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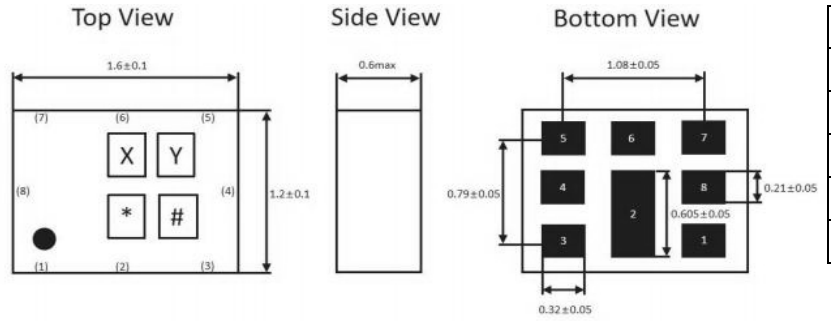
Specification Sheet

Customer Name	XXXX	CUST P/N	NA
Approval No.	PD	Temwell P/N	STSD-782-751-S1612W
Lot No.		Date	2025.04.16
Description	SAW Duplexer	Version	A1

(1)Size Diagram（Unit：MM）



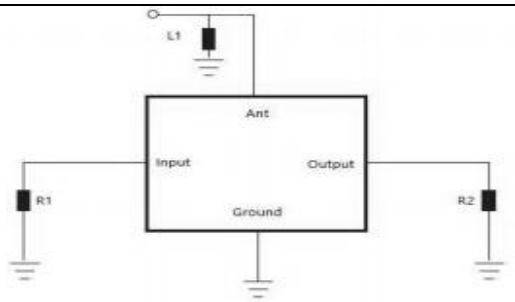
PinNo.	Description
3	Tx
1	Rx
6	Antenna
2,4,5,7,8	Ground
Tolerance	±0.1mm

(2)Electrical Specifications

Item			Specification		
Parameter	MHz	Unit	Min.	Typical	Max.
Center Frequency	-	MHz	-	782 / 751	-
Insertion Loss	777-787	dB	-	1.8	2.5
	746-756	dB	-	1.7	2.3
Ripple Deviation	777-787	dB	-	0.6	1.2
	746-756	dB	-	0.3	0.7
VSWR of Tx Port	777-787	-	-	1.5	2.0
VSWR of Rx Port	746-756	-	-	1.4	2.0
VSWR of Ant Port	777-787	-	-	1.4	2.0
	746-756	-	-	1.4	2.0
Attenuation (777-787)	10-716	dB	35	40	-
	716-728	dB	40	44	-
	728-746	dB	42	47	-
	746-756	dB	60	66	-
	758-767.5	dB	19	47	-
	767.5-768	dB	15	45	-
	768-769	dB	9	30	-
	769-770	dB	6	18	-
	770-771	dB	4	11	-
	771-772	dB	3	7	-
	793-805	dB	1.7	3	-
	869-894	dB	36	41	-
	1554-1565	dB	40	47	-
	1565-1585	dB	40	47	-
	1597-1607	dB	40	47	-
	1710-1755	dB	45	49	-
	1805-1880	dB	45	50	-
	1850-1910	dB	45	51	-
	1930-1990	dB	45	52	-
	2110-2170	dB	45	56	-
	2331-2361	dB	45	57	-
	2400-2484	dB	45	52	-
	3108-3148	dB	45	57	-
	4900-5950	dB	25	34	-
Attenuation	10-699	dB	45	50	-

(746-756)	30-30	dB	36	41	-
	699.25-715.75	dB	32	50	-
	716-722	dB	45	50	-
	776-793	dB	30	36	-
	793-805	dB	30	36	-
	824-849	dB	40	45	-
	1710-1755	dB	40	45	-
	1850-1920	dB	40	46	-
	2187-2238	dB	30	36	-
	2400-2500	dB	42	50	-
	4900-5950	dB	36	41	-
Isolation	746-756	dB	55	63	-
	777-787	dB	55	60	-
Operation Temperature	-20℃~+85℃	℃	-	-	-
Storage Temperature	-40℃~+85℃	℃	-	-	-
RF Power Dissipation	+29	dBm	-	-	-
Remark	Note 1: Test Temperature: 25℃±2℃ Note 2: Terminating source impedance: 50Ω. Terminating load impedance: 50Ω				

(3)Test Circuit



Port	Matching Component
Tx	R1: 50Ω
Rx	R2 : 50Ω
Ant	L1 : 11.6 nH (Ideal inductor)

Figure 1 Electrical Characteristics: Tx to Ant.

