



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

SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR250700180801

Page: 1 of 15

TEST REPORT

Application No.: SHCR2507001808AT
FCC ID: 2AGOFRC421A
Applicant: HCS (Suzhou) Limited
Address of Applicant: 19F-20F, Building B-3rd, No. 209 Zhuyuan Road, New District, Suzhou, P.R. China
Manufacturer: HCS (Suzhou) Limited
Address of Manufacturer: 19F-20F, Building B-3rd, No. 209 Zhuyuan Road, New District, Suzhou, P.R. China
Equipment Under Test (EUT):
EUT Name: Remote Control
Model No.: RC4213801/02BR, RC4213401/02BR, RC4213402/02BR, RC4213403/02BR, Babylon RCU, RC421XXXX/XXR, RC421XXXX/XXBR ("X"=0-9. "B" means packed with battery) 
* Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Standard(s) : 47 CFR Part 15, Subpart B
Date of Receipt: 2025-07-09
Date of Test: 2025-07-14 to 2025-07-14
Date of Issue: 2025-07-18

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Member of the SGS Group (SGS SA)

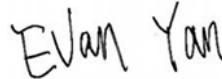
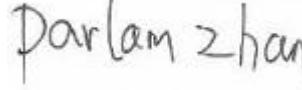
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR250700180801

Page: 2 of 15

Revision Record			
Version	Description	Date	Remark
00	Update Antenna Gain	2025-07-18	Based on SHEM200700598201

Authorized for issue by:			
Tested By		Evan_Yan	
		Evan_Yan/Project Engineer	
Approved By		Parlam_Zhan	
		Parlam Zhan /Reviewer	

2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Radiated Emissions (30MHz-1GHz)	47 CFR Part 15, Subpart B	ANSI C63.4-2014	15.109(a);Class B	Pass
Radiated Emissions (Above 1GHz)		ANSI C63.4-2014	15.109(g);Class B	Pass

Note: This report is based on the original SHEM200700598201 report and includes a backup antenna for revalidation of EMC testing.

3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	5
4.1 DETAILS OF E.U.T.	5
4.2 DESCRIPTION OF SUPPORT UNITS	5
4.3 MEASUREMENT UNCERTAINTY & DECISION RULE	5
4.4 TEST LOCATION	6
4.5 TEST FACILITY	6
4.6 DEVIATION FROM STANDARDS	6
4.7 ABNORMALITIES FROM STANDARD CONDITIONS	6
5 EQUIPMENT LIST	7
6 EMISSION TEST RESULTS	8
6.1 RADIATED EMISSIONS (30MHz-1GHz)	8
6.2 RADIATED EMISSIONS (ABOVE 1GHz)	12
7 TEST SETUP PHOTO	15
8 EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	15

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 3V by 2*AAA size batteries
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4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
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The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty & Decision Rule

Measurement Uncertainty:

No.	Item	Measurement Uncertainty (U_{LAB}) *	U_{CISPR}
1	Conducted Emission at mains port using AMN	2.4dB (9kHz to 150kHz)	3.8dB (9kHz to 150kHz)
		2.2dB (150kHz to 30MHz)	3.4dB (150kHz to 30MHz)
2	Conducted Emission at telecommunication port using AAN	4.0 dB (150kHz to 30MHz)	5.0dB (150kHz to 30MHz)
3	Radiated Power	3.2dB	4.5dB (30MHz to 300MHz)
4	Radiated Emission (10m)	4.1 dB	6.3dB (30MHz-1GHz)
5	Radiated Emission (3m)	4.6 dB (30MHz-1GHz)	6.3dB (30MHz-1GHz)
		5.0dB (1GHz-6GHz)	5.2dB (1GHz-6GHz)
		5.2dB (6GHz-18GHz)	5.5dB (6GHz-18GHz)
		5.3dB (18GHz-40GHz)	N/A

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Decision Rule:

- CISPR 16-4-2 for emission measurements is as below described.
Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.
- U_{LAB} less than U_{CISPR} , therefore:
 - compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit.
 - non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
- For immunity testing no decision rule is applicable.

