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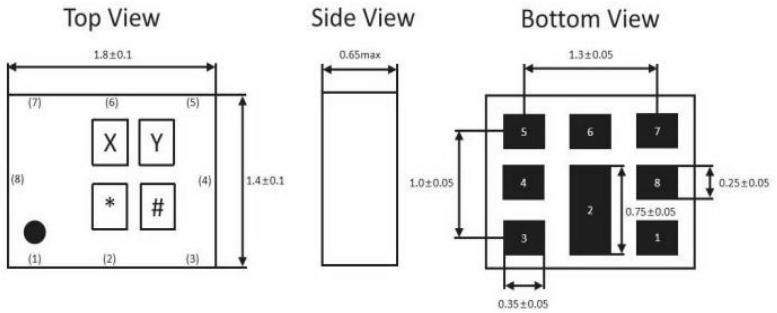
Specification Sheet

Customer Name	XXXX	CUST P/N	NA
Approval No.	PD	Temwell P/N	STSD-1950-2140-S1814W
Lot No.		Date	2025.04.17
Description	SAW Duplexer	Version	A1

(1)Size Diagram（Unit：MM）



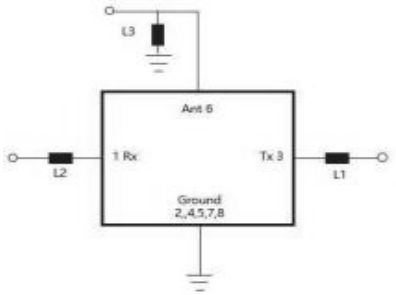
PinNo.	Description
3	Tx
1	Rx
6	Antenna
2,4,5,7,8	Ground
Tolerance	±0.1mm

(2)Electrical Specifications

Item			Specification		
Parameter	MHz	Unit	Min.	Typical	Max.
Center Frequency	-	MHz	-	1950 / 2140	-
Insertion Loss	1920-1980	dB	-	1.8	2.2
	2110-2170	dB	-	2.1	2.6
Ripple Deviation	1920-1980	dB	-	0.7	1.0
	2110-2170	dB	-	0.6	1.0
VSWR of Tx Port	1920-1980	-	-	1.7	2.0
VSWR of Rx Port	2110-2170	-	-	1.6	2.0
VSWR of Ant Port	1920-1980	-	-	1.8	2.0
	2110-2170	-	-	1.7	2.0
Attenuation (1920-1980)	10-1574	dB	30	40	-
	420-494	dB	45	54	-
	815-830	dB	40	46	-
	824-849	dB	40	45	-
	830-845	dB	40	45	-
	843-894	dB	40	45	-
	880-915	dB	40	44	-
	925-960	dB	40	44	-
	1226-1250	dB	35	41	-
	1447.9-1462.9	dB	36	41	-
	1475-1496	dB	36	41	-
	1496-1511	dB	36	41	-
	1559-1563	dB	36	41	-
	1565.42-1573.37	dB	36	41	-
	1573.37-1577.47	dB	36	42	-
	1577.47-1585.42	dB	36	42	-
	1597.55-1605.89	dB	36	43	-
	1605.89-1805	dB	27	32	-
	1805-1865	dB	26	31	-
	1865-1880	dB	15	22	-
	2110-2170	dB	40	45	-
	2400-2500	dB	25	30	-
	2620-2690	dB	25	28	-
	3840-3960	dB	20	24	-
	4900-5950	dB	12	16	-

