

APPROVAL SHEET

Customer Name: N-STAR

Project Name: 3D Printer

Product Spec: WiFi dual-band antenna: Length 30.6MM
Width15.4MM 1.13 black line, 1-IPEX, L=65MM

Customer P/N:

REV: V1.1

Date: 2025.04.09

drawing	check	approved
Gongze Rao	Weixing Yan	Dongliang Tang

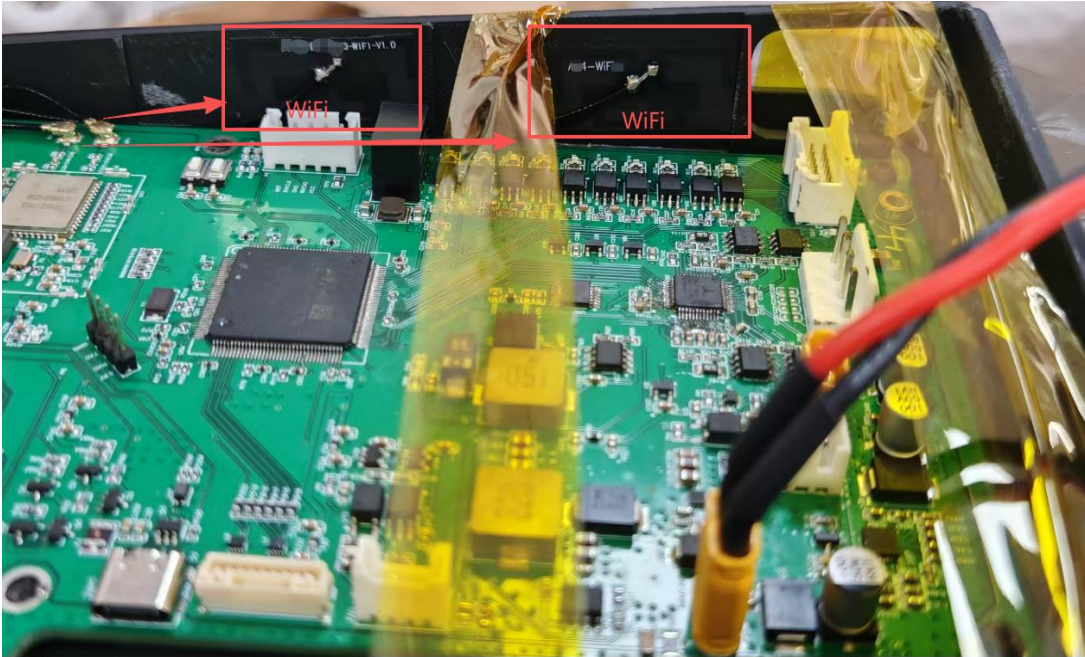
Customer Approve

check	approved	approval

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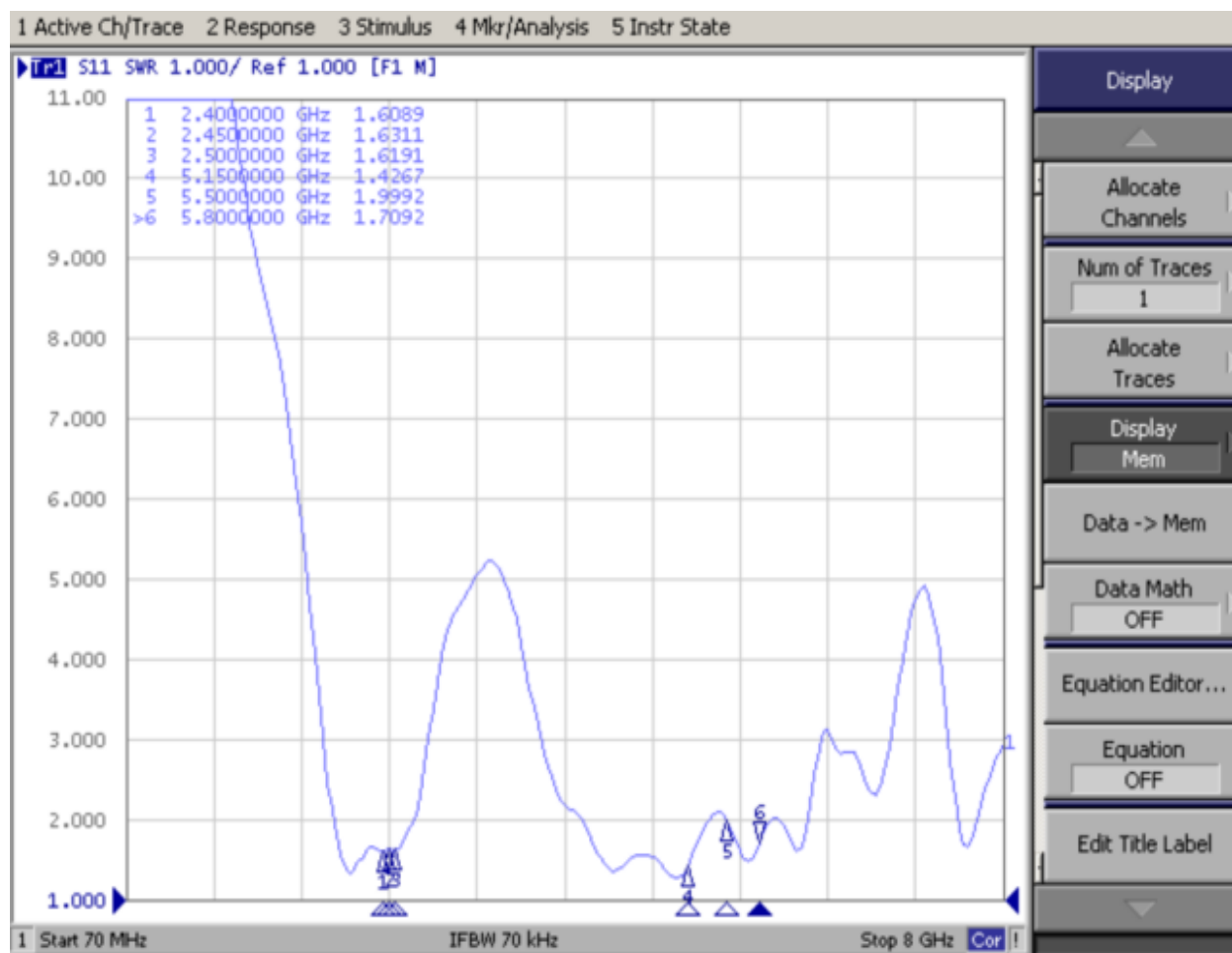