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

SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR250700180801

Page: 6 of 15

4.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

- **VCCI**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

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

SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR250700180801

Page: 7 of 15

5 Equipment List

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
EMI Test Receiver	R&S	ESCI	KS301196	08/01/2024	07/31/2025
Antenna	TESEQ	CBL 6112D	KUS1806E006	03/23/2025	03/22/2026
Spectrum Analyzer	R&S	FSU26	KS301206	03/27/2025	03/26/2026
Signal Analyzer	R&S	FSV40	KUS1806E003	08/06/2024	08/05/2025
Software	Faratronic	E3 v 3A1	N/A	N/A	N/A

Radiated Emissions (Above 1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Spectrum Analyzer	R&S	FSU26	KS301206	03/27/2025	03/26/2026
Preamplifier	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-2	12/06/2024	12/05/2025
Horn-antenna	SCHWARZBECK	BBHA9120D	KS301079	03/23/2025	03/22/2026
Antenna	SCHAFFNER	CBL6143	CZ301091	08/11/2024	08/10/2026
Software	Faratronic	E3 v 3A1	N/A	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Digital Pressure Meter	Mengde	DYM3	CZ750023	01/14/2025	01/13/2026
Temperature & Humidity Recorder	JDRK	RS-WS-N01-6J	KSEM024-1 KSEM024-2 KSEM024-3 KSEM024-6 KSEM024-7 KSEM024--8 KSEM024--9	03/18/2025	03/17/2026

6 Emission Test Results

6.1 Radiated Emissions (30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart B
Test Method: ANSI C63.4-2014

Limit:

	Class B
Test Distance:	3m
30MHz -88MHz	40.0(dB μ V/m) quasi-peak
88MHz-216MHz	43.5(dB μ V/m) quasi-peak
216MHz-960MHz	46.0(dB μ V/m) quasi-peak
960MHz-1000MHz	54.0(dB μ V/m) quasi-peak
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30MHz to1000MHz

	Class B
Test Distance:	10m
30MHz -88MHz	29.5(dB μ V/m) quasi-peak
88MHz-216MHz	33.1(dB μ V/m) quasi-peak
216MHz-960MHz	35.6(dB μ V/m) quasi-peak
960MHz-1000MHz	43.5(dB μ V/m) quasi-peak
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30MHz to1000MHz

6.1.1 E.U.T. Operation

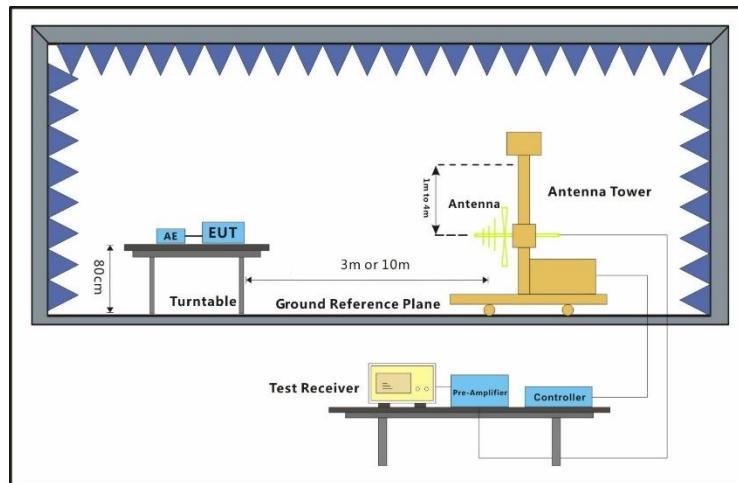
Operating Environment:

Temperature: 24.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan test	00	BT mode_Keep the EUT paring with the Dongle via BT function,then keep pressing the buttons of the EUT continuous.
Pre-scan test	01	Zigbee mode_Keep the EUT paring with the gateway via zigbee function,then keep pressing the buttons of the EUT continuous.
Pre-scan test	02	IR mode_Keep the EUT power on and press the IR buttons of the EUT continuous.
Final test	00	BT mode_Keep the EUT paring with the Dongle via BT function,then keep pressing the buttons of the EUT continuous.

