

TEST REPORT

Reference No..... : WTU24X06128499W002
FCC ID : 2AGOFRC477A
Applicant : HCS (Suzhou) Limited
Address : 19F-20F, Building B-3rd, No.209 Zhuyuan Road, New District, Suzhou,
P.R.China
Manufacturer : The same as Applicant
Address : The same as Applicant
Product Name : Remote control
Model No..... : RC4773801/01BR
Standards : **FCC PART15 SUBPART B**
Date of Receipt sample ... : 2024-06-03
Date of Test..... : 2024-06-03 to 2024-06-13
Date of Issue : 2024-06-13
Test Report Form No. : WTX_FCC PART15B_001
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

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Approved by:



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Report version

Version No.	Date of issue	Description
Rev.00	2024-06-13	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Factory name: Himit (Yueyang) Technology Ltd.
 Factory address: Building 4, Lingang High-tech Industrial Park, Yueyang Area,
 China (Hunan) Free Trade Pilot Zone

General Description of EUT	
Product Name:	Remote control
Trade Name:	
Model No.:	RC4773801/01BR
Adding Model(s):	RC4773401/01BR, RC4773402/01BR, RC4773403/01BR, RC477XXXX/XXR, RC477XXXX/XXBR ('X' =0-9,'B' means packed with battery)
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model RC4773801/01BR, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	DC3V
Rated Current:	/
Rated Power:	/
Power Adapter Model:	/
Lowest Internal Frequency:	16MHz
Highest Internal Frequency:	2480MHz
Classification of ITE:	Class B

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15 Subpart B:Unintentional Radiators.

ANSI C63.4-2014:American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.4 Test Facility

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List			
Test Mode	Description	Remark	Power Supply Mode
TM1	Normal working	Powered by battery	DC3V

EUT Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
/	/	/	/	/

Special Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
/	/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Conducted Emissions	Conducted	9-150kHz ±3.74dB
		0.15-30MHz ±3.34dB
Radiated Emissions	Radiated	30-200MHz ±4.52dB
		0.2-1GHz ±5.56dB
		1-6GHz ±3.84dB
		6-18GHz ±3.92dB

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
☐ Chamber A: Below 1GHz					
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2024-02-24	2025-02-23
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2024-03-19	2025-03-18
Amplifier	HP	8447F	2805A03475	2024-02-24	2025-02-23
Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2025-02-25
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2024-02-24	2025-02-23
☐ Chamber A: Above 1GHz					
Amplifier	C&D	PAP-1G18	2002	2024-02-27	2025-02-26
Horn Antenna	ETS	3117	00086197	2024-02-26	2025-02-25
☐ Chamber B: Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2024-02-24	2025-02-23
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2024-03-17	2027-03-16
Amplifier	Agilent	8447D	2944A10457	2024-02-24	2025-02-23
☒ Chamber C: Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2024-02-27	2025-02-26
Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2024-04-18	2027-04-17
Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2025-02-25
Amplifier	HP	8447F	2944A03869	2024-02-24	2025-02-23
☒ Chamber C: Above 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2024-02-27	2025-02-26
Horn Antenna	POAM	RTF-118A	1820	2023-03-10	2026-03-09
Amplifier	Tonscend	TAP01018050	AP22E806235	2024-02-27	2025-02-26
DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2024-03-17	2025-03-16
Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2024-02-29	2025-02-28
☐ Conducted Room 1#					
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2024-02-24	2025-02-23
EMI Test Receiver	Rohde & Schwarz	ESCI	100525	2023-12-12	2024-12-11

AC LISN	Schwarz beck	NSLK8126	8126-279	2024-02-24	2025-02-23
☐ Conducted Room 2#					
EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2024-02-24	2025-02-23
LISN	Rohde & Schwarz	ENV 216	100097	2024-02-24	2025-02-23

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission Room 1#)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission Room 2#)*	SKET	EMC-I	V2.0

