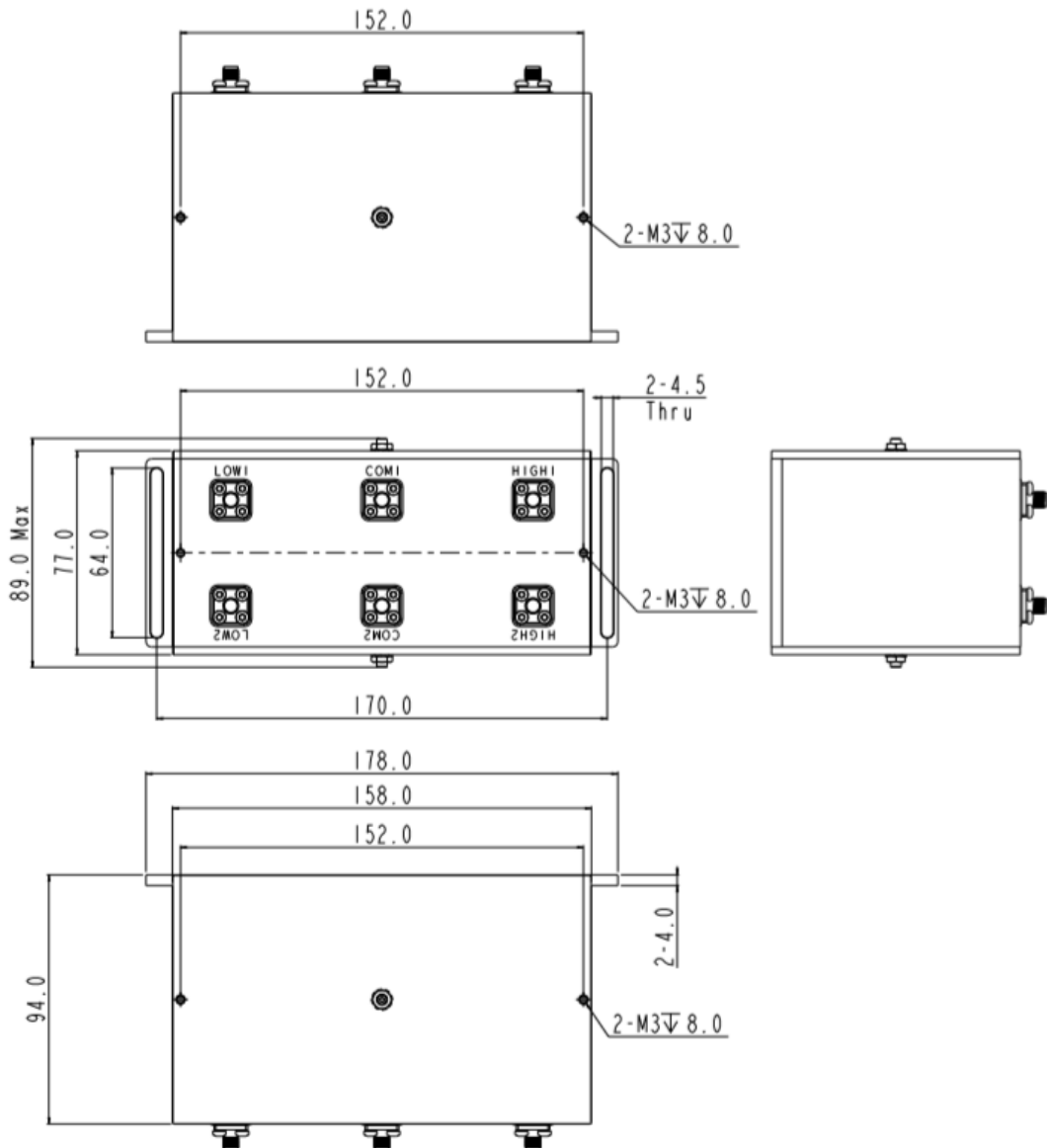


Figure 1 JX-CD4-GSMR-70S1 front panel layout

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2. Electrical analysis

2.1 Schematic diagram of the Duplexer

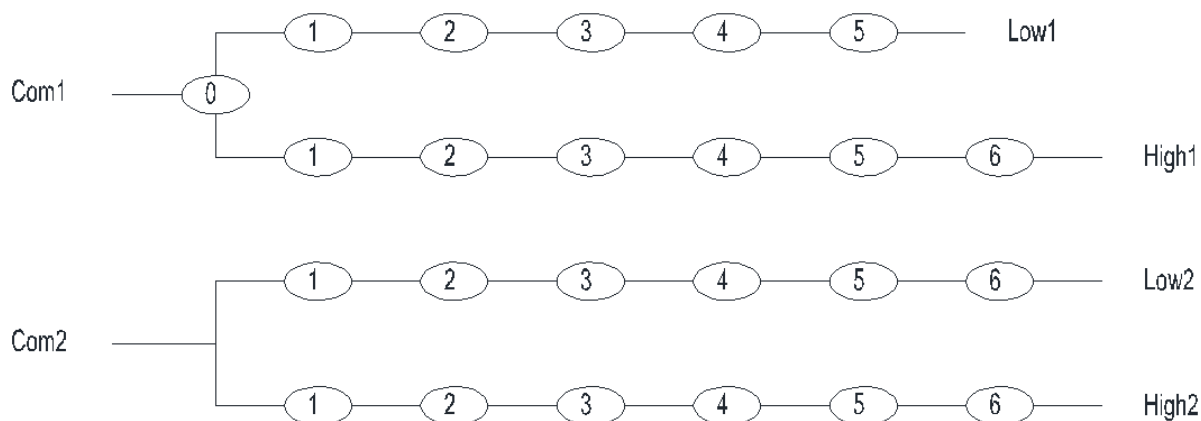


Figure 2 Toplogy of the Duplexer

2.2 Electrical specifications

Table 2 Electrical specifications @ JX-CD4-GSMR-70S1

Item	Parameter	Duplexer			
		Low1	High1	Low2	High2
1	Frequency range	885-889MHz	930-934MHz	800-900MHz	930-934MHz
2	Insertion loss (Normal Temp)	≤1.8dB	≤1.1dB	≤1.0dB	≤1.1dB
	Insertion loss (Full Temp)	≤1.8dB	≤1.2dB	≤1.0dB	≤1.2dB
3	Ripple	≤0.5dB	≤0.5dB	≤0.5dB	≤0.5dB
4	Return Loss	≥19dB	≥19dB	≥19dB	≥19dB
5	Rejection	≥27dB@f ₀ ±5MHz ≥40dB@909.5~930MHz ≥70dB@930~934MHz	≥15dB@f ₀ ±7MHz ≥50dB@889~915MHz ≥70dB@885~889MHz	≥50dB@930~934MHz	≥15dB@f ₀ ±7MHz z ≥30dB@889~915MHz ≥70dB@885~889MHz
6	Power	50W			
7	Impedance	50Ω			

