

TEST REPORT

Product Name : PCBA
Model/Type reference : WPTT02
Report Number : HTC20250516002
Date of Issue : May 16, 2025
Test Standards : GB/T 9410-2008
ANSI/IEEE Std149-1979

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Date:

May 16, 2025



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Version

Version No.	Date	Description
00	May 16, 2025	Original

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1.4 Test equipment

Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
OTA Test System	RayZone-5000	A0011	GTS	2023.8.14	2025.8.13
Network Analyzer	E5071C	C0017	KEYSIGHT	2024.5.11	2025.5.10

1.5 Test environment

Temperature	24.8°C
Humidity	83%RH
Pressure	100.06kPa

1.6 Statement

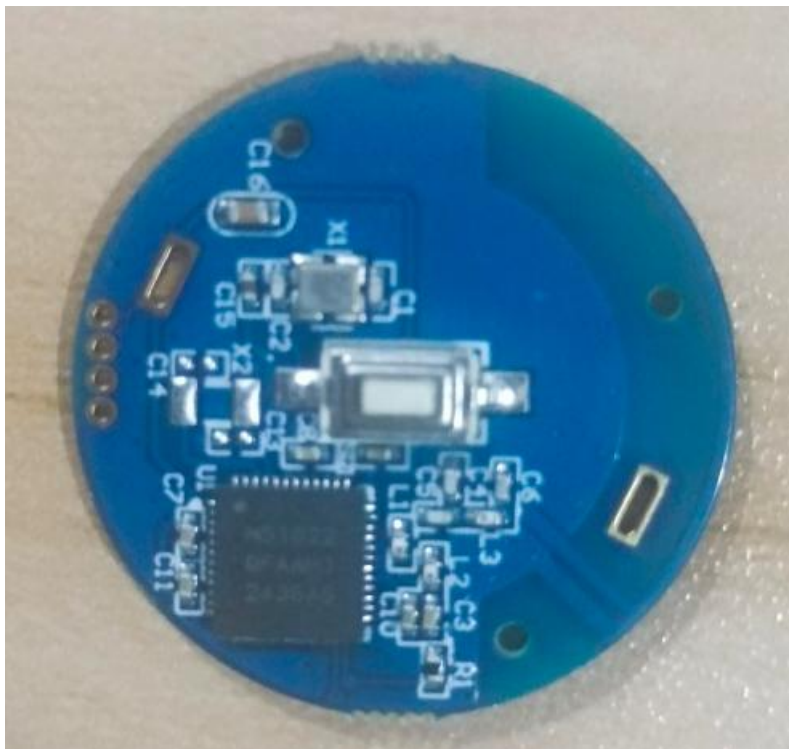
- (1) The test results in the report are only applicable to the tested samples and the tested samples work under the environment described in the report.
- (2) Only Shenzhen XinHua Technology co.,Ltd have the right to modify the report, and the modification information shall be annotated in the revision form.
- (3) Any objection to this report shall be raised within 30 days after formal confirmation of the report.
- (4) This report is invalid if there is any evidence that the sample information provided is falsified.
- (5) The report is invalid without the signature of the auditor and approver.

2.Sample Information

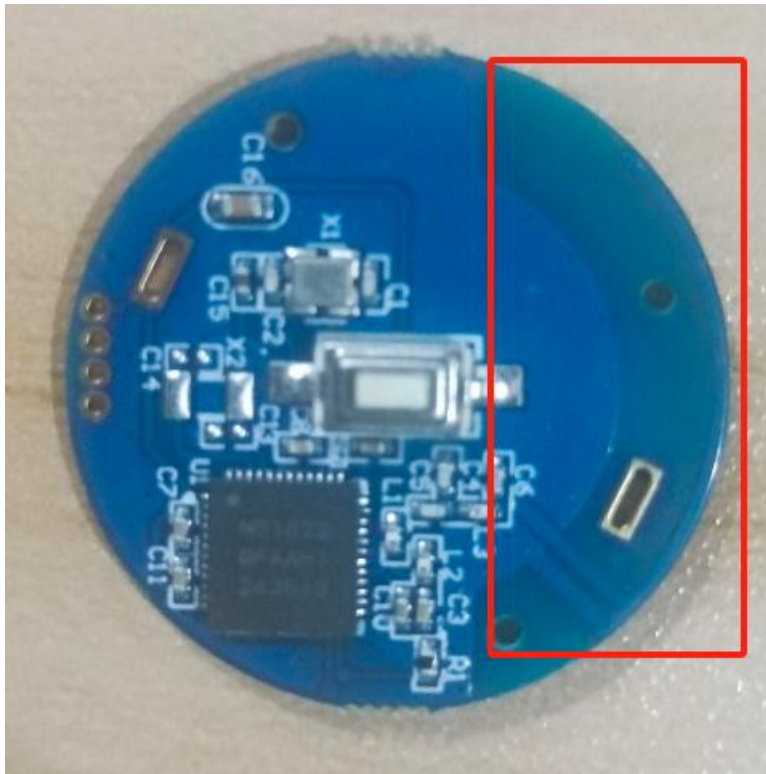
2.1 Description of EUT(S)

