FCC 47 CFR Part 15 Subpart B

TEST REPORT

For

Mini Bluetooth Speaker

MODEL NUMBER: M3

REPORT NUMBER: 4790794042-1-EMC-1

ISSUE DATE: May 9, 2023

FCC ID:2ADLI-BT-SPK-M3

Prepared for

KODA ELECTRONICS (HK) CO., LTD.

2/F Mandarin Comm Hse, 38 Morrison Hill Road, Wanchai Hong Kong

Prepared by

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch

Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China

Tel: +86 769 22038881
Fax: +86 769 33244054
Website: www.ul.com

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	5/9/2023	Initial Issue	

Summary of Test Results

Emission			
Standard	**Test Item**	**Limit**	**Result**
FCC 47 CFR Part 15 Subpart B	Conducted emissions	FCC Part 15.107	Pass (NOTE 1)
	Radiated emissions below 1GHz	FCC Part 15.109	Pass
	Radiated emissions above 1GHz	FCC Part 15.109	Pass (NOTE 2)

Note:
1. This test is only applicable for devices which can be charged or powered by AC power cable.
2. If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less.

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
*The measurement result for the sample received is <Pass> according to <FCC 47 CFR Part 15 Subpart B> when <Accuracy Method> decision rule is applied.

CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	KODA ELECTRONICS (HK) CO., LTD.
Address:	2/F Mandarin Comm Hse, 38 Morrison Hill Road, Wanchai Hong Kong

Manufacturer Information

Company Name:	Dongguan Kenuo Electronic Co., Ltd
Address:	Room301, No.6 Jingfu Road, Hengli Town, Dongguan City, Guangdong Province, China

EUT Information

EUT Name:	Mini Bluetooth Speaker
Model:	M3
Brand:	infinitive
Sample Received Date:	April 20, 2023
Sample Status:	Normal
Sample ID:	5962796
Date of Tested:	May 5, 2023 to May 9, 2023

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC 47 CFR Part 15 Subpart B	**Pass**

Prepared By:

Wite Chen

Engineer Project Associate

Checked By:

Denny Huang

Senior Project Engineer

Approved By:

Stephen Guo

Operations Manager

2. TEST METHODOLOGY

All tests were performed in accordance with the standard FCC 47 CFR Part 15 Subpart B.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. **VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011

Note:
All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emissions	0.009 MHz - 0.15 MHz	2	4
	0.15MHz - 30MHz	2	3.63
Radiated emissions below 1GHz	9kHz - 30MHz	2	2.2
	30MHz -1GHz	2	4.13
Radiated emissions above 1GHz	1GHz - 18GHz	2	5.64
Note1: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.			
Note 2: According to the standard CISPR 16-4-2, the MU for the Conducted emissions from the AC mains power ports using AMN should not exceed 3.8 in range of 9kHz to 150kHz and 3.4 in range of 150kHz to 30MHz. We have considered the test results containing the value of Ulab (in dB) for the measurement instrumentation actually used for the measurements.			

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name		Mini Bluetooth Speaker
Model		M3
WIC#:		703249
EUT Classification		Class B
Highest Internal Frequency		2.4GHz
Power Supply	DC	5Vdc, 1.0A

5.2. TEST MODE

Test Mode	Description
M01	Charging + AUX Playing
M02	Charging + BT Playing

5.3. SUPPORT UNITS FOR SYSTEM TEST

The EUT has been tested as an independent unit

6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Conducted emissions					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
EMI Test Receiver	ROHDE & SCHWARZ	ESR3	101961	Oct. 17, 2022	Oct. 16, 2023
Two-Line V-Network	ROHDE & SCHWARZ	ENV216	101983	Oct. 17, 2022	Oct. 16, 2023
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Oct. 17, 2022	Oct. 16, 2023
Test Software for Conducted Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Test Equipment of Radiated emissions below 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Aug. 2, 2021	Aug. 1, 2024
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Oct. 17, 2022	Oct. 16, 2023
Loop antenna	Schwarzbeck	1519B	00008	Dec. 14, 2021	Dec. 13, 2023
MXE EMI Receiver	KEYSIGHT	N9038A	MY56400036	Oct. 17, 2022	Oct. 16, 2023
Amplifier	HP	8447D	2944A09099	Oct. 17, 2022	Oct. 16, 2023
Test Software for Radiated Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Test Equipment of Radiated emissions above 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
EMI Measurement Receiver	ROHDE & SCHWARZ	ESR26	101377	Oct. 17, 2022	Oct. 16, 2023
Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct. 17, 2022	Oct. 16, 2023
Highpass Filter	Wainwright	WHKX10-2700-3000-18000-40SS	23	/	/
Horn Antenna	TDK	HRN-0118	130940	Jul. 20, 2021	Jul. 19, 2024
Preamplifier	TDK	PA-02-3	TRS-308-00002	Oct. 17, 2022	Oct. 16, 2023
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct. 17, 2022	Oct. 16, 2023
High Gain Horn Antenna	Schwarzbeck	BBHA-9170	697	Jul. 20, 2021	Jul. 19, 2024

Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	/	/
Band Reject Filter	Wainwright	WRCJV20-5120-5150-5350-5380-60SS	2	/	/
Highpass Filter	Wainwright	WHKX10-5850-6500-1800-40SS	4	/	/
Test Software for Radiated Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Other Instrument					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Temperature humidity probe	OMEGA	ITHX-SD-5	18470007	Oct.22, 2022	Oct.21, 2023
Barometer	Yiyi	Baro	N/A	Oct.24, 2022	Oct.23, 2023
Attenuator	Agilent	8495B	2814a12853	Oct.18, 2022	Oct.17, 2023

7. EMISSION TEST

7.1. CONDUCTED EMISSIONS

LIMITS

CFR 47 FCC Part15 Subpart B				
FREQUENCY (MHz)	Class A (dBμV)		Class B (dBμV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46*
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

TEST PROCEDURE

1. The testing follows the guidelines in ANSI C63.4-2014.

2. The EUT was placed on the top of a rotating table 0.8 meters above the horizontal ground plane and being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

3. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

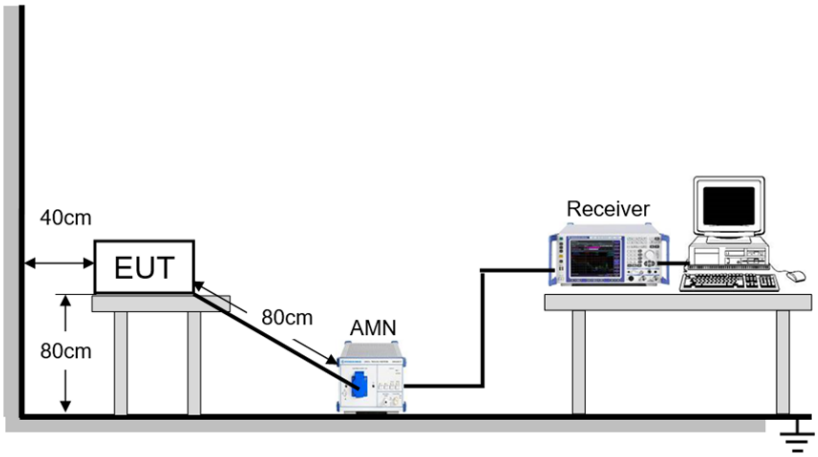
4. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

5. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.

