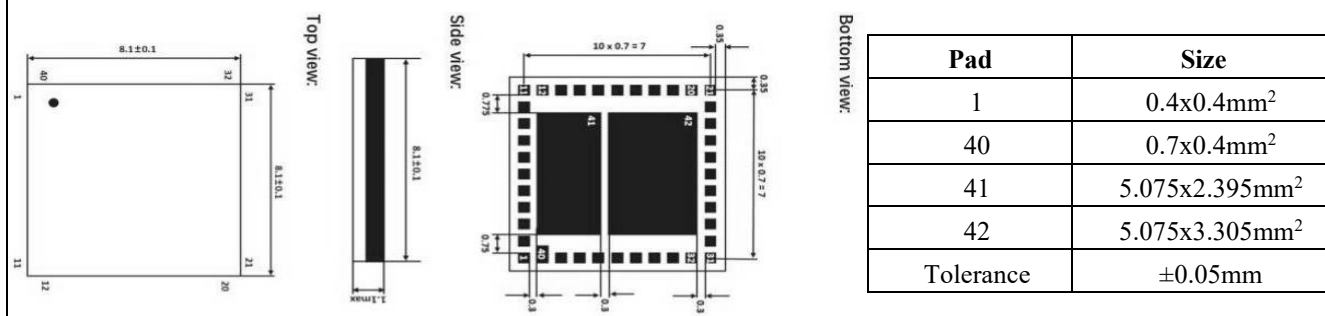


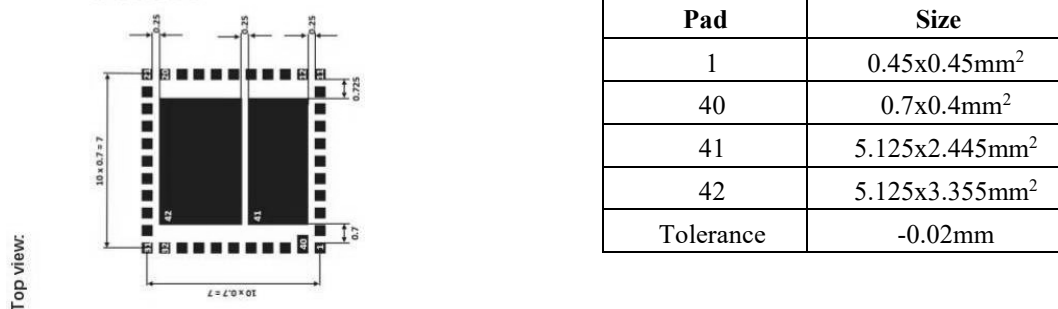
Specification Sheet

Customer Name	XXXX	CUST P/N	NA
Approval No.	PD	Temwell P/N	STSD-1841-1747-S8181W
Lot No.		Date	2025.04.25
Description	SAW Duplexer (modules)	Version	A1

(1)Size Diagram (Unit : MM)



(2) Recommended land pattern (Unit : MM)



(3)Electrical Specifications

Item			Specification		
Parameter	MHz	Unit	Min.	Typical	Max.
Center Frequency	-	MHz	-	1841/1747	-
Insertion Loss	1805.24-1879.76 (-10°C - 85°C)	dB	-	3.2	5.0
	1810-1875 (-10°C - 85°C)	dB	-	2.5	4.0
	1805.24-1879.76 (-40°C - 95°C)	dB	-	3.2	5.5
	1810-1875 (-40°C - 95°C)	dB	-	2.5	4.5
	1710.24-1784.76 (-10°C - 85°C)	dB	-	3.1	6.5
	1715-1775 (-10°C - 85°C)	dB	-	3.1	4.0
	1710.24-1784.76 (-40°C - 95°C)	dB	-	3.1	7.0
	1715-1775 (-40°C - 95°C)	dB	-	3.1	4.5
Amplitude Ripple	1805.24-1879.76 (-10°C - 85°C)	dB	-	1.6	3.0
	1805.24-1879.76 (-40°C - 95°C)	dB	-	1.6	4.0
	1710.24-1784.76 (-10°C - 85°C)	dB	-	2.3	4.2
	1710.24-1784.76 (-40°C - 95°C)	dB	-	2.3	5.0
VSWR of Tx Port	1805.24-1879.76 (-10°C - 85°C)	-	-	1.2	1.7
	1805.24-1879.76 (-40°C - 95°C)	-	-	1.2	1.7
VSWR of Rx Port	1710.24-1784.76 (-10°C - 85°C)	-	-	1.2	1.7
	1710.24-1784.76 (-40°C - 95°C)	-	-	1.2	1.7
VSWR of Ant Port	1805.24-1879.76 (-10°C - 85°C)	-	-	1.2	1.4
	1805.24-1879.76 (-40°C - 95°C)	-	-	1.2	1.4
	1710.24-1784.76 (-10°C - 85°C)	-	-	1.2	1.5
	1710.24-1784.76 (-40°C - 95°C)	-	-	1.2	1.7
Attenuation (1805.24-1879.76)	10-1710	dB	35	45	-
	1710.24-1745	dB	48	60	-

