Antenna Test Report

Report No.: AGC16314250902PA01

PRODUCT DESIGNATION	:	Wireless Motion Capture Dongle
BRAND NAME	:	Zerolab
MODEL NAME	:	Dongle-1
APPLICANT	:	Tianwen Technologies (Shanghai) Co., Ltd.
DATE OF ISSUE	:	Sep. 15, 2025
REPORT VERSION	:	V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Sep. 15, 2025	Valid	Initial release

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1. PRODUCT INFORMATON

General information	
Applicant	Tianwen Technologies (Shanghai) Co., Ltd.
Address	Room 908, Building C, Tiansheng Technology Plaza, No. 421 Zhengli Road, Yangpu District, Shanghai, China
Manufacturer	Tianwen Technologies (Shanghai) Co., Ltd.
Address	Room 908, Building C, Tiansheng Technology Plaza, No. 421 Zhengli Road, Yangpu District, Shanghai, China
Factory	Tianwen Technologies (Shanghai) Co., Ltd.
Address	Room 908, Building C, Tiansheng Technology Plaza, No. 421 Zhengli Road, Yangpu District, Shanghai, China
Product Designation	Wireless Motion Capture Dongle
Brand Name	Zerolab
Test Model	Dongle-1
Series Model	N/A
Difference Description	N/A
Date of test	Sep. 05, 2025
Date of Test	Sep. 05, 2025 to Sep. 15, 2025
Report Template	AGCRT-ER-PA/V1.0
Technical information	
Frequency Range	2400-2500MHz
Test Frequencies	2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz
Antenna Type	External antenna
Dimensions	50mm*17mm*10.3mm
Impedance	50Ω
Maximum test values	Gain: 3.238dBi; Efficiency: 69.192%; VSWR: 1.099:1

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd.
The test results of this report relate only to the tested sample identified in this report.

Prepared By	Cici Li (Project Engineer)	Sep. 15, 2025
Reviewed By	Bibo Zhang (Reviewer)	Sep. 15, 2025
Approved By	Angela Li (Authorized Officer)	Sep. 15, 2025

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2. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

3. TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Cal. Date	Cal. Due
ANTENNA MEASUREMENT SYSTEM	ETS-Lindgren	AMS-8600	Nov. 27, 2024	Nov. 26, 2025
Network Analyzer	R&S	ZVL-6	Jul. 24, 2025	Jul. 23, 2026
Test software	ETS-Lindgren	EMQuest (Ver V1.12)	N/A	N/A

4. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI.

