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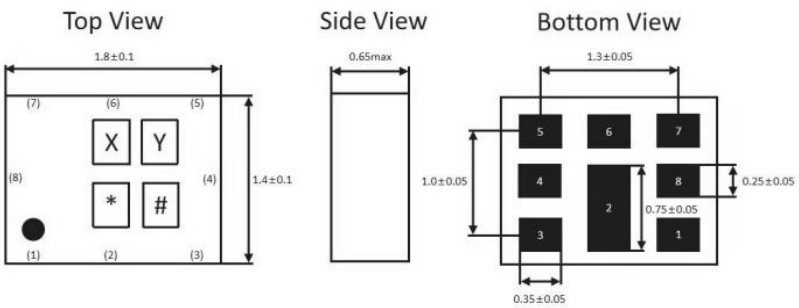
Specification Sheet

Customer Name	XXXX	CUST P/N	NA
Approval No.	PD	Temwell P/N	STSD-725-780-S1814W
Lot No.		Date	2025.04.18
Description	SAW Duplexer	Version	A1

(1)Size Diagram（Unit：MM）



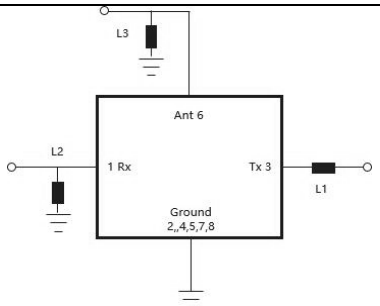
PinNo.	Description
3	Tx
1	Rx
6	Antenna
2,4,5,7,8	Ground
Tolerance	±0.1mm

(2)Electrical Specifications

Item			Specification		
Parameter	MHz	Unit	Min.	Typical	Max.
Center Frequency	-	MHz	-	725.5 / 780.5	-
Insertion Loss	703-748	dB	-	2.3	2.9
	758-803	dB	-	2.1	2.6
Ripple Deviation	703-748	dB	-	1.4	2.0
	758-803	dB	-	1.5	1.8
VSWR of Tx Port	703-748	-	-	1.7	2.0
VSWR of Rx Port	758-803	-	-	1.7	2.0
VSWR of Ant Port	703-748	-	-	1.6	2.0
	758-803	-	-	1.7	2.0
Attenuation (703-748)	10-670	dB	25	31	-
	474-690	dB	25	31	-
	670-680	dB	35	41	-
	680-694	dB	25	30	-
	692-698	dB	6	8	-
	758-803	dB	45	52	-
	859-894	dB	25	31	-
	1164-1189	dB	27	32	-
	1189-1214	dB	27	32	-
	1215-1239.6	dB	27	33	-
	1406-1466	dB	33	38	-
	1559-1563	dB	38	42	-
	1565.4-1585.4	dB	38	42	-
	1597.5-1605.8	dB	38	43	-
	1605.8-1680	dB	38	43	-
	1710-1785	dB	40	47	-
	1805-1880	dB	40	45	-
	1930-1995	dB	38	43	-
	2010-2025	dB	37	42	-
	2109-2244	dB	35	40	-
	2300-2400	dB	35	40	-
	2400-2484	dB	35	39	-
	2496-2690	dB	35	39	-
	2812-2932	dB	35	39	-
	3400-3800	dB	25	32	-

	4900-5950	dB	30	35	-
Attenuation (758-803)	10-699	dB	35	40	-
	699-703	dB	50	55	-
	703-748	dB	45	50	-
	814-849	dB	7	12	-
	824-849	dB	45	51	-
	832-862	dB	40	46	-
	880-915	dB	40	44	-
	1710-1785	dB	45	49	-
	1850-1910	dB	43	48	-
	1920-1980	dB	43	48	-
	2400-2484	dB	40	45	-
	2496-2690	dB	40	44	-
	4900-5950	dB	25	32	-
Isolation	703-748	dB	50	52	-
	758-803	dB	50	53	-
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 : 6.9 nH (Ideal inductor)
Rx	L2 : 18.0 nH (Ideal inductor)
Ant	L3 : 12.0 nH (Ideal inductor)

Figure 1 Electrical Characteristics: Tx to Ant.