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107(a) Conducted Emission	N/A
§15.109(a) Radiated Emission	Compliant

N/A: not applicable

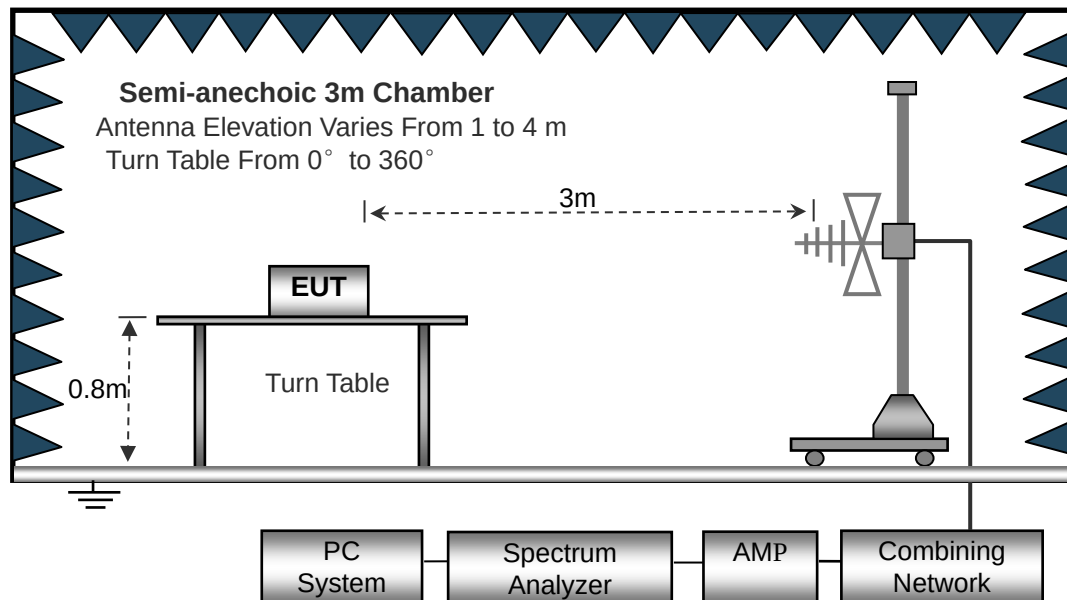
3. RADIATED EMISSION

3.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.109 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.

3.2 Block Diagram of Test Setup



3.3 Test Receiver Setup

Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

3.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Correct}$$

$$\text{Correct} = \text{Ant.Factor} + \text{Cable Loss} - \text{Ampl.Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for a Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.109(a) Limit}$$