- Uncertainty of VSWR, Uc = ±1.5dB
- Uncertainty of Gain, Uc = ±0.8dB

5. TEST SUMMARY LIST

NO.	Test item	Remark
1	VSWR	--
2	Gain and efficiency	--
3	Radiation pattern	--

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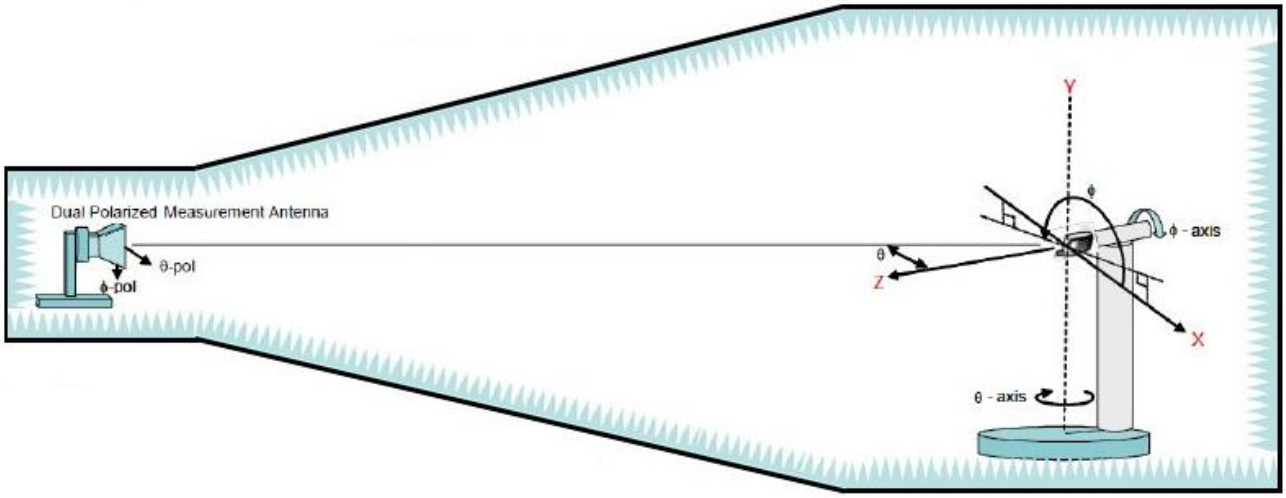
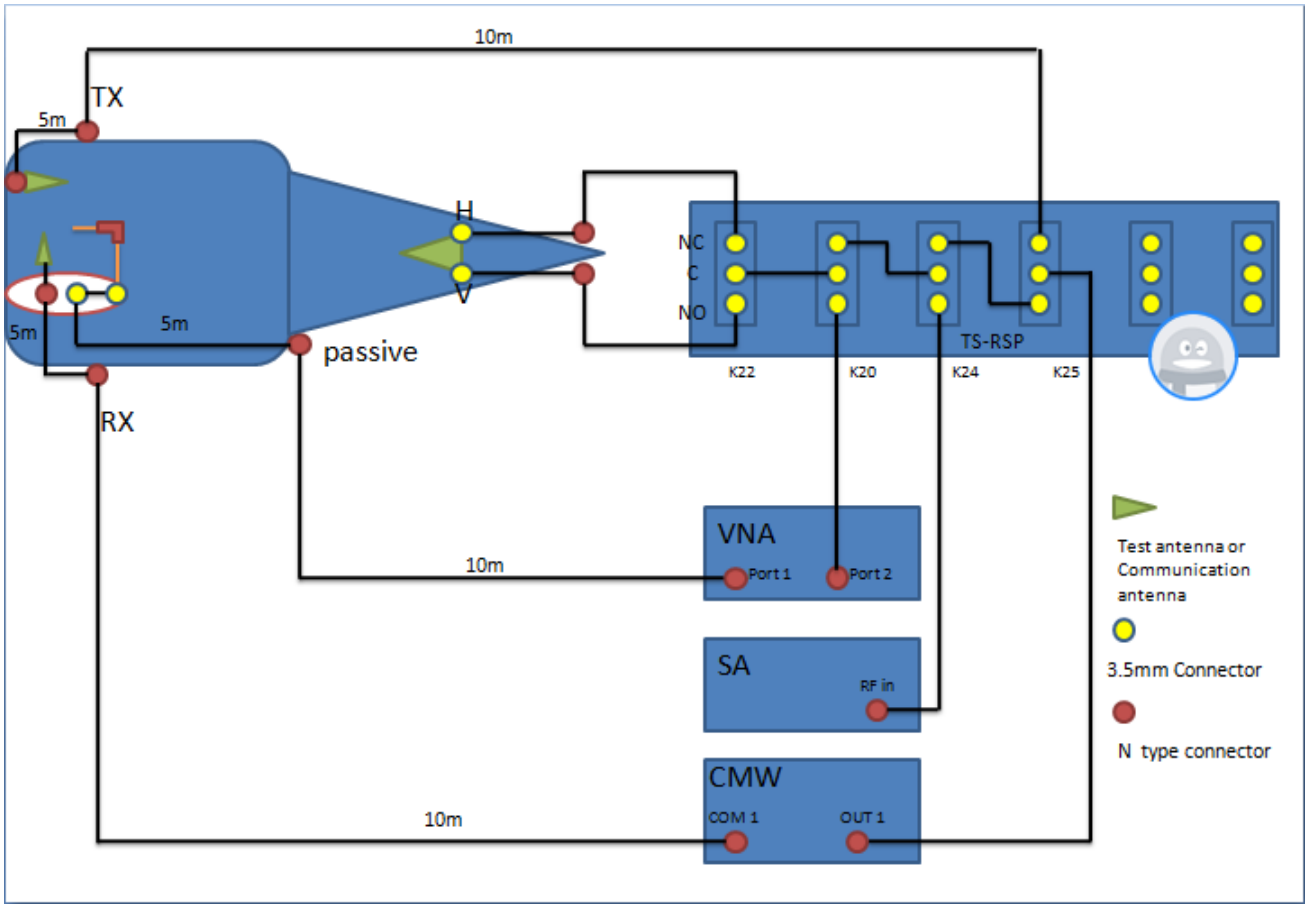
6. TEST SETUP