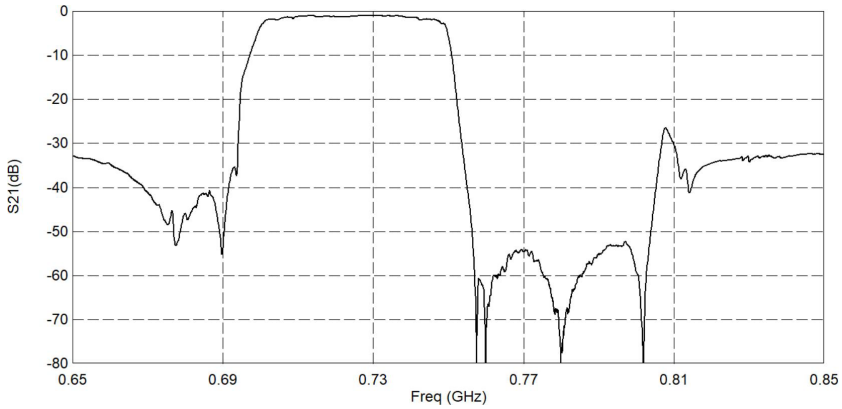


Figure 2 Electrical Characteristics: Tx to Ant.

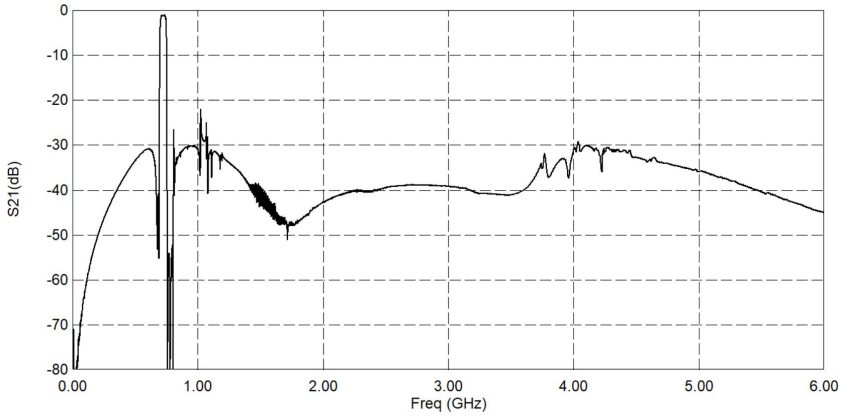


Figure 3 Electrical Characteristics: Ant to Rx.

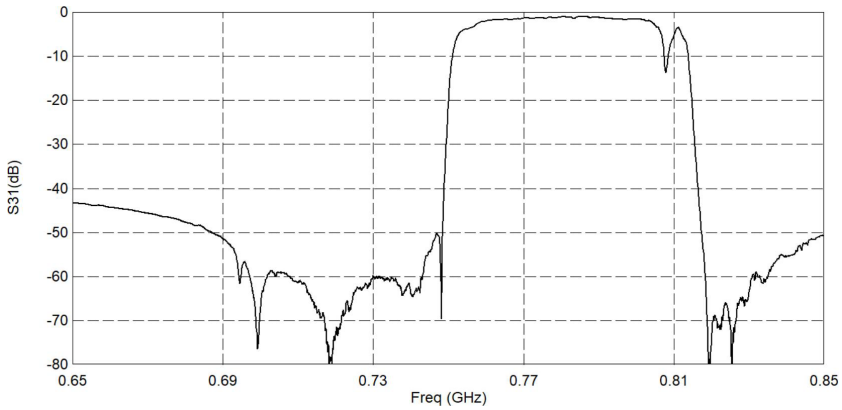


Figure 4 Electrical Characteristics: Ant to Rx.

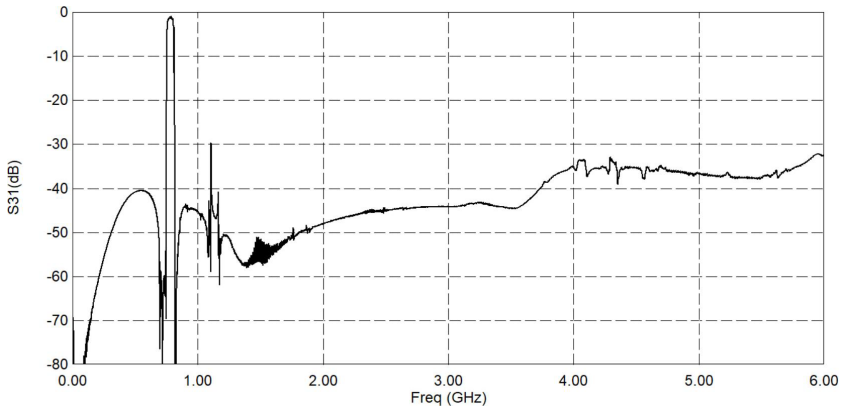


Figure 5 Electrical Characteristics: Tx to Rx.

