TEST REPORT

Application No.:	KSCR2203000392AT
FCC ID:	2AGOFRC466A
Applicant:	HCS (SUZHOU) LIMITED
Address of Applicant:	19F-20F, Building B-3rd, No.209 Zhuyuan Road, New District, Suzhou, Jiangsu, China
Manufacturer:	HCS (SUZHOU) LIMITED
Address of Manufacturer:	19F-20F, Building B-3rd, No.209 Zhuyuan Road, New District, Suzhou, Jiangsu, China
Factory:	Himit (Yueyang) Technology Ltd.
Address of Factory:	Building 4, Lingang High-tech Industrial Park, Yueyang Area, China (Hunan) Free Trade Pilot Zone
Equipment Under Test (EUT):	
EUT Name:	Remote Control
Model No.:	RC4663801/01BR;RC466XXXX/XXR;RC466XXXX/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:	2022-03-29
Date of Test:	2022-03-30 to 2022-03-31
Date of Issue:	2022-04-13
Test Result:	**Pass***

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

Eric Lin
EMC Laboratory Manager

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Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2022-04-13		Original

Authorized for issue by:				
		Damon zhou **Damon_Zhou/Project Engineer**		
		Eric Lin **Eric Lin/Reviewer**		

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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

Declaration of EUT Family Grouping:

Note: There are series models mentioned in this report, and they are the Identical in electrical and electronic characters. Only the model RC4663801/01BR was tested since their differences were the were the model number, trade name, color and appearance.

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4 General Information

4.1 Details of E.U.T.

Power supply:	DC 3V
Test Voltage;	DC 3V

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Doogle	/	/	/
Notebook	Lenovo	/	/

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conducted Emission at mains port using AMN	2.4dB (9kHz to 150kHz)
		2.2dB (150kHz to 30MHz)
2	Conducted Emission at telecommunication port using AAN	4.0 dB (150kHz to 30MHz)
3	Radiated Power	3.2dB
4	Radiated Emission (10m)	4.1 dB
5	Radiated Emission (3m)	4.6 dB (30MHz-1GHz)
		5.0dB (1GHz-6GHz)
		5.2dB (6GHz-18GHz)
		5.3dB (18GHz-40GHz)

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

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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

No tests were sub-contracted.

4.5 Test Facility

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

• CNAS (No. CNAS L4354)

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 2541.01)

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

• FCC (Designation Number: CN1172)

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

Designation Number: CN1172.

• ISED (CAB identifier: CN0072)

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 (Member No.: 1938)

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

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5 Equipment List

Radiated Emissions (30MHz-1GHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EMI Test Receiver	R&S	ESCI	101378	10/11/2021	10/10/2022
Antenna	TESEQ	CBL 6112D	35403	03/17/2022	03/16/2024
Spectrum Analyzer	R&S	FSU26	200789	04/15/2021	04/14/2022
Signal Analyzer	R&S	FSV40	101493	10/11/2021	10/10/2022
Software	Faratronic	EZ_EMC 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	Agilent	E4446A	US44300398	04/15/2021	04/14/2022
Preamplifier	PANSHAN TECHNOLOGY	LNA:1~18G	/	04/15/2021	04/14/2022
Horn-antenna	SCHWARZBECK	BBHA9120D	267	10/26/2020	10/25/2022
Antenna	SCHAFFNER	CBL6143	5078	10/26/2020	10/25/2022
Software	Faratronic	EZ_EMC-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	02/01/2022	01/31/2023
Temperature & Humidity Recorder	Anymetre	TH603	CZ720001-1 CZ720001-2 CZ720001-3 CZ720001-4 CZ720001-5 CZ720001-6 CZ720001-7	10/14/2021	10/13/2022

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6 Emission Test Results

6.1 Radiated Emissions (30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014

Measurement Distance: 3m

Limit:	Class B
30MHz -88MHz	40.0(dBμV/m) quasi-peak
88MHz-216MHz	43.5(dBμV/m) quasi-peak
216MHz-960MHz	46.0(dBμV/m) quasi-peak
960MHz-1000MHz	54.0(dBμV/m) quasi-peak
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30MHz to1000MHz

