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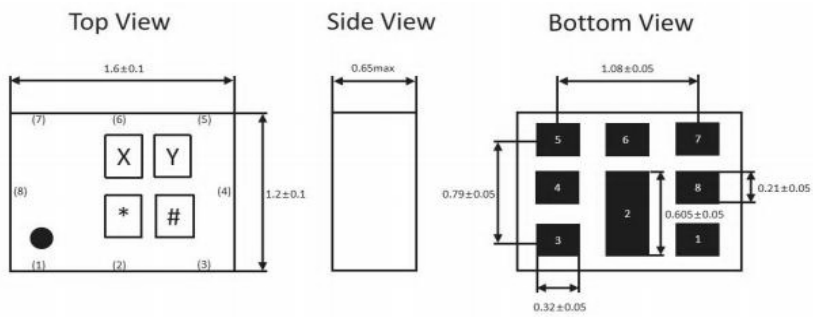
Specification Sheet

Customer Name	XXXX	CUST P/N	NA
Approval No.	PD	Temwell P/N	STSD-836-881-S1612W
Lot No.		Date	2025.04.16
Description	SAW Duplexer	Version	A1

(1)Size Diagram（Unit：MM）



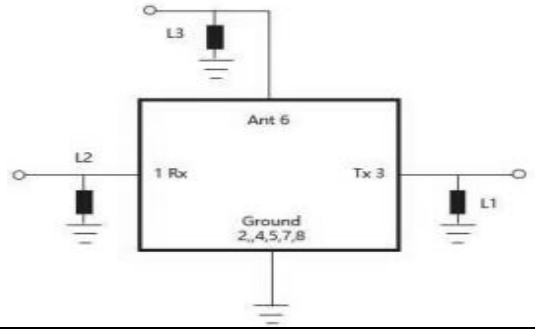
PinNo.	Description
1	Rx
3	Tx
6	Antenna
2,4,5,7,8	Ground
Tolerance	±0.1mm

(2)Electrical Specifications

Item			Specification		
Parameter	MHz	Unit	Min.	Typical	Max.
Center Frequency	-	MHz	-	836.5 / 881.5	-
Insertion Loss	824-849	dB	-	1.7	2.3
	869-894	dB	-	1.9	2.7
Ripple Deviation	824-849	dB	-	0.5	1.2
	869-894	dB	-	0.7	1.2
VSWR of Tx Port	824-849	-	-	1.5	2.0
VSWR of Rx Port	869-894	-	-	1.5	2.0
VSWR of Ant Port	824-849	-	-	1.5	2.0
	869-894	-	-	1.5	2.0
Attenuation (824-849)	10-420	dB	35	39	-
	420-494	dB	28	33	-
	494-701	dB	20	26	-
	699-716	dB	20	26	-
	701-728	dB	20	26	-
	728-764	dB	20	26	-
	764-804	dB	23	28	-
	869-894	dB	50	58	-
	1574-1577	dB	30	38	-
	1638-1708	dB	30	40	-
	1805-1880	dB	35	42	-
	1930-1990	dB	33	42	-
	2110-2170	dB	29	37	-
	2400-2494	dB	25	32	-
	2472-2547	dB	25	32	-
	3286-3406	dB	20	26	-
	4900-5950	dB	8	13	-
Attenuation (869-894)	10-447	dB	35	45	-
	447-824	dB	32	43	-
	779-804	dB	35	45	-
	824-849	dB	50	58	-
	1693-1743	dB	40	49	-
	1710-1785	dB	40	49	-
	1850-1920	dB	45	51	-
	1920-1980	dB	45	51	-

	1980-2400	dB	45	51	-
	2400-2500	dB	43	54	-
	2517-2592	dB	43	54	-
	2607-2682	dB	43	54	-
	3476-3576	dB	43	55	-
	4345-4470	dB	43	55	-
	4900-5950	dB	35	40	-
Isolation	824-849	dB	53	57	-
	869-894	dB	50	58	-
	1574-1577	dB	50	58	-
	1683-1708	dB	50	58	-
	2462-2577	dB	43	55	-
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	L1 :12.0 nH (Ideal inductor)
Rx	L2 :17.0 nH (Ideal inductor)
Ant	L3 : 9.0 nH (Ideal inductor)

Figure 1 Electrical Characteristics: Tx to Ant.