6. LISN at least 80 cm from nearest part of EUT chassis.

7. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

TEST SETUP



TEST ENVIRONMENT

Temperature	26.2℃	Relative Humidity	69%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

Test Date	May 5, 2023	Test By	Wite Chen

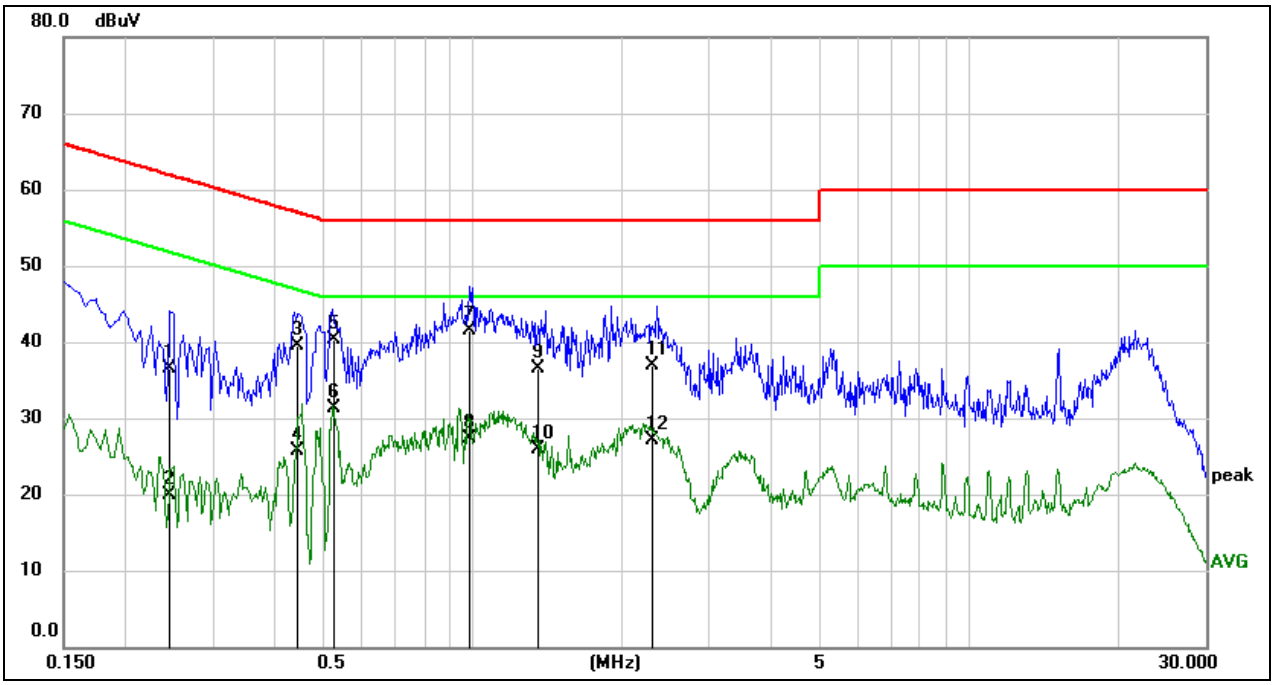
TEST MODE

Pre-test Mode:	M01 ~ M02
Final Test Mode:	M01

Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

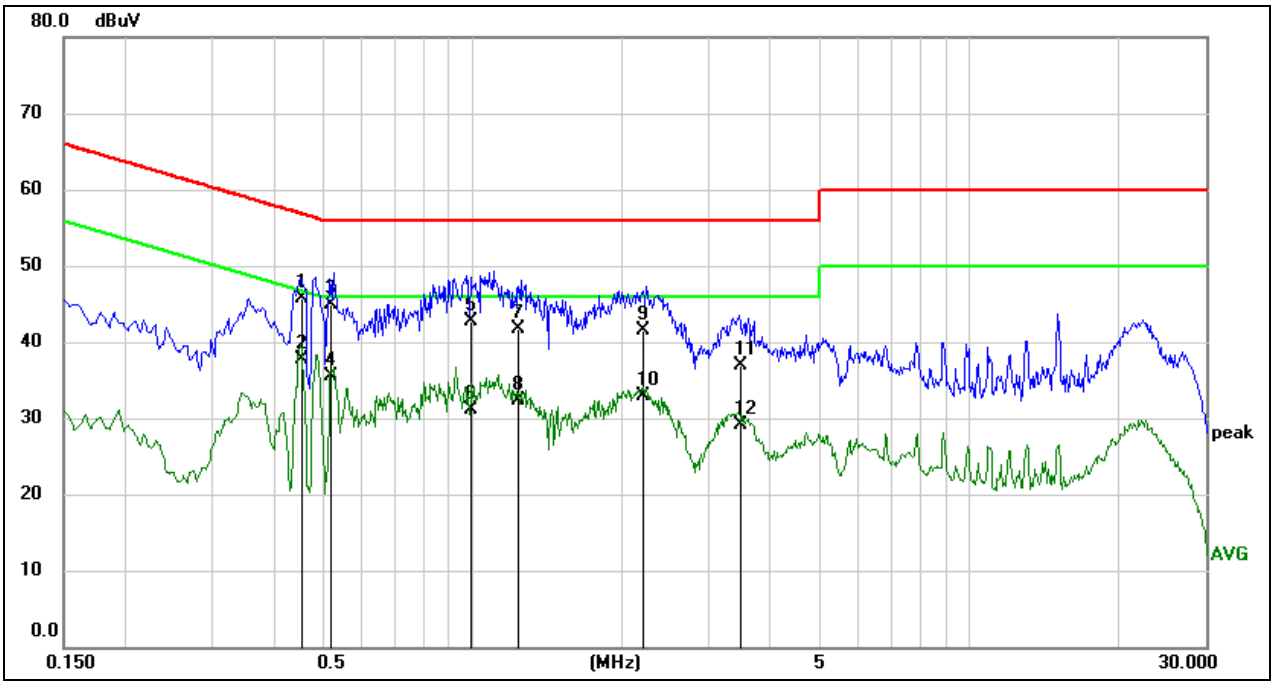
Test Mode:	M01	Line:	Line
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2443	26.94	9.59	36.53	61.95	-25.42	QP
2	0.2443	10.34	9.59	19.93	51.95	-32.02	AVG
3	0.4424	29.81	9.60	39.41	57.02	-17.61	QP
4	0.4424	16.14	9.60	25.74	47.02	-21.28	AVG
5	0.5261	30.63	9.60	40.23	56.00	-15.77	QP
6	0.5261	21.62	9.60	31.22	46.00	-14.78	AVG
7	0.9934	31.81	9.61	41.42	56.00	-14.58	QP
8	0.9934	17.68	9.61	27.29	46.00	-18.71	AVG
9	1.3630	26.88	9.61	36.49	56.00	-19.51	QP
10	1.3630	16.24	9.61	25.85	46.00	-20.15	AVG
11	2.2986	27.18	9.64	36.82	56.00	-19.18	QP
12	2.2986	17.49	9.64	27.13	46.00	-18.87	AVG

Remark: Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
Margin = Result - Limit

