

Test Report

Report No.: MTi220218001-02E1

Date of issue: Mar. 01, 2022

Applicant: SHENZHEN DAWA INNOVATION CO.,
LTD.

Product: Wireless Charging Receiver/Adapter

Model(s): M1300, M2400, M1000, M2000, M5000

FCC ID: 2A4PH-M1300

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

Instructions

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2. The test results in this test report are only responsible for the samples submitted
3. This test report is invalid without the seal and signature of the laboratory.
4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.
5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

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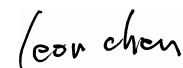
Test Result Certification	
Applicant:	SHENZHEN DAWE INNOVATION CO., LTD.
Address:	Room 519, Building B, Huafeng Creative Industry Park, Hangcheng Industry Zone, Xixiang Street, Baoan District, Shenzhen City, Guangdong Province
Manufacturer:	SHENZHEN DAWE INNOVATION CO., LTD.
Address:	Room 519, Building B, Huafeng Creative Industry Park, Hangcheng Industry Zone, Xixiang Street, Baoan District, Shenzhen City, Guangdong Province
Product description	
Product name:	Wireless Charging Receiver/Adapter
Trademark:	DAWE
Model name:	M1300
Serial Model:	M2400, M1000, M2000, M5000
Standards:	FCC 47 CFR Part 15 Subpart B
Test method:	ANSI C63.4-2014
Date of Test	
Date of test:	2022-02-23 ~ 2022-03-01
Test result:	Pass

Test Engineer :



(Danny Xu)

Reviewed By :



(Leon Chen)

Approved By :



(Tom Xue)

1 General Description

1.1 Description of the EUT

Product name:	Wireless Charging Receiver/Adapter
Model name:	M1300
Series Model:	M2400, M1000, M2000, M5000
Model difference:	All the models are the same circuit and RF module, except the model name.
Electrical rating:	Powered by adapter AC 120V/60Hz
Accessories:	N/A
Hardware version:	MT1300-V1.8
Software version:	M1300-S-21-V1.8

1.2 Description of test modes

All the test modes were carried out with the EUT in normal operation, the final test mode of the EUT was the worst test mode for emission test, which was shown in this report and defined as:

No.	Emission test modes
Mode 1	Wireless Charging(5W)
The worst test mode of conducted emissions: Mode 1	
The worst test mode of radiated emissions: Mode 1	

1.3 Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list			
Description	Model	Serial No.	Manufacturer
Mobile phone	P30 PRO	/	HUAWEI
Adapter	HW-090200CH0	/	Huizhou BYD Electronics Co., Ltd.
Support cable list			
Description	Length (m)	From	To
/	/	/	/

1.4 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C~35°C
Humidity:	20 % RH ~ 75 % RH
Atmospheric pressure:	98 kPa~101 kPa

1.5 Measurement uncertainty

Measurement	Uncertainty
Conducted emission (150 kHz~30 MHz)	± 2.5 dB
Radiated emission (30 MHz~1 GHz)	± 4.2 dB
Radiated emission (above 1 GHz)	± 4.3 dB
Temperature	±1 degree
Humidity	± 5 %

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

2 Summary of Test Result

No.	Description of Test	Result
1	AC power line conducted emissions	Pass
2	Radiated emissions	Pass

Note: N/A means not applicable.

3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao' an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Radiation emissions						
MTI-E043	EMI test receiver	R&S	ESCI7	101166	2021/06/02	2022/06/01
MTI-E044	Broadband antenna	Schwarzbeck	VULB9163	9163-1338	2021/05/30	2023/05/29
MTI-E045	Horn antenna	Schwarzbeck	BBHA9120D	9120D-2278	2021/05/30	2023/05/29
MTI-E047	Pre-amplifier	Hewlett-Packard	8447F	3113A06184	2021/06/02	2022/06/01
MTI-E048	Pre-amplifier	Agilent	8449B	3008A01120	2021/06/02	2022/06/01
MTi-E005	EMI test receiver	R&S	ESPI7	100314	2021/06/02	2022/06/01
MTi-E120	Broadband antenna	Schwarzbeck	VULB9163	9163-1419	2021/05/30	2023/05/29
MTi-E121	Pre-amplifier	Hewlett-Packard	8447D	2944A09365	2021/04/16	2022/04/15
MTi-E123	Pre-amplifier	Agilent	8449B	3008A04723	2021/05/06	2022/05/05
MTi-E122	MXA signal analyzer	Agilent	N9020A	MY5444085 9	2021/05/06	2022/05/05
MTI-E010S	EMI Measurement Software	Farad	EZ-EMC Ver. EMEC-3A1	/	/	/
Conduction emissions						
No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTi-E001	Artificial Mains Network	R&S	ESH2-Z5	100263	2021/06/02	2022/06/01
MTi-E002	EMI Test Receiver	R&S	ESCI3	101368	2021/06/02	2022/06/01
MTi-E023	Artificial power network	Schwarzbeck	NSLK8127	NSLK8127# 841	2021/06/02	2022/06/01
MTi-E025	Artificial power network	Schwarzbeck	NSLK8127	8127183	2021/06/02	2022/06/01
MTi-E026	8-wire Impedance Stabilization Network	Schwarzbeck	NTFM 8158	NTFM 8158 #199	2021/06/02	2022/06/01
MTi-E021	EMI Test Receiver	R&S	ESCS30	100210	2021/06/02	2022/06/01
MTi-E024	Artificial power network	Schwarzbeck	NSLK8127	01001	2021/06/02	2022/06/01
MTi-E011S	EMI Measurement Software	Farad	EZ-EMC Ver. EMEC-3A1	/	/	/