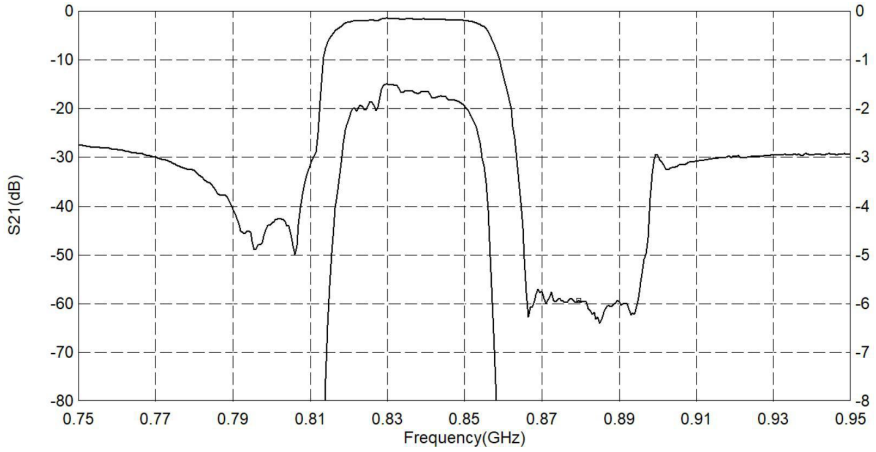


Figure 2 Electrical Characteristics: Tx to Ant.

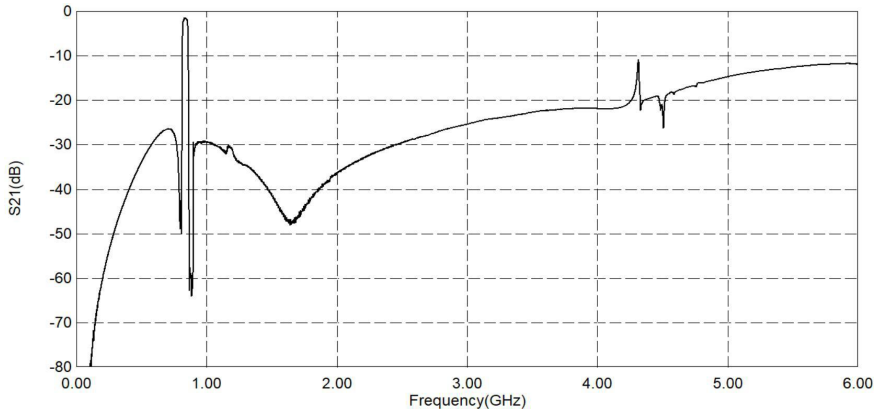


Figure 3 Electrical Characteristics: Ant to Rx.