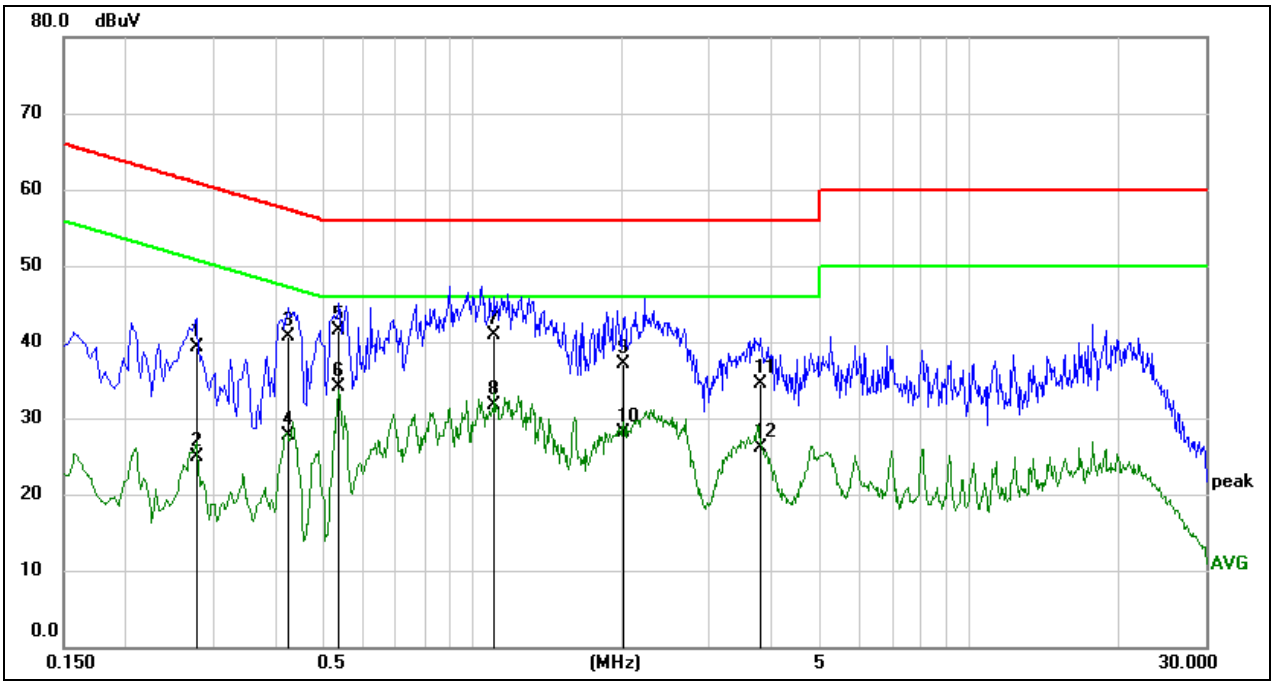
Test Mode:	M01	Line:	Neutral
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.4543	36.08	9.60	45.68	56.80	-11.12	QP
2	0.4543	28.06	9.60	37.66	46.80	-9.14	AVG
3	0.5190	35.22	9.60	44.82	56.00	-11.18	QP
4	0.5190	25.89	9.60	35.49	46.00	-10.51	AVG
5	0.9897	33.13	9.61	42.74	56.00	-13.26	QP
6	0.9897	21.47	9.61	31.08	46.00	-14.92	AVG
7	1.2451	32.10	9.61	41.71	56.00	-14.29	QP
8	1.2451	22.71	9.61	32.32	46.00	-13.68	AVG
9	2.2057	31.88	9.64	41.52	56.00	-14.48	QP
10	2.2057	23.25	9.64	32.89	46.00	-13.11	AVG
11	3.4635	27.21	9.68	36.89	56.00	-19.11	QP
12	3.4635	19.46	9.68	29.14	46.00	-16.86	AVG

Remark: Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
Margin = Result - Limit

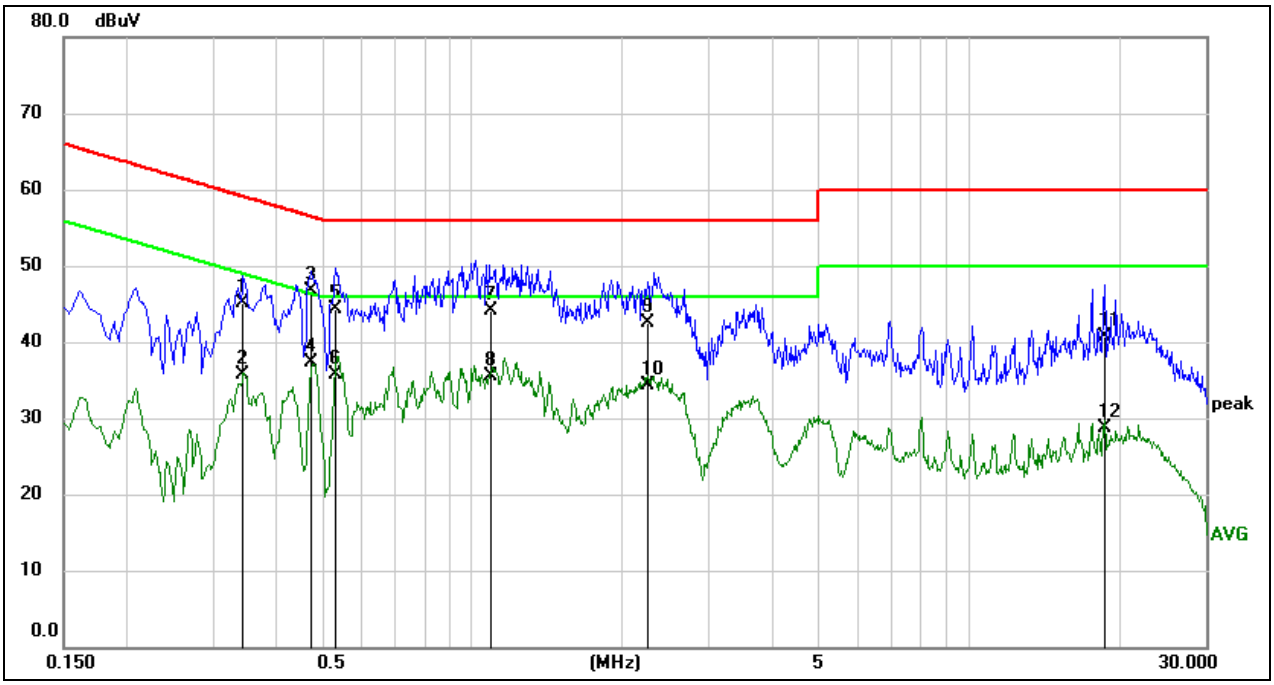
Test Mode:	M02	Line:	Line
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2776	29.63	9.59	39.22	60.89	-21.67	QP
2	0.2776	15.38	9.59	24.97	50.89	-25.92	AVG
3	0.4264	31.02	9.60	40.62	57.32	-16.70	QP
4	0.4264	18.10	9.60	27.70	47.32	-19.62	AVG
5	0.5386	31.92	9.60	41.52	56.00	-14.48	QP
6	0.5386	24.54	9.60	34.14	46.00	-11.86	AVG
7	1.0985	31.39	9.61	41.00	56.00	-15.00	QP
8	1.0985	22.04	9.61	31.65	46.00	-14.35	AVG
9	2.0157	27.38	9.63	37.01	56.00	-18.99	QP
10	2.0157	18.49	9.63	28.12	46.00	-17.88	AVG
11	3.8091	24.73	9.70	34.43	56.00	-21.57	QP
12	3.8091	16.47	9.70	26.17	46.00	-19.83	AVG