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Electrical Performance Index

Electrical Specifications	
2400-2500 5150-5800MHZ	
VSWR	≤2.0
Gain	≤2.93dBi
Radiation	OMNI
Polarization	LINEAR
Input impedance	50 Ω
Mechanical Specifications	
Input connector	Ipex
Antenna materia	FPC
Working Temperature	-30℃~+80℃
Working Humidity	40~85%
Installed	

Test report

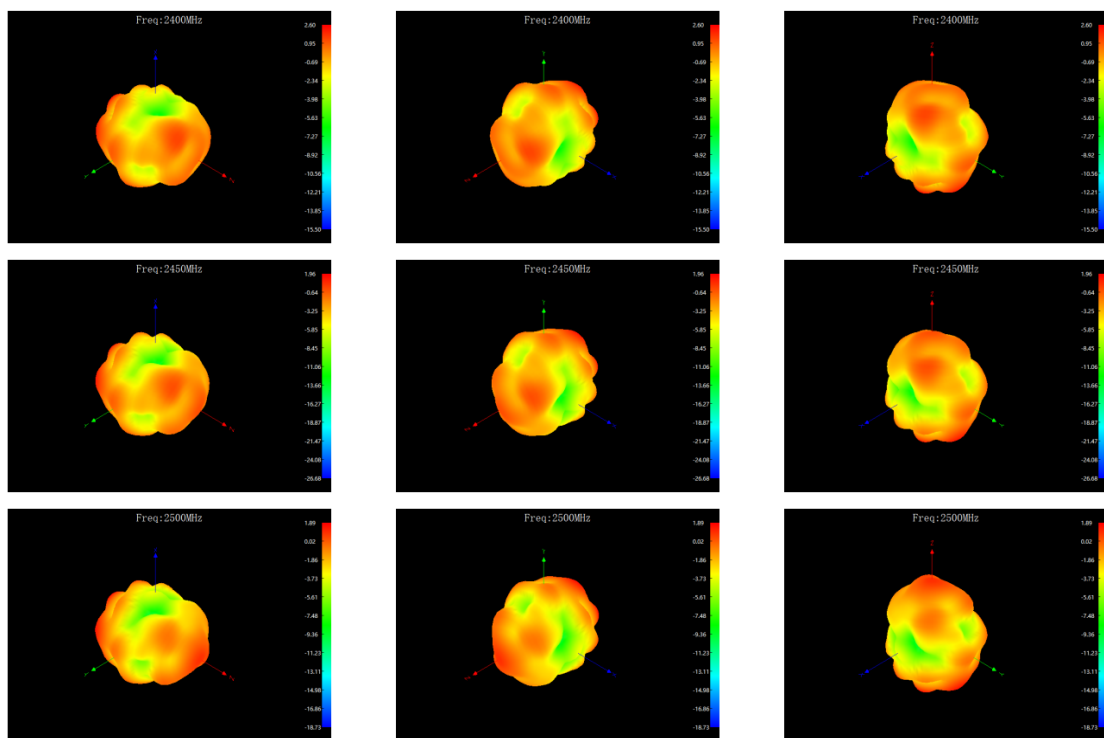
standing-wave pattern:



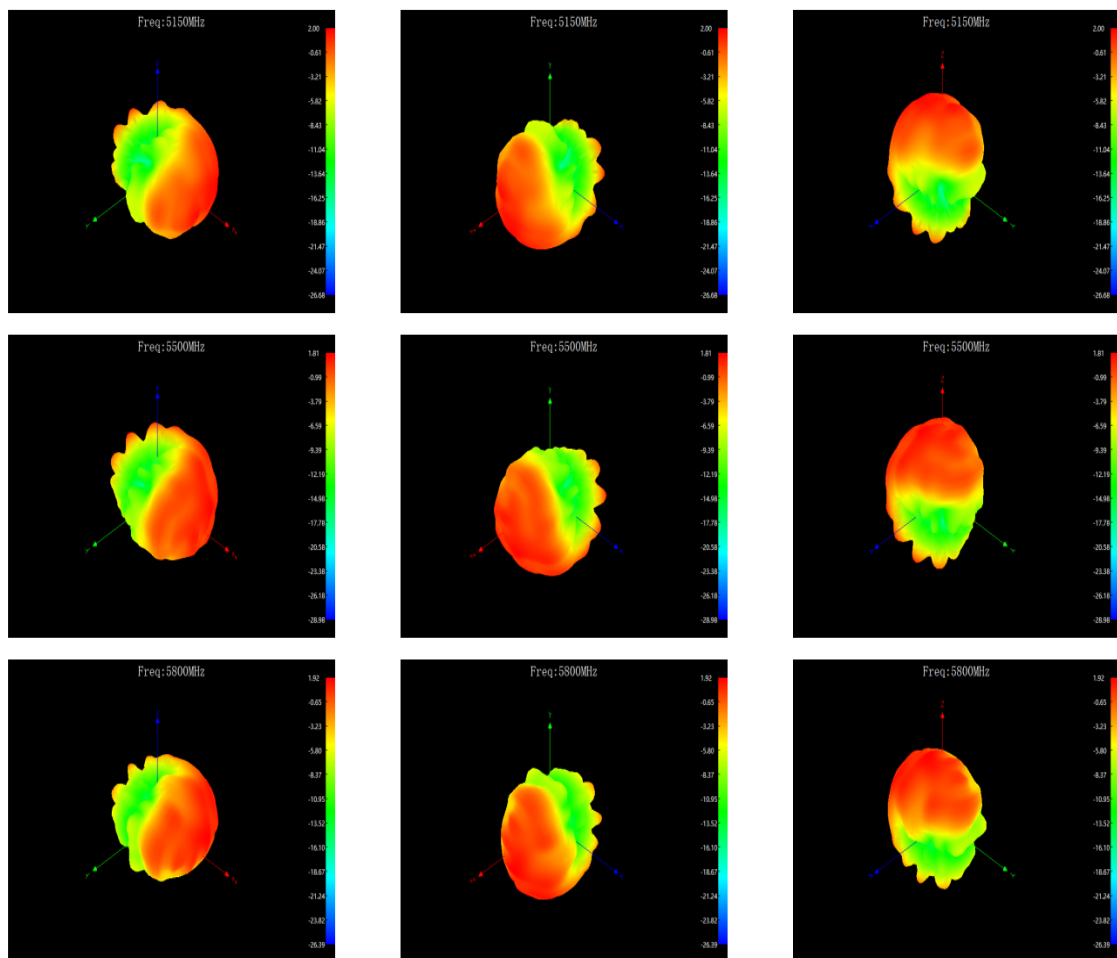
Antenna Efficiency Gain:

Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	52	2.6
2410	48.75	2.93
2420	49.55	2.16
2430	52.36	2.05
2440	56.1	2.71
2450	50.7	1.96
2460	48.98	2.15
2470	42.27	1.5
2480	46.13	1.87
2490	43.35	1.64
2500	43.05	1.89
5150	55.72	2
5200	56.62	1.88
5250	54.08	2.28
5300	53.09	2.38
5350	52	2.72
5400	50.47	2.19
5450	48.42	1.77
5500	49.55	1.81
5550	53.83	2.39
5600	44.06	1.62
5650	52.72	2.32
5700	47.32	2
5750	50.23	2.67
5800	51.52	1.92

2.4G Antenna Radiation Pattern:



5.8G Antenna Radiation Pattern:



OTA Active Data:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	WIFI_B (11M)	1	2412	13.41
2	TRP	WIFI_B (11M)	6	2437	13.88
3	TRP	WIFI_B (11M)	11	2462	14.13
4	TIS(EIRP)	WIFI_B (11M)	11	2462	-85.77
5	TRP	WIFI_A (54M)	36	5180	12.41
6	TRP	WIFI_A (54M)	64	5320	13.02
7	TRP	WIFI_A (54M)	165	5825	16.47
8	TIS(EIRP)	WIFI_A (54M)	165	5825	-74.23

Testing Equipment and Principle

1. test equipment:

Network Analyzers :

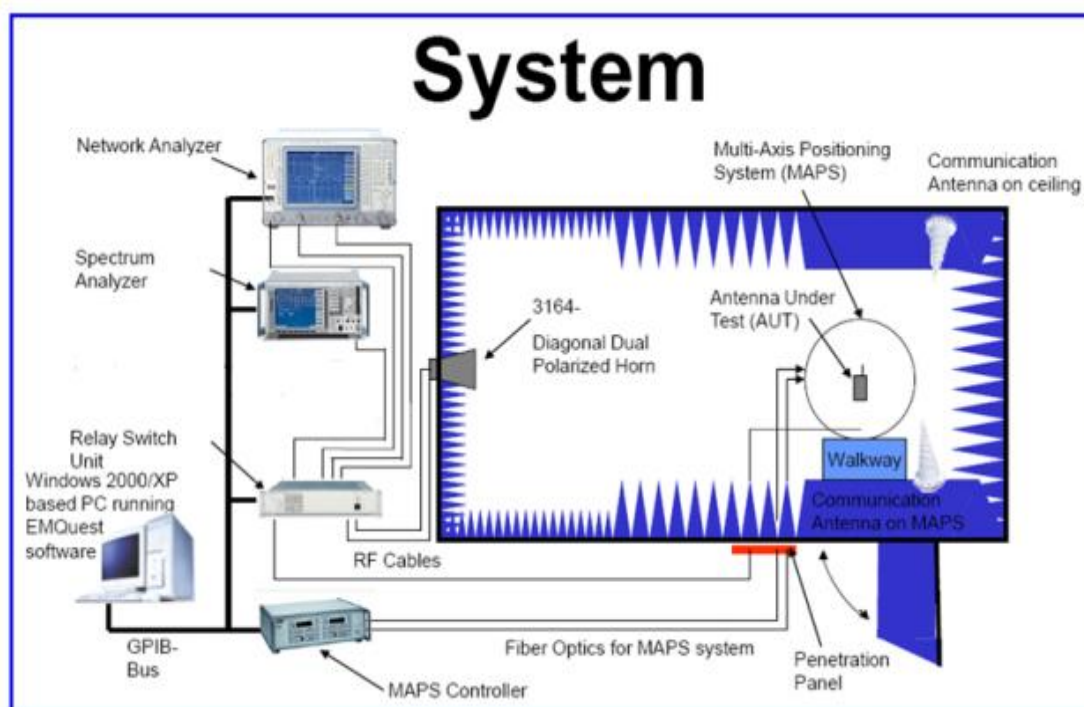
Agilent 8753D 5071B

Communications Test Set:

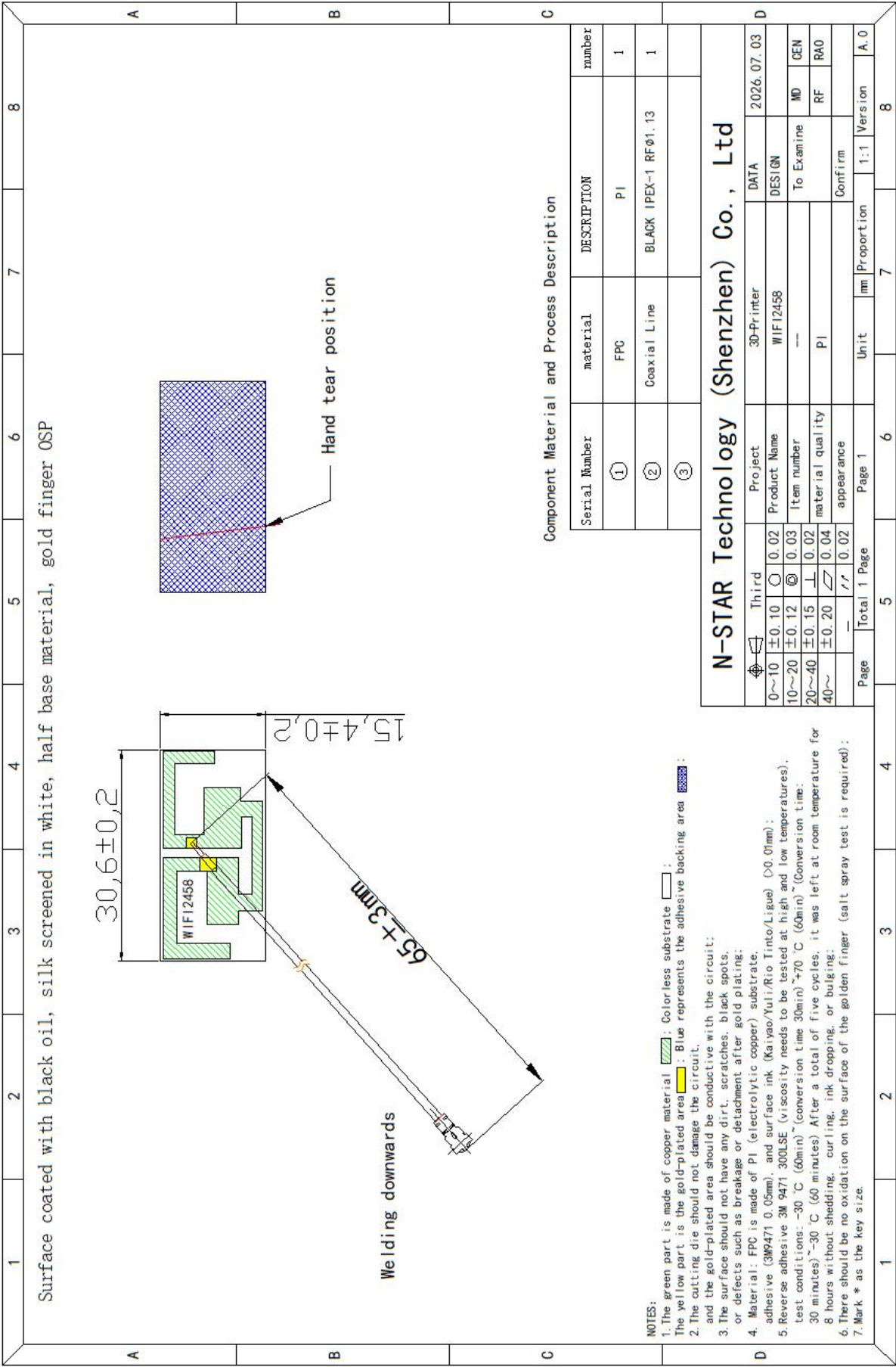
Agilent E5515C

3D Chamber Test System:

2. test philosophy:



Product Drawing



Reliability test report

test item		test method	requires	Result
C1	V. S. W. R.	Design network analyzer parameters for testing	Come up to samples	pass
M1	antenna gain	Design the anechoic chamber parameters for testing	Come up to samples	pass
M2	Vibration	GB / T2423. 48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80to 20 Hz3 directions;	1. No Visual Damage 2. Frequency Tol. $\leq 5\%$	pass
M6	Random Drop	GB / T2423. 8-1995 Single: Height: 1.0 Meter; 3 directions; 1 time for each direction Single Antenna	1. No parts separated 、 fracture 2. Frequency Tol. $\leq 5\%$	pass
E3	Dimension	Inspection of dimension, color, material, package, surface process.	Directive DUT specification	pass
E4	Temperature and Humidity Chamber	GB / T 2423. 3-2006 Temp: 80° C / 12 H; -40° C / 12H RH: $\geq 90\%$;	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$	pass
E5	Thermal Shock	GB / T 2423. 22 - 2008 - 40° C (30 minutes) to + 80° C (30 minutes); Cycles:	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$	pass
R1	Aging test	GB /T 2423. 2 - 2008 Temp: 80° C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$	pass
M1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2015/863/EU	pass