6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 17.1 °C Humidity: 58.7 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	IR mode_Keep the EUT power on and pressing IR buttons of the EUT continuous.
Pre-scan	00	IR mode:Pressing the IR Button to keep EUT working continuously with IR function BLE mode: Establish the communication between EUT and Doogle via BT function and pressing the BLE key. BLE voice mode: Establish the communication between EUT and Doogle via BT function and pressing the voice key. IR standby mode:Keep EUT power on and working on IR standby mode. BLE standby mode: Keep EUT power on and working on BLE standby mode.

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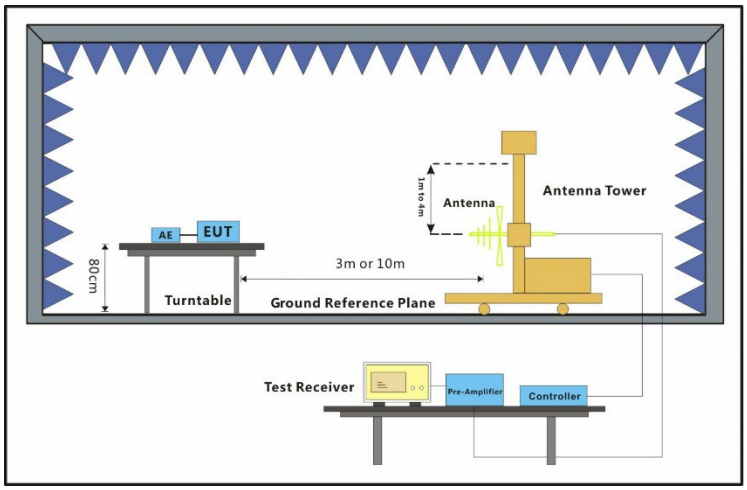
6.1.3 Test Setup Diagram



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

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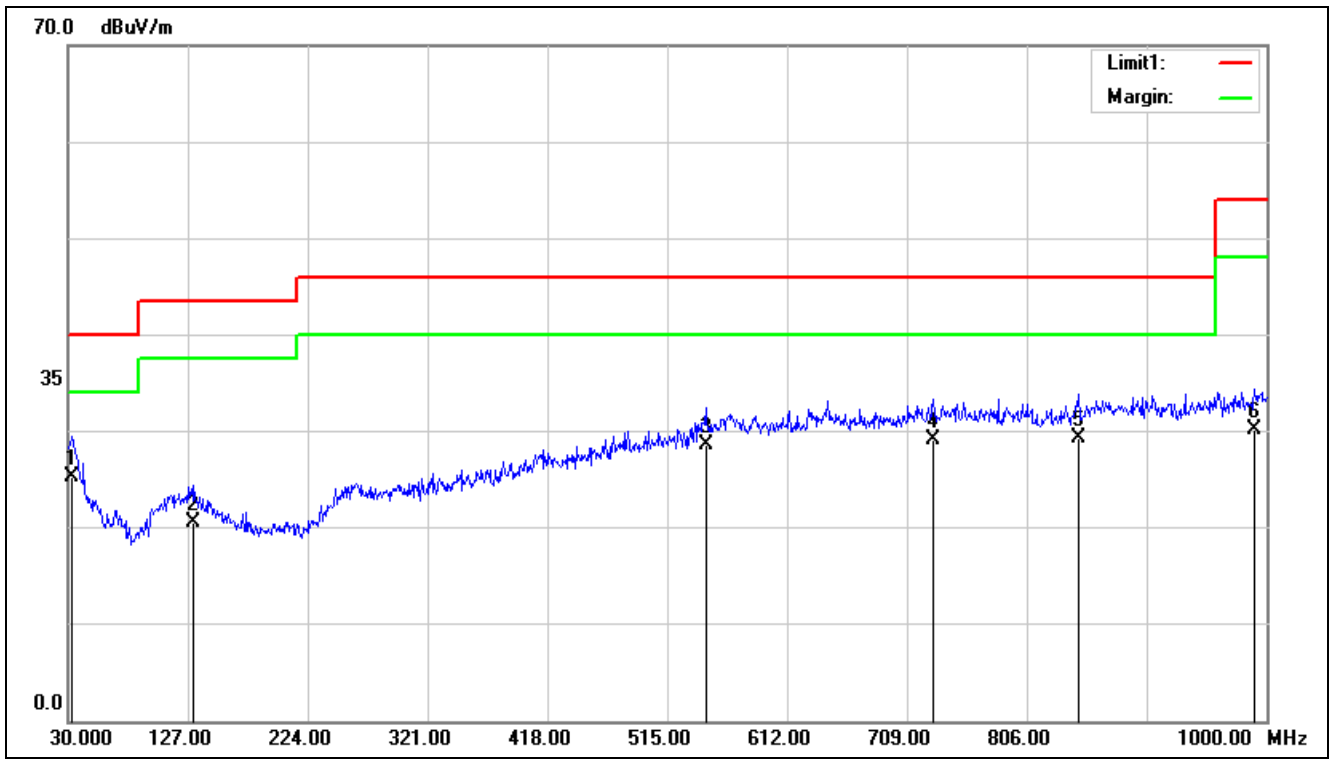
Test Mode: 00; Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	32.9100	0.32	25.04	25.36	40.00	-14.64	100	0	QP
2	131.8500	1.35	19.30	20.65	43.50	-22.85	100	220	QP
3	546.0400	1.45	27.08	28.53	46.00	-17.47	300	106	QP
4	730.3400	1.10	28.05	29.15	46.00	-16.85	100	253	QP
5	847.7100	0.56	28.79	29.35	46.00	-16.65	400	360	QP
6	990.3000	0.16	30.10	30.26	54.00	-23.74	100	4	QP

