



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd

Report No.: SUOA2411000080AT01
Rev.: 01
Page: 1 of 15

ANTENNA PASSIVE TEST REPORT

Application No. SUOA2401000080AT
Applicant HCS (Suzhou) Limited
Manufacturer HCS (Suzhou) Limited
Type Name Remote Control
Model No. RC4803202/01R
Standards ANSI/IEEE Std 149-2021
Date Initial Sample(s) Received 2024-11-18
Testing Start Date 2024-11-19
Testing Finish Date 2024-11-19
Report Issue Date 2024-12-20

*In the configuration tested, the EUT complied with the standards specified above.

Leno Shi

Prepared by: Leno Shi/ Project
Manager

Caleb Gao

Approved by: Caleb Gao/
Technical Manager (Title)

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Revision History

Revision	Issue Date	Description
01	2024-12-20	The Final Version of Report

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SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd
Wireless Laboratory

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 t (86-512) 62992980 www.ssgroup.com.cn

Member of the SGS Group (SGS SA)



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1 General Information

1.1 Testing Laboratory

Identification of the Responsible Test Laboratory

Test Lab	SGS-CSTC Standards Technical Service (Suzhou) Co., Ltd.
Address	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Contact	Caleb Gao
Tel.	+86 13621559335
Fax	N/A
E-mail	Caleb.Gao@sgs.com

1.2 Details of Applicant

Applicant's Name	HCS (Suzhou) Limited
Applicant's Address	19F-20F, Building B-3rd, No.209 Zhuyuan Road, New District, Suzhou, P.R. China
Contact	Viky
Tel.	0512-68786049
Fax	N/A
E-mail	Viky.zhuo@omniremotes.com

1.3 Details of Manufacturer

Manufacturer's Name	HCS (Suzhou) Limited
Manufacturer's Address	19F-20F, Building B-3rd, No.209 Zhuyuan Road, New District, Suzhou, P.R. China
Contact	Viky
Tel.	0512-68786049
Fax	N/A
E-mail	Viky.zhuo@omniremotes.com

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1.4 Description of EUT(s)

Device Description:	Remote Control
Device type:	Remote Control
Device Manufacturer:	HCS (Suzhou) Limited
Device Model:	RC4803202/01R
Hardware Version:	V3
Software Version:	1.3
IMEI:	N/A
Air Interface Supported	N/A
Air Interface Tested Device Power Class:	N/A
Dimension:	160mm*38mm*18.1mm
Antenna type:	PCB Antenna
Configuration of Primary Mechanical Mode:	N/A

1.5 Test Procedure

Testing is performed according to **ANSI/IEEE Std 149-2021**.

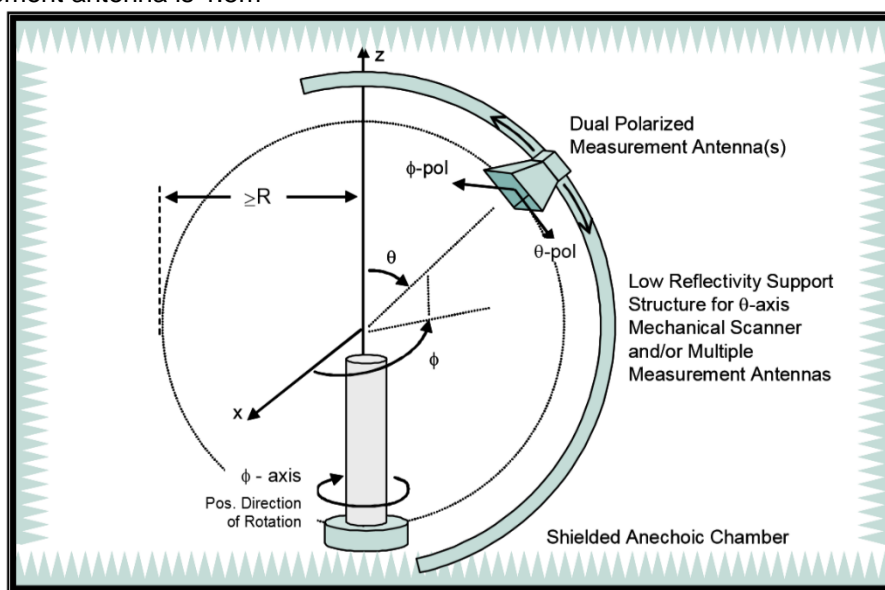
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2 Measurement System Information

