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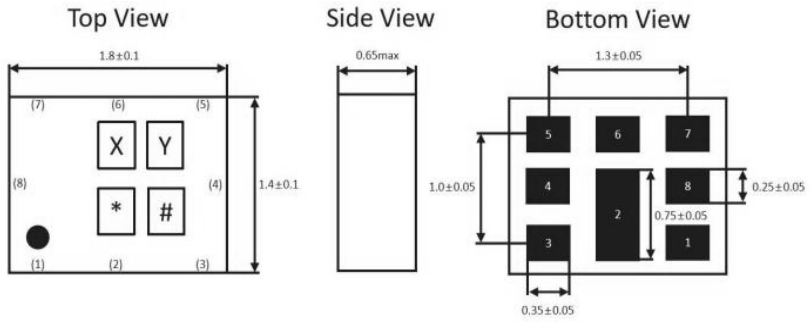
Specification Sheet

Customer Name	XXXX	CUST P/N	NA
Approval No.	PD	Temwell P/N	STSD-1745-2155-S1814W
Lot No.		Date	2025.04.18
Description	SAW Duplexer	Version	A1

(1)Size Diagram（Unit：MM）



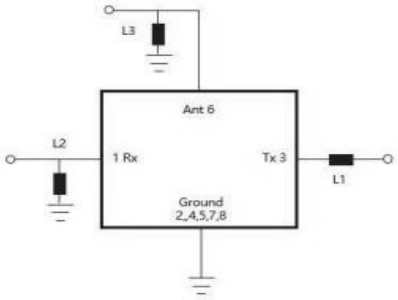
PinNo.	Description
3	Tx
1	Rx
6	Antenna
2,4,5,7,8	Ground
Tolerance	±0.1mm

(2)Electrical Specifications

Item			Specification		
Parameter	MHz	Unit	Min.	Typical	Max.
Center Frequency	-	MHz	-	1745 / 2155	-
Insertion Loss	1710-1780	dB	-	1.9	2.5
	2110-2200	dB	-	2.9	3.5
Ripple Deviation	1710-1780	dB	-	0.8	1.4
	2110-2200	dB	-	1.0	1.8
VSWR of Tx Port	1710-1780	-	-	1.8	2.0
VSWR of Rx Port	2110-2200	-	-	1.6	2.0
VSWR of Ant Port	1710-1780	-	-	1.6	2.0
	2110-2200	-	-	1.9	2.2
Attenuation (1710-1780)	10-728	dB	35	46	-
	699-716	dB	35	46	-
	704-716	dB	35	46	-
	777-787	dB	35	45	-
	824-849	dB	35	43	-
	1226-1250	dB	33	36	-
	1559-1563	dB	40	42	-
	1565.42-1573.37	dB	40	43	-
	1573.37-1577.47	dB	40	44	-
	1577.47-1585.42	dB	40	43	-
	1597.55-1605.89	dB	36	38	-
	1805-1880	dB	5	8	-
	2110-2200	dB	39	42	-
	2350-2360	dB	35	36	-
	2400-2500	dB	32	34	-
	2440-2494	dB	33	35	-
	2500-2570	dB	30	34	-
	3410-3520	dB	25	29	-
Attenuation (2110-2200)	10-1710	dB	38	42	-
	400-400	dB	50	70	-
	699-716	dB	45	58	-
	777-787	dB	40	55	-
	824-849	dB	40	54	-
	1710-1755	dB	45	51	-
	1755-1780	dB	45	52	-

	2305-2315	dB	40	56	-
	2400-2500	dB	33	38	-
	3820-3910	dB	29	34	-
Isolation	1574-1577	dB	40	60	-
	1710-1780	dB	51	55	-
	2110-2200	dB	50	53	-
	3410-3570	dB	20	50	-
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 : 4.2 nH (Ideal inductor)
Rx	L2 : 3.9 nH (Ideal inductor)
Ant	L3 : 2.6 nH (Ideal inductor)

Figure 1 Electrical Characteristics: Tx to Ant.

