

Test Report

Verified code: 415571

Report No.: E202508258208-1EN

Customer: Jiangsu Shushi Technology Co., Ltd

Address: NO.9 Nanxu Road, RunZhou District, Zhenjiang, Jiangsu, China

Sample Name: Smart WaterLeak Sensor KM1

Sample Model: 3RWLK01068S

Receive Sample Date: Sep.01,2025

Test Date: Sep.01,2025 ~ Sep.01,2025

Reference Document: ANSI IEEE 149-2021 Part 7, Part 8, Part 10

Test Result: Not make judgment

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GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2025-09-02

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E202508258208-1EN	Original Issue	2025-09-02

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1. TEST RESULT SUMMARY

Test Item	Test Frequency	Test Method	Test Scene	Test Result
Gain	433.92MHz	ANSI IEEE 149-2021 Part 8	Free space	/ ¹⁾
Efficiency (%)	433.92MHz	ANSI IEEE 149-2021 Part 10	Free space	/ ¹⁾
Radiation patterns	433.92MHz	ANSI IEEE 149-2021 Part 7	Free space	/ ¹⁾

Note 1): Customer-defined test, test results do not make judgment.

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2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT INFORMATION

Name:	Jiangsu Shushi Technology Co., Ltd
Address:	NO.9 Nanxu Road,RunZhou District,Zhenjiang,Jiangsu,China

2.2 MANUFACTURER

Name:	Jiangsu Shushi Technology Co., Ltd
Address:	NO.9 Nanxu Road,RunZhou District,Zhenjiang,Jiangsu,China

2.3 FACTORY

Name:	Jiangsu Shushi Technology Co., Ltd
Address:	NO.9 Nanxu Road,RunZhou District,Zhenjiang,Jiangsu,China

2.4 BASIC DESCRIPTION OF EUT

Product Name:	Smart WaterLeak Sensor KM1
Product Model:	3RWLK01068S
Trade Name:	 THIRD REALITY
Frequency Band:	433.92MHz
Sample submitting way:	☒ Provided by customer ☐ Sampling
Sample No:	E202508258208-0001
Note:	The laboratory does not bear any consequences for the authenticity, completeness and effectiveness of the above product information.

2.5 SAMPLE WORK DESCRIPTION

Serial No.	Work description
a)	The sample is erected according to the standard, so that the sample can be tested under normal operation

2.6 ASSISTIVE DEVICE INFORMATION

No.	Name of Equipment	Manufacturer	Model No.	Serial No.
1)	Reference antenna (horn antenna)	Jun you radiofrequency	00MHz-6GHz	MET400-11-2
2)	Calibrated parts	R&S	ZV-Z270	/

3. LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of GRG METROLOGY & TEST GROUP CO., LTD.

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4. MEASUREMENT UNCERTAINTY

Uncertainty is calculated according to ISO's "Guide to the Expression of Uncertainty in Measurement" (GUM), and the extended uncertainty is expressed using an inclusion factor of $k=2$ and a 95% confidence level.

Measurement	Uncertainty
Gain	0.75

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5. EQUIPMENT AND TOOLS USED DURING TEST

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spherical near-field test system full anechoic chamber	SUZHOU EM-PRO TECHNOLOGY CO.,LTD	EMT-GD001	EP128-20210710-01	2028-03-08
Network analyzer	ROHDE&SCHWARZ	E5071C	MY46901661	2026-08-08
Spherical near-field test system	SUZHOU EM-PRO TECHNOLOGY CO.,LTD	Software Version v3.2	/	/

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6. ANTENNA RADIATION PERFORMANCE MEASUREMENT

6.1 LIMITS

Test Item	Test Frequency	Limits
Gain	433.92MHz	/ ¹⁾
Efficiency (%)	433.92MHz	/ ¹⁾
Radiation patterns	433.92MHz	/ ¹⁾
Note 1): Customer-defined tests, unlimited definitions.		