(-10℃ - 85℃)	1745-1775	dB	45	57	-
	1775-1780	dB	42	49	-
	1780-1784.76	dB	37	48	-
	1900-1911	dB	15	32	-
	1911-1920	dB	40	59	-
	1920-1980	dB	45	52	-
	1980-2500	dB	35	43	-
	2500-3740	dB	35	42	-
	3740-5150	dB	32	41	-
	5150-5725	dB	30	40	-
Attenuation (1805.24-1879.76) (-40℃ - 95℃)	10-1770	dB	35	45	-
	1710.24-1745	dB	48	60	-
	1745-1775	dB	45	57	-
	1775-1780	dB	42	49	-
	1780-1784.76	dB	32	48	-
	1900-1911	dB	8	32	-
	1911-1920	dB	35	59	-
	1920-1980	dB	45	52	-
	1980-2500	dB	35	43	-
	2500-3740	dB	35	42	-
	3740-5150	dB	32	41	-
	5150-5725	dB	30	40	-
Attenuation (1710.24-1784.76) (-10℃ - 85℃)	10-1660	dB	40	44	-
	1660-1690	dB	10	16	-
	1805.24-1840	dB	40	51	-
	1840-1879.76	dB	45	52	-
	1880-2400	dB	38	43	-
	2400-2500	dB	36	41	-
	2500-3550	dB	28	33	-
	3550-4200	dB	25	29	-
	4200-5325	dB	30	34	-
Attenuation (1710.24-1787.76) (-40℃ - 95℃)	10-1660	dB	40	44	-
	1660-1690	dB	5	16	-
	1805.24-1840	dB	35	51	-
	1840-1879.76	dB	45	52	-
	1880-2400	dB	38	43	-
	2400-2500	dB	36	41	-
	2500-3550	dB	28	33	-
	3550-4200	dB	25	29	-
	4200-5325	dB	30	34	-
Isolation (-10℃ - 85℃)	1710.24-1784.76	dB	60	65	-
	1805.24-1815	dB	60	72	-
	1815-1879.76	dB	60	68	-
Isolation (-40℃ - 95℃)	1710.24-1784.76	dB	58	65	-
	1805.24-1815	dB	58	72	-
	1815-1879.76	dB	60	68	-
Operation Temperature	-40℃~+95℃	℃	-	-	-
Storage Temperature	-40℃~+95℃	℃	-	-	-
	-25℃~+40℃	℃	Stored in tape		
Input Power at TX port	+33	dBm	1805-1880MHz		
Input Power at TX port	+10	dBm	The other frequency ranges		
Remark	Note 1: Test Temperature: 25℃±2℃				
	Note 2: Terminating source impedance: 50Ω. Terminating load impedance: 50Ω				
(4)Test Circuit		(5)Pad Map			