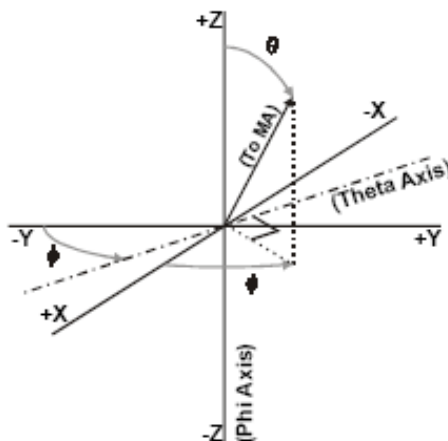
2.1 Test Configuration

Conical-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 1.5m



2.2 Test Measurement

Spherical coordinate system



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3 Equipment List

Inventory No.	Equipment	Manufacturer	Model No.	Calibration Date	Calibration Due Date
SUWI-01-06-01	Network Analyzer	R&S	ZNB8 S/N 103535	2024-02-04	2025-02-03
SUWI-02-06-01	Switch Control System	R&S	OSP 130 S/N 100358	N/A	N/A
SUWI-02-07-01	Test Software	ETS-Lindgren L.P	EMQuest™ REV 1.14 Build 31654	N/A	N/A
SUWI-04-04-01	Full Anechoic Wireless Test chamber	ETS-Lindgren L.P	ETS-Lindgren AMS- 8923 CT000596-1149	2024-05-08	2027-05-07

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4 Measurement Uncertainty

Item	617-698MHz (dB)	699-798MHz (dB)	814-894MHz (dB)	1695-1780MHz (dB)	1850-2020MHz (dB)	2300-2800MHz (dB)	3300-3800MHz (dB)	5150-5925MHz (dB)
Gain	0.75	0.9	0.74	0.84	0.83	0.9	0.84	0.86
Efficiency	0.75	0.9	0.74	0.84	0.83	0.9	0.84	0.86
Measurement Uncertainty (95% CONFIDENCE INTERVAL) K=2								

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5 Test Result(s)