6.2 TEST PROCEDURE

a) Adjust the ambient temperature of the test system to within 20 ℃-30 ℃.

b) System gain calibration:

1) Set up the standard antenna so that the apparent phase center of the standard antenna is consistent with the geometric center of the system, rotate the turntable by 90 °, and adjust the phase center of the standard antenna again;

2) Start the test after setting the test frequency;

3) Gain calibration data is calculated and stored on the control computer.

c) Antenna test:

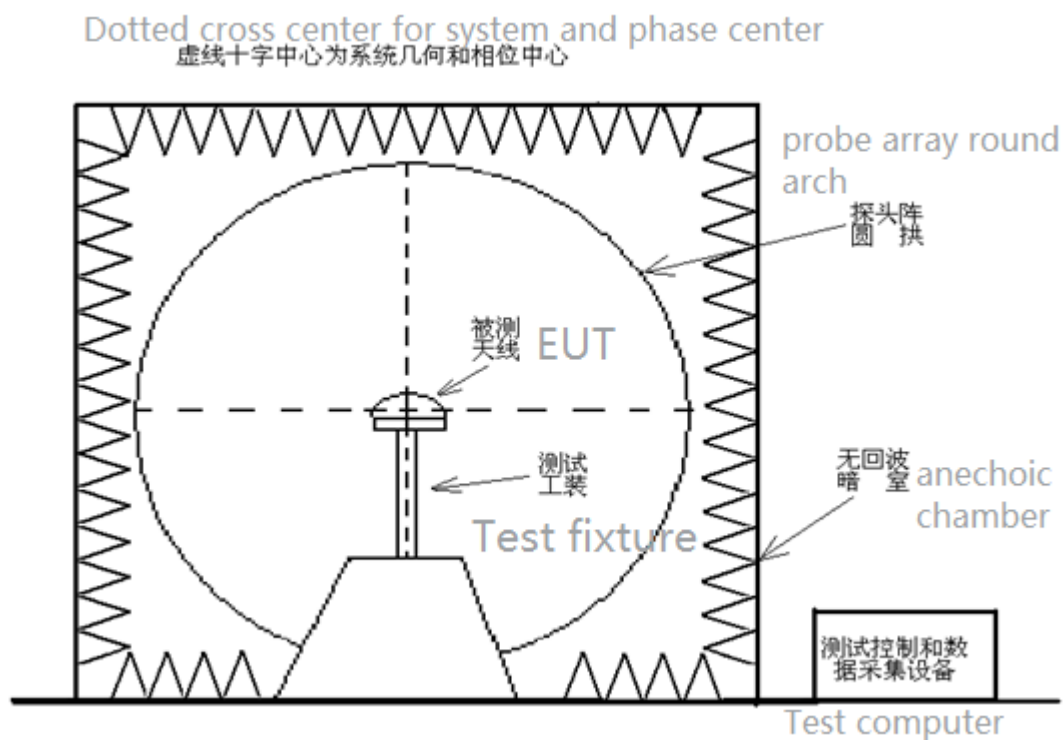
1) The antenna to be measured is erected on the test fixture, and the antenna phase center coincides with the center of the probe array ring by adjusting the antenna;

2) Connect the test cable, set the test frequency, start the test, during the test, the system supporting software should be able to automatically complete the acquisition, storage and calculation of the antenna amplitude and phase data to be measured.

d) Data processing:

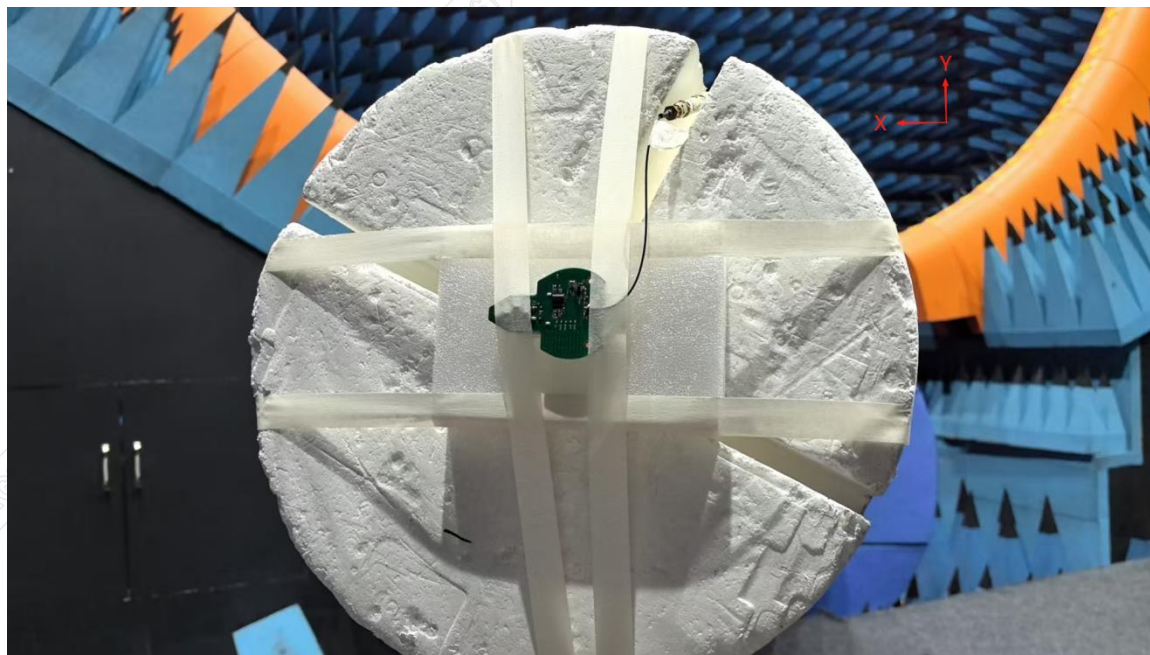
The Spherical near-field test system is used to test the antenna, and all the radiation information on the spherical surface of the antenna (including the polarization mode, gain, efficiency, pattern of the antenna, etc.) can be obtained through one test. Therefore, the antenna radiation indicators described in this standard can be obtained by a single test, the difference is that the data of different indicators are extracted differently.