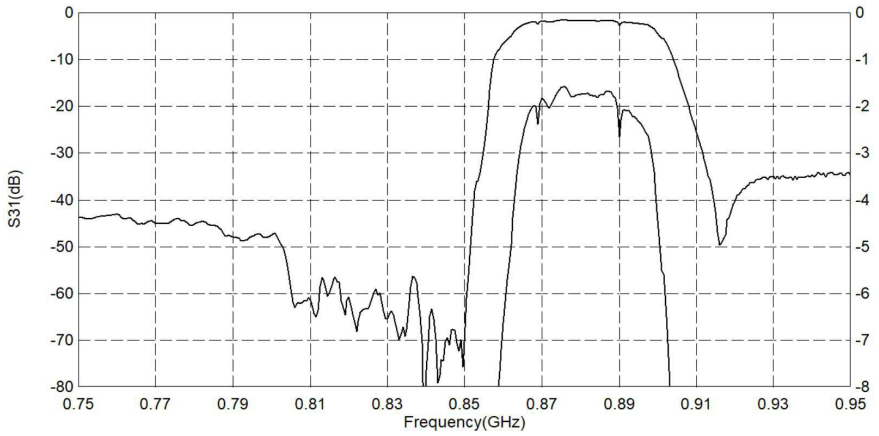


Figure 4 Electrical Characteristics: Ant to Rx.

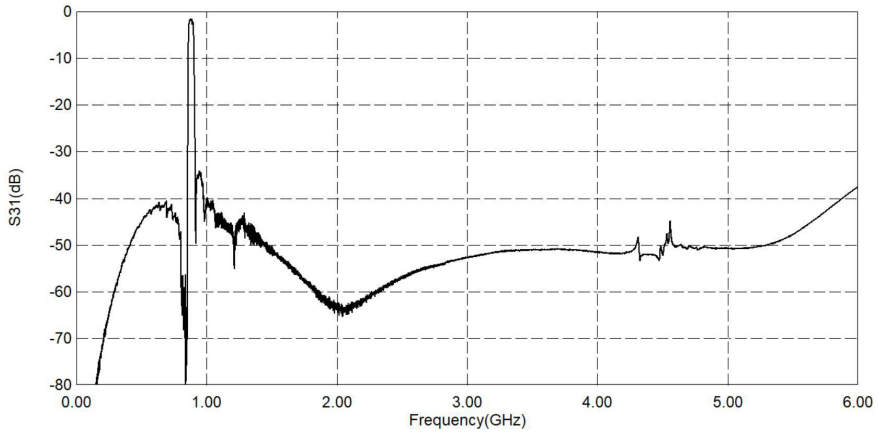


Figure 5 Electrical Characteristics: Tx to Rx.

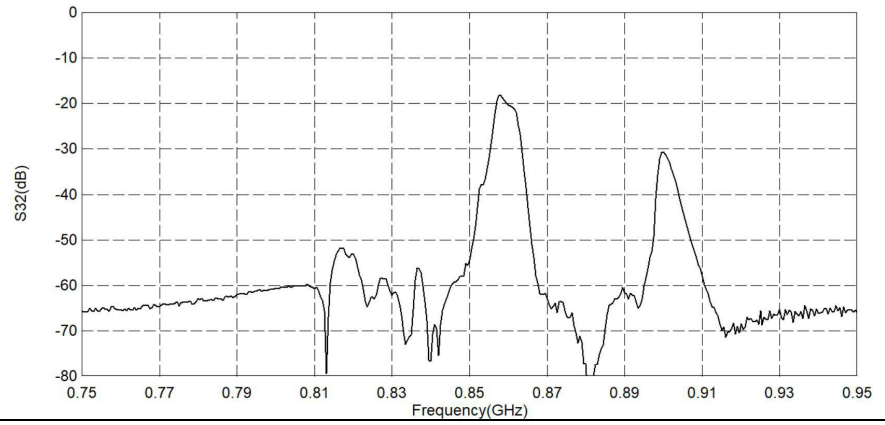


Figure 6 Electrical Characteristics: Tx to Rx.