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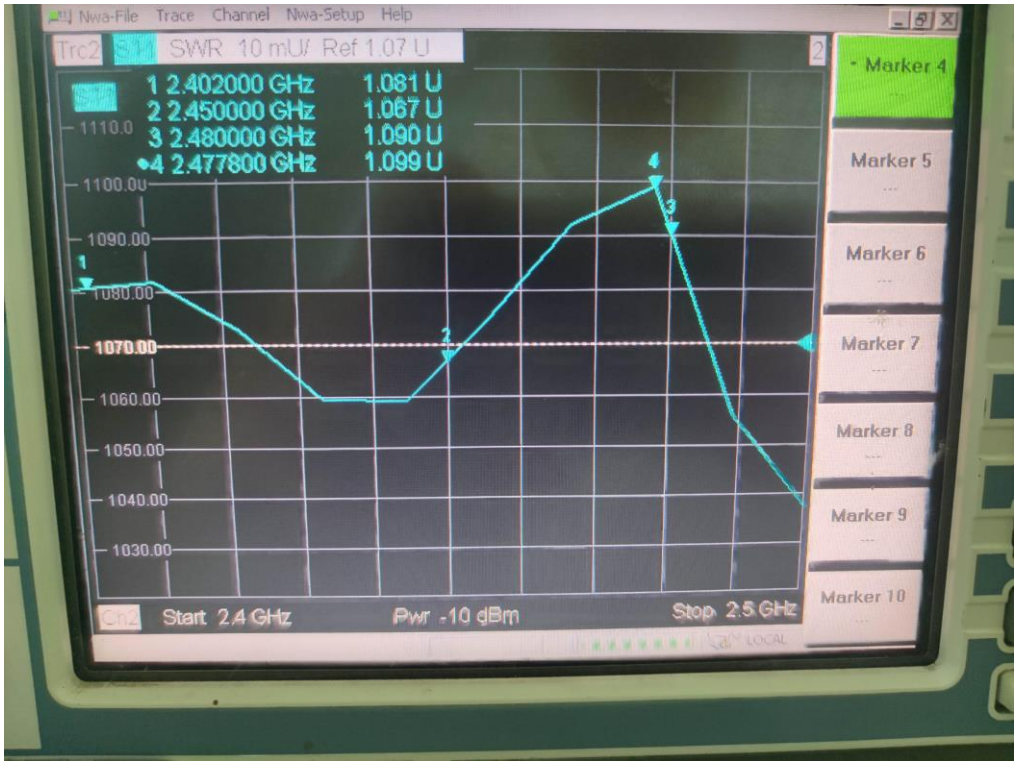
7. TEST RESULTS

7.1. VSWR

Frequency(MHz)	VSWR
2402	1.081:1
2450	1.067:1
2478	1.099:1
2480	1.090:1



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7.2. GAIN AND EFFICIENCY

Frequency(MHz)	Efficiency(dB)	Efficiency(%)	Gain(dBi)
2400	-2.618	54.728	1.762
2410	-2.595	55.018	1.902
2420	-2.626	54.620	2.050
2430	-2.322	58.583	2.467
2440	-2.030	62.667	2.822
2450	-1.900	64.563	2.870
2460	-1.883	64.821	2.773
2470	-2.017	62.848	2.579
2480	-1.770	66.530	2.932
2490	-1.641	68.529	3.119
2500	-1.599	69.192	3.238