6.3 CONFIGURATION OF SYSTEM UNDER TEST

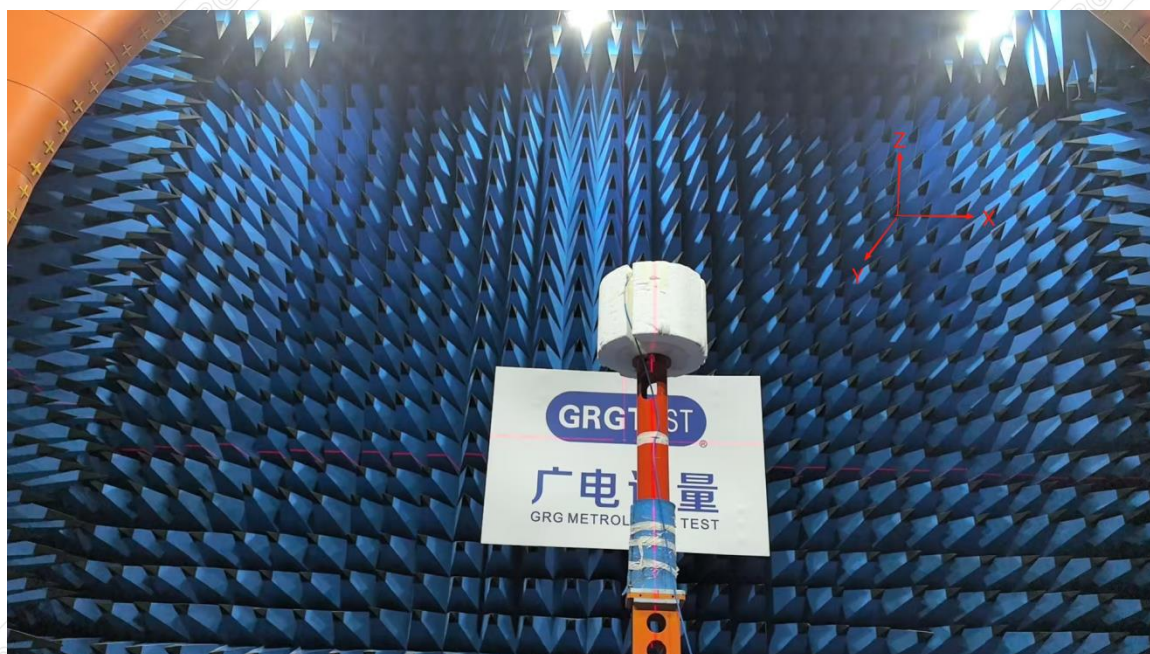


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6.4 TEST PHOTOS



Test photo1



Test photo2

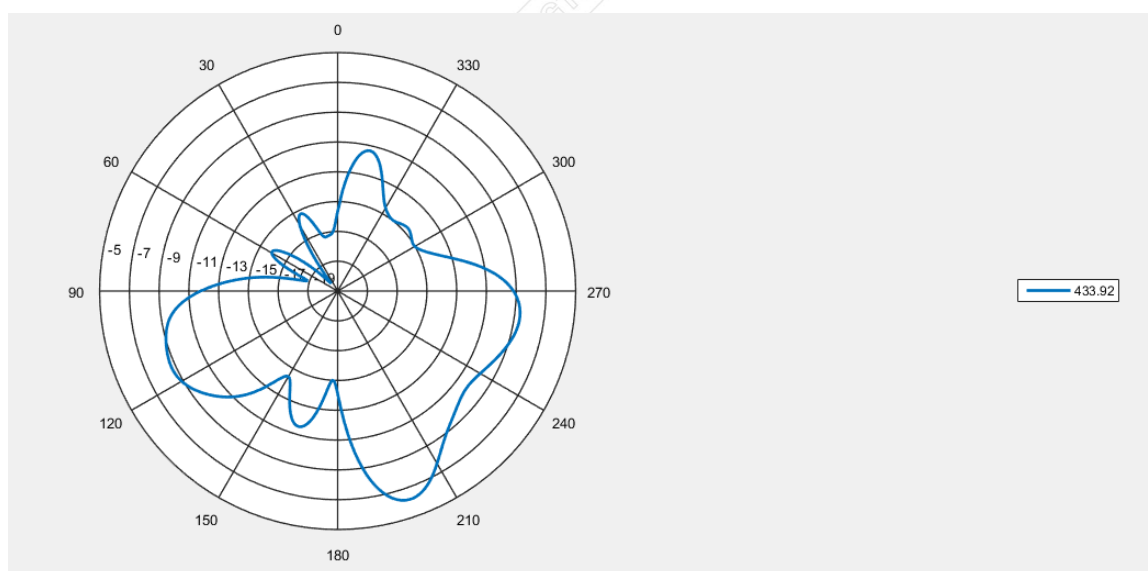
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6.5 TEST RESULTS