5 Test results

5.1 AC power line conducted emissions

5.1.1 Limits

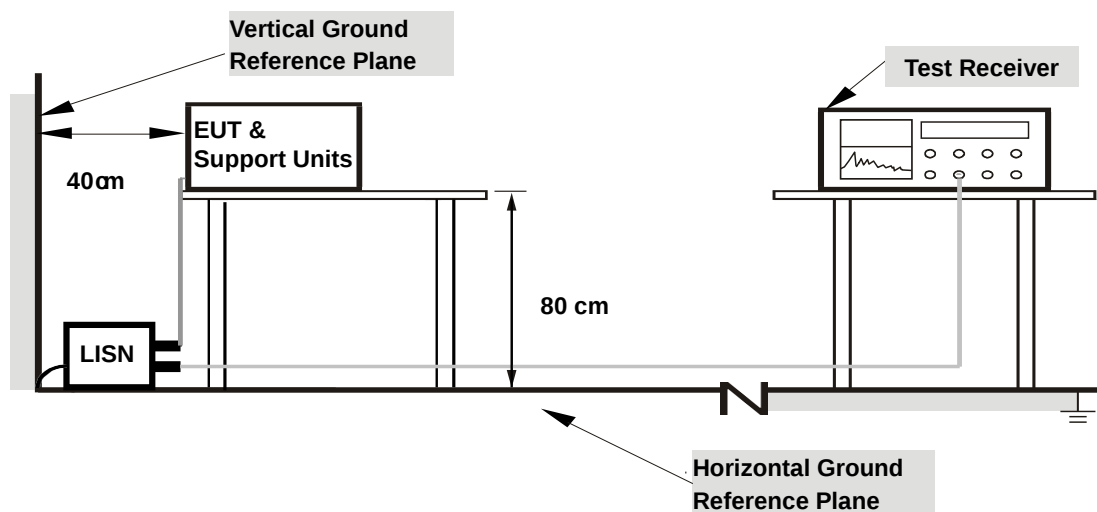
Frequency (MHz)	Detector type / Bandwidth	Class A limit dB μ V	Class B limit dB μ V
0.15 -0.5	Quasi Peak / 9 kHz	79	66 – 56*
0.5 -5		73	56
5 -30			60
0.15 -0.5	Average / 9 kHz	66	56 – 46*
0.5 -5		60	46
5 -30			50

*Decreases with the logarithm of the frequency.

5.1.2 Test Procedures

- The EUT and support equipment, if needed, was set up as per the test configuration to simulate typical usage per the user's manual. The test setup is refer to the standard ANSI C63.4-2014.
- The EUT is connected to the main power through a line impedance stabilization network (LISN). All support equipment is powered from additional LISN(s).
- Emissions were measured on each current carrying line of the EUT using an EMI test receiver connected to the LISN powering the EUT.
- The test receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes described in Item 1.2.
- The test data of the worst-case condition(s) was recorded.

5.1.3 Test setup



For the actual test configuration, please refer to the related item – Photographs of the test setup.