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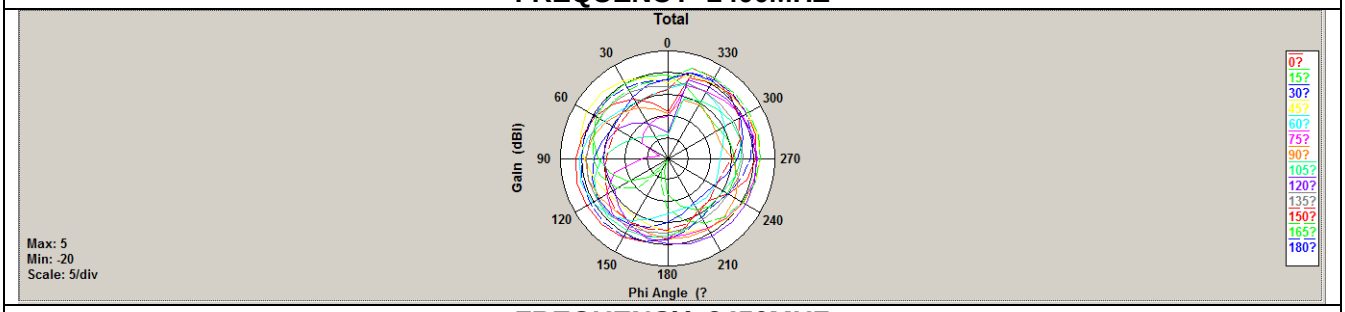
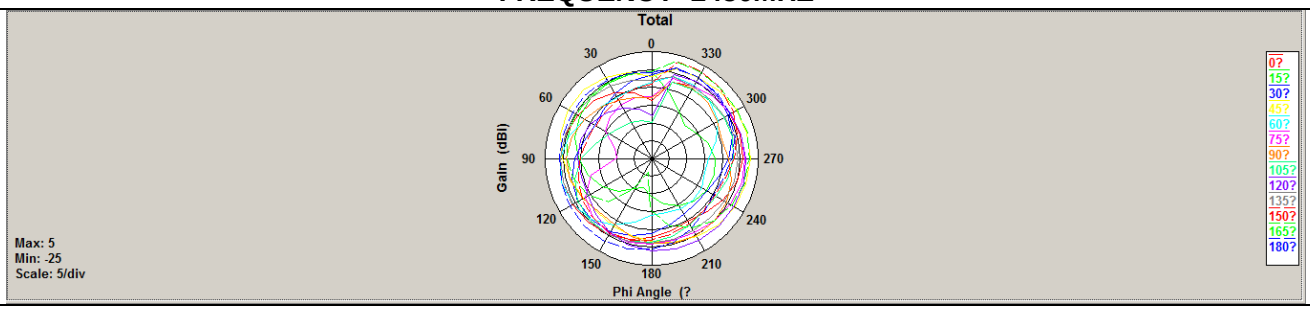
7.3. RADIATION PATTERN