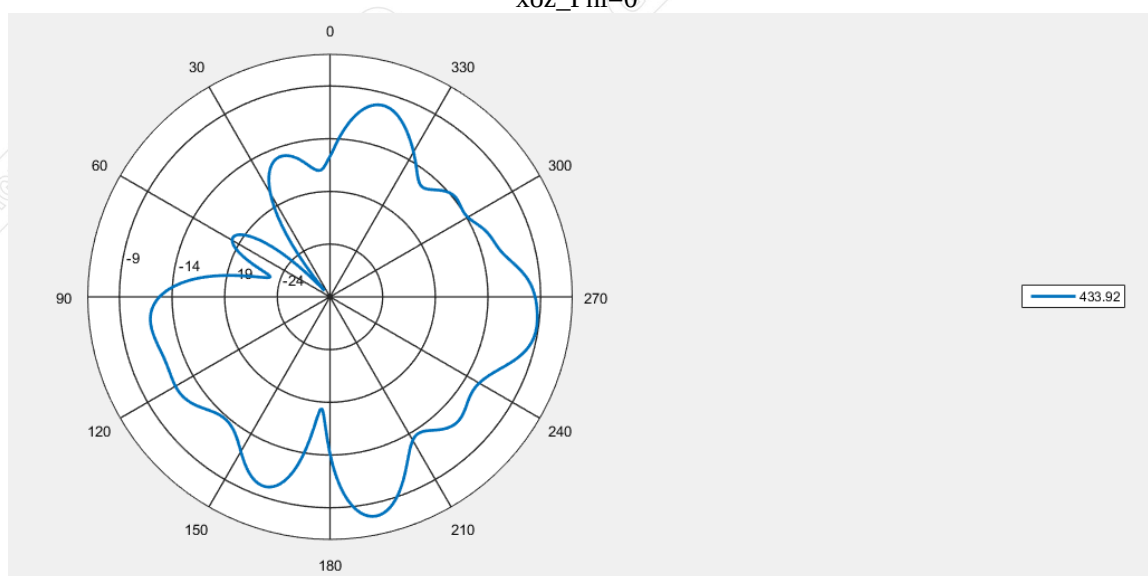
EUT Name	Smart WaterLeak Sensor KM1	Model No.	3RWLK01068S
Environmental Conditions	22.7°C/ 60RH%/ 100.2kpa	Test Scene	Free space
Power Supply	/	Tested By	Ma Lintao
Test Date	2025-09-01	Sample No.	E202508258208-0001