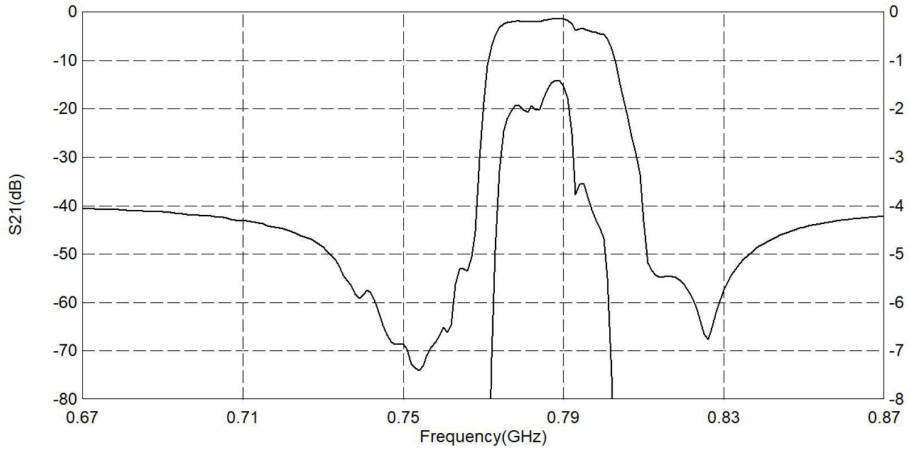


Figure 2 Electrical Characteristics: Tx to Ant.

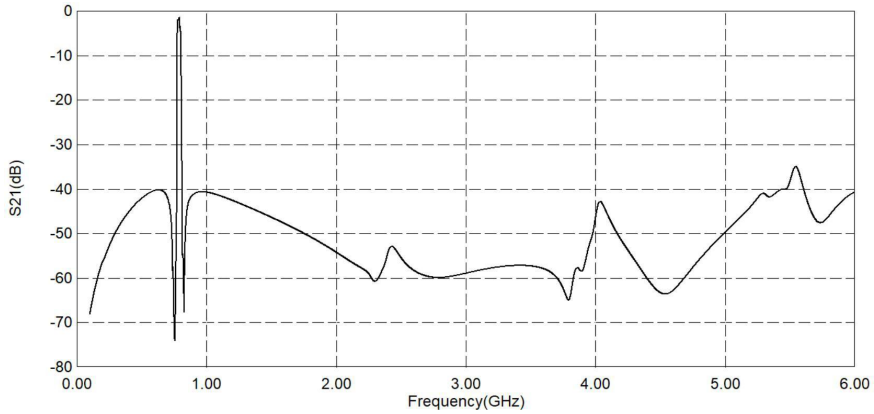


Figure 3 Electrical Characteristics: Ant to Rx.

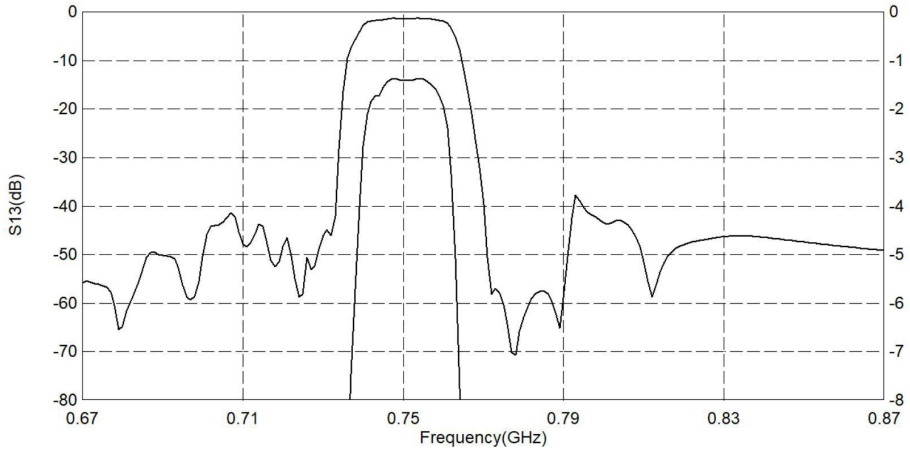


Figure 4 Electrical Characteristics: Ant to Rx.