3.5 Environmental Conditions

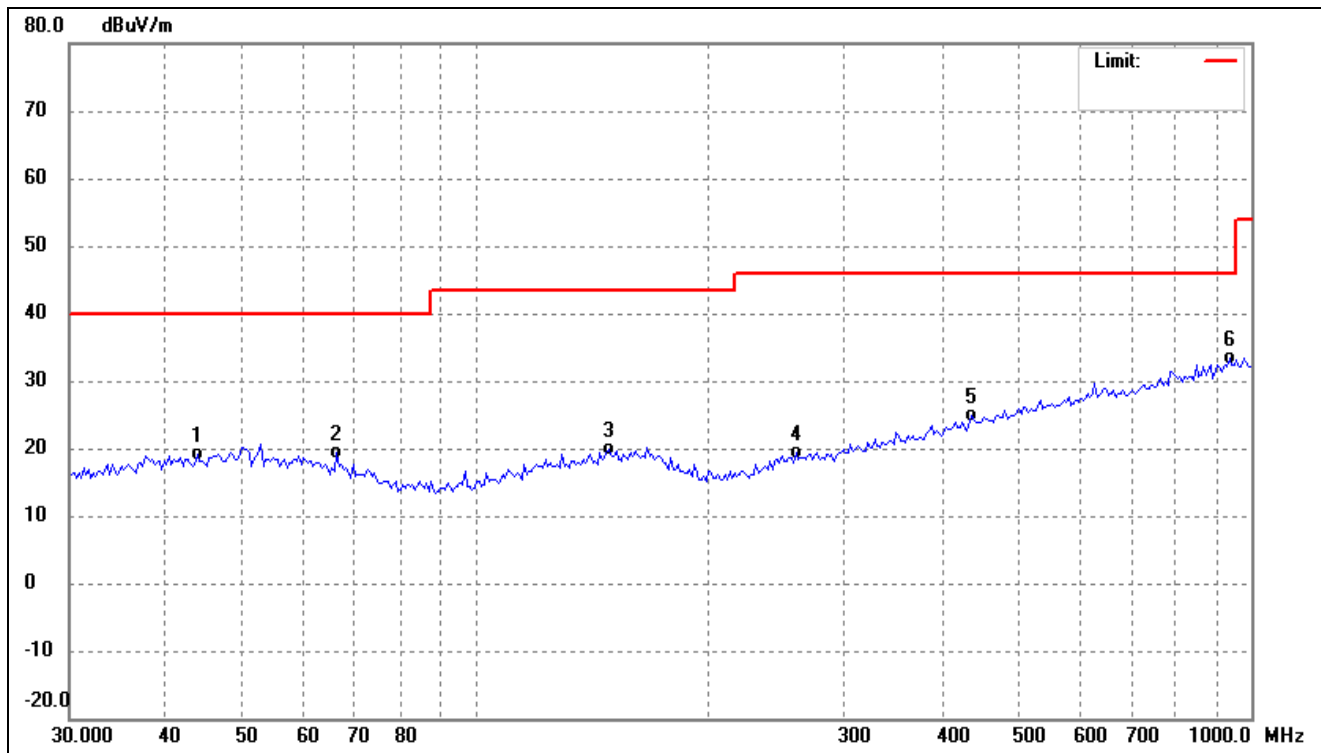
Temperature:	23.5°C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

3.6 Summary of Test Results

Please find the results below:

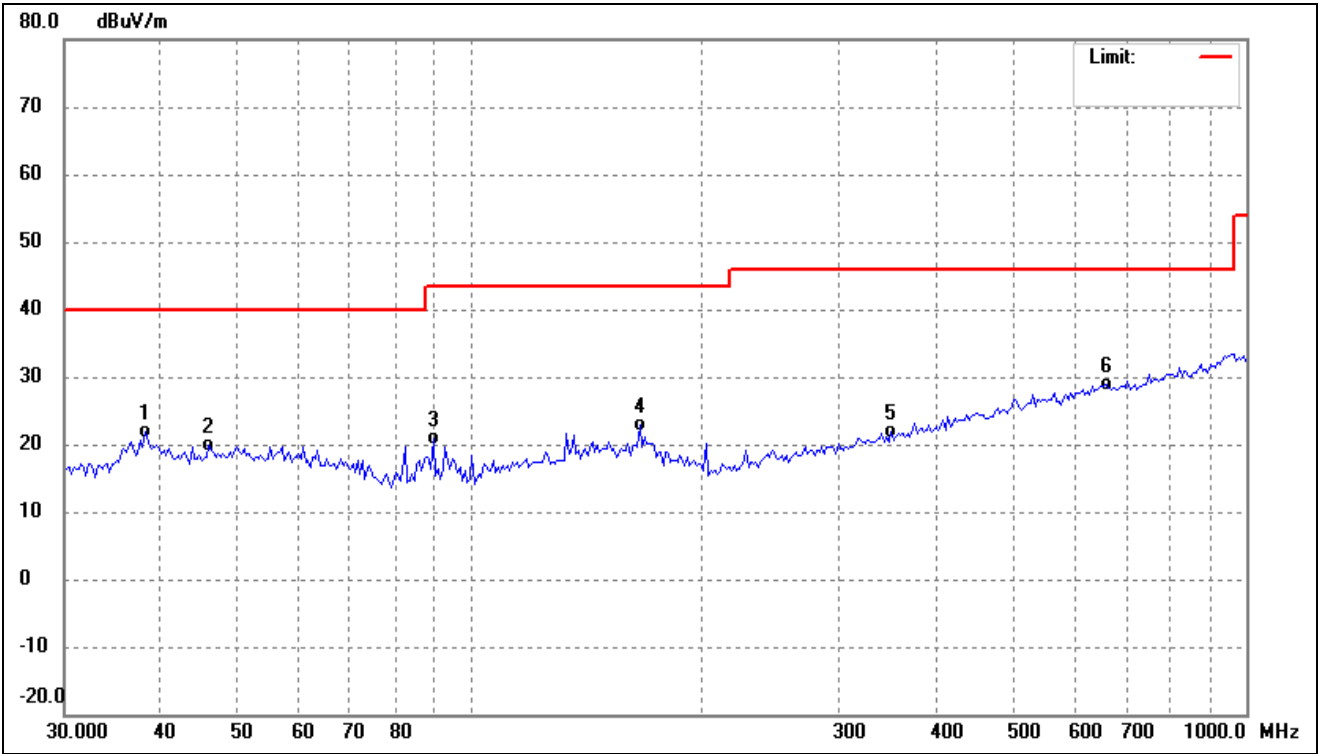
Below 1GHz

Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	43.8452	27.55	-8.48	19.07	40.00	-20.93	-	-	QP
2	66.3714	29.45	-10.11	19.34	40.00	-20.66	-	-	QP
3	148.9175	28.62	-8.68	19.94	43.50	-23.56	-	-	QP
4	259.4433	29.07	-9.79	19.28	46.00	-26.72	-	-	QP
5	436.3956	29.72	-4.96	24.76	46.00	-21.24	-	-	QP
6	938.7139	31.39	2.01	33.40	46.00	-12.60	-	-	QP