Test Frequency (MHz)	Gain (dBi)	Efficiency (%)
433.92	-5.88	6.54

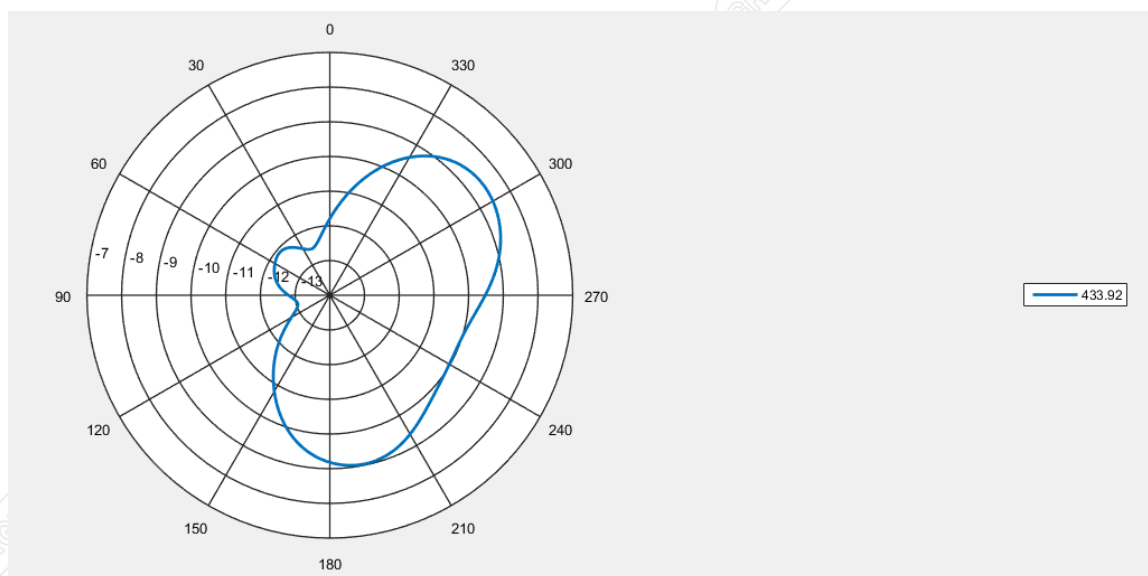
a) 2D Radiation patterns



xoz_Phi=0°

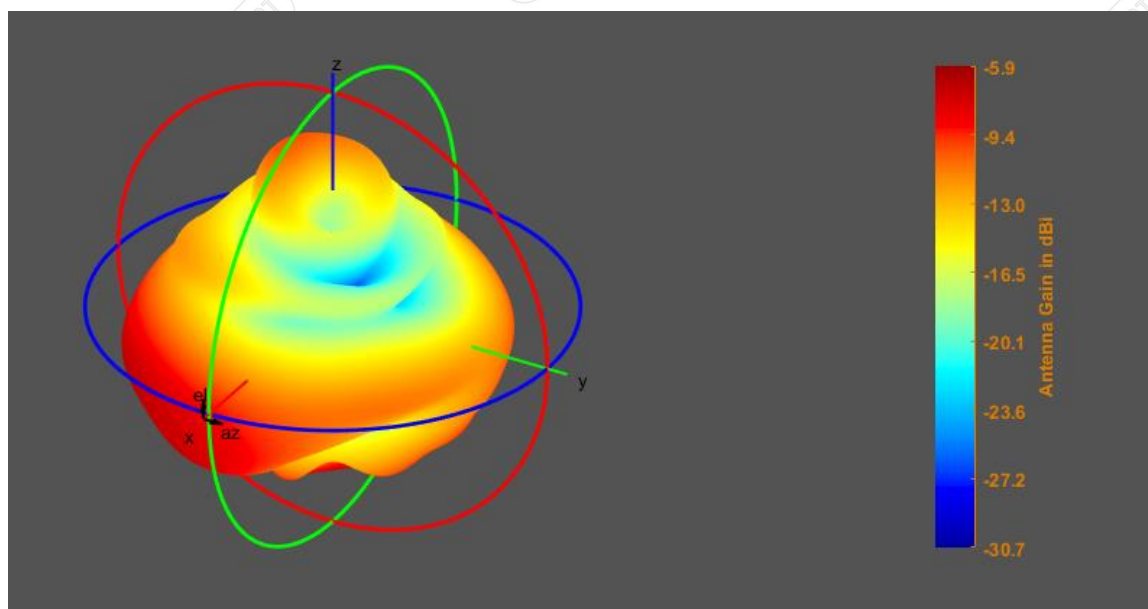


yoZ_Phi=90°