2D POLAR RADIATION PATTERN

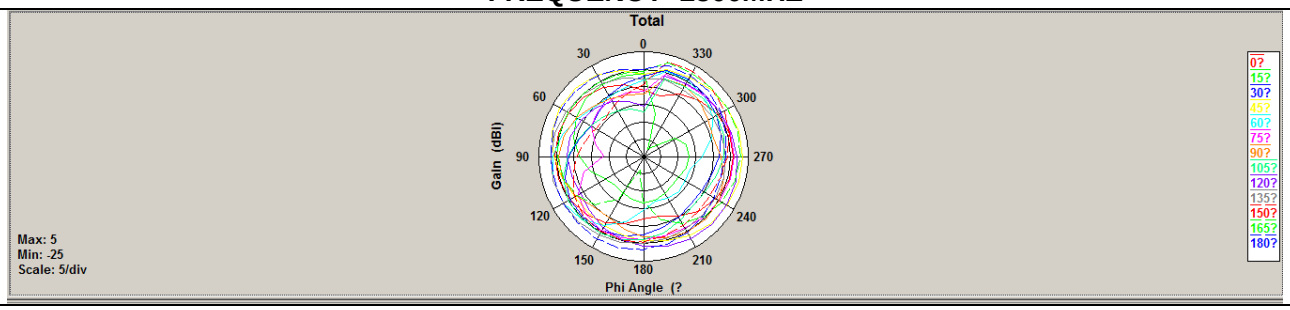
FREQUENCY=2400MHZ



FREQUENCY=2450MHZ



FREQUENCY=2500MHZ



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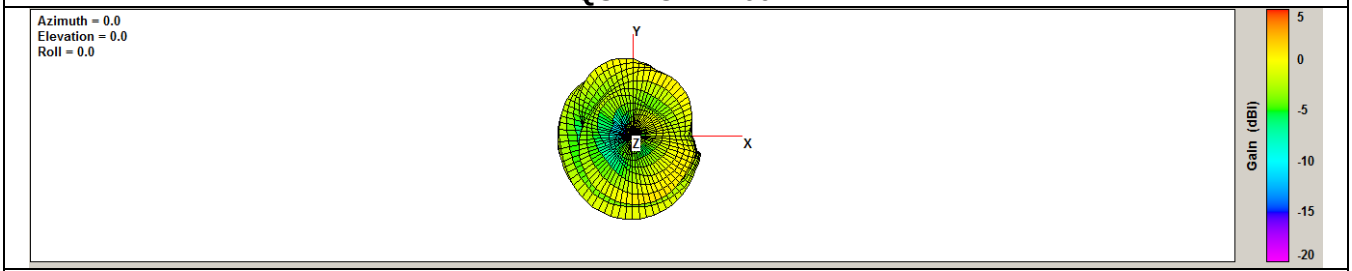
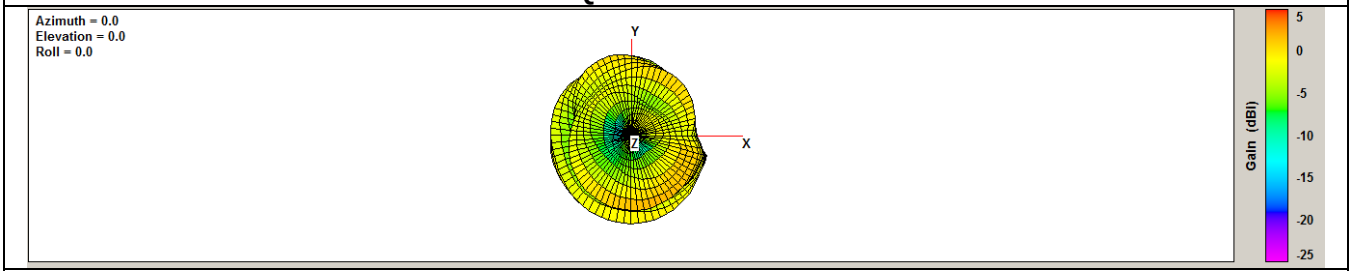
3D RADIATION PATTERN
FREQUENCY=2400MHZ



FREQUENCY=2450MHZ



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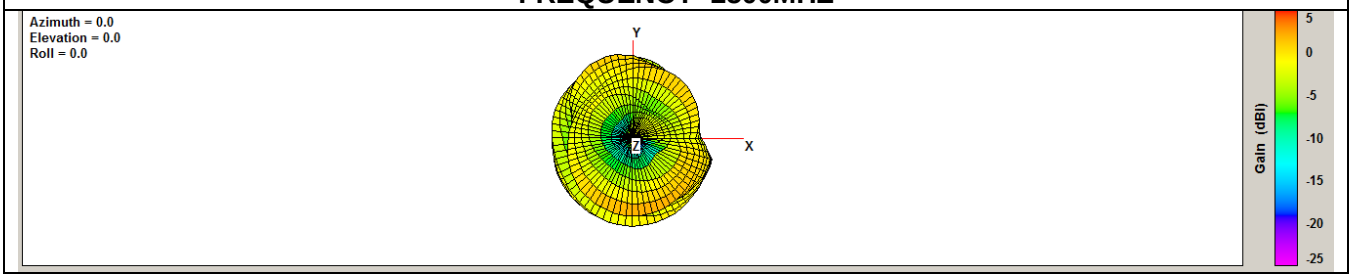