	4905-5845	dB	12	16	-
Attenuation (2110-2170)	1-1920	dB	35	44	-
	190	dB	50	76	-
	718-748	dB	45	55	-
	814-849	dB	45	53	-
	880-915	dB	45	51	-
	1427-1447	dB	40	45	-
	1447-1463	dB	40	45	-
	1730-1790	dB	42	46	-
	1710-1785	dB	39	44	-
	1920-1980	dB	47	53	-
	1980-2015	dB	35	43	-
	2015-2075	dB	9	15	-
	2255-6130	dB	36	43	-
	2400-2500	dB	40	48	-
	2500-2570	dB	40	47	-
	4030-4150	dB	40	46	-
	4220-4340	dB	40	45	-
	4900-5950	dB	37	43	-
Isolation	1920-1980	dB	50	53	-
	2110-2170	dB	51	54	-
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 : 1.5 nH (Ideal inductor)
Rx	L2 : 1.6 nH (Ideal inductor)
Ant	L3 : 3.0 nH (Ideal inductor)

Figure 1 Electrical Characteristics: Tx to Ant.

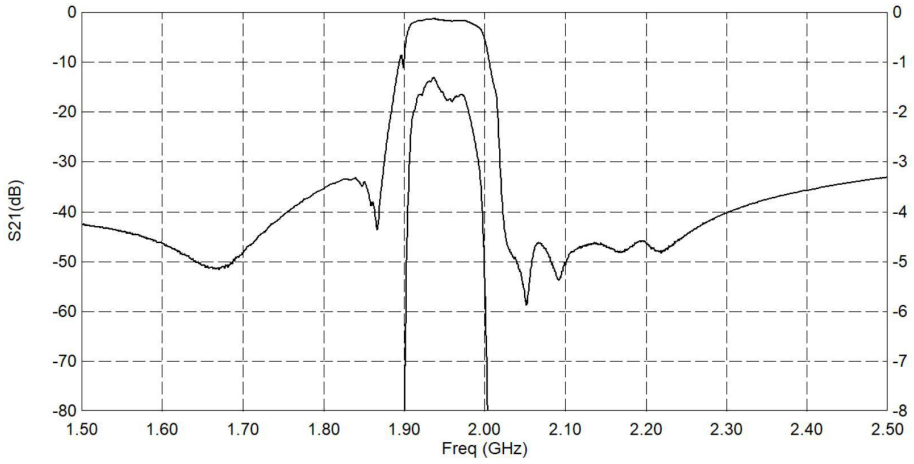


Figure 2 Electrical Characteristics: Tx to Ant.

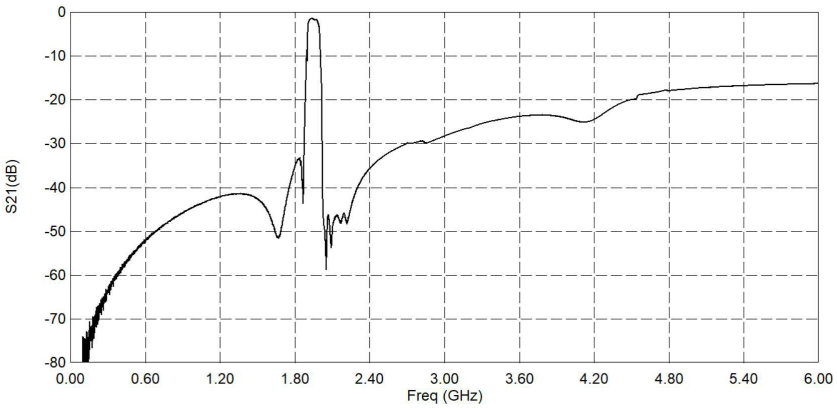


Figure 3 Electrical Characteristics: Ant to Rx.