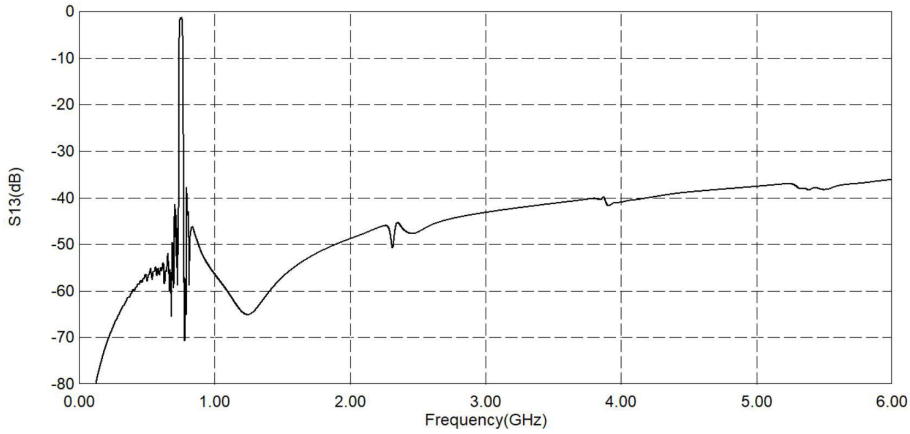


Figure 5 Electrical Characteristics: Tx to Rx.

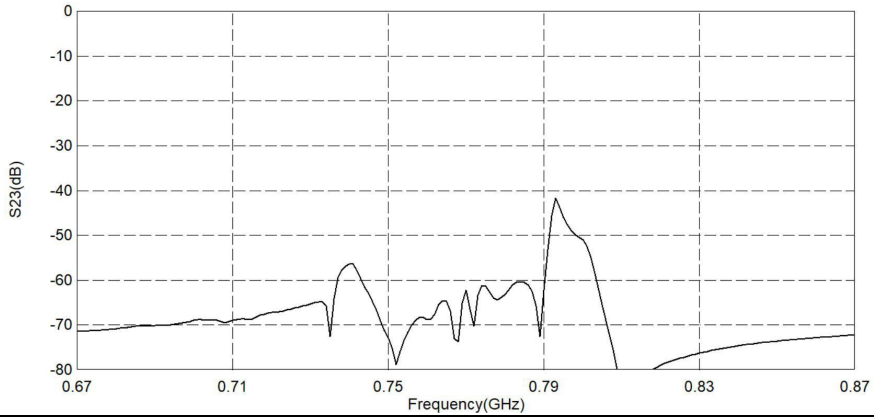


Figure 6 Electrical Characteristics: Tx to Rx.