Remark: Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
Margin = Result - Limit

Test Mode:	M02	Line:	Neutral
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.3458	35.47	9.59	45.06	59.06	-14.00	QP
2	0.3458	26.14	9.59	35.73	49.06	-13.33	AVG
3	0.4772	37.14	9.60	46.74	56.39	-9.65	QP
4	0.4772	27.77	9.60	37.37	46.39	-9.02	AVG
5	0.5316	34.68	9.60	44.28	56.00	-11.72	QP
6	0.5316	26.16	9.60	35.76	46.00	-10.24	AVG
7	1.0937	34.53	9.61	44.14	56.00	-11.86	QP
8	1.0937	25.89	9.61	35.50	46.00	-10.50	AVG
9	2.2456	32.88	9.64	42.52	56.00	-13.48	QP
10	2.2456	24.62	9.64	34.26	46.00	-11.74	AVG
11	18.7978	30.89	9.82	40.71	60.00	-19.29	QP
12	18.7978	18.81	9.82	28.63	50.00	-21.37	AVG

Remark: Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
Margin = Result - Limit

7.2. RADIATED EMISSIONS BELOW 1GHZ

LIMITS

Below 1 GHz

CFR 47 FCC Part 15 Subpart B		
Frequency (MHz)	Class A	Class B
	Field strength (dBuV/m) (at 3 m)	Field strength (dBuV/m) (at 3 m)
30 - 88	49.5	40
88 - 216	53.9	43.5
216 - 960	56.9	46
Above 960	60	54

Test Frequency Range of Radiated Disturbance Measurement

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40 GHz, whichever is lower

NOTE:

(1) The limit for radiated test was performed according to CFR 47 FCC Part15 Subpart B
(2) The tighter limit applies at the band edges;
(3) Emission level (dBuV/m) = 20log Emission level (uV/m),
3m Emission level = 10 m Emission level + 20log(10 m/3 m);

TEST PROCEDURE

Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak and QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.4-2014.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp was used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

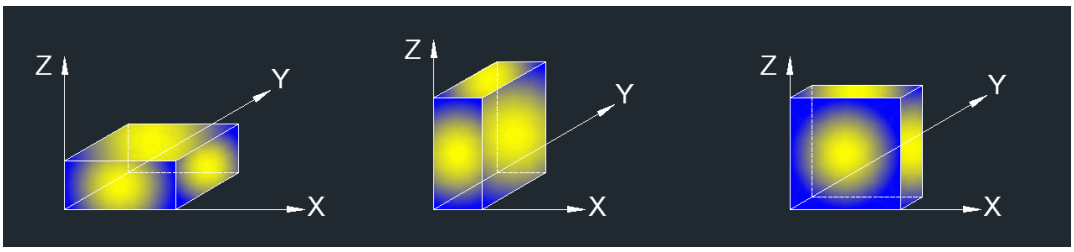
5. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

6. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.

7. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

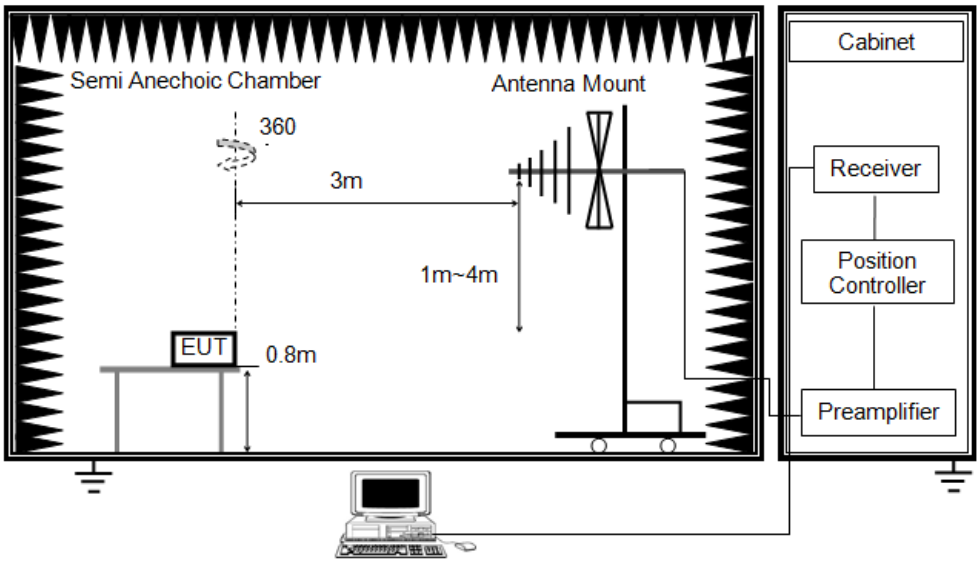
8. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

9. X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

TEST SETUP



Below 1 GHz and above 30 MHz

TEST ENVIRONMENT

Temperature	25.3℃	Relative Humidity	63%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