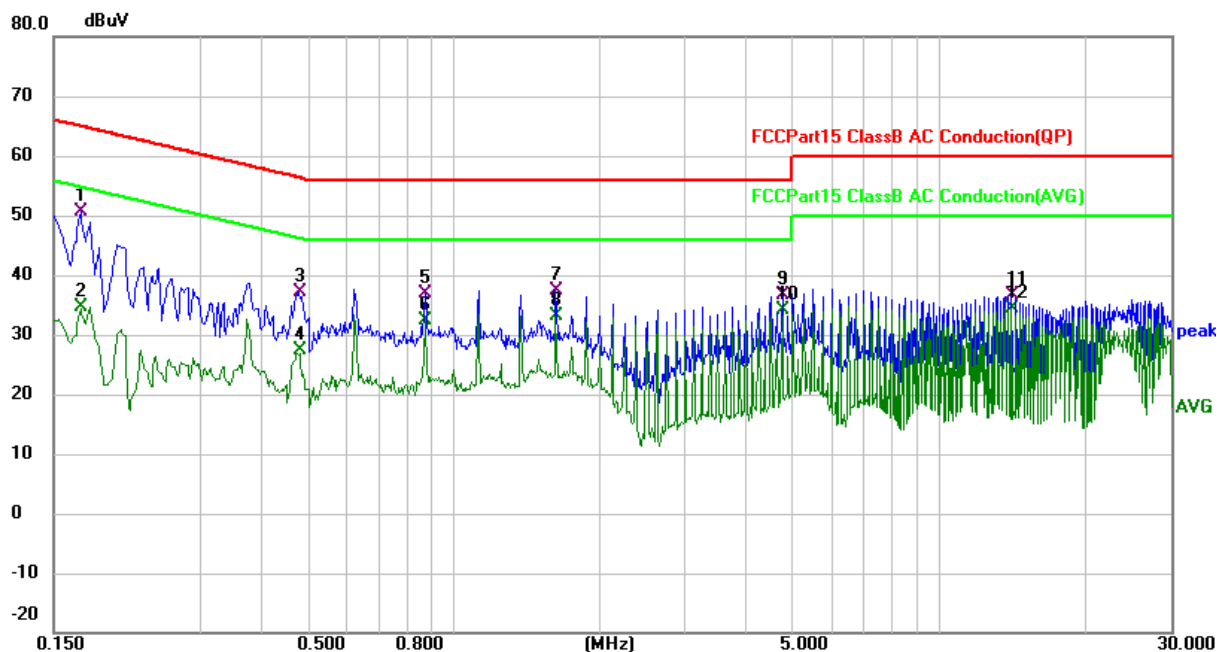
5.1.4 Test Result

Calculation formula:

Measurement (dB μ V) = Reading Level (dB μ V) + Correct Factor (dB)

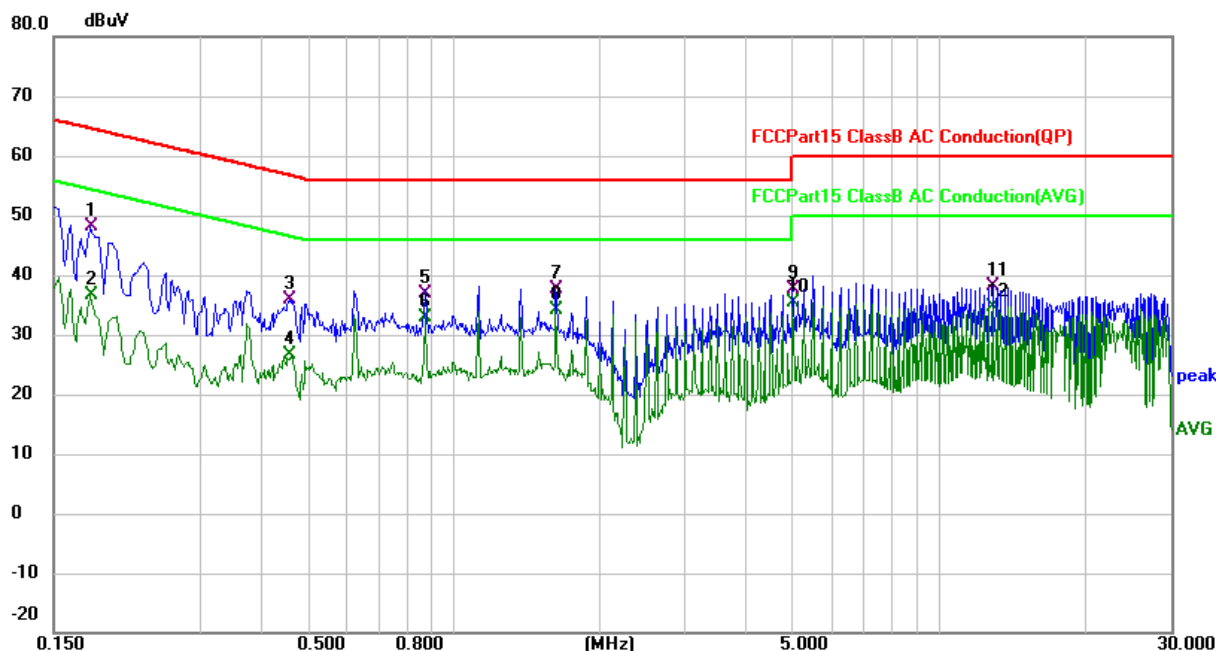
Over (dB) = Measurement (dB μ V) – Limit (dB μ V)