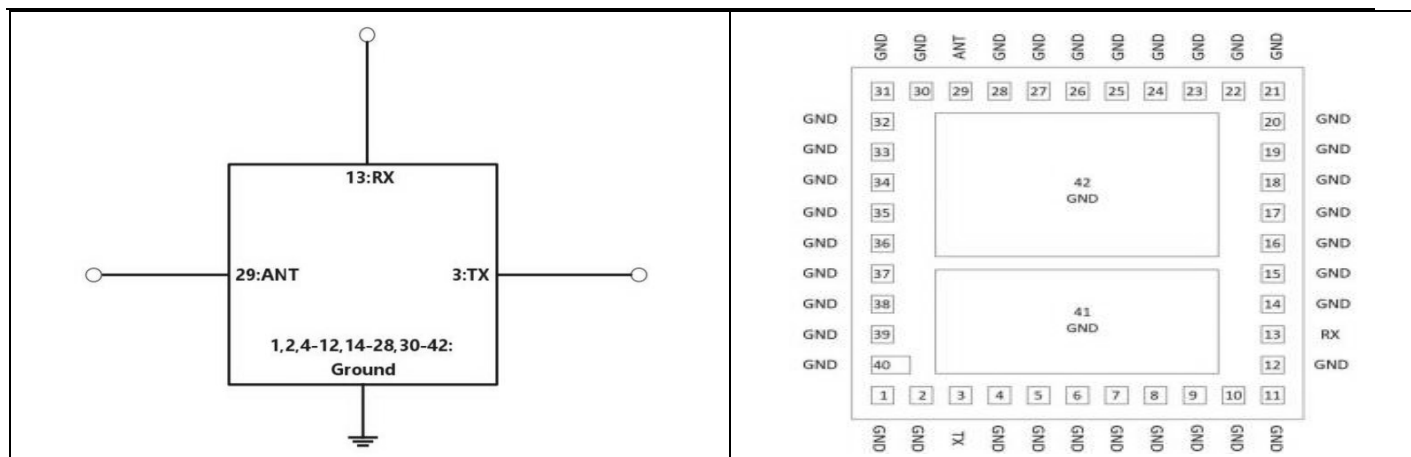


Figure 1 Electrical Characteristics: Tx to Ant.

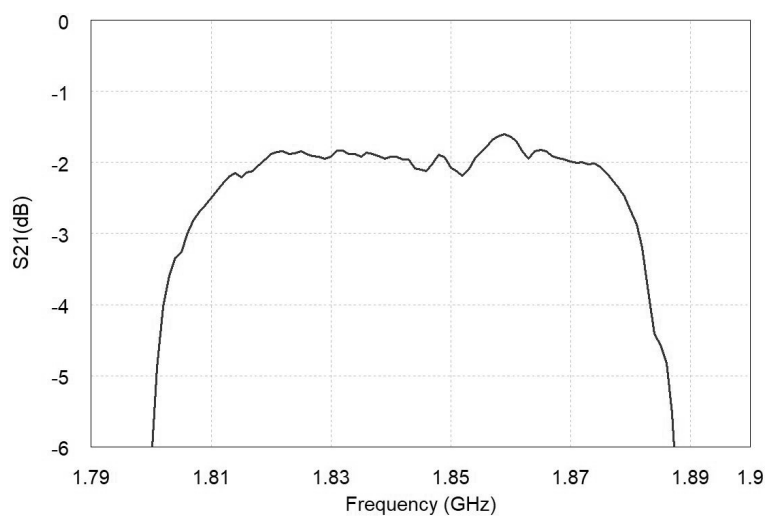


Figure 2 Electrical Characteristics: Tx to Ant.

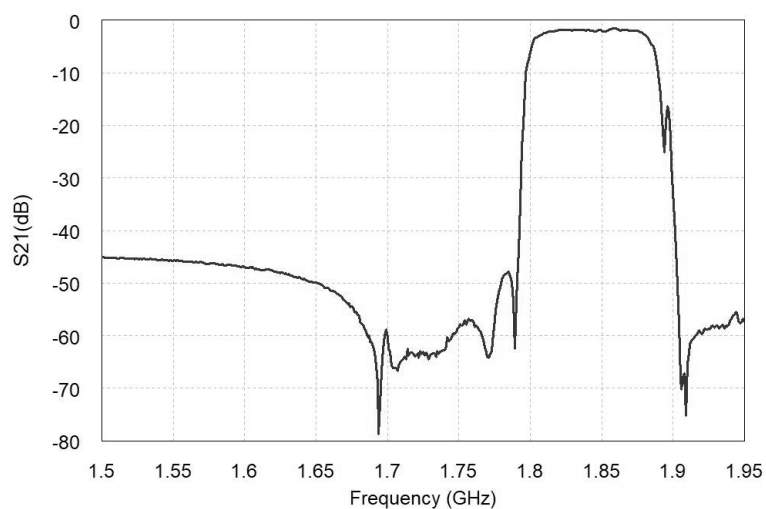


Figure 3 Electrical Characteristics: Tx to Ant.