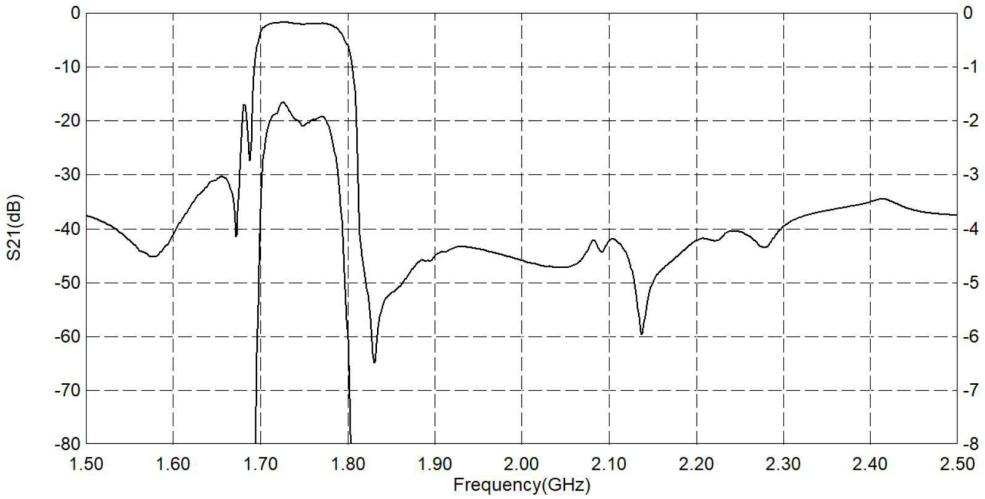


Figure 2 Electrical Characteristics: Tx to Ant.

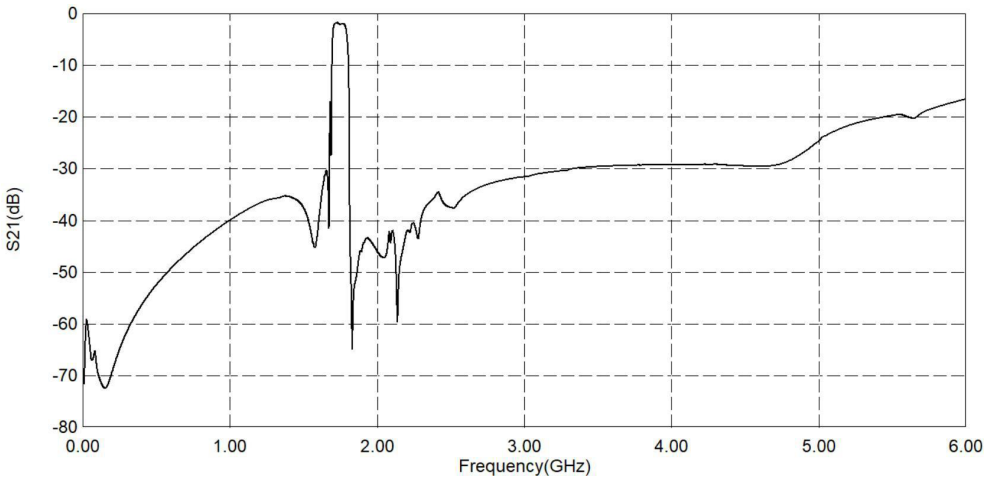


Figure 3 Electrical Characteristics: Ant to Rx.

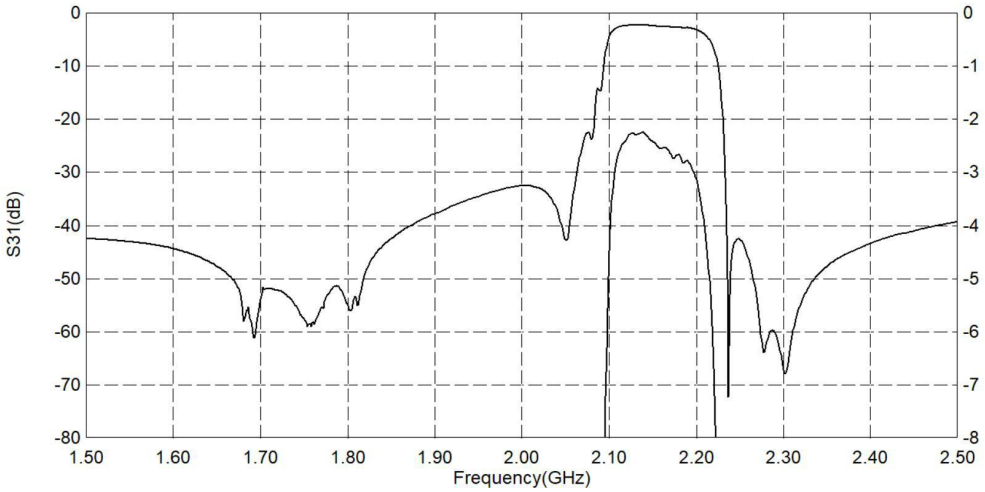


Figure 4 Electrical Characteristics: Ant to Rx.