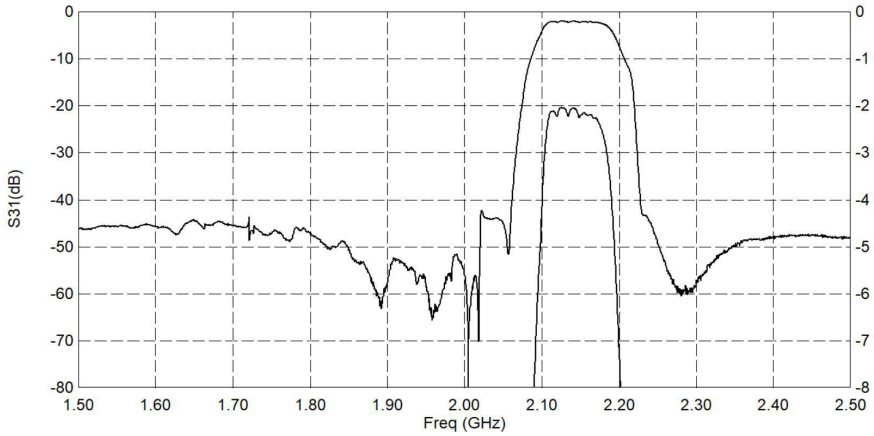


Figure 4 Electrical Characteristics: Ant to Rx.

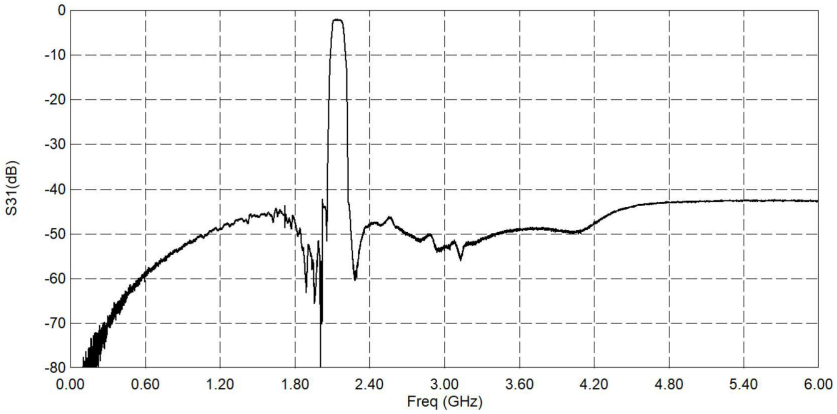


Figure 5 Electrical Characteristics: Tx to Rx.

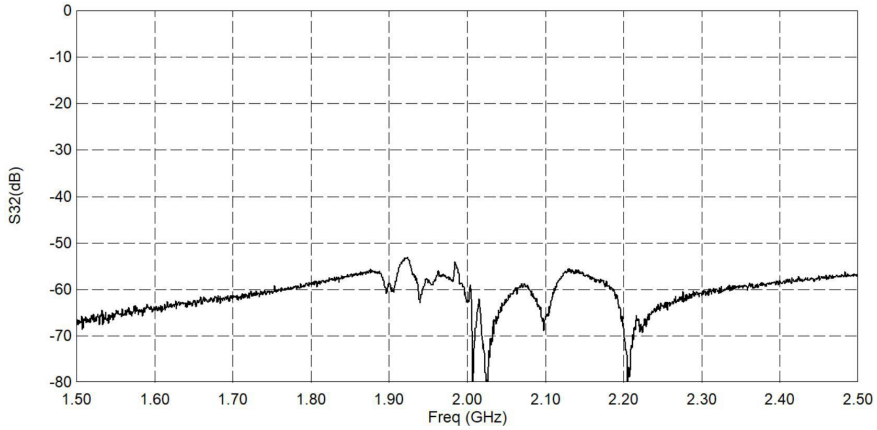


Figure 6 Electrical Characteristics: Tx to Rx.