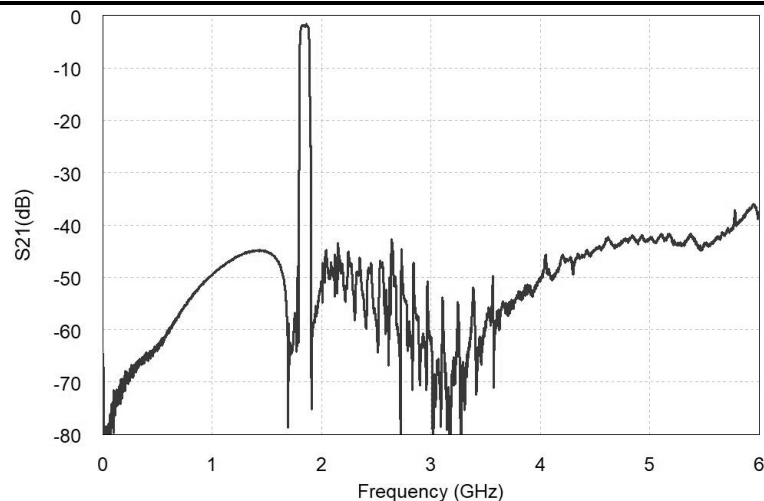


Figure 4 Electrical Characteristics: Ant to Rx.

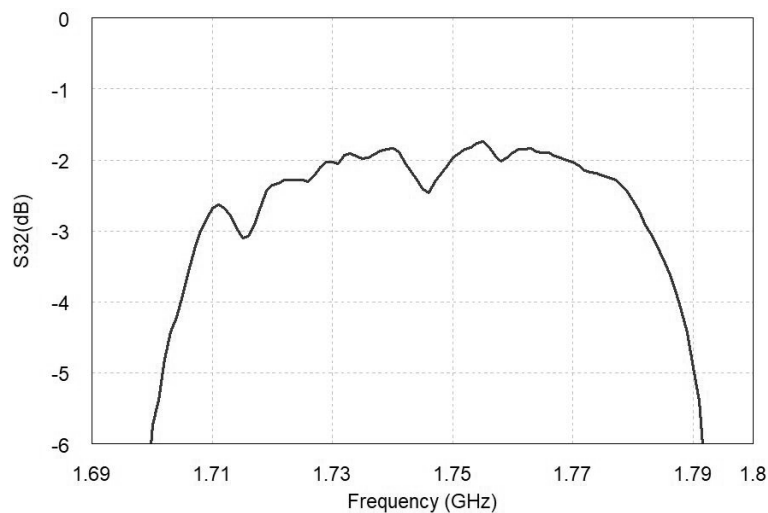


Figure 5 Electrical Characteristics: Ant to Rx.

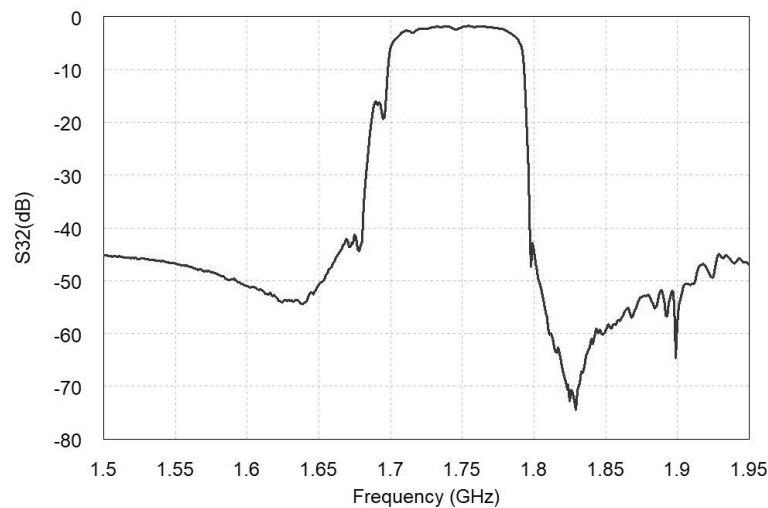


Figure 6 Electrical Characteristics: Ant to Rx.