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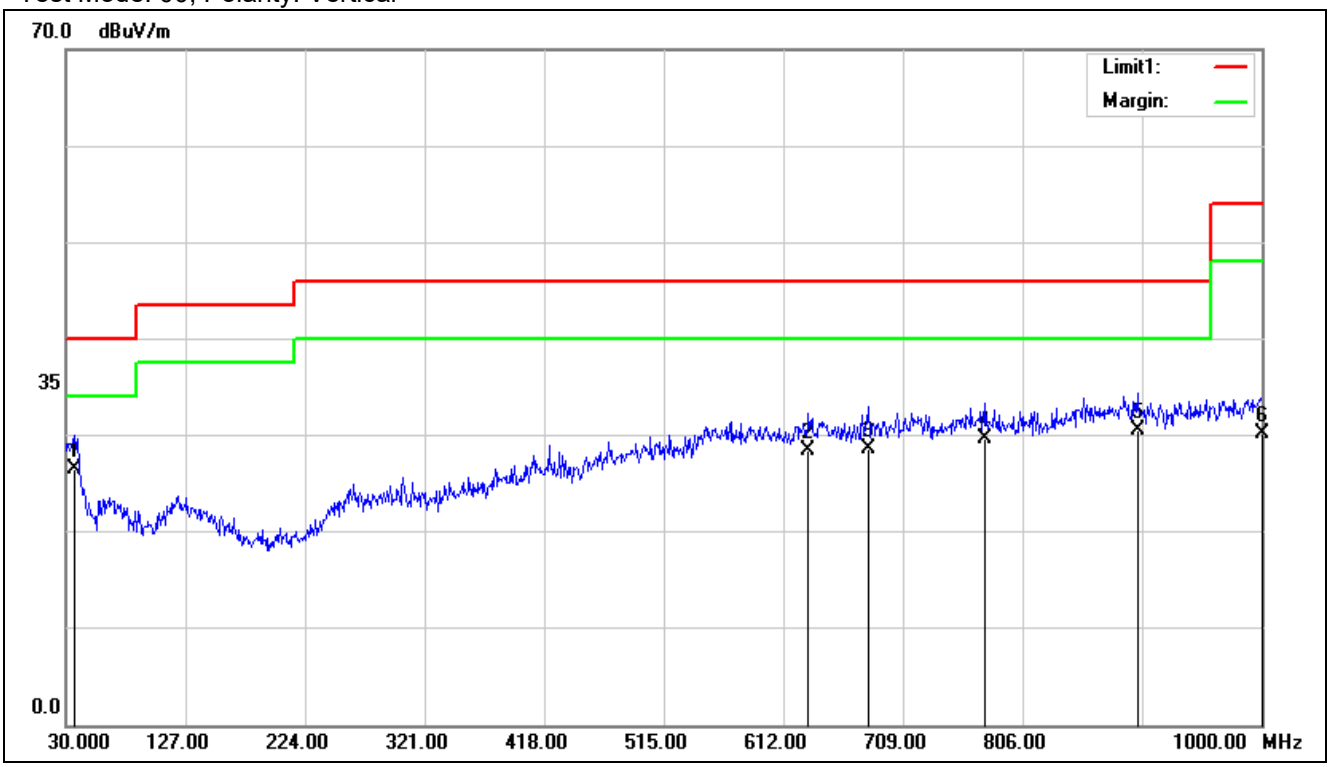
Test Mode: 00; Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	36.7900	2.84	23.69	26.53	40.00	-13.47	103	0	QP
2	632.3700	0.77	27.68	28.45	46.00	-17.55	100	133	QP
3	680.8700	1.09	27.50	28.59	46.00	-17.41	100	206	QP
4	775.9300	1.35	28.30	29.65	46.00	-16.35	100	358	QP
5	899.1200	0.96	29.56	30.52	46.00	-15.48	100	5	QP
6	1000.0000	0.23	29.89	30.12	54.00	-23.88	100	248	QP