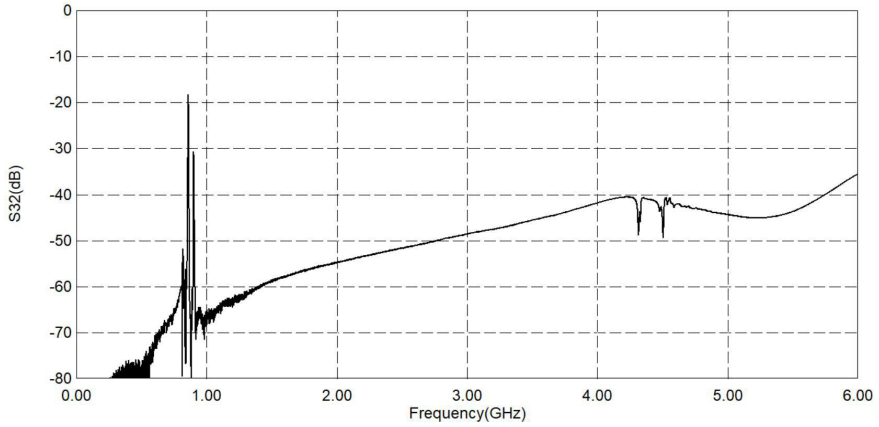
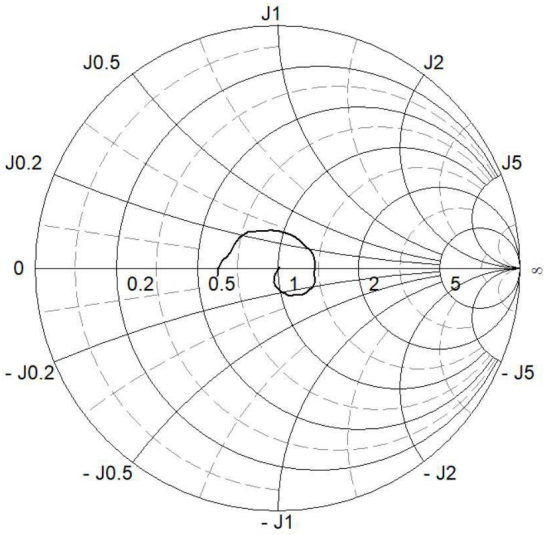
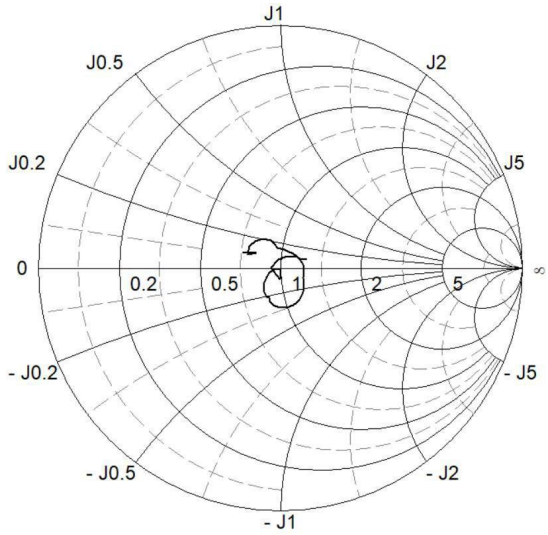


Figure 7 Smith chart

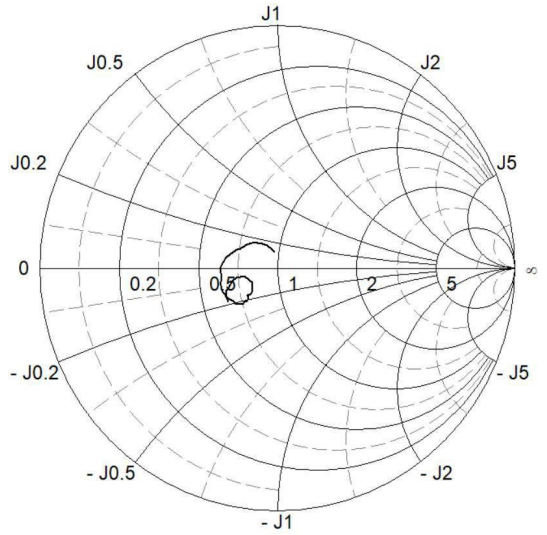
Tx Input Impedance (824MHz to 849MHz)