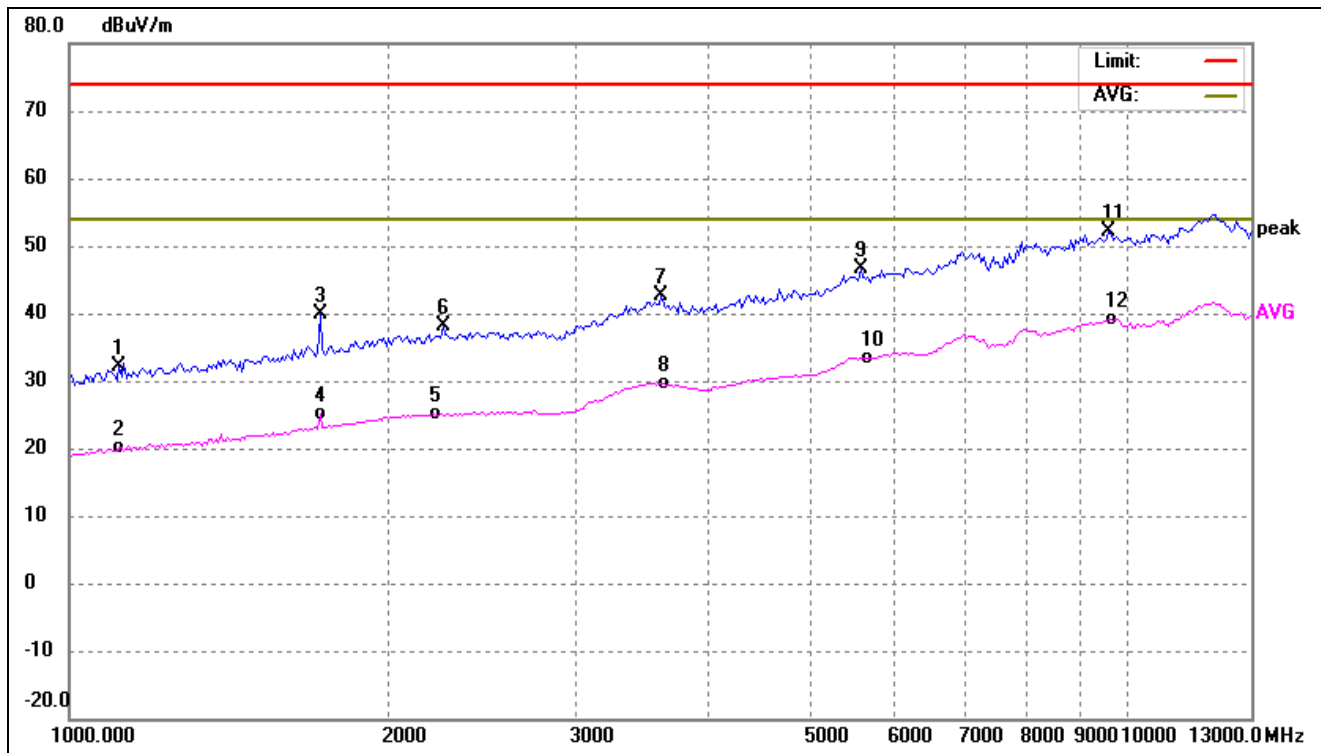
Test mode:	TM1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	38.0965	30.79	-8.89	21.90	40.00	-18.10	-	-	QP
2	46.0558	28.18	-8.38	19.80	40.00	-20.20	-	-	QP
3	89.7866	33.95	-13.10	20.85	43.50	-22.65	-	-	QP
4	165.4716	31.59	-8.76	22.83	43.50	-20.67	-	-	QP
5	348.5145	29.14	-7.14	22.00	46.00	-24.00	-	-	QP
6	660.6025	30.10	-1.28	28.82	46.00	-17.18	-	-	QP