Test Item	VSWR;Antenna gain; Efficiency; Radiation pattern
Frequency Range	2400-2500MHz
Received Date	May 14, 2025
Test Date	May 14, 2025

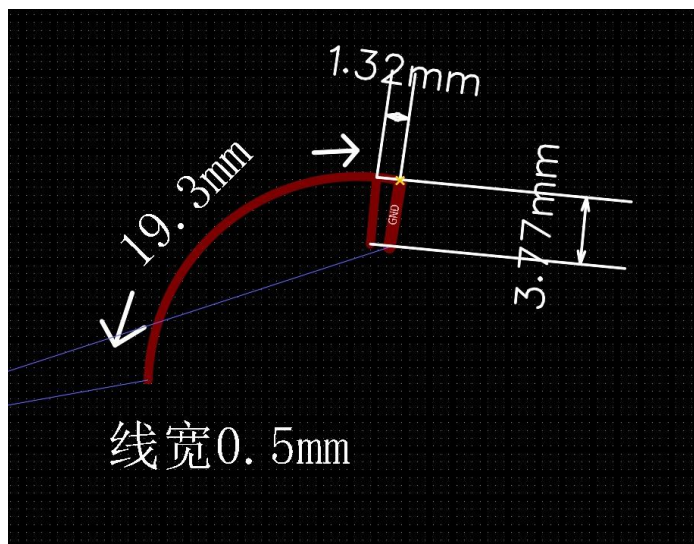
2.2 EUT appearance



View Of Product-01



View Of Product-02



Antenna Dimensions

2.3 EUT setup photo of free space OTA testing



3. Test Results

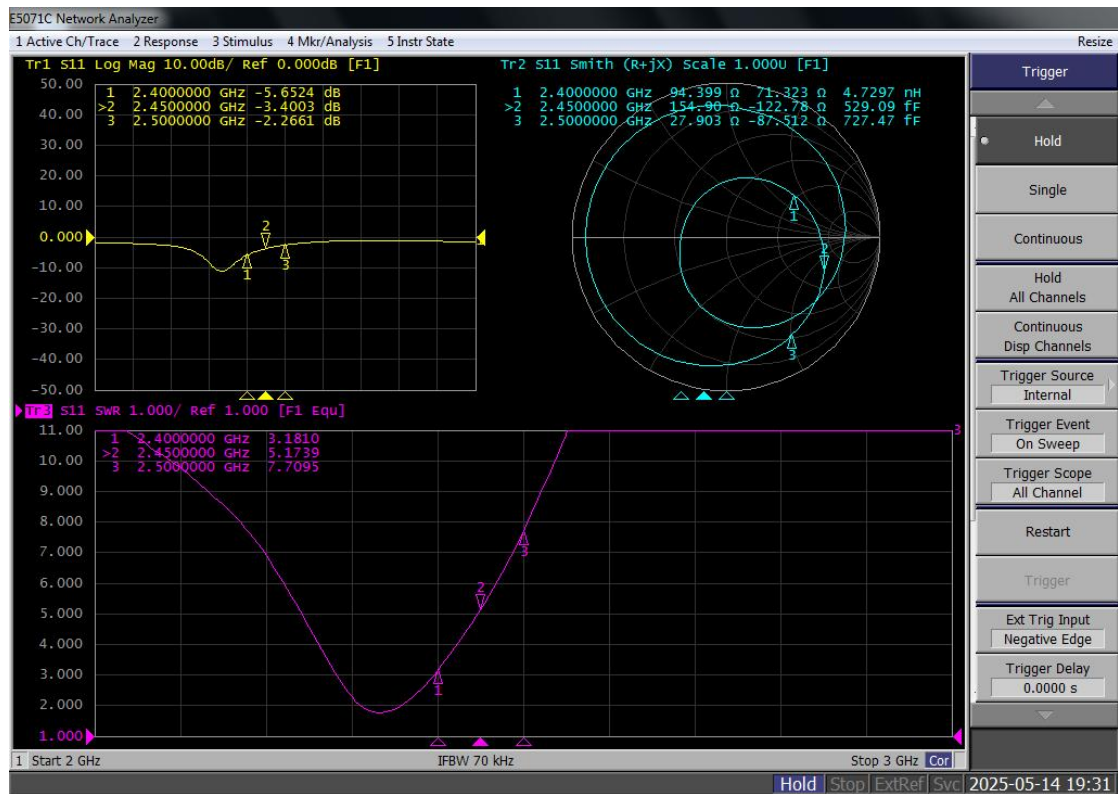
3.1 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of $K=2$ and the 95% confidence level to express the extended uncertainty.

