



ANTENNA PASSIVE TEST RESULTS

Manufacturer	Dandan Electronics Factory, Chenghai District, Shantou City
Address	Xidi Industrial Zone, Huaize Village, Lianxia Town, Chenghai District, Shantou City, Guangdong, China
Product Name	2.4G On-board PCB antenna
Model No.	2.4G-ANT-001
Standards	ANSI/IEEE Std 149-2008

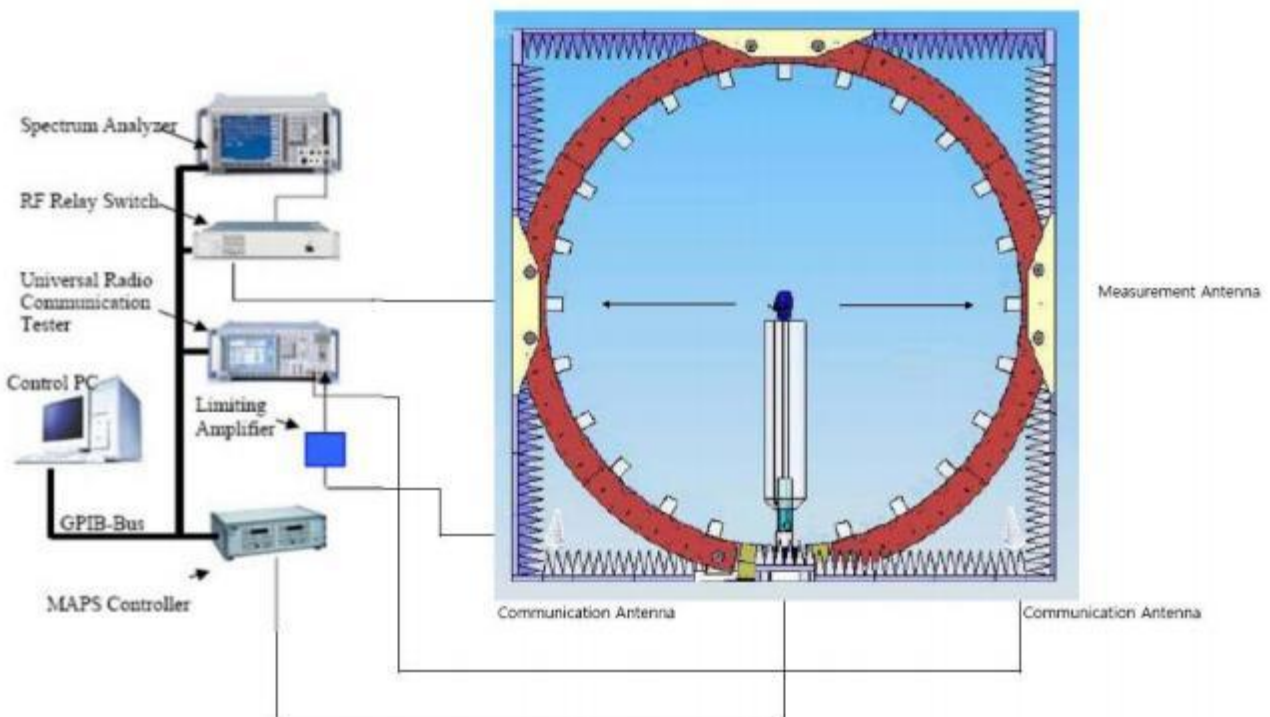
1. General Information

1.1 Testing Laboratory

Test Lab	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address	No.1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057

1.2 Test Configuration

Great-Circle-Cut method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 5m



2. Equipment List

Type of Equipment	Model Number	Manufacture	Calibration Date	Valid Period
Network Analyzer	E5071C S/N MY46523591	Keysight	2025/4/11	2026/4/10
Quad-Ridge Horn Antenna	700 MHz-10 GHz EMCO 3164-08	ETS-Lindgren L.P.	N/A	N/A
MAPS Controller	EMCENTER S/N 160485	ETS-Lindgren L.P.	N/A	N/A