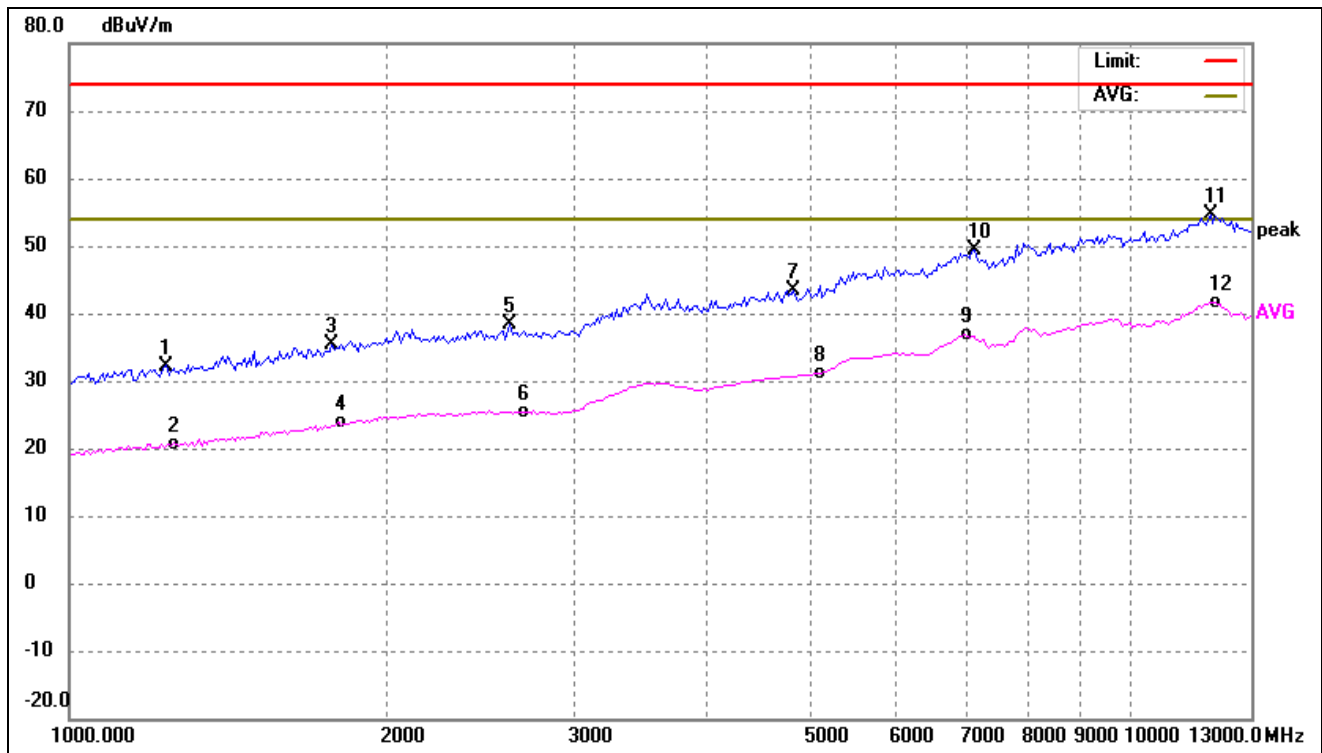
Above 1GHz

Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	1113.985	56.56	-24.42	32.14	74.00	-41.86	-	-	peak
2	1113.985	44.52	-24.42	20.10	54.00	-33.90	-	-	AVG
3	1724.365	61.06	-21.25	39.81	74.00	-34.19	-	-	peak
4	1724.365	46.50	-21.25	25.25	54.00	-28.75	-	-	AVG
5	2206.897	44.46	-19.22	25.24	54.00	-28.76	-	-	AVG
6	2252.742	57.18	-19.13	38.05	74.00	-35.95	-	-	peak
7	3614.830	56.84	-14.33	42.51	74.00	-31.49	-	-	peak
8	3633.458	44.10	-14.35	29.75	54.00	-24.25	-	-	AVG
9	5566.797	56.47	-9.77	46.70	74.00	-27.30	-	-	peak
10	5653.305	43.03	-9.58	33.45	54.00	-20.55	-	-	AVG
11	9549.976	55.60	-3.38	52.22	74.00	-21.78	-	-	peak
12	9599.191	42.54	-3.38	39.16	54.00	-14.84	-	-	AVG

Test mode:	TM1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	1228.271	55.86	-23.62	32.24	74.00	-41.76	-	-	peak
2	1240.963	44.18	-23.57	20.61	54.00	-33.39	-	-	AVG
3	1769.257	56.34	-20.99	35.35	74.00	-38.65	-	-	peak
4	1796.752	44.60	-20.82	23.78	54.00	-30.22	-	-	AVG
5	2601.461	56.73	-18.45	38.28	74.00	-35.72	-	-	peak
6	2682.943	43.71	-18.28	25.43	54.00	-28.57	-	-	AVG
7	4820.583	55.99	-12.64	43.35	74.00	-30.65	-	-	peak
8	5048.829	43.17	-12.15	31.02	54.00	-22.98	-	-	AVG
9	6979.573	42.55	-5.79	36.76	54.00	-17.24	-	-	AVG
10	7124.563	55.35	-6.01	49.34	74.00	-24.66	-	-	peak
11	11912.238	54.50	0.06	54.56	74.00	-19.44	-	-	peak
12	11973.627	41.44	0.20	41.64	54.00	-12.36	-	-	AVG

Remark: '-' Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

EXHIBIT 1 - EUT PHOTOGRAPHS

Please refer to“ANNEX”

******* END OF REPORT *******