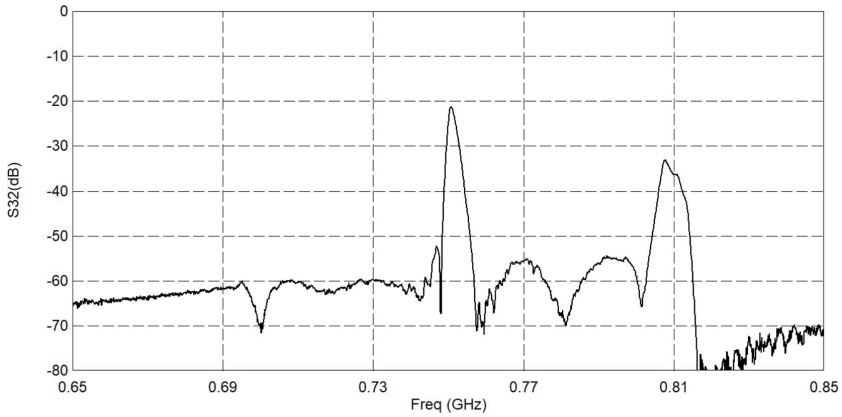


Figure 6 Electrical Characteristics: Tx to Rx.

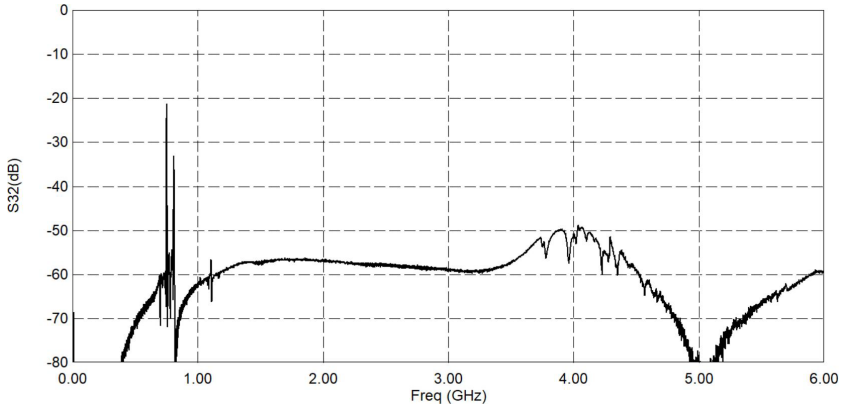
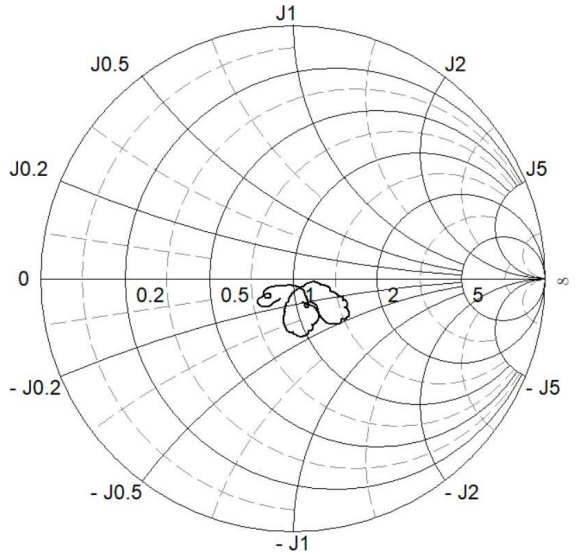
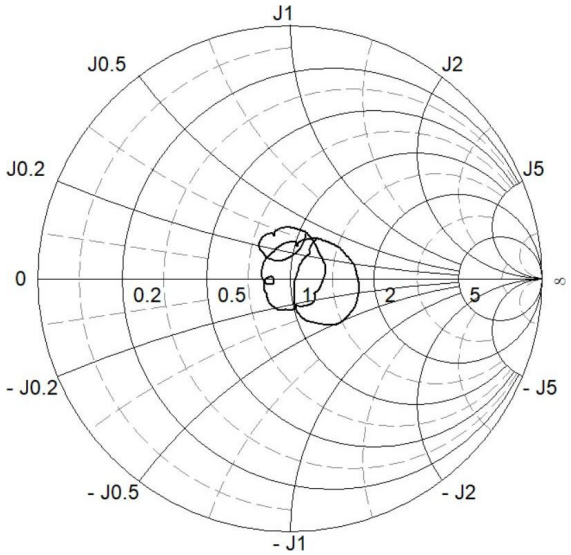