3. Measurement Uncertainty

Item	2400-2500 MHz (dB)
Gain	0.88
Efficiency	0.88

Measurement Uncertainty (95% CONFIDENCE INTERVAL) K=2

4. Test Results

4.1 Test Summary

Product	Frequency (MHz)	Efficiency (%)	Gain (dBi)
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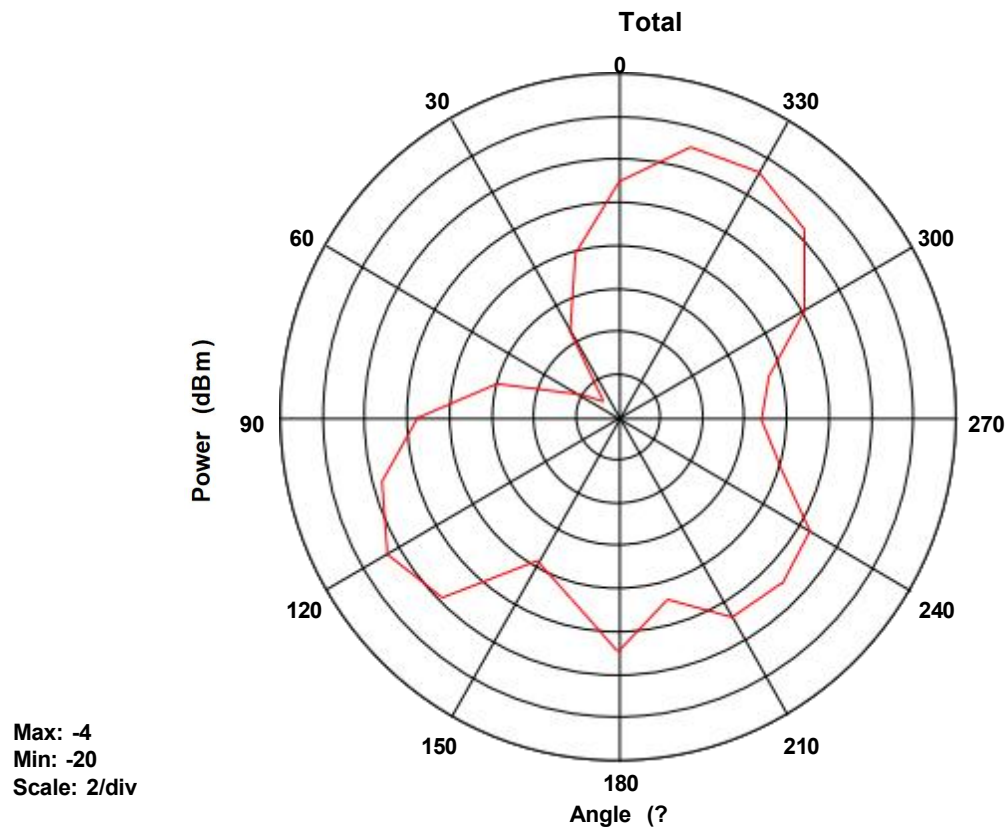
2.4G On-board PCB antennaa	2420	12.79	-2.51
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4.2 2.4G On-board PCB antenna Test Results