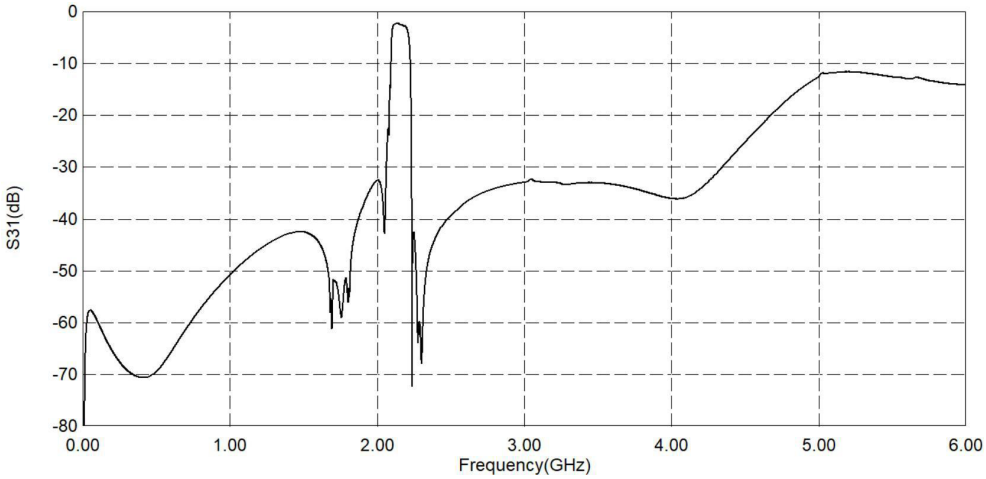


Figure 5 Electrical Characteristics: Tx to Rx.

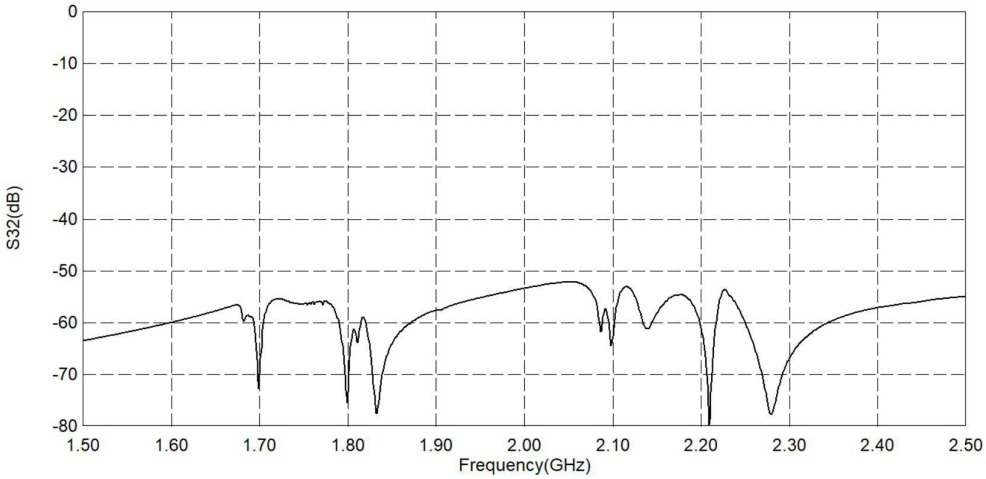


Figure 6 Electrical Characteristics: Tx to Rx.