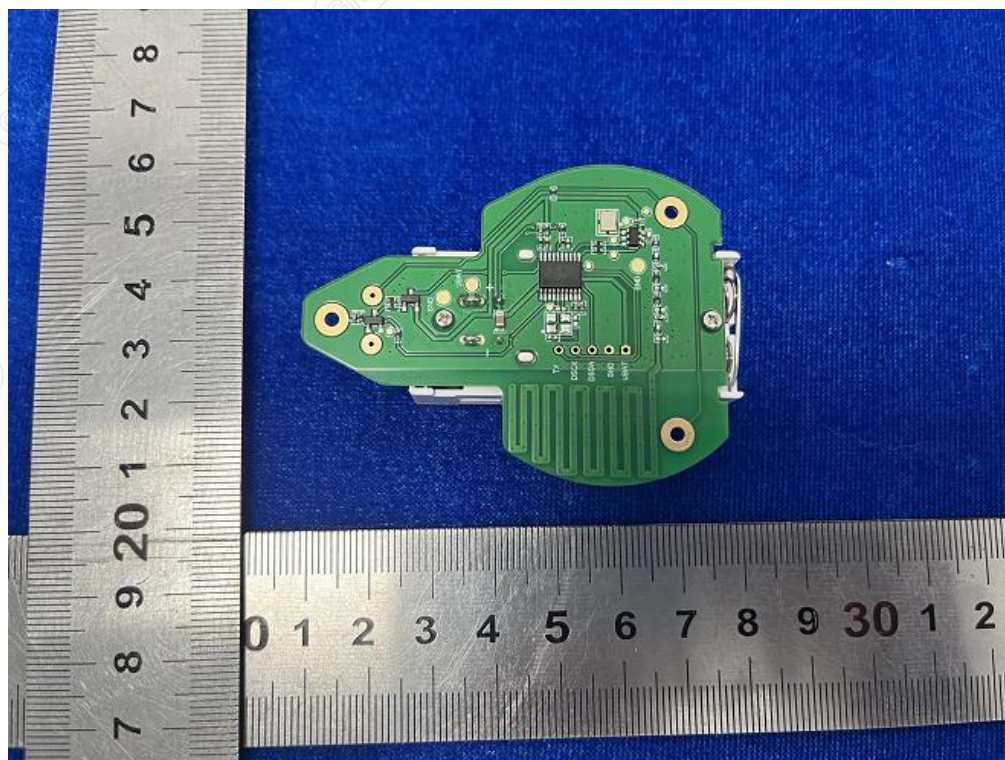
xoy_Theta=90°

b) 3D Radiation patterns

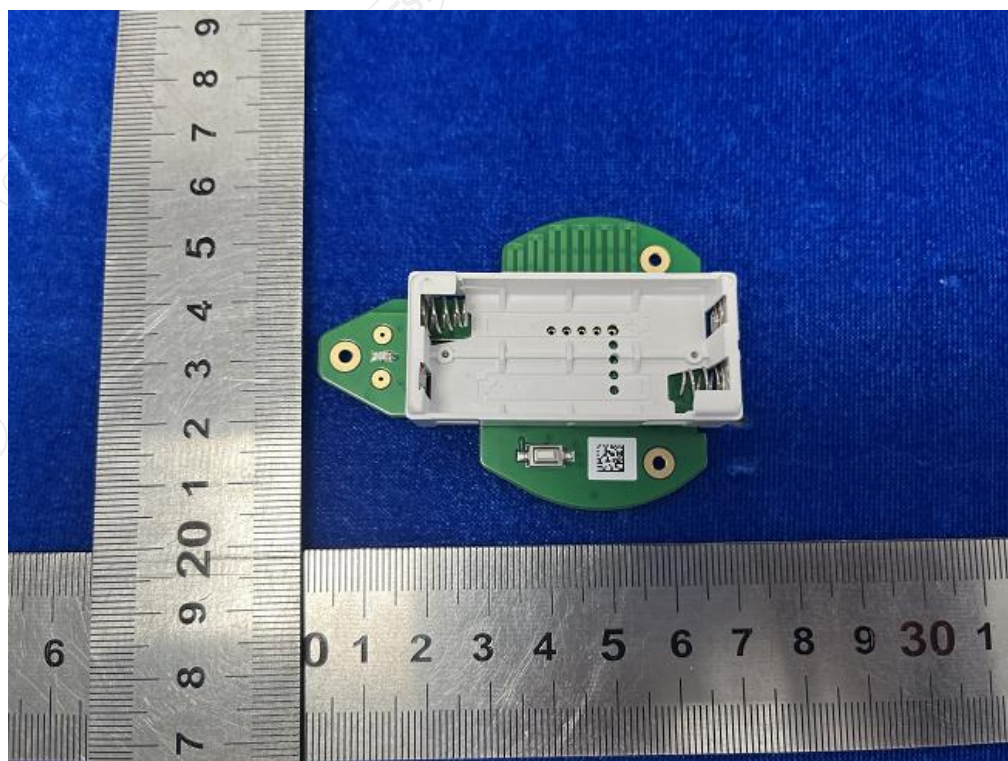


433.92MHz

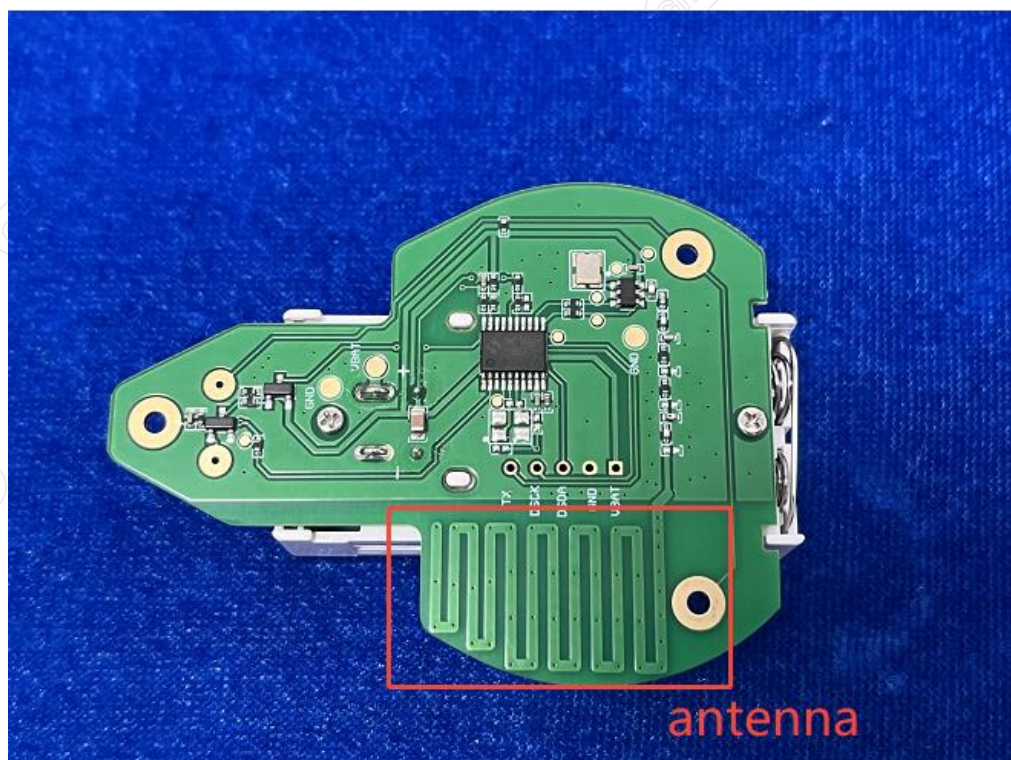
7. PHOTOGRAPH OF THE EUT



EUT Photo1