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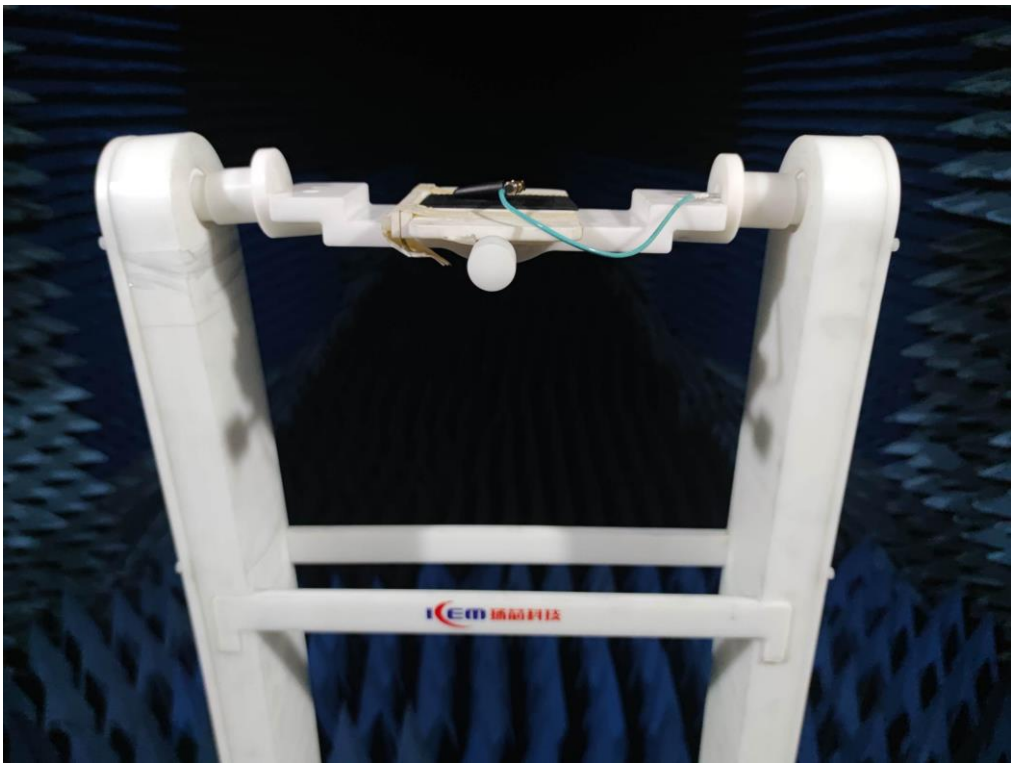