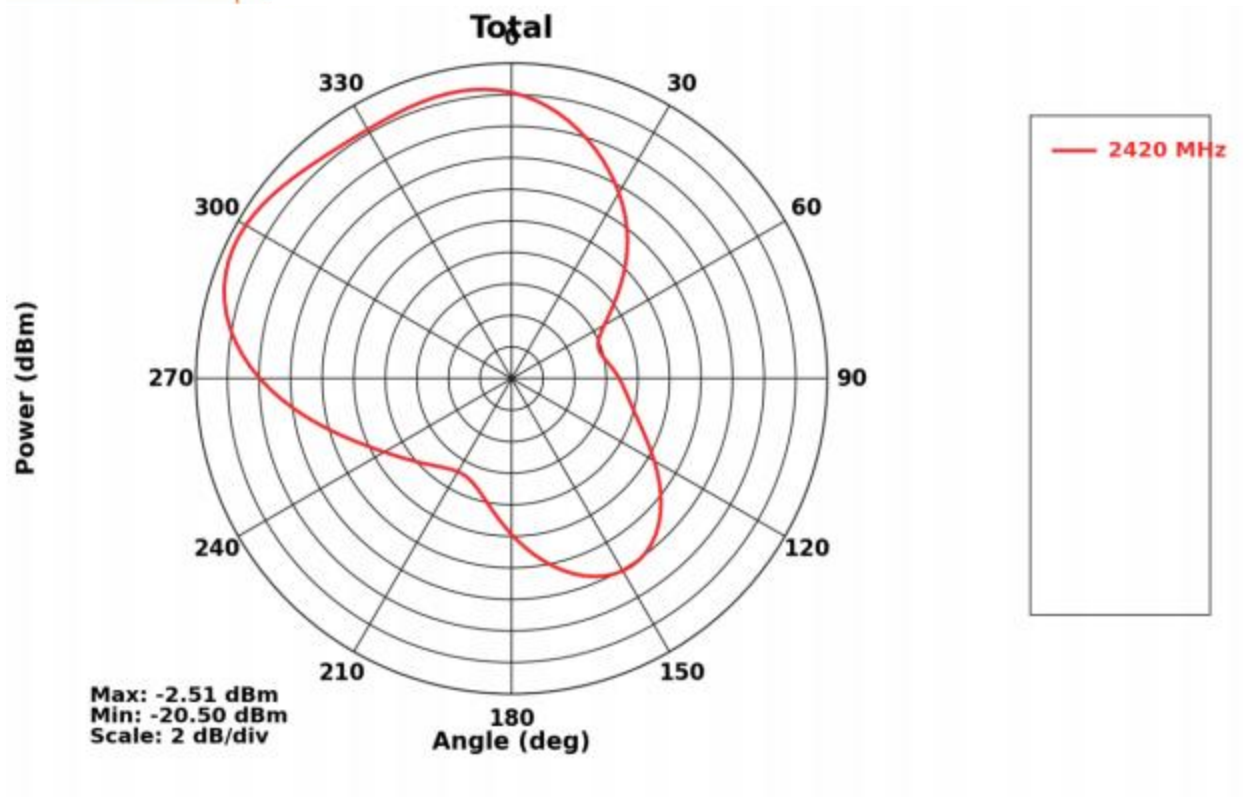
Free Space

Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2400	-9.53801	11.1224	-2.97586
2410	-9.34303	11.6332	-2.78350
2420	-8.93233	12.7870	-2.51114
2430	-8.98897	12.6213	-2.85712
2440	-9.23305	11.9315	-3.37391
2450	-9.51803	11.1737	-3.50956
2460	-9.84698	10.3586	-3.85433
2470	-10.21290	9.5218	-4.40243
2480	-10.50000	8.9125	-4.80768
2490	-10.30690	8.9178	-4.90368
2500	-9.62197	10.9094	-3.54110