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6.2 Radiated Emissions (Above 1GHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014

Measurement Distance: 3m

Limit: Class B

Above 1GHz 74(dBμV/m) peak, 54(dBμV/m) average

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

6.2.1 E.U.T. Operation

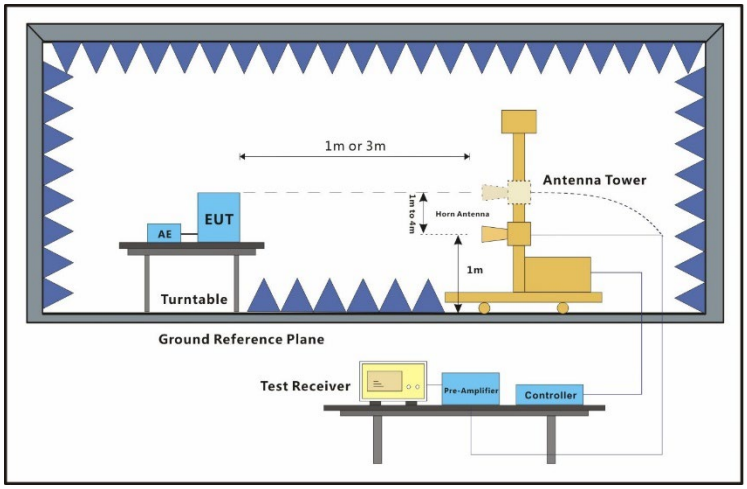
Operating Environment:

Temperature: 22.3 °C Humidity: 47.0 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	IR mode_Keep the EUT power on and pressing IR buttons of the EUT continuous.
Pre-scan	00	IR mode:Pressing the IR Button to keep EUT working continuously with IR function BLE mode: Establish the communication between EUT and Doogle via BT function and pressing the BLE key. BLE voice mode: Establish the communication between EUT and Doogle via BT function and pressing the voice key. IR standby mode:Keep EUT power on and working on IR standby mode. BLE standby mode: Keep EUT power on and working on BLE standby mode.

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 show in graphic is the limit in standard used in this section.