6.1.3 Test Setup Diagram

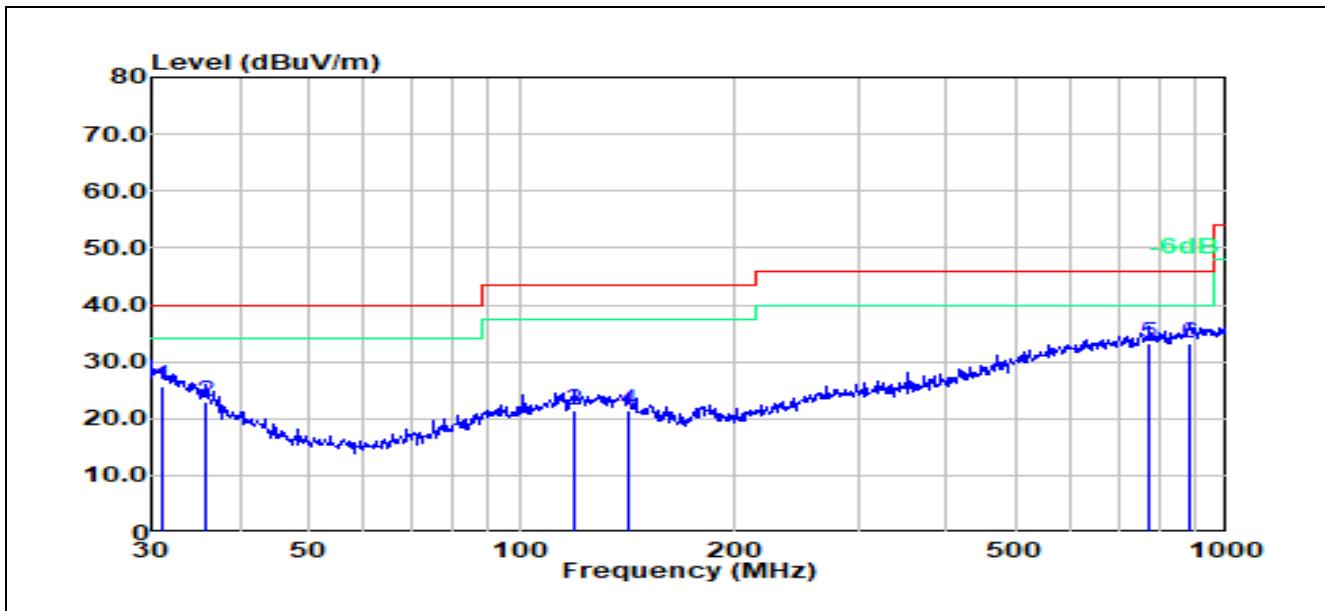


6.1.4 Measurement Procedure and Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

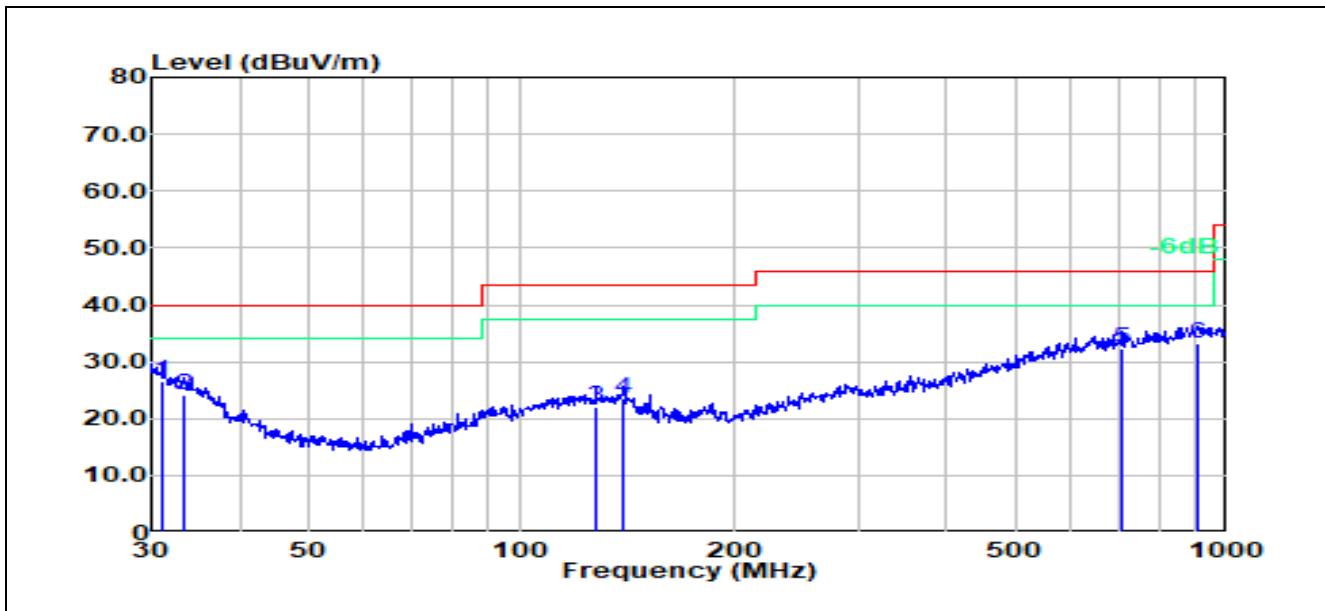
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Test Mode: 00; Polarity: Horizontal