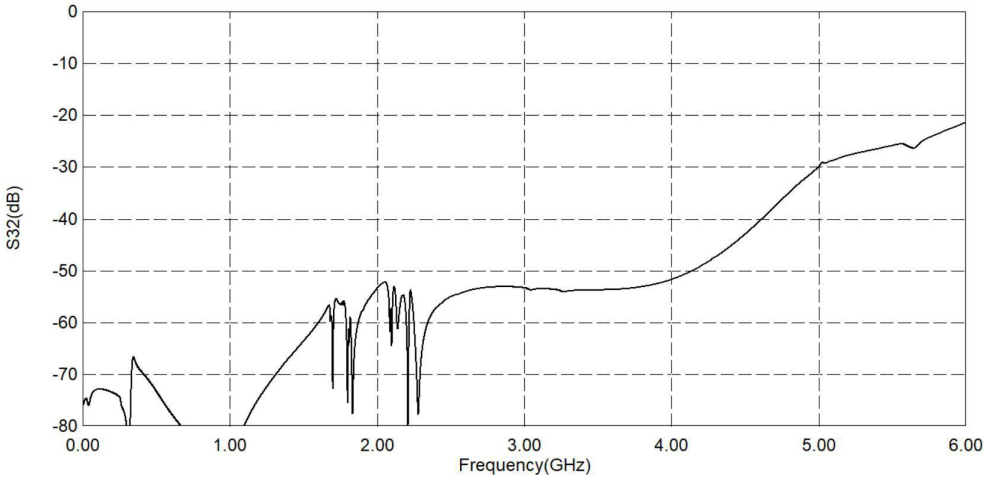
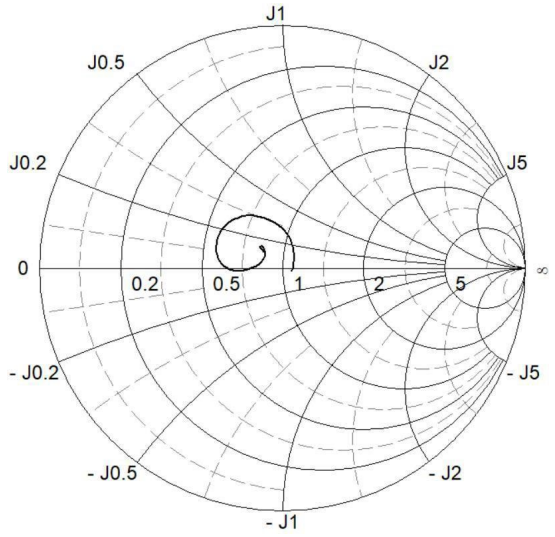
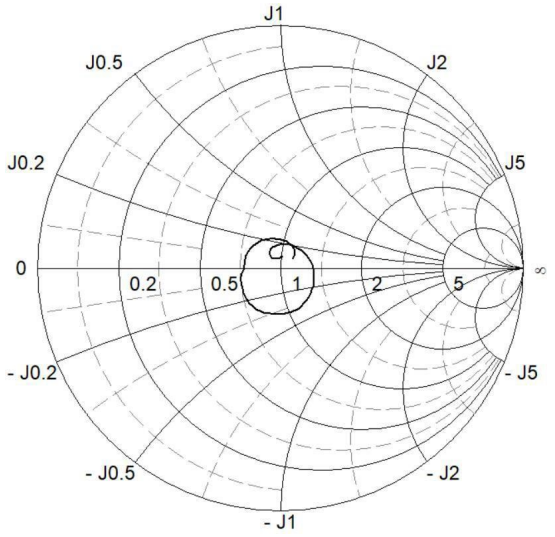


Figure 7 Smith chart

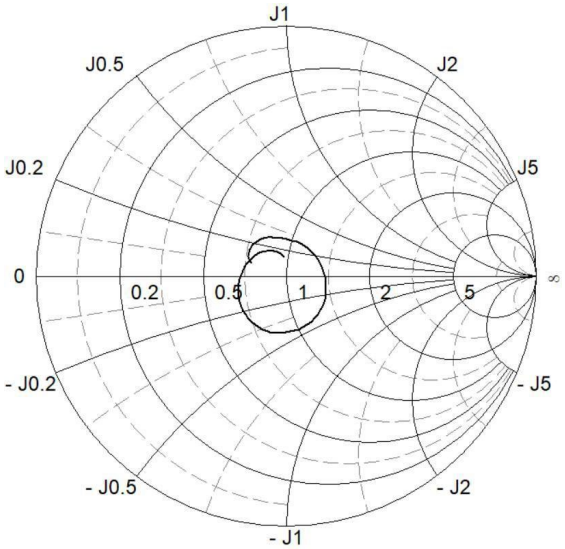
Tx Input Impedance (1710MHz to 1780MHz)