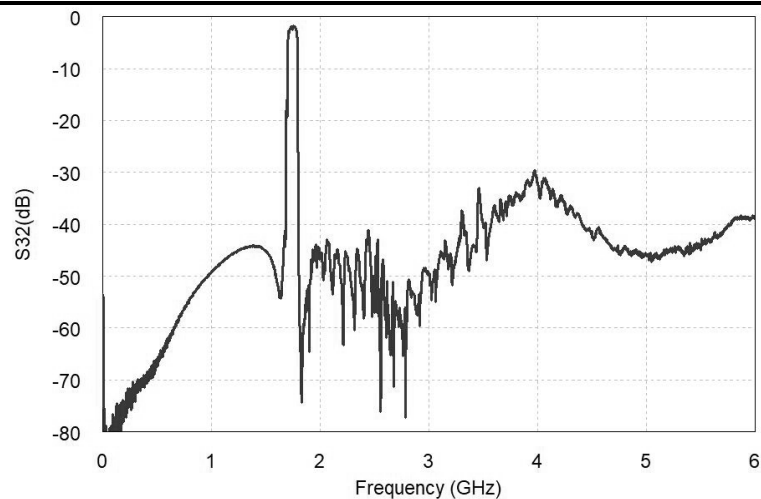


Figure 7 Electrical Characteristics: Tx to Rx.

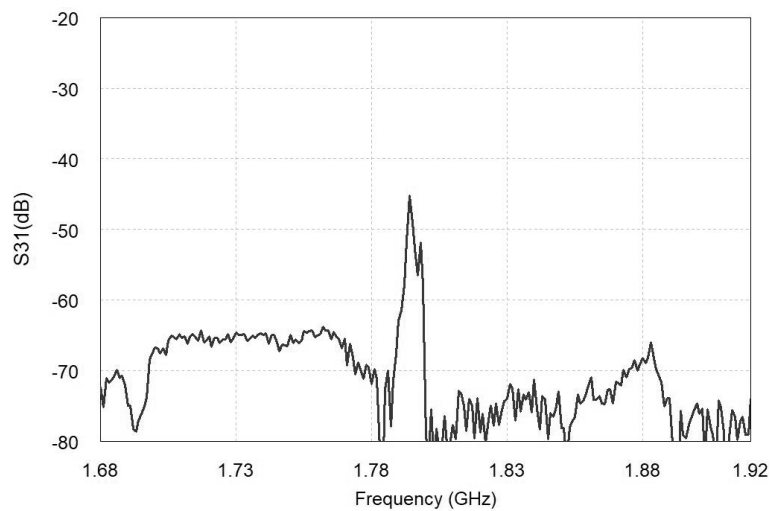


Figure 8 Electrical Characteristics: Tx to Rx.

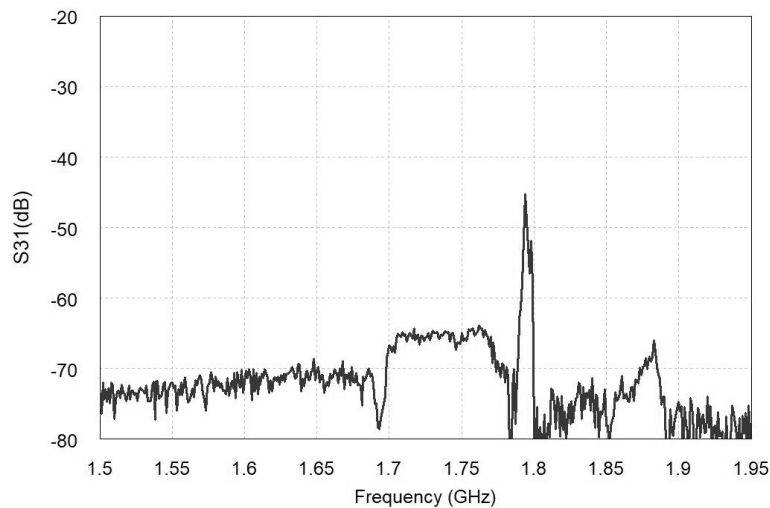


Figure 9 Electrical Characteristics: Tx to Rx.

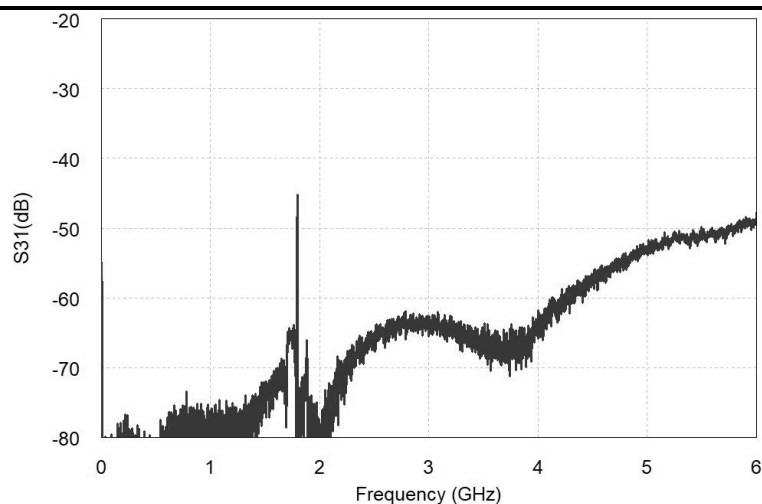


Figure 10 Smith chart

Tx Input Impedance (1805MHz to 1880MHz)