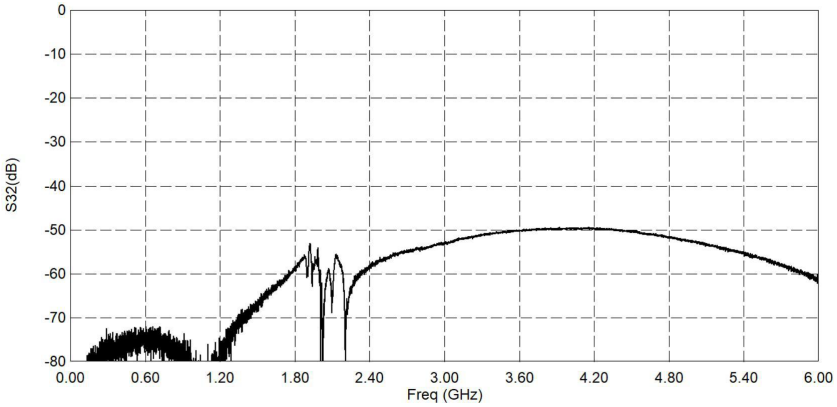
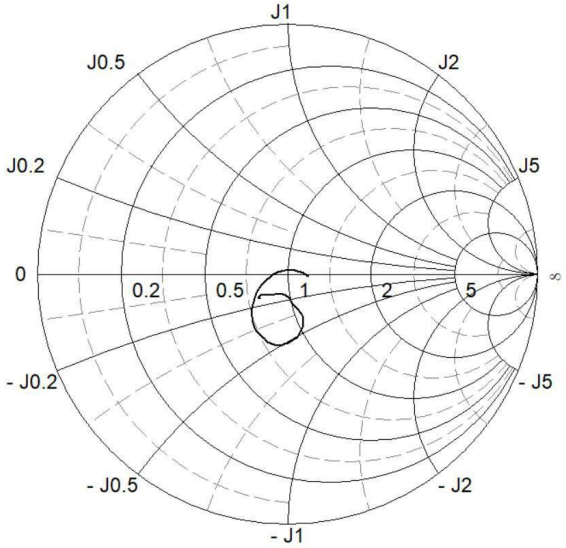
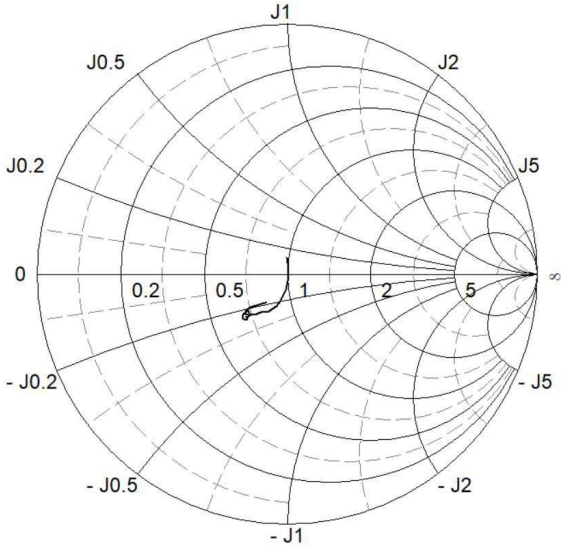


Figure 7 Smith chart

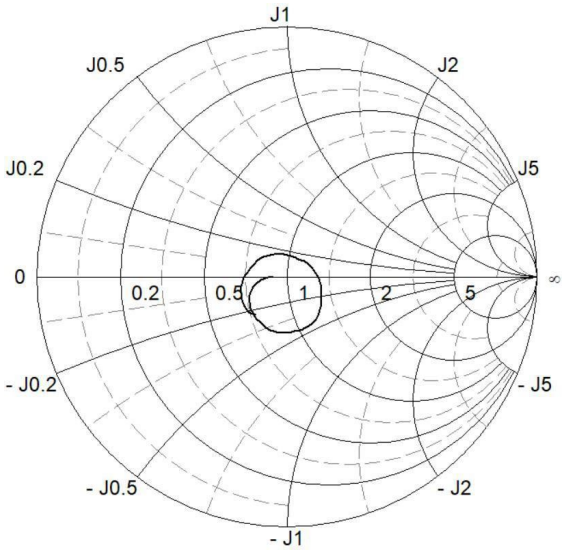
Tx Input Impedance (1920MHz to 1980MHz)