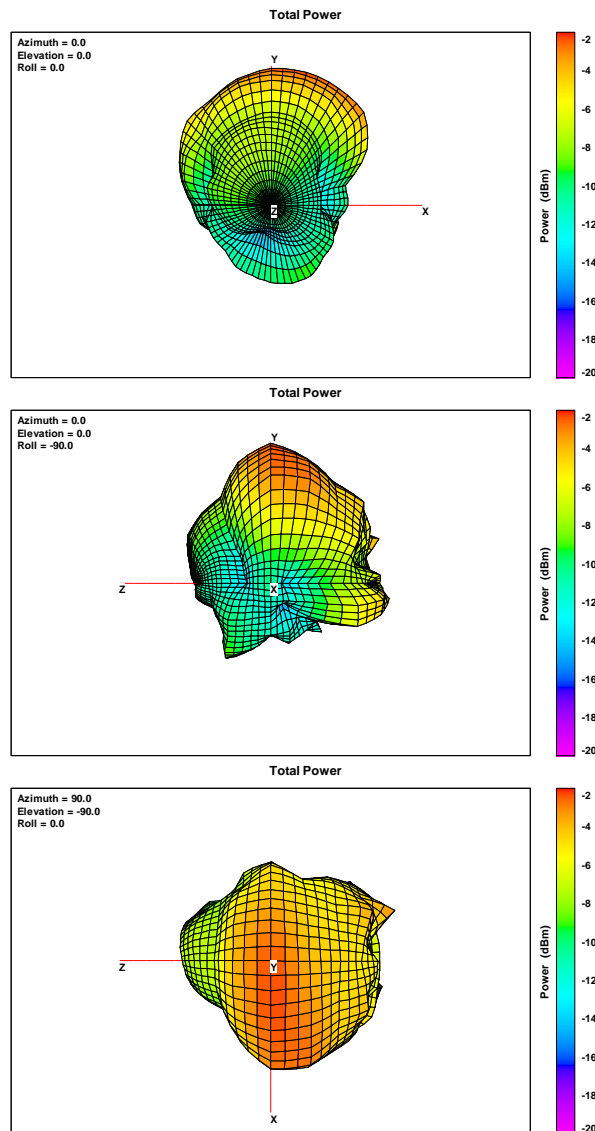
Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	-2.08	-8.00	15.84
2405	-2.28	-8.25	14.96
2410	-2.22	-8.24	14.99
2415	-2.29	-8.19	15.18
2420	-1.93	-7.94	16.08
2425	-1.72	-7.78	16.67
2430	-1.79	-7.85	16.41
2435	-1.80	-7.89	16.25
2440	-2.31	-8.20	15.12
2445	-2.56	-8.47	14.23
2450	-2.50	-8.41	14.41
2455	-2.34	-8.30	14.79
2460	-2.12	-8.07	15.60
2465	-2.19	-8.19	15.17
2470	-2.51	-8.48	14.20
2475	-2.51	-8.57	13.91
2480	-3.00	-8.93	12.80
2485	-2.90	-8.89	12.92
2490	-2.53	-8.44	14.33
2495	-2.39	-8.31	14.77
2500	-2.60	-8.55	13.97