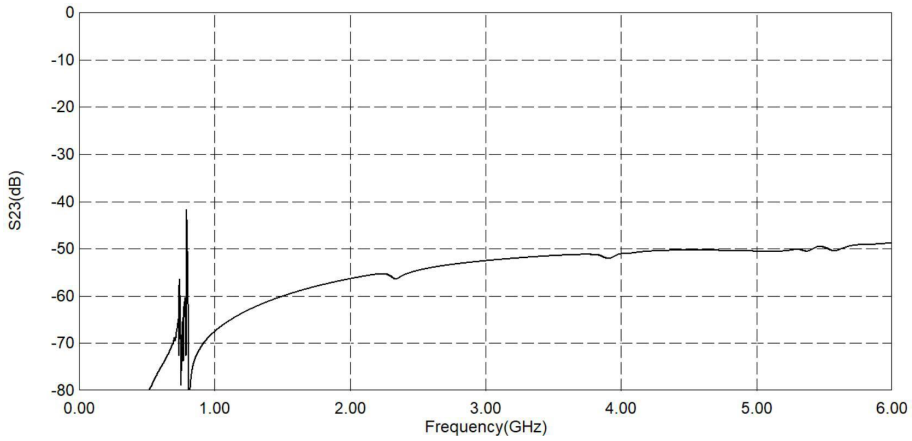
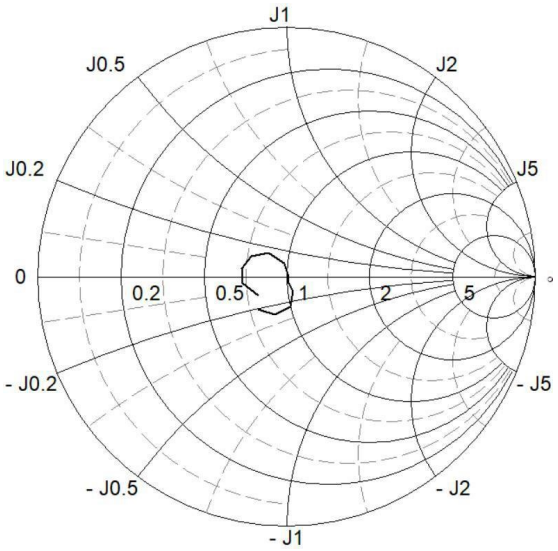
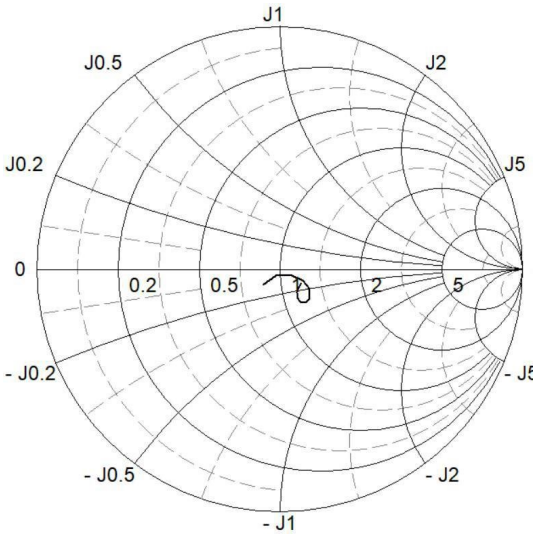


Figure 7 Smith chart

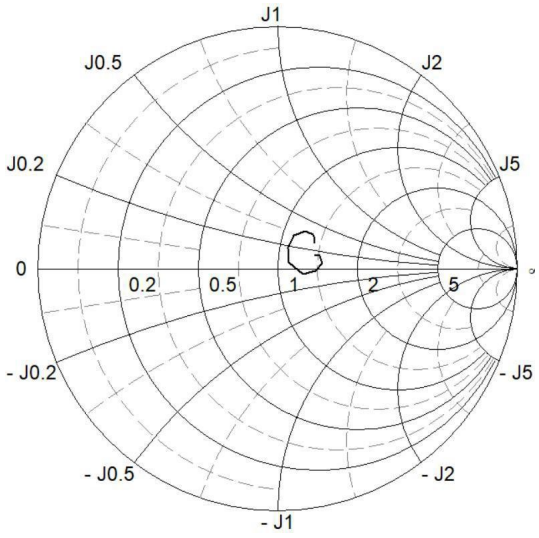
Tx Input Impedance (777MHz to 787MHz)



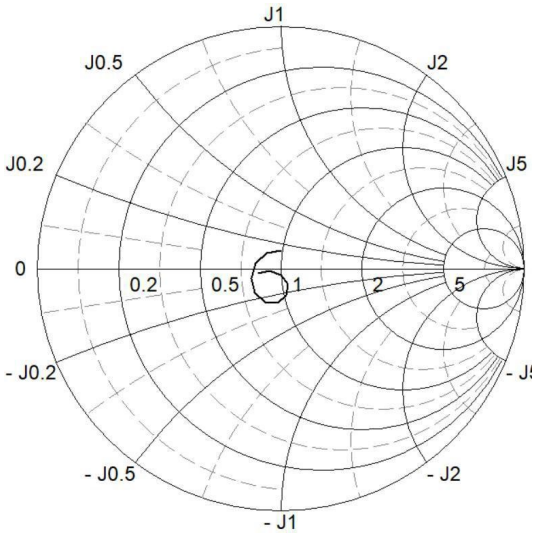
Rx Input Impedance (746MHz to 756MHz)