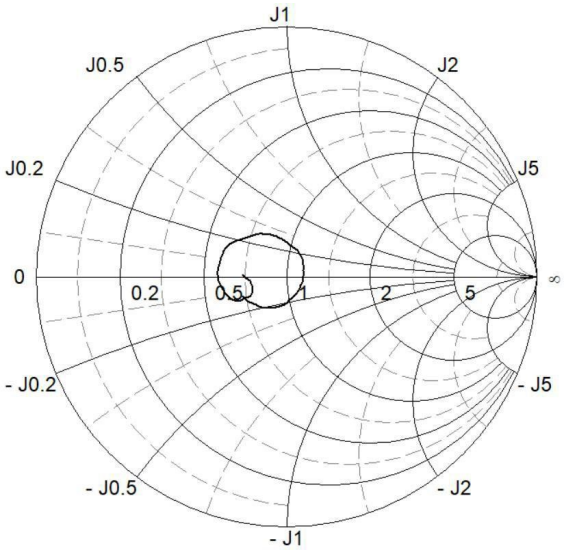
Rx Input Impedance (2110MHz to 2170MHz)



Ant Input Impedance (Tx Band)

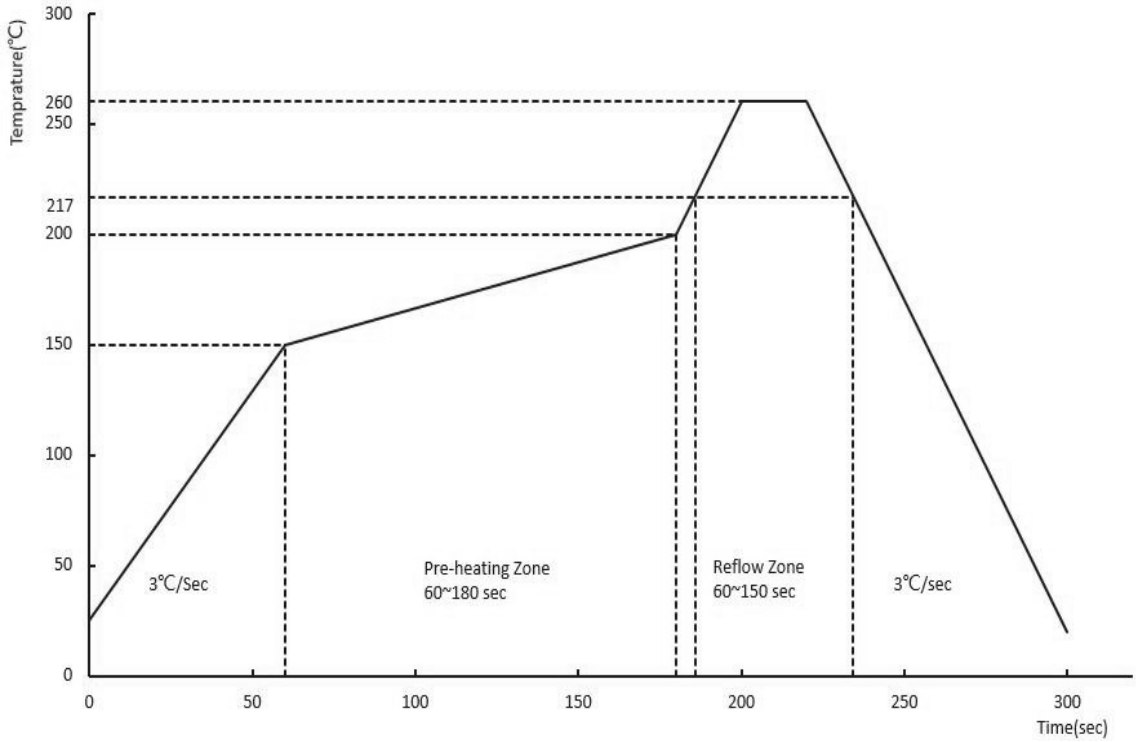


Ant Input Impedance (Rx Band)



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	