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

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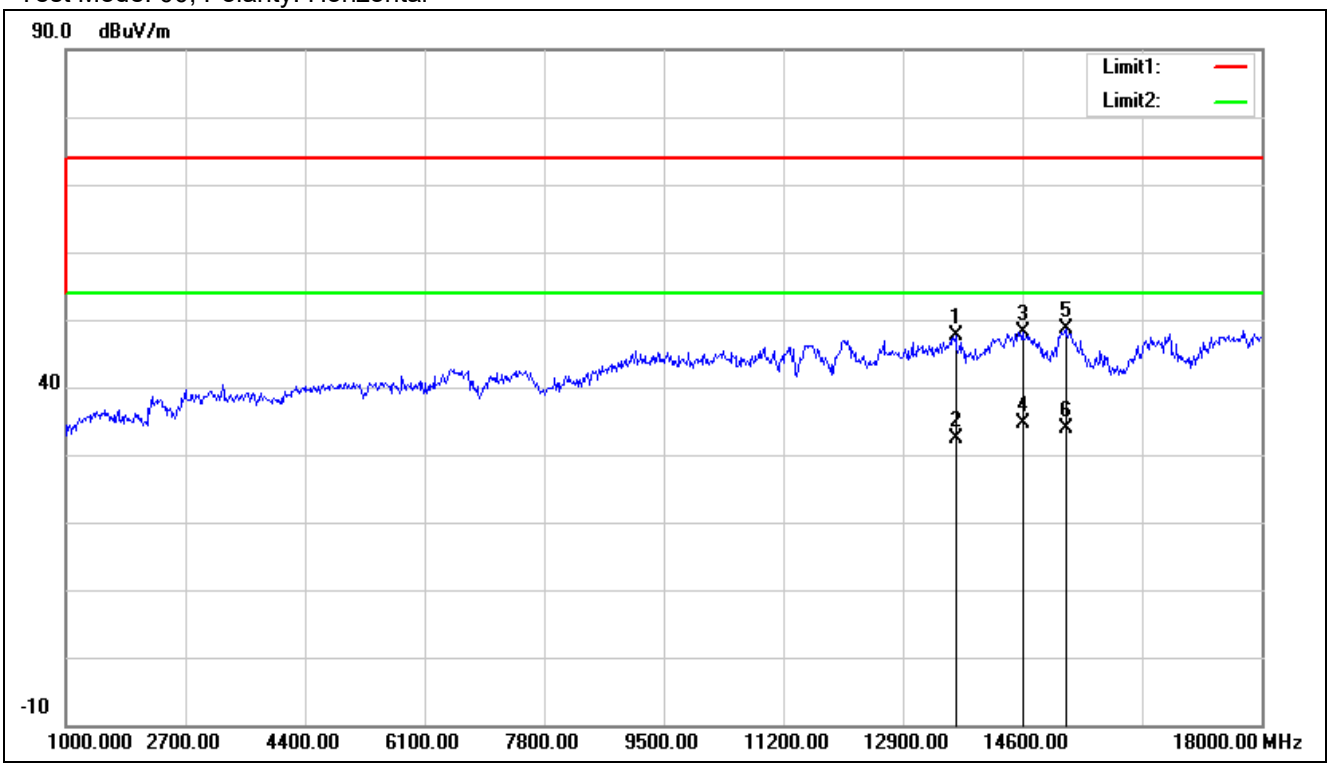
Test Mode: 00; Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	13648.000	45.21	2.31	47.52	74.00	-26.48	100	194	peak
2	13649.000	30.17	2.31	32.48	54.00	-21.52	100	15	AVG
3	14600.000	43.67	4.39	48.06	74.00	-25.94	100	141	peak
4	14602.000	30.31	4.38	34.69	54.00	-19.31	100	360	AVG
5	15212.000	46.74	1.82	48.56	74.00	-25.44	100	360	peak
6	15213.000	32.03	1.82	33.85	54.00	-20.15	100	0	AVG