Test Date	May 5, 2023	Test By	Wite Chen

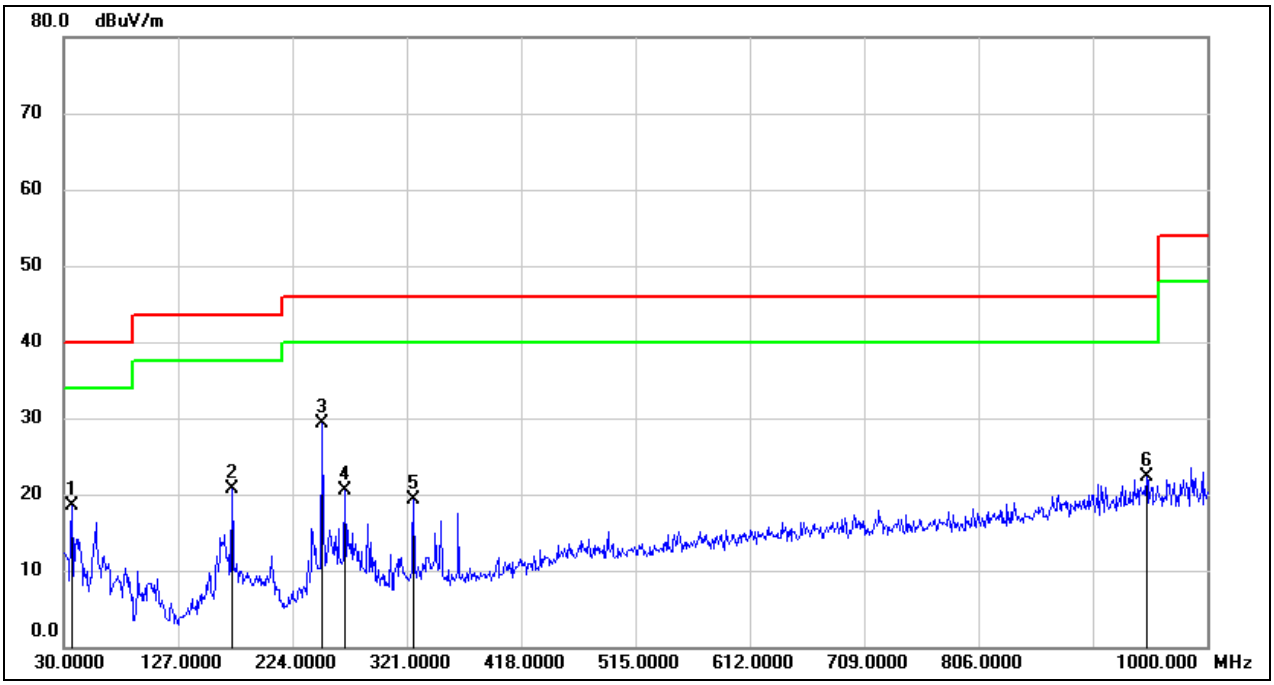
TEST MODE

Pre-test Mode:	M01 ~ M02
Final Test Mode:	M01

Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

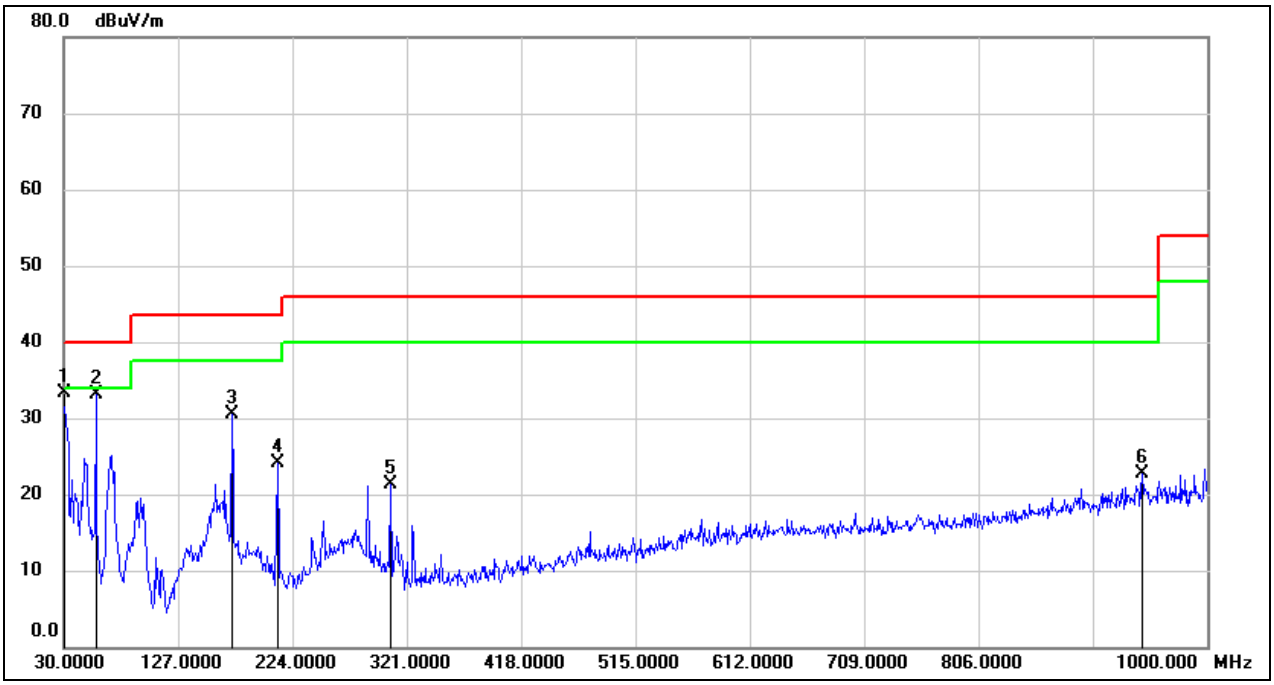
Test Mode:	M01	Polarity:	Horizontal
Test Voltage:	AC120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	36.7900	38.10	-19.60	18.50	40.00	-21.50	QP
2	172.5900	37.87	-17.21	20.66	43.50	-22.84	QP
3	249.2200	48.21	-18.94	29.27	46.00	-16.73	QP
4	268.6200	38.39	-17.85	20.54	46.00	-25.46	QP
5	326.8200	34.08	-14.71	19.37	46.00	-26.63	QP
6	948.5900	26.75	-4.42	22.33	46.00	-23.67	QP

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

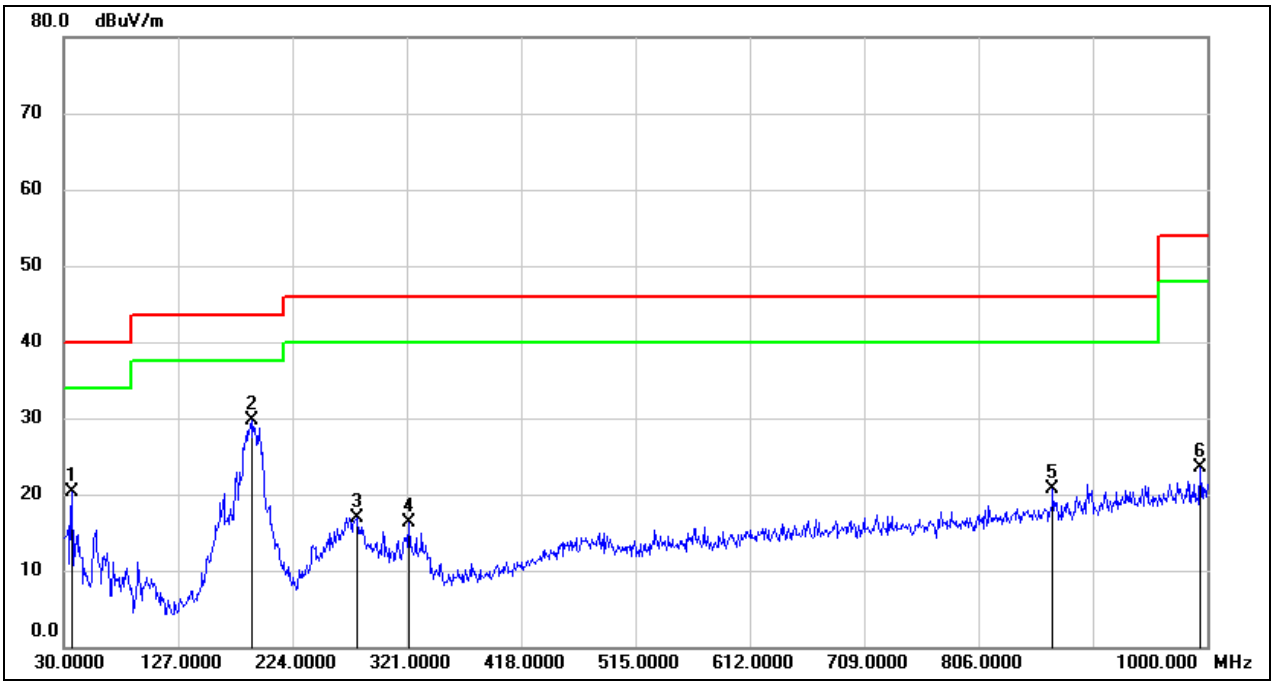
Test Mode:	M01	Polarity:	Vertical
Test Voltage:	AC120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	52.18	-18.94	33.24	40.00	-6.76	QP
2	57.1600	53.65	-20.58	33.07	40.00	-6.93	QP
3	172.5900	47.71	-17.21	30.50	43.50	-13.00	QP
4	211.3900	41.43	-17.40	24.03	43.50	-19.47	QP
5	307.4200	36.35	-15.13	21.22	46.00	-24.78	QP
6	944.7100	27.21	-4.46	22.75	46.00	-23.25	QP