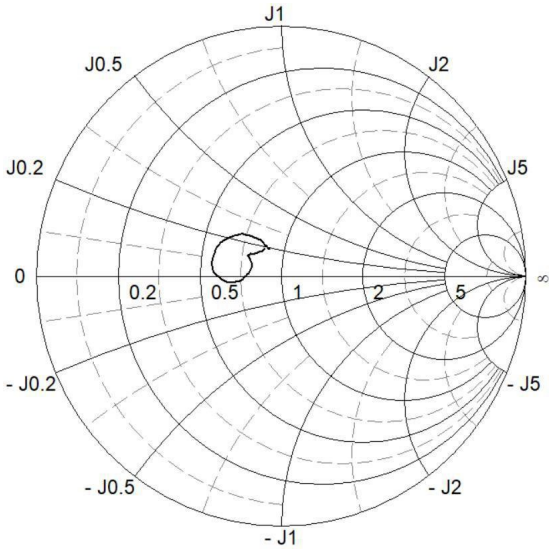
Rx Input Impedance (2110MHz to 2200MHz)



Ant Input Impedance (Tx Band)

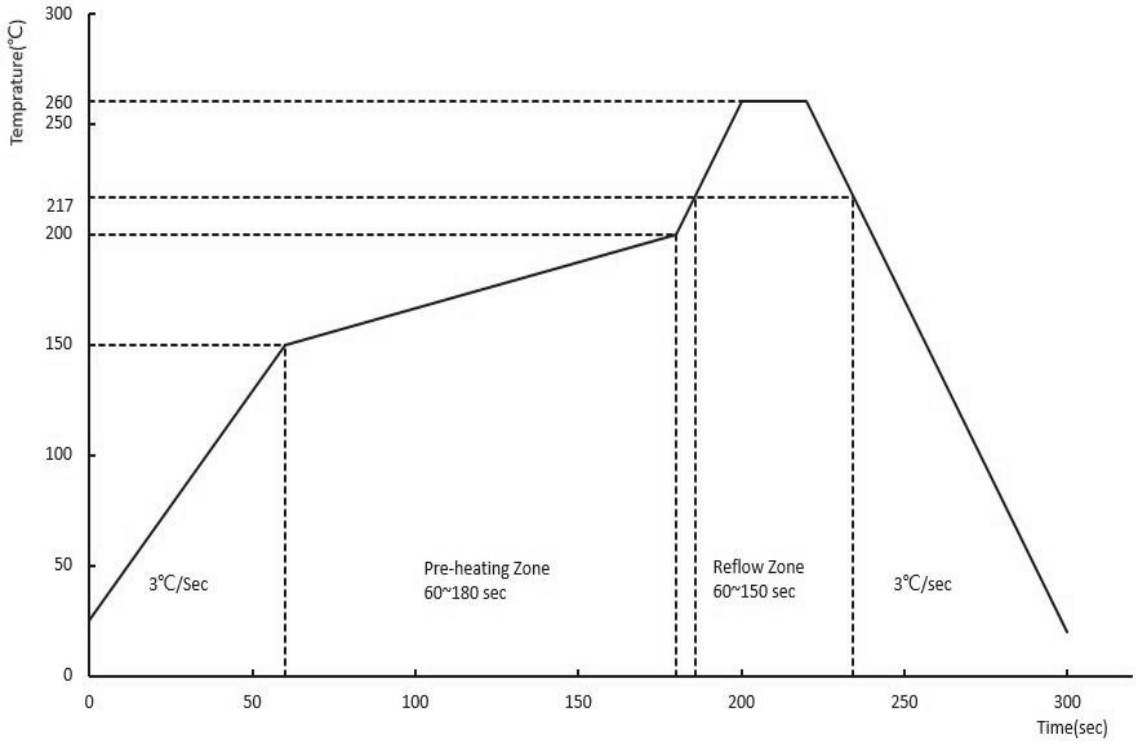


Ant Input Impedance (Rx Band)



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	