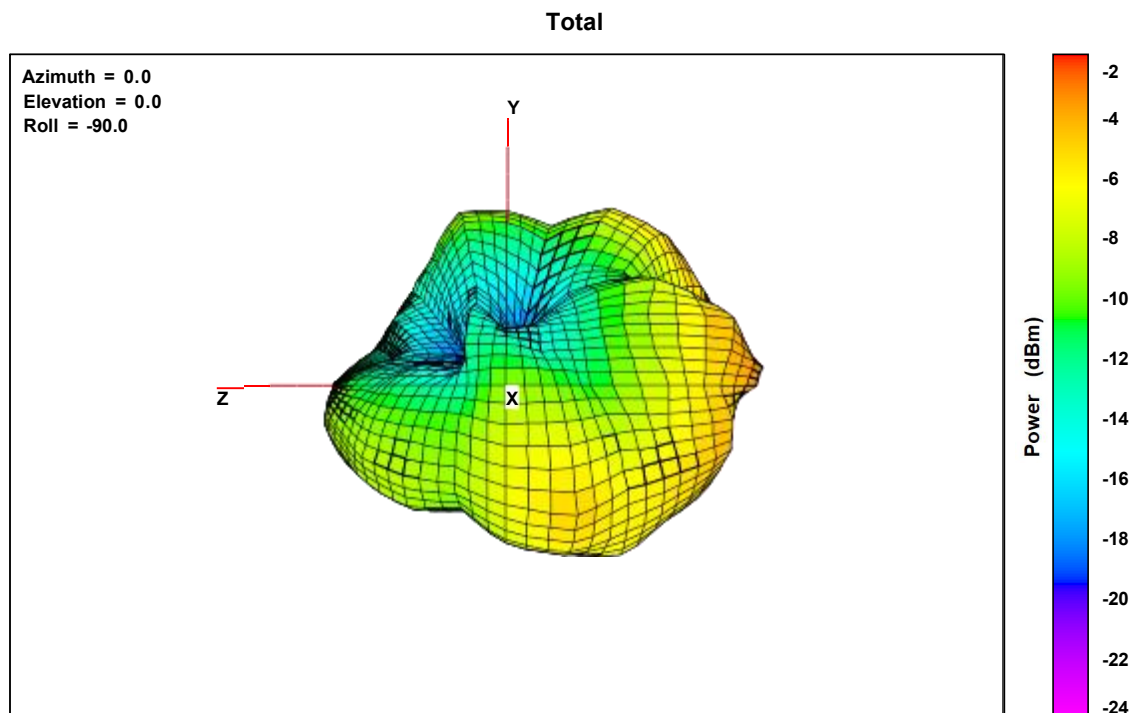
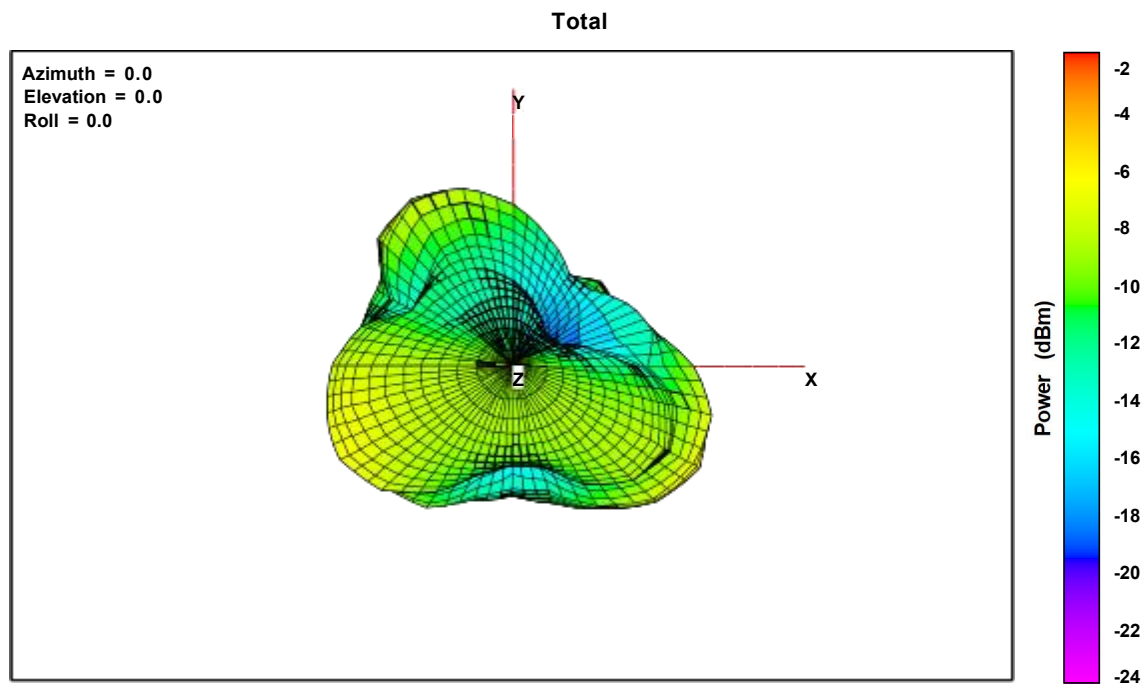
5. Pattern Plots



2400 MHz

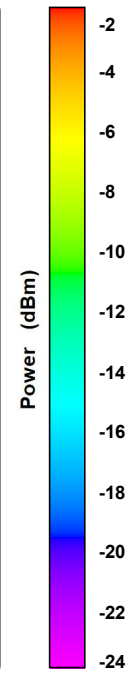
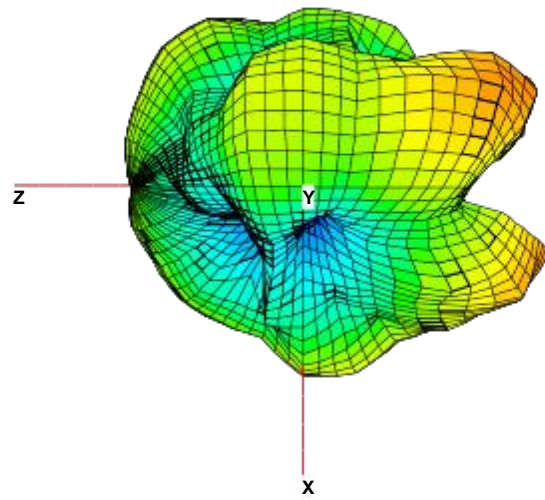