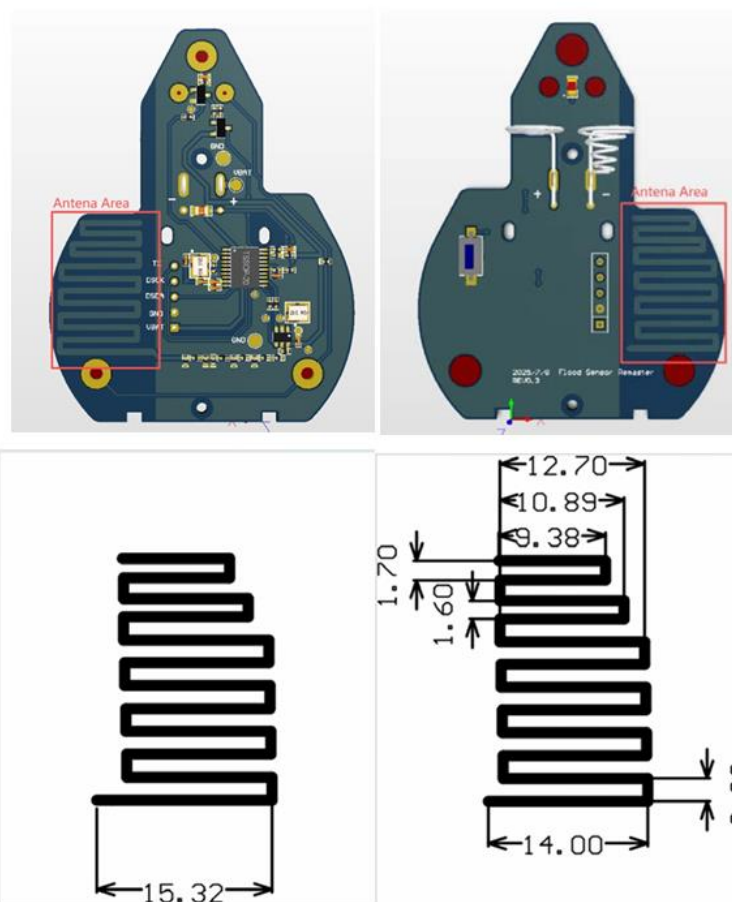


EUT Photo2



Antenna photo

Length $\approx 1/4 * \lambda \approx 173\text{mm}$, width: 1mm



Antenna size

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