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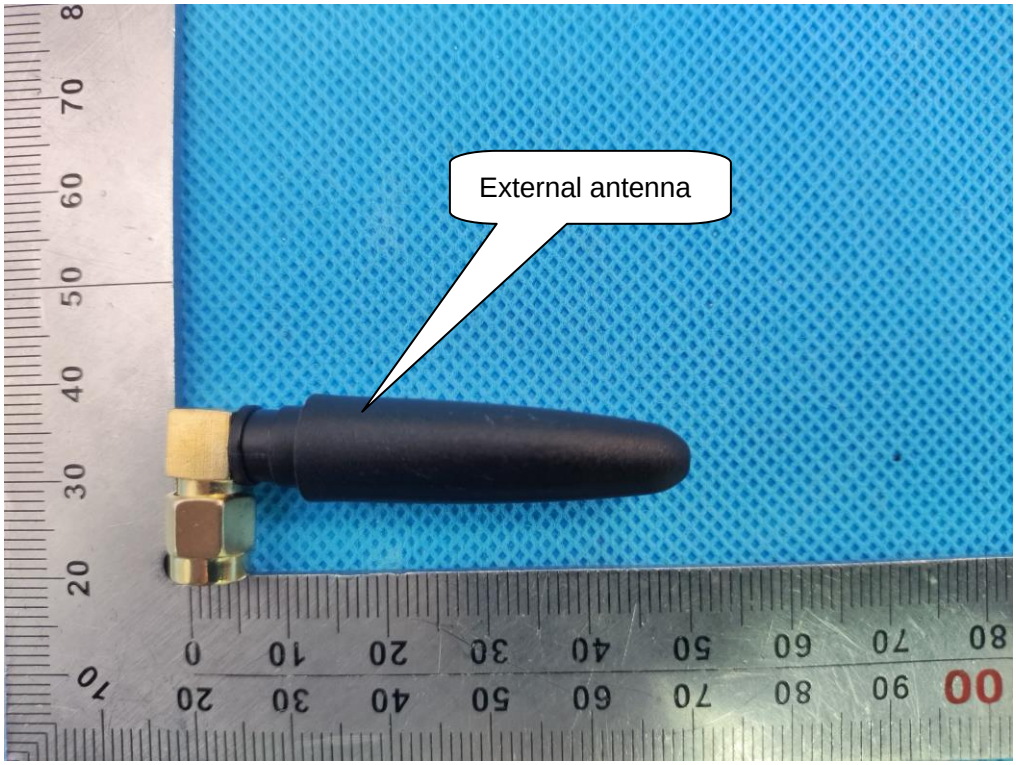
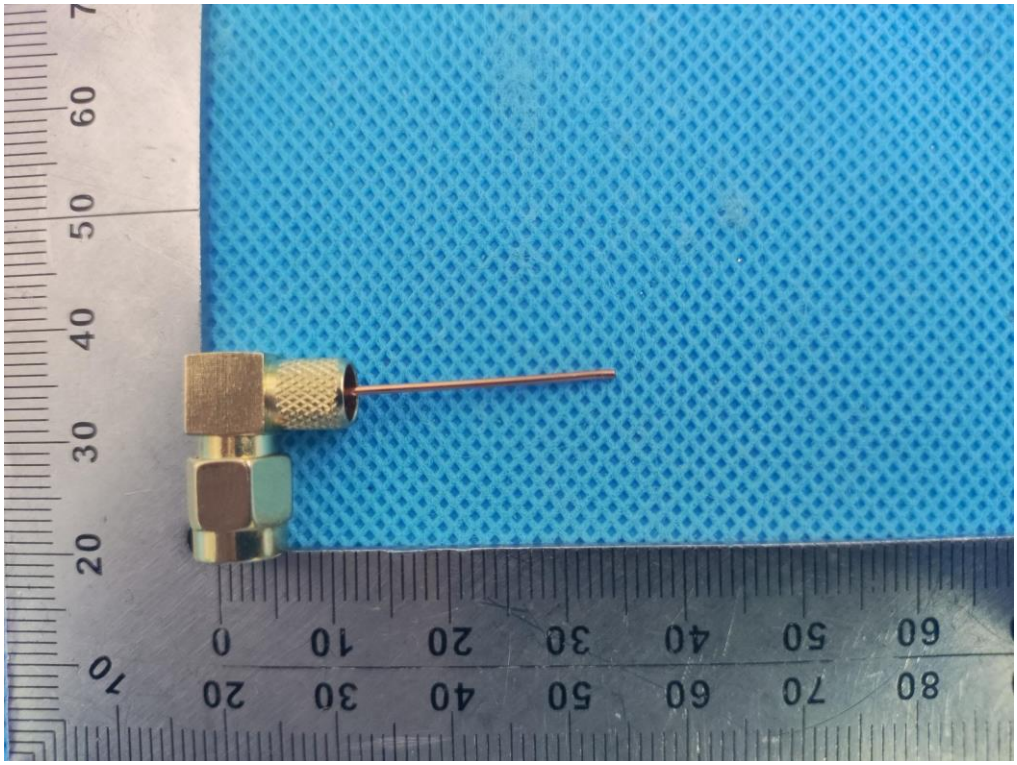
APPENDIX B: PHOTOGRAPHS OF EUT





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2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

----END OF REPORT----

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