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

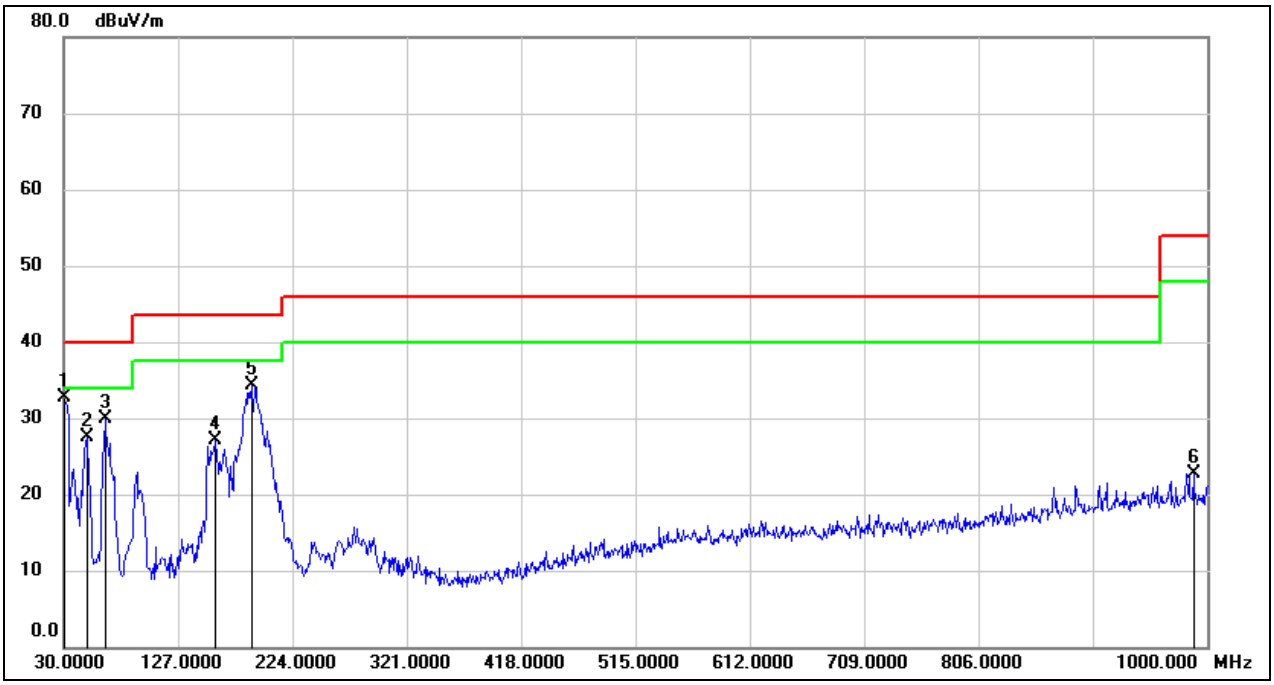
Test Mode:	M02	Polarity:	Horizontal
Test Voltage:	AC120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	36.7900	39.92	-19.60	20.32	40.00	-19.68	QP
2	189.0800	46.31	-16.63	29.68	43.50	-13.82	QP
3	279.2900	33.66	-16.76	16.90	46.00	-29.10	QP
4	322.9400	31.15	-14.75	16.40	46.00	-29.60	QP
5	869.0500	26.44	-5.77	20.67	46.00	-25.33	QP
6	994.1800	27.82	-4.23	23.59	54.00	-30.41	QP

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

Test Mode:	M02	Polarity:	Vertical
Test Voltage:	AC120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	51.70	-18.94	32.76	40.00	-7.24	peak
2	49.4000	48.14	-20.72	27.42	40.00	-12.58	peak
3	64.9200	50.48	-20.54	29.94	40.00	-10.06	peak
4	158.0399	44.93	-17.85	27.08	43.50	-16.42	peak
5	189.0800	50.95	-16.63	34.32	43.50	-9.18	peak
6	988.3600	27.05	-4.29	22.76	54.00	-31.24	peak

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

7.3. RADIATED EMISSIONS ABOVE 1GHZ

LIMITS

Above 1 GHz

CFR 47 FCC Part15 Subpart B /ICES-003 Issue 7				
Frequency (MHz)	Class A		Class B	
	(dBuV/m) (at 3 m)		(dBuV/m) (at 3 m)	
	Peak	Average	Peak	Average
Above 1000	80	60	74	54

Test Frequency Range of Radiated Disturbance Measurement

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

NOTE:

(1) The limit for radiated test was performed according to CFR 47 FCC Part15 Subpart B /ICES-003 Issue 7;
(2) The tighter limit applies at the band edges;
(3) Emission level (dBuV/m) = 20log Emission level (uV/m),
3m Emission level = 10 m Emission level + 20log(10 m/3 m);

TEST PROCEDURE

Above 1 GHz

The setting of the spectrum analyser

RBW	1 MHz
VBW	3 MHz
Sweep	Auto
Detector	Peak: Peak AVG: RMS
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.4-2014.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high

pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

5. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

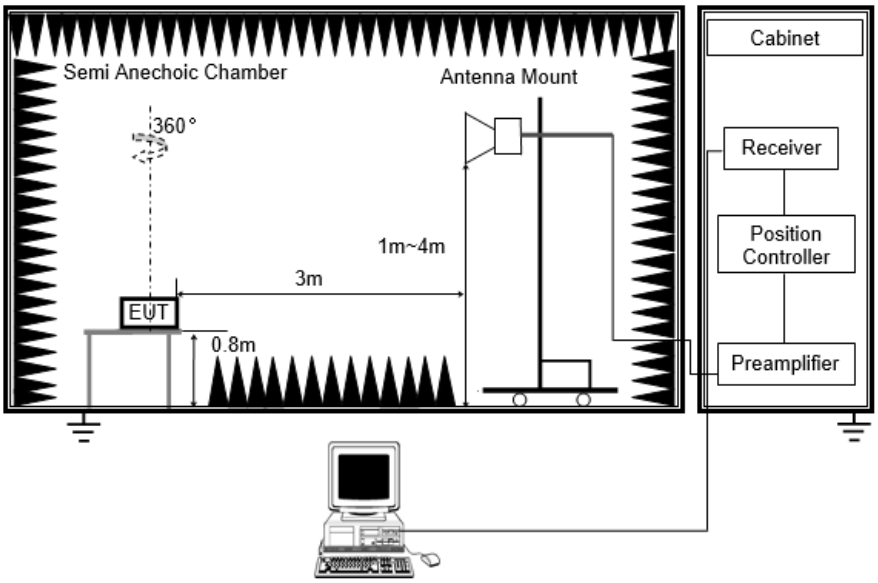
6. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.

7. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

8. For measurement above 1 GHz, the peak emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the peak limit specified in Section 15.109. If peak result complies with average limit, average result is deemed to comply with average limit.

9. The average emission measurement will be measured by the RMS detector and must comply with the average limit specified in Section 15.109.

TEST SETUP



Above 1GHz

TEST ENVIRONMENT

Temperature	25.3℃	Relative Humidity	61%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

Test Date	May 5, 2023	Test By	Rex Huang

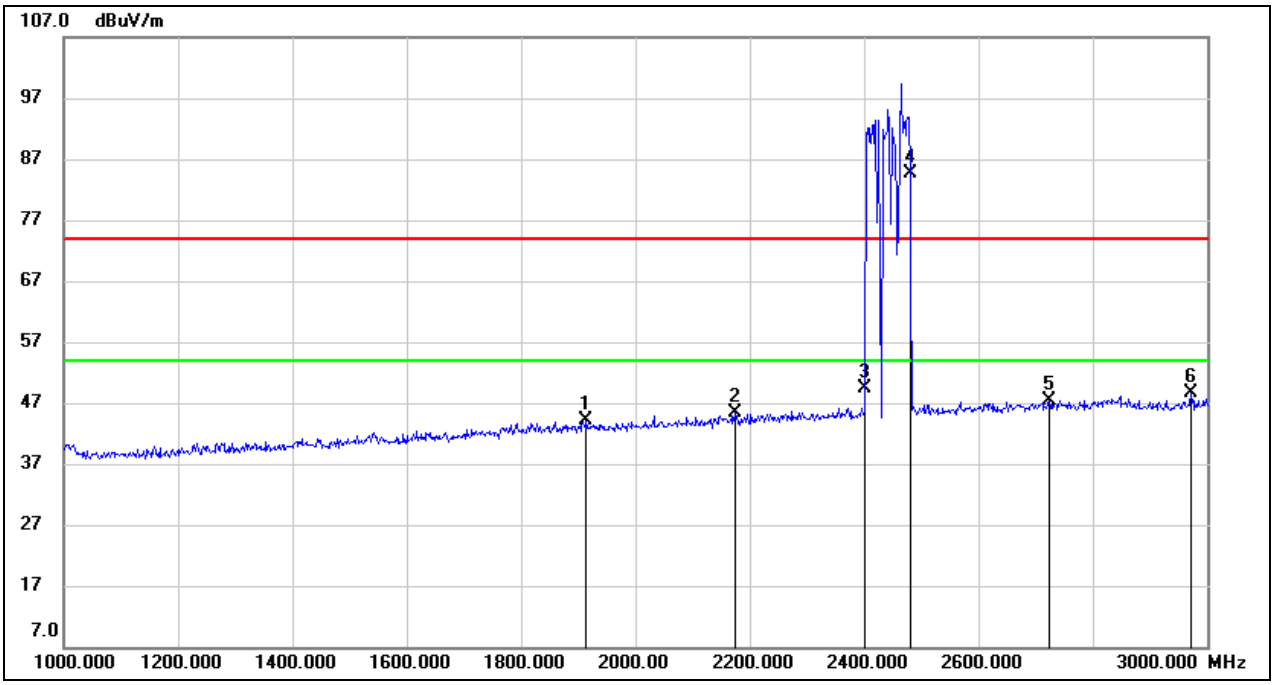
TEST MODE

Pre-test Mode:	M01 ~ M02
Final Test Mode:	M02

Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

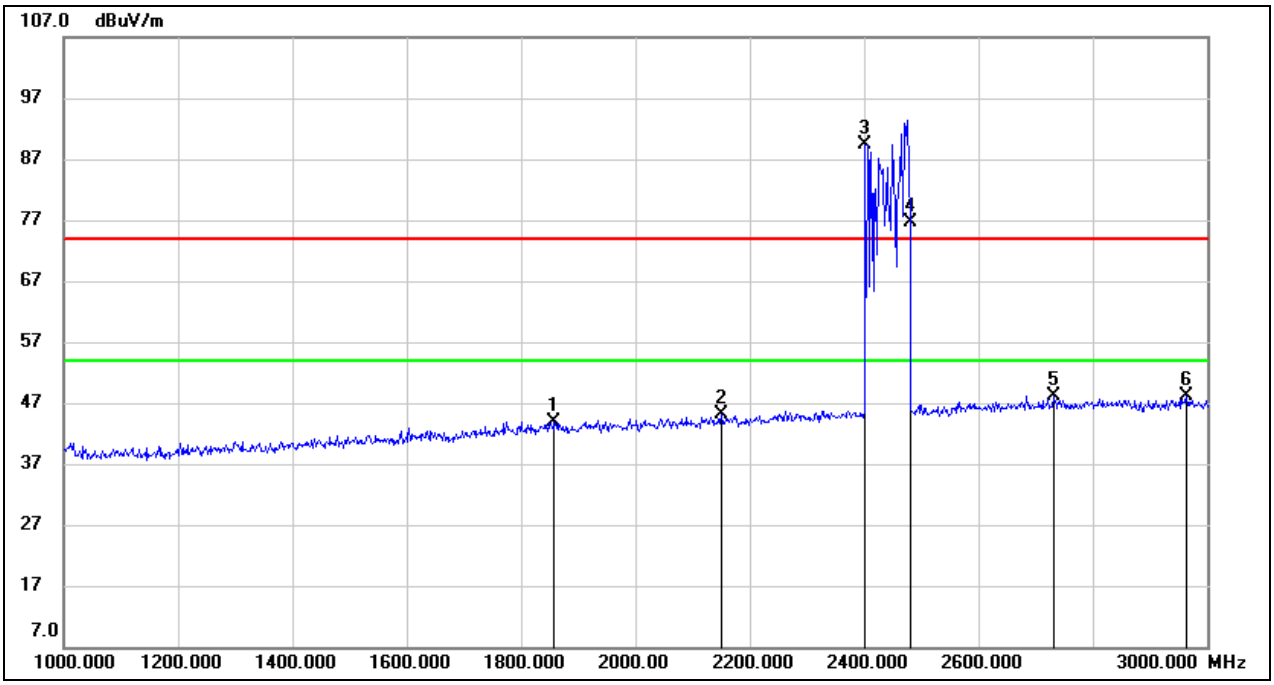
Test Mode:	M01	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1914.000	13.42	30.66	44.08	74.00	-29.92	peak
2	2174.000	13.85	31.51	45.36	74.00	-28.64	peak
3	2402.000	17.30	32.20	49.50	/	/	fundamental
4	2480.000	52.27	32.43	84.70	/	/	fundamental
5	2724.000	14.53	32.92	47.45	74.00	-26.55	peak
6	2972.000	15.17	33.41	48.58	74.00	-25.42	peak

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit
3. All the frequencies between mark 3 and mark 4 are the fundamental frequency which were transmitted by wireless module from EUT.