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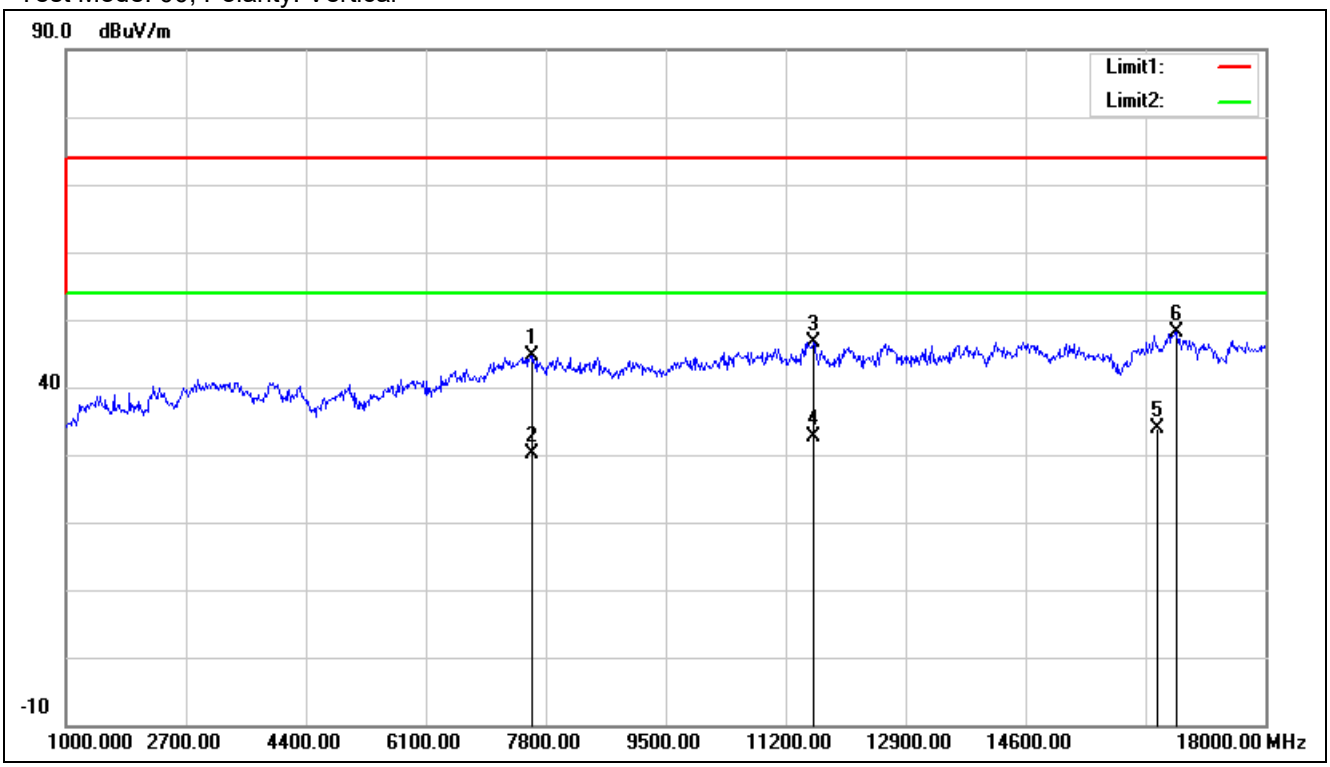
Test Mode: 00; Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	7596.000	50.42	-5.83	44.59	74.00	-29.41	100	7	peak
2	7598.000	35.96	-5.84	30.12	54.00	-23.88	100	360	AVG
3	11591.000	46.75	-0.12	46.63	74.00	-27.37	100	79	peak
4	11592.000	32.78	-0.13	32.65	54.00	-21.35	100	258	AVG
5	16473.000	31.75	2.14	33.89	54.00	-20.11	100	358	AVG
6	16742.000	44.42	3.68	48.10	74.00	-25.90	100	0	peak

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7 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2203000392AT

8 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for KSCR2203000392AT

- End of the Report -

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