Test Data :

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	30.96	1.26	24.36	25.62	40.00	-14.38	100	143	QP
2	35.88	1.72	21.23	22.95	40.00	-17.05	200	214	QP
3	118.60	1.38	20.16	21.54	43.50	-21.96	200	136	QP
4	141.83	1.75	19.57	21.32	43.50	-22.18	100	143	QP
5	776.88	2.86	30.30	33.16	46.00	-12.84	200	263	QP
6	884.50	2.00	31.28	33.28	46.00	-12.72	100	284	QP

Test Mode: 00; Polarity: Vertical

Test Data :

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	31.07	2.33	24.26	26.59	40.00	-13.41	100	360	QP
2	33.33	1.14	22.92	24.06	40.00	-15.94	100	34	QP
3	127.67	2.10	20.02	22.12	43.50	-21.38	100	126	QP
4	139.85	3.25	20.22	23.47	43.50	-20.03	100	147	QP
5	711.67	2.68	29.68	32.36	46.00	-13.64	100	351	QP
6	909.67	1.78	31.51	33.29	46.00	-12.71	100	204	QP

6.2 Radiated Emissions (Above 1GHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4-2014

Limit:

Class B

Above 1GHz 74(dB μ V/m) peak, 54(dB μ V/m) average

Detector: Peak for pre-scan (1000kHz resolution bandwidth) 1000M to18000MHz

6.2.1 E.U.T. Operation

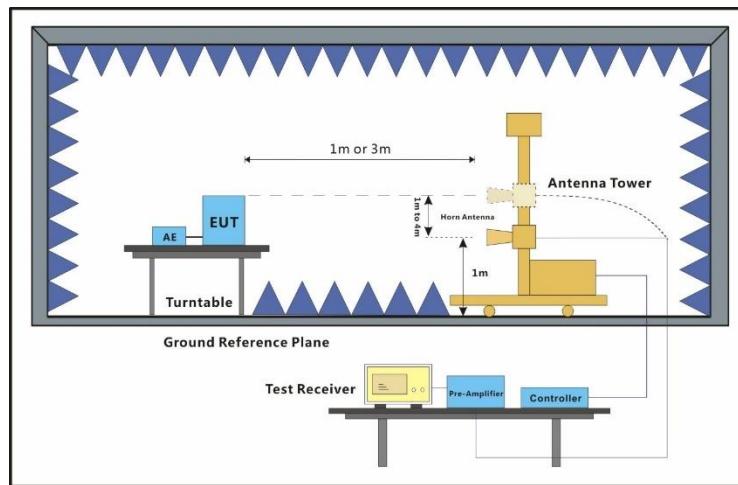
Operating Environment:

Temperature: 25.3 °C Humidity: 46.9 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan test	00	BT mode_Keep the EUT paring with the Dongle via BT function,then keep pressing the buttons of the EUT continuous.
Pre-scan test	01	Zigbee mode_Keep the EUT paring with the gateway via zigbee function,then keep pressing the buttons of the EUT continuous.
Pre-scan test	02	IR mode_Keep the EUT power on and press the IR buttons of the EUT continuous.
Final test	00	BT mode_Keep the EUT paring with the Dongle via BT function,then keep pressing the buttons of the EUT continuous.