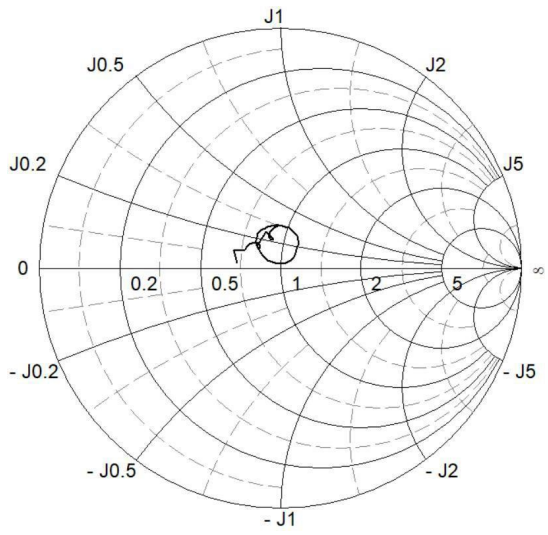
Rx Input Impedance (869MHz to 894MHz)



Ant Input Impedance (Tx Band)

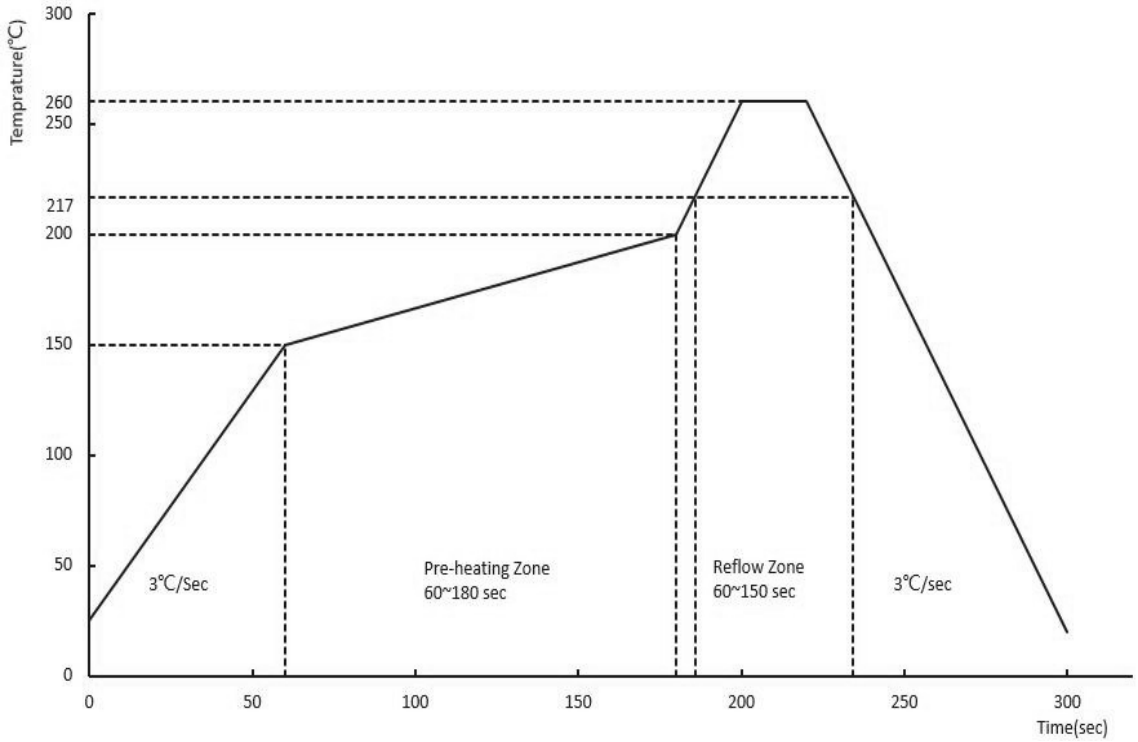


Ant Input Impedance (Rx Band)



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	