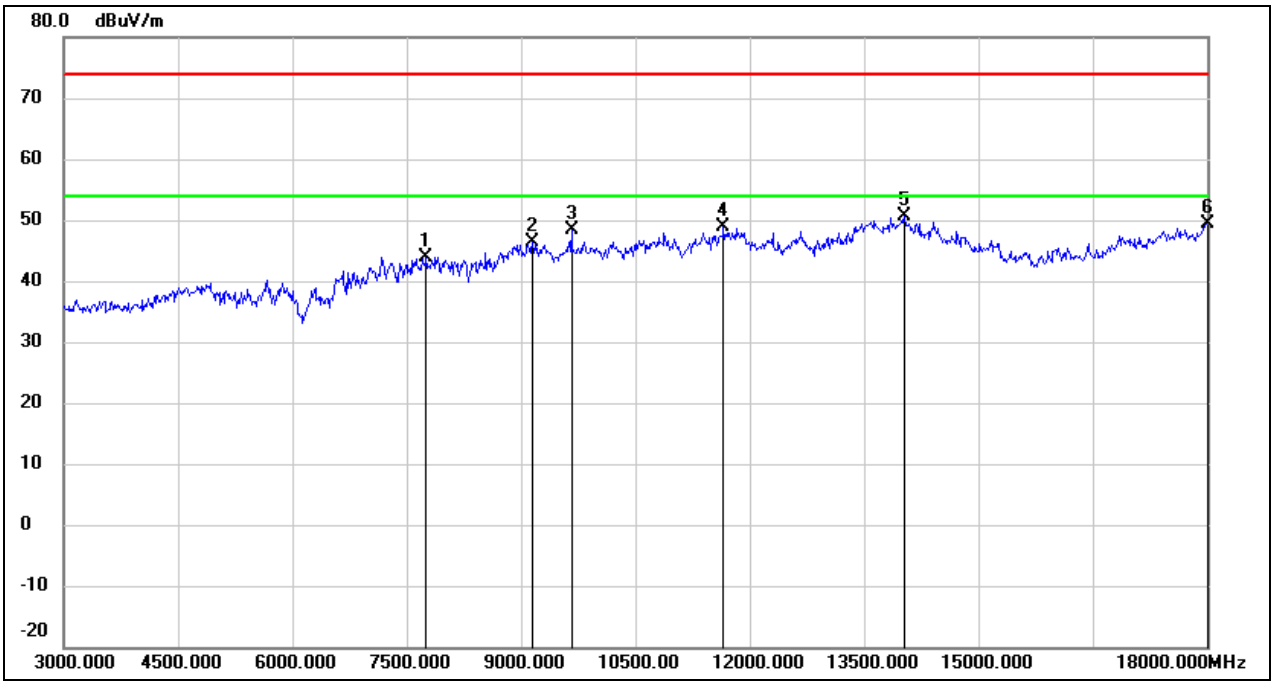
Test Mode:	M01	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1858.000	13.55	30.45	44.00	74.00	-30.00	peak
2	2150.000	13.59	31.44	45.03	74.00	-28.97	peak
3	2402.000	57.08	32.20	89.28	/	/	fundamental
4	2480.000	44.26	32.43	76.69	/	/	fundamental
5	2732.000	15.30	32.94	48.24	74.00	-25.76	peak
6	2964.000	14.62	33.39	48.01	74.00	-25.99	peak

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit
3. All the frequencies between mark 3 and mark 4 are the fundamental frequency which were transmitted by wireless module from EUT.

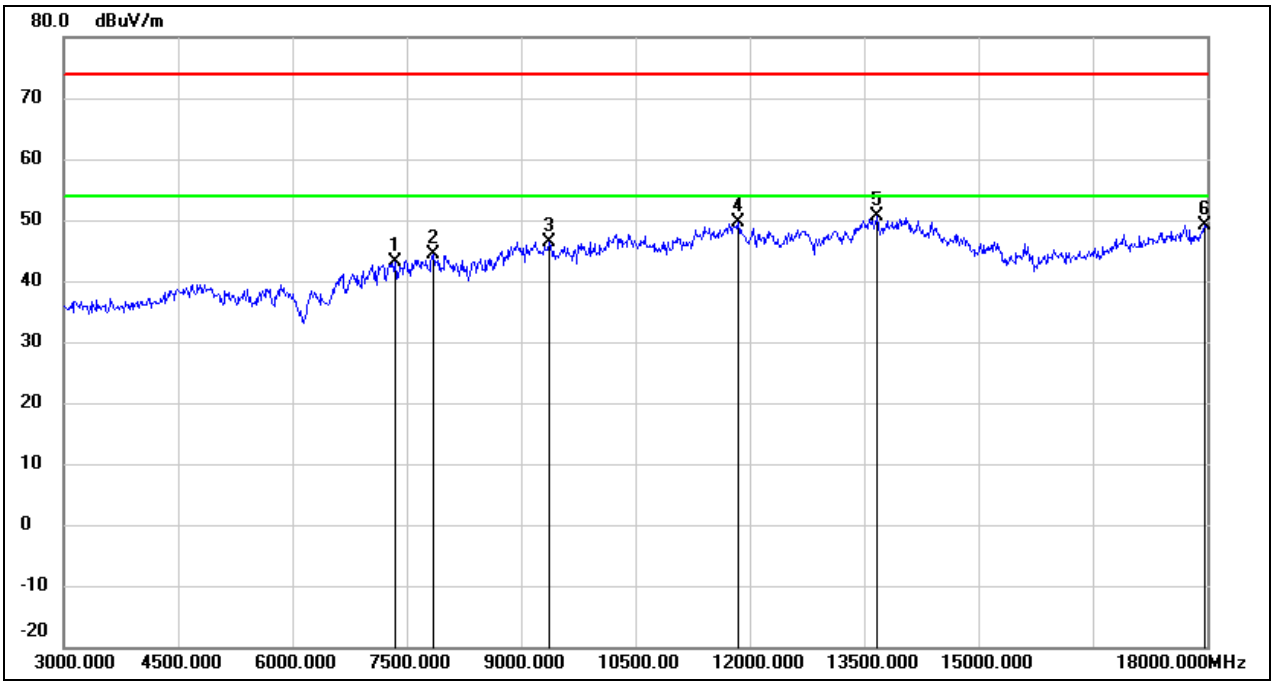
Test Mode:	M01	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7755.000	37.67	6.31	43.98	74.00	-30.02	peak
2	9150.000	35.81	10.54	46.35	74.00	-27.65	peak
3	9660.000	37.19	11.11	48.30	74.00	-25.70	peak
4	11655.000	31.86	17.01	48.87	74.00	-25.13	peak
5	14025.000	28.81	21.86	50.67	74.00	-23.33	peak
6	18000.000	23.80	25.69	49.49	74.00	-24.51	peak

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

Test Mode:	M01	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7350.000	36.75	6.44	43.19	74.00	-30.81	peak
2	7845.000	38.08	6.32	44.40	74.00	-29.60	peak
3	9360.000	35.74	10.64	46.38	74.00	-27.62	peak
4	11850.000	32.07	17.56	49.63	74.00	-24.37	peak
5	13665.000	29.29	21.25	50.54	74.00	-23.46	peak
6	17970.000	23.74	25.51	49.25	74.00	-24.75	peak

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

END OF REPORT