Item	Uncertainty
VSWR	± 0.3
Antenna gain	$\pm 0.72\text{dB}$
Radiation efficiency	$\pm 0.72\text{dB}$

3.2 Test data

3.2.1 VSWR parameters



3.2.2 VSWR data

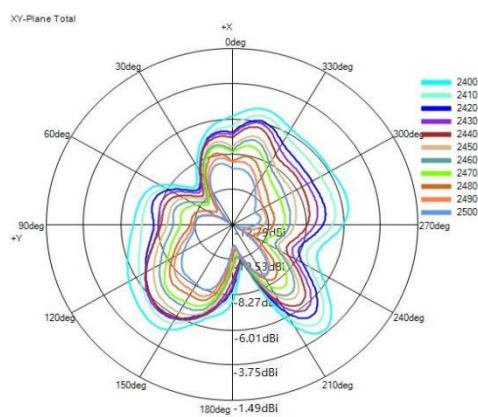
Frequency/MHz	2400	2450	2500
VSWR	3.1810	5.1739	7.7095

3.2.3 Typical free space efficiency and gain

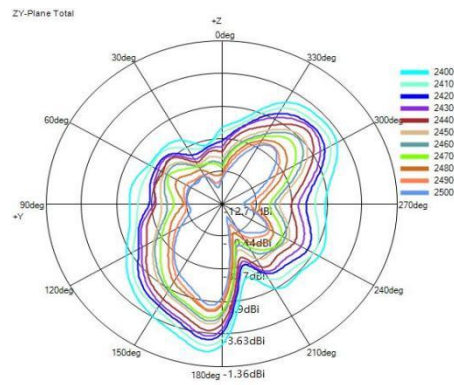
Freq No.	Freq(MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
1	2400	-1.56	-5.77	26.47
2	2410	-1.98	-6.24	23.79
3	2420	-2.27	-6.59	21.95
4	2430	-2.53	-6.83	20.73
5	2440	-2.81	-7.16	19.25
6	2450	-3.20	-7.62	17.30
7	2460	-3.36	-7.81	16.58
8	2470	-3.56	-8.08	15.55
9	2480	-4.12	-8.62	13.75
10	2490	-4.59	-9.02	12.55
11	2500	-4.87	-9.30	11.75

3.2.4 Radiation pattern

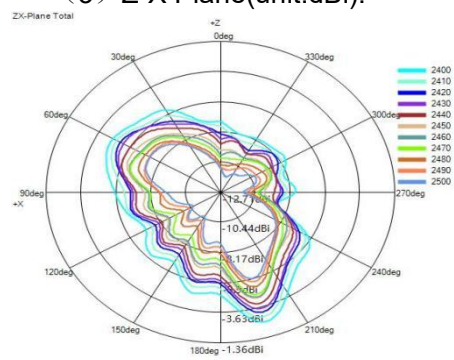
(1) X-Y Plane(unit:dBi):



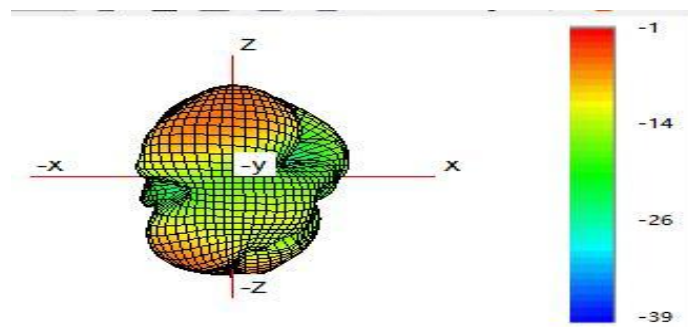
(2) Z-Y Plane(unit:dBi):



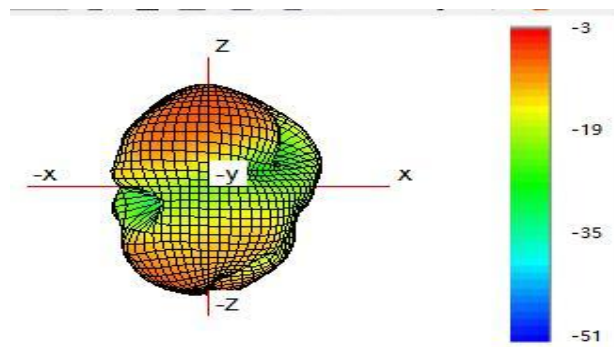
(3) Z-X Plane(unit:dBi):



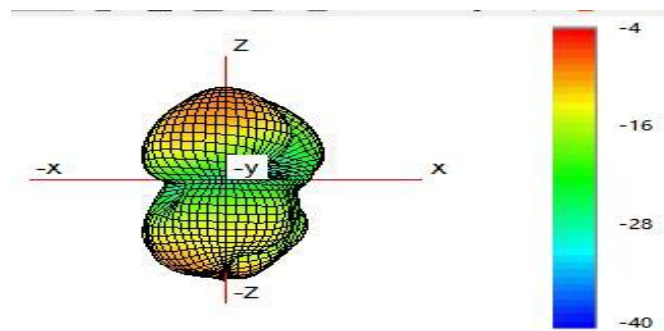
(4) Typical Free Space 3D Radiation Pattern at 2400MHz(unit:dBi)



(5) Typical Free Space 3D Radiation Pattern at 2450MHz(unit:dBi)



(6) Typical Free Space 3D Radiation Pattern at 2500MHz(unit:dBi)



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