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6 3-D Antenna Pattern

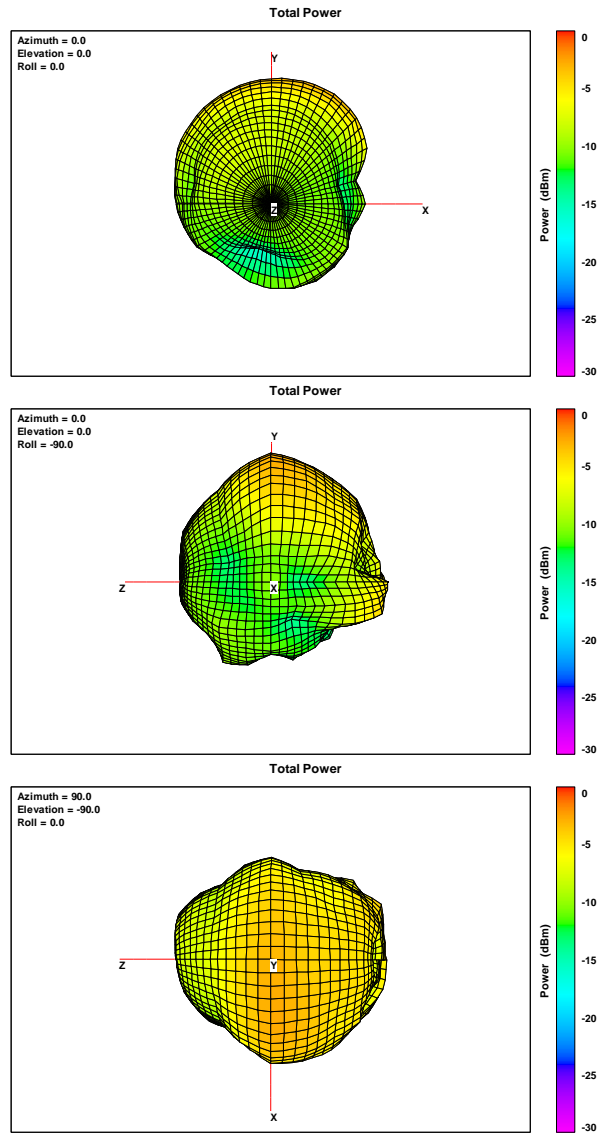
2400MHz



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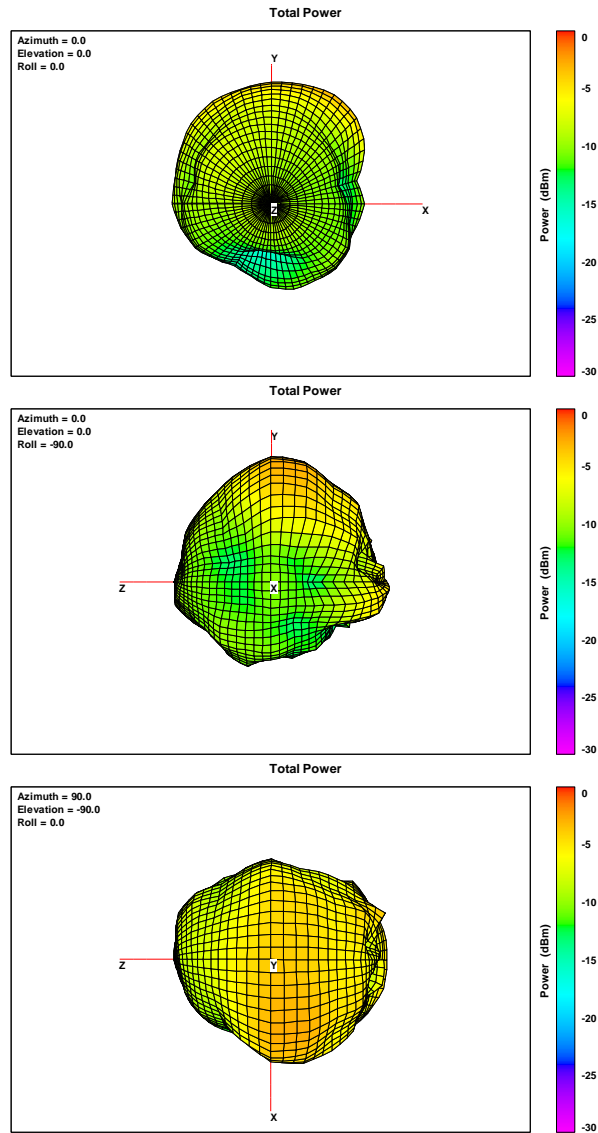
2450MHz



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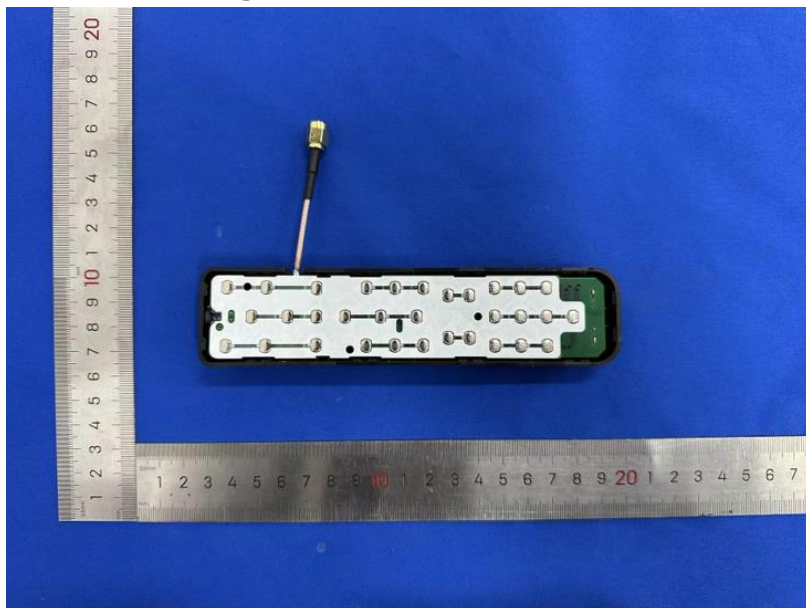
2500MHz