Rx Input Impedance (1710MHz to 1785MHz)



Ant Input Impedance (Tx Band)



Ant Input Impedance (Rx Band)



Approval

Supervisor

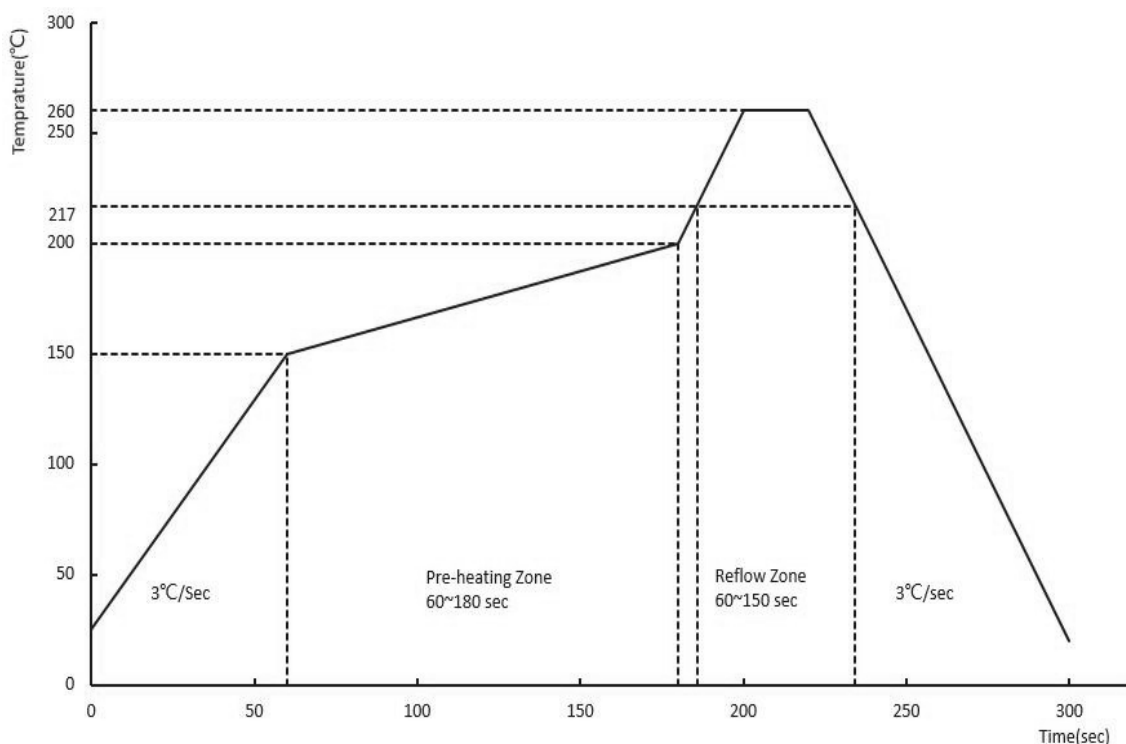
Designer

C. K. Chang

M. Y. Chen

F.L.Lai

Recommended SMT Solder Profile



Reliability

No.	Test item	Test condition	
1	Temperature Storage	Temperature: 95°C±2°C , Duration: 250h , Recovery time: 2h±0.5h Temperature: -40°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h	
2	Humidity Test	Conditions: 60°C±2°C ,90~95%RH	Duration:250h
3	Thermal Shock	Heat cycle conditions: TA=-40°C±3°C, TB=95°C±2°C, 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°C±5°C Depth: DIP--2/3, SMD--1/5	Duration:3.0s--5.0s
7	Resistance to Soldering Heat	Thickness of PCB:1mm , Solder condition: 260°C±5°C , Duration:10±1s Temperature of Soldering Iron: 350°C±10°C, Duration: 3~4s, Recovery time : 2 ± 0.5h	