Ant Input Impedance (Tx Band)

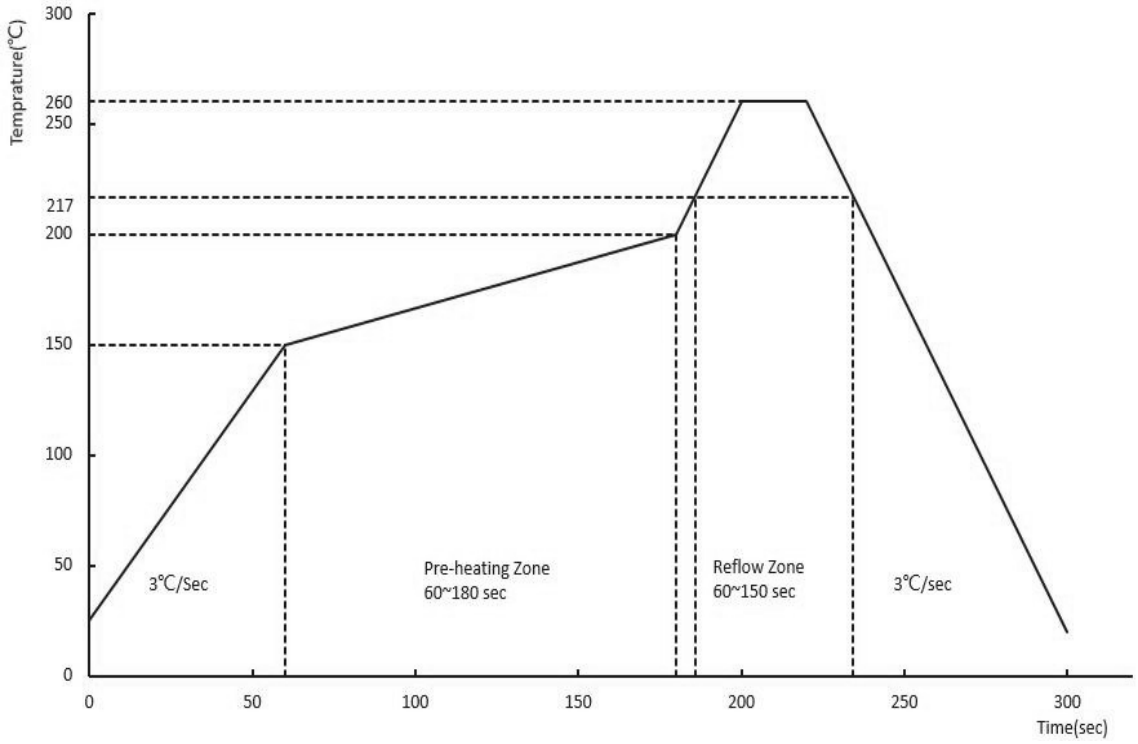


Ant Input Impedance (Rx Band)



Approval	Supervisor	Designer
C. K. Chang	M. Y. Chen	F.L.Lai

Recommended SMT Solder Profile



Reliability

No.	Test item	Test condition	
1	Temperature Storage	Temperature: 85℃±2℃ , Duration: 250h , Recovery time: 2h±0.5h Temperature: -40℃±3℃ , Duration: 250h ,Recovery time: 2h±0.5h	
2	Humidity Test	Conditions: 60℃±2℃ ,90~95%RH	Duration:250h
3	Thermal Shock	Heat cycle conditions: TA=-40℃±3℃, TB=85℃±2℃, t1=t2=30min, Switch time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.	
4	Vibration Fatigue	Frequency of vibration:10~55Hz Directions: X,Y and Z	Amplitude:1.5mm Duration: 2h
5	Drop Test	Cycle time:10times	Height:1.0m
6	Solder Ability Test	Temperature:245℃±5℃ Depth: DIP--2/3, SMD--1/5	Duration:3.0s--5.0s
7	Resistance to Soldering Heat	Thickness of PCB:1mm , Solder condition: 260℃±5℃ , Duration:10±1s Temperature of Soldering Iron: 350℃±10℃, Duration: 3~4s, Recovery time : 2 ± 0.5h	