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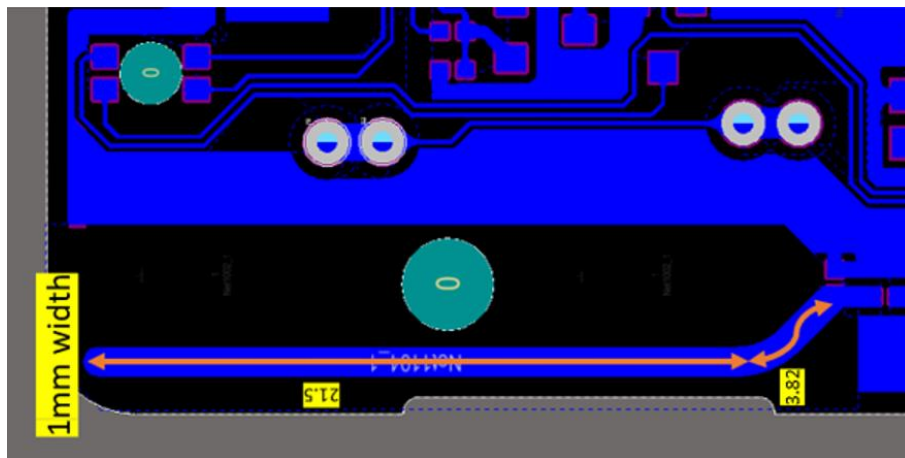
7 EUT and Test Configuration



EUT

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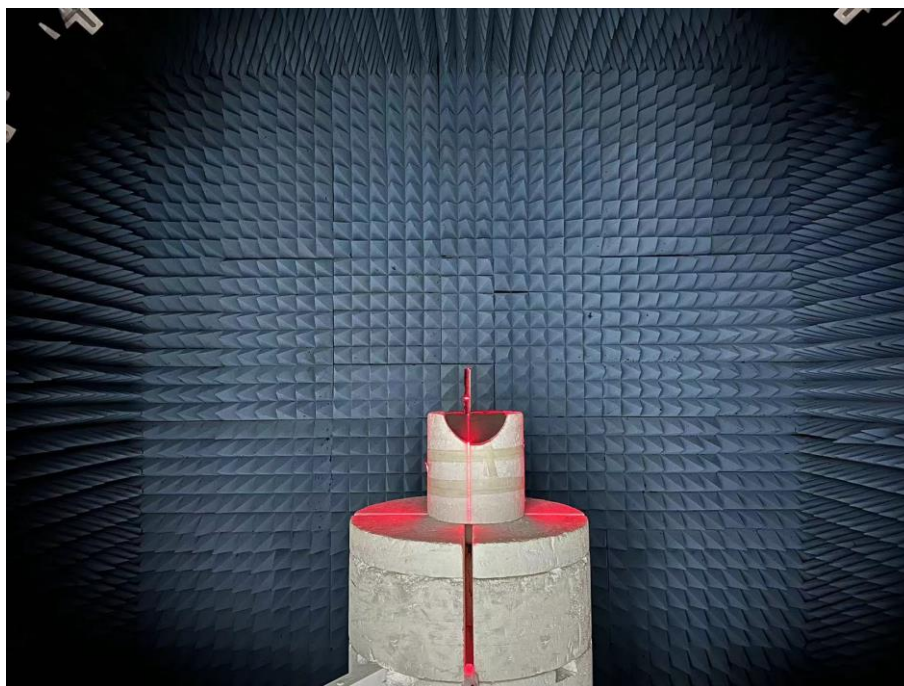
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Antenna Dimension photo

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View of Free Space Configuration

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