6. 3-D Antenna Pattern



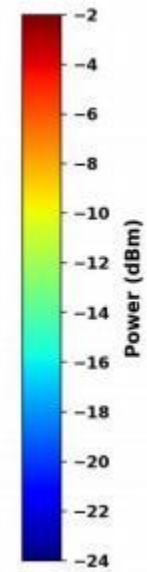
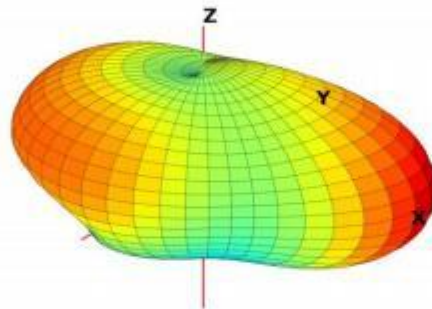
Total

Azimuth = 90.0
Elevation = -90.0
Roll = 0.0



Total - 2420 MHz

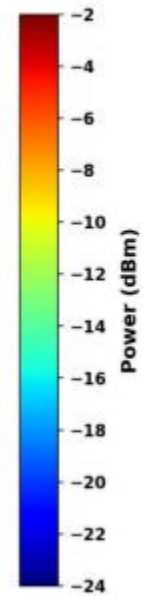
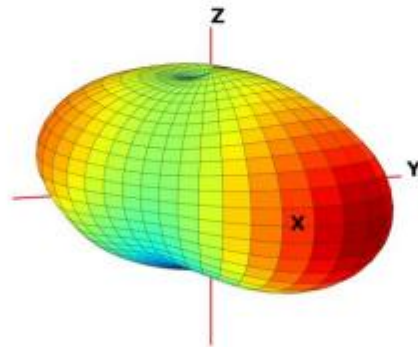
Azimuth = 0.0
Elevation = 0.0
Roll = 0.0





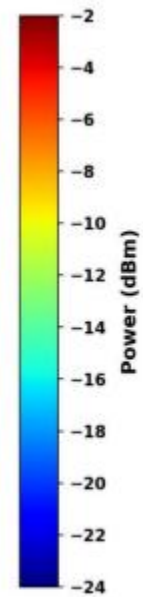
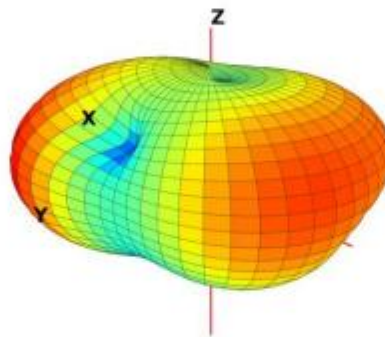
Total - 2420 MHz