6.2.3 Test Setup Diagram



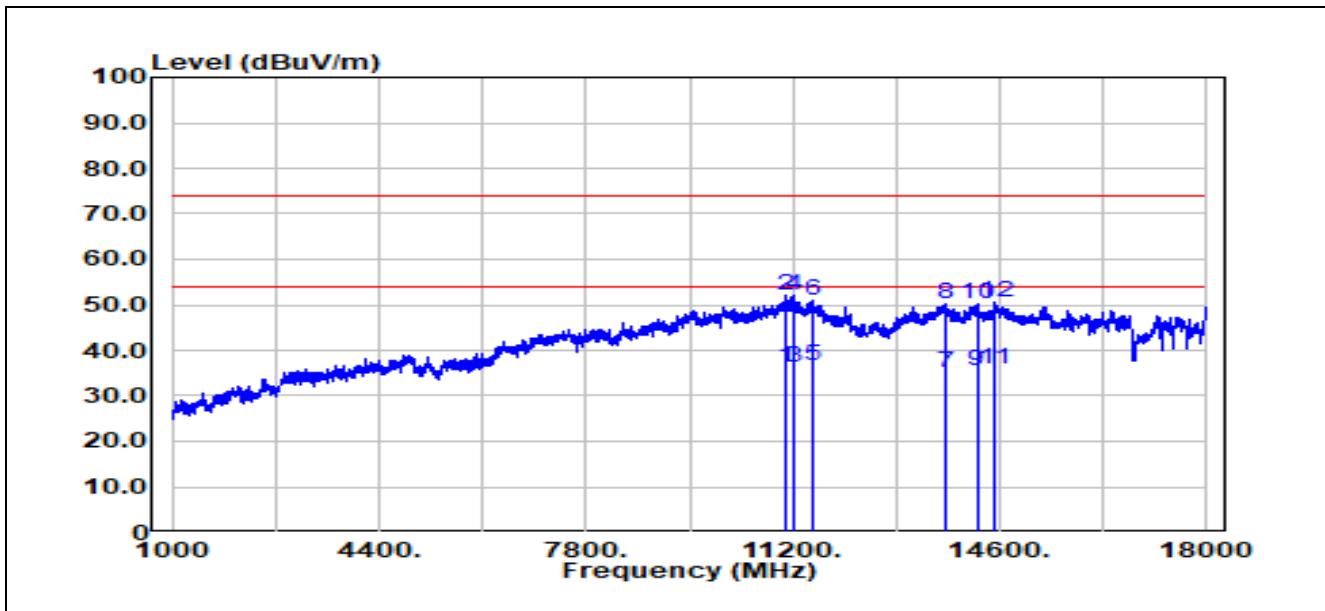
6.2.4 Measurement Procedure and Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

The red line shown in the graphic is the limit in standard used in this section.