Figure 7 Smith chart

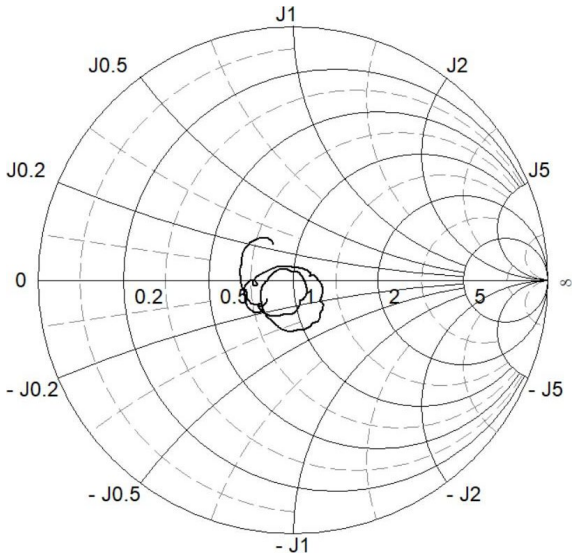
Tx Input Impedance (703MHz to 748MHz)



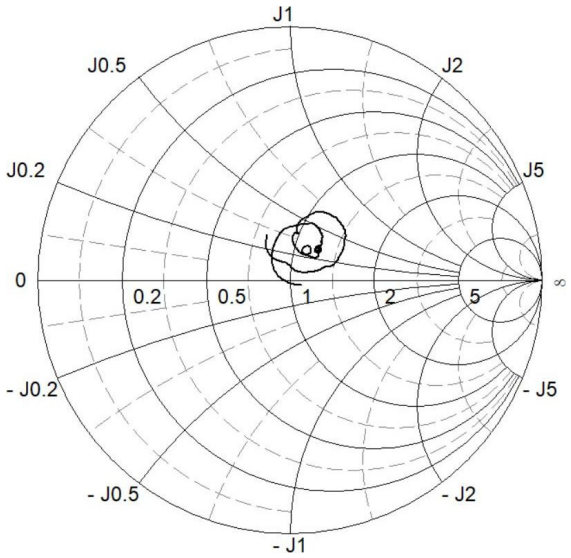
Rx Input Impedance (758MHz to 803MHz)



Ant Input Impedance (Tx Band)

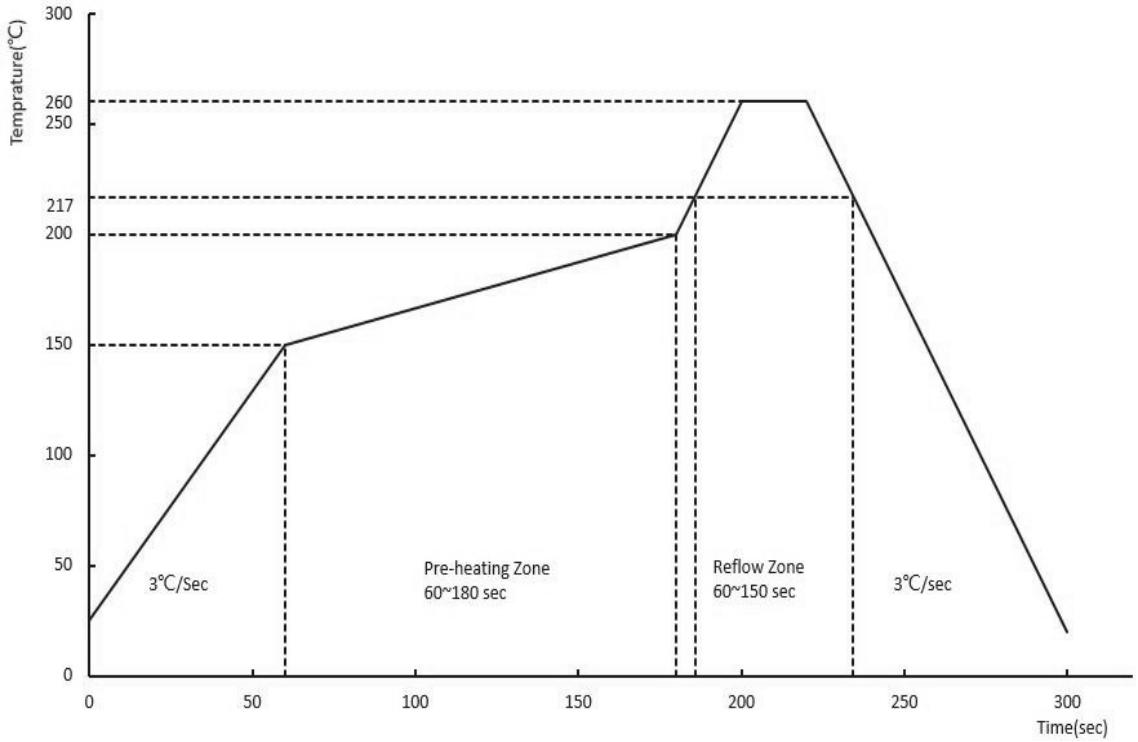


Ant Input Impedance (Rx Band)



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	