Azimuth = 0.0
Elevation = 0.0
Roll = -90.0



Total - 2420 MHz

Azimuth = 90.0
Elevation = -90.0
Roll = 0.0



7. The EUT and Test Configuration

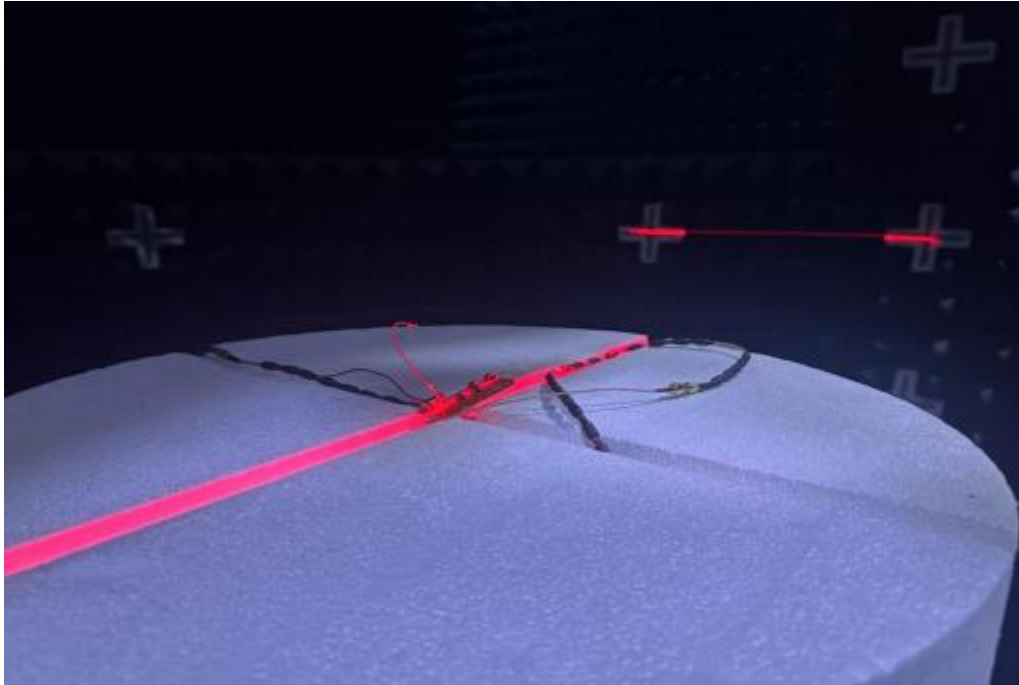
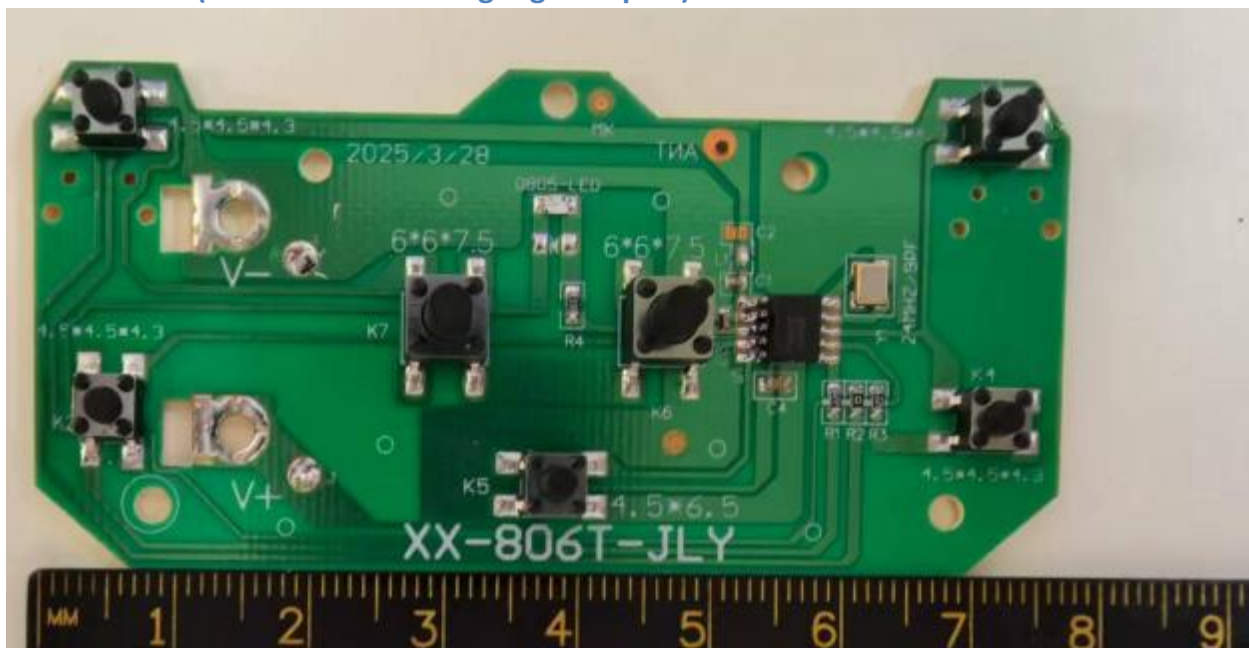


Photo of EUT(Please check the highlighted part)





- End of the Results -