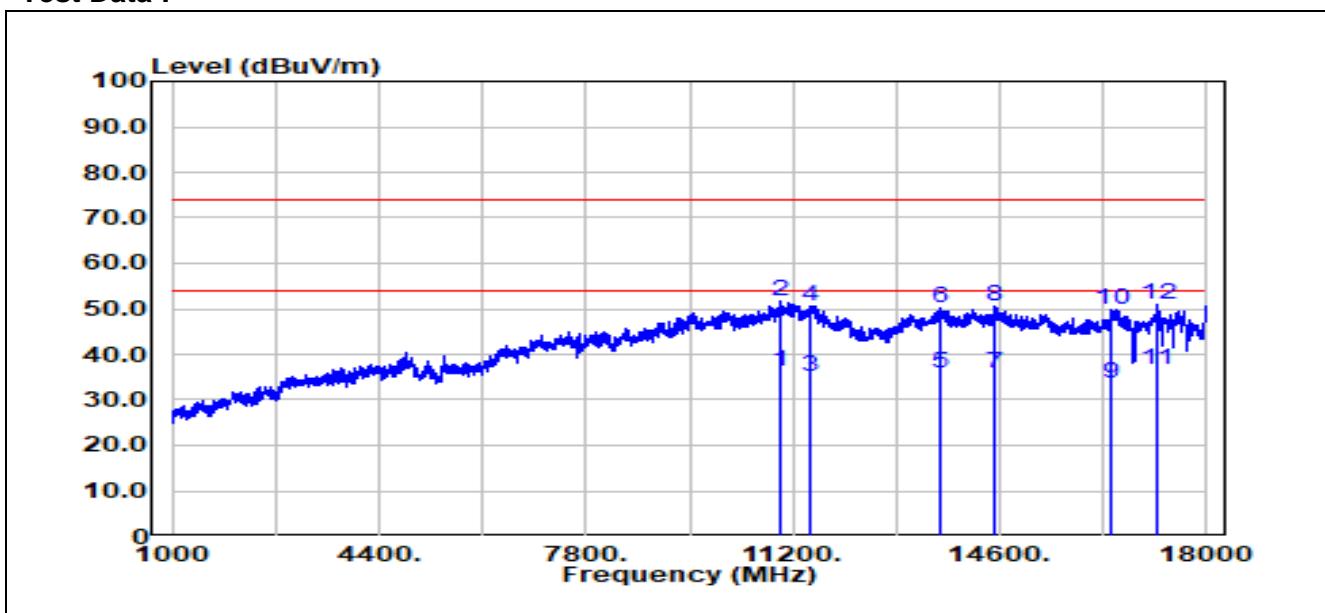
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Test Mode: 00; Polarity: Horizontal

Test Data :

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11093.75	34.90	1.46	36.36	54.00	-17.64	100	52	Average
2	11093.75	50.66	1.46	52.12	74.00	-21.88	100	52	Peak
3	11212.75	35.18	1.15	36.33	54.00	-17.67	100	135	Average
4	11212.75	50.84	1.15	51.99	74.00	-22.01	100	135	Peak
5	11518.75	36.69	-0.17	36.52	54.00	-17.48	100	277	Average
6	11518.75	51.09	-0.17	50.92	74.00	-23.08	100	277	Peak
7	13694.75	35.66	-0.51	35.15	54.00	-18.85	100	206	Average
8	13694.75	50.64	-0.51	50.13	74.00	-23.87	100	206	Peak
9	14221.75	35.51	0.14	35.65	54.00	-18.35	100	52	Average
10	14221.75	50.00	0.14	50.14	74.00	-23.86	100	52	Peak
11	14493.75	35.39	0.63	36.02	54.00	-17.98	100	153	Average
12	14493.75	49.93	0.63	50.56	74.00	-23.44	100	153	Peak

Test Mode: 00; Polarity: Vertical

Test Data :

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11013.00	34.38	1.97	36.35	54.00	-17.65	100	45	Average
2	11013.00	49.73	1.97	51.70	74.00	-22.30	100	45	Peak
3	11476.25	35.15	0.07	35.22	54.00	-18.78	100	258	Average
4	11476.25	50.57	0.07	50.64	74.00	-23.36	100	258	Peak
5	13639.50	36.38	-0.72	35.67	54.00	-18.34	100	0	Average
6	13639.50	50.90	-0.72	50.18	74.00	-23.82	100	0	Peak
7	14498.00	35.36	0.66	36.02	54.00	-17.98	100	143	Average
8	14498.00	49.73	0.66	50.39	74.00	-23.61	100	143	Peak
9	16414.75	29.88	3.64	33.52	54.00	-20.48	100	81	Average
10	16414.75	46.15	3.64	49.79	74.00	-24.21	100	81	Peak
11	17167.00	30.65	5.80	36.45	54.00	-17.55	200	48	Average
12	17167.00	45.20	5.80	51.00	74.00	-23.00	200	48	Peak

7 Test Setup Photo

Refer to Appendix - Test Setup Photo for SHCR2507001808AT

8 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photos of EUT Constructional Details for SHCR2507001807AT

- End of the Report -