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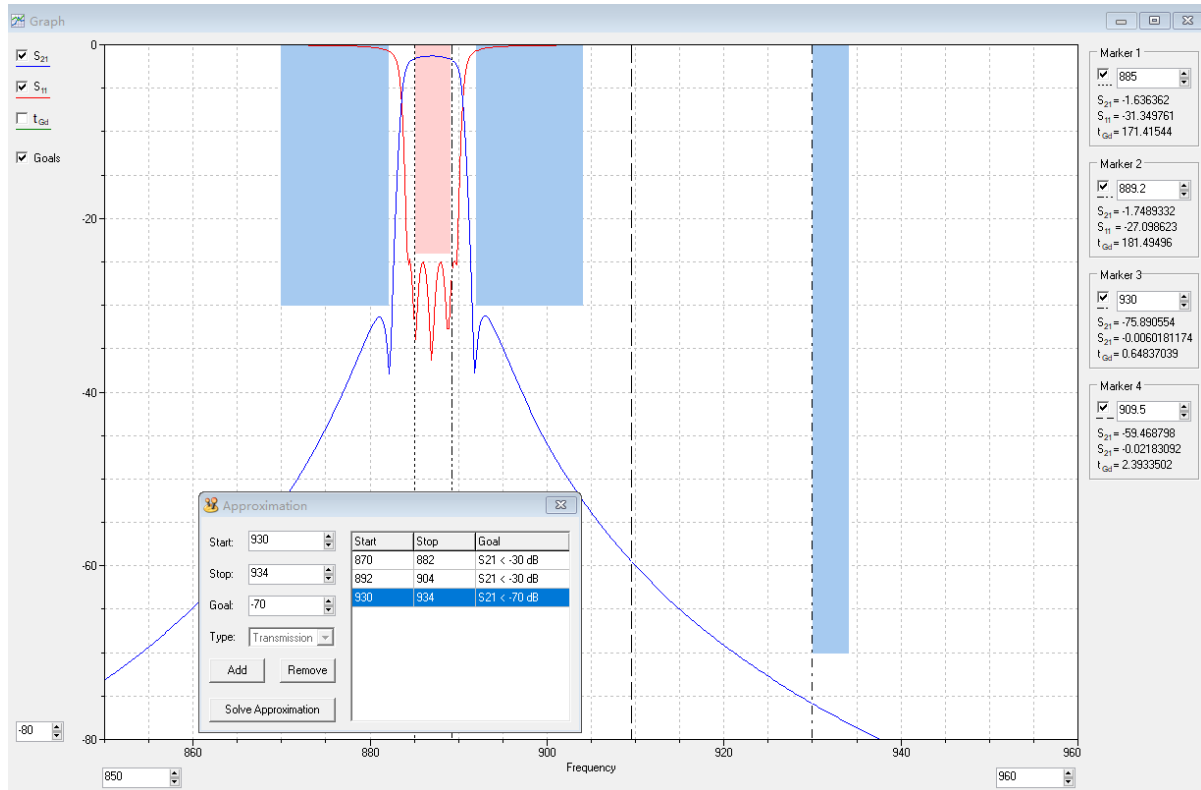
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8	Operating Temperature	-30°C~+70°C
9	Storage Temperature	-25°C~+75°C Bis75% RH

2.3 The simulation curve

Low1:



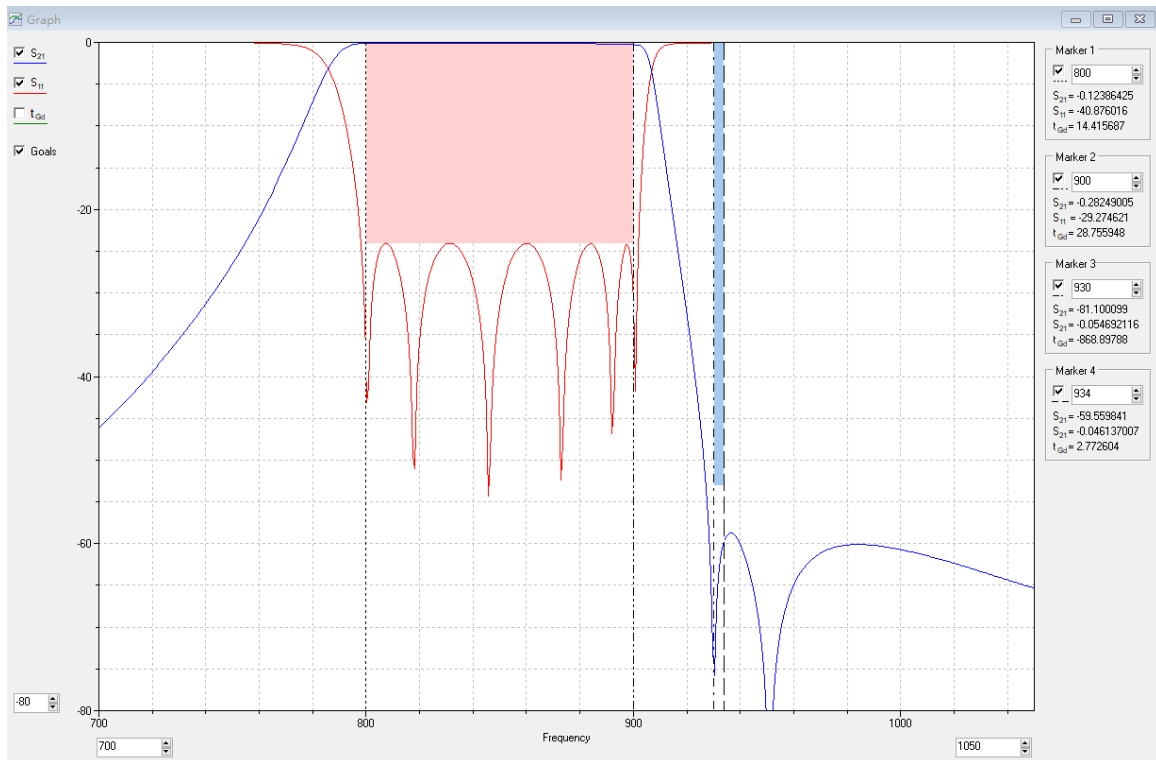
Low2:

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High1/High2:

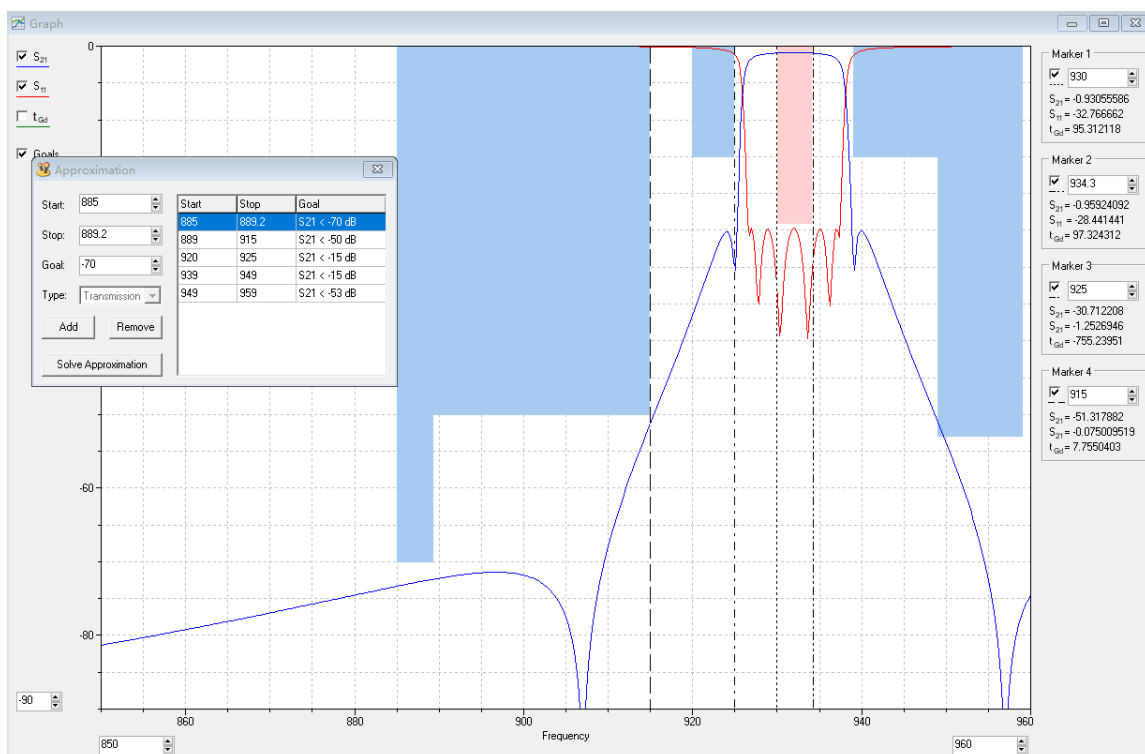


Figure 3 The simulation curve of the Duplexer

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