Test mode:	Mode 1	Phase:	L
Power supply:	Power by AC/DC adapter (AC 120V/60Hz)	Test site:	CE chamber 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1700	39.71	10.98	50.69	64.96	-14.27	QP
2		0.1700	23.61	10.98	34.59	54.96	-20.37	AVG
3		0.4780	26.09	11.04	37.13	56.37	-19.24	QP
4		0.4780	16.23	11.04	27.27	46.37	-19.10	AVG
5		0.8780	23.91	12.96	36.87	56.00	-19.13	QP
6		0.8780	19.52	12.96	32.48	46.00	-13.52	AVG
7		1.6260	22.67	14.62	37.29	56.00	-18.71	QP
8		1.6260	18.63	14.62	33.25	46.00	-12.75	AVG
9		4.7500	25.05	11.47	36.52	56.00	-19.48	QP
10	*	4.7500	22.67	11.47	34.14	46.00	-11.86	AVG
11		14.1260	24.84	11.69	36.53	60.00	-23.47	QP
12		14.1260	22.66	11.69	34.35	50.00	-15.65	AVG

Test mode:	Mode 1	Phase:	N
Power supply:	Power by AC/DC adapter (AC 120V/60Hz)	Test site:	CE chamber 1



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			Detector
			dBuV	dB	dBuV	dBuV	dB	
1		0.1780	37.28	10.94	48.22	64.58	-16.36	QP
2		0.1780	25.71	10.94	36.65	54.58	-17.93	AVG
3		0.4580	24.88	10.90	35.78	56.73	-20.95	QP
4		0.4580	15.61	10.90	26.51	46.73	-20.22	AVG
5		0.8780	23.84	12.92	36.76	56.00	-19.24	QP
6		0.8780	19.91	12.92	32.83	46.00	-13.17	AVG
7		1.6260	23.14	14.58	37.72	56.00	-18.28	QP
8	*	1.6260	19.43	14.58	34.01	46.00	-11.99	AVG
9		5.0020	26.24	11.39	37.63	60.00	-22.37	QP
10		5.0020	24.05	11.39	35.44	50.00	-14.56	AVG
11		12.8820	26.37	11.64	38.01	60.00	-21.99	QP
12		12.8820	22.91	11.64	34.55	50.00	-15.45	AVG

5.2 Radiated emissions

5.2.1 Limits

Frequency (MHz)	Detector type / bandwidth	Class A limit (3m) (dB μ V/m)	Class B limit (3m) (dB μ V/m)
30-88	Quasi Peak / 120 kHz	49	40
88-216		53.5	43.5
216-960		56.4	46
960-1000		59.5	54
Above 1000	Average / 1 MHz	59.9	54
	Peak / 1 MHz	79.9	74

5.2.2 Test setup

Frequency range of measurements for unlicensed wireless device

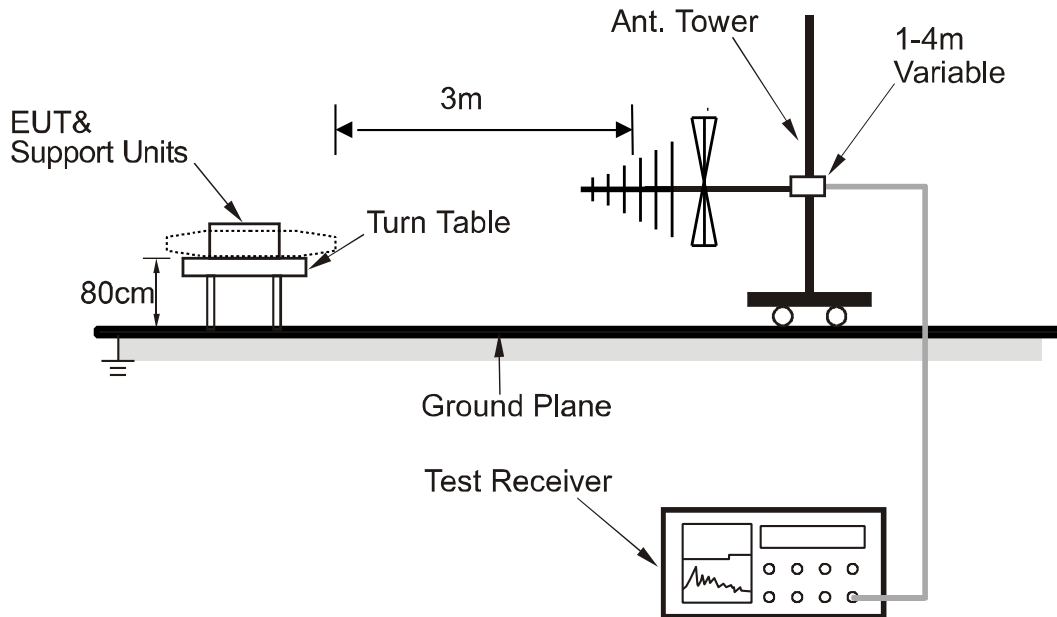
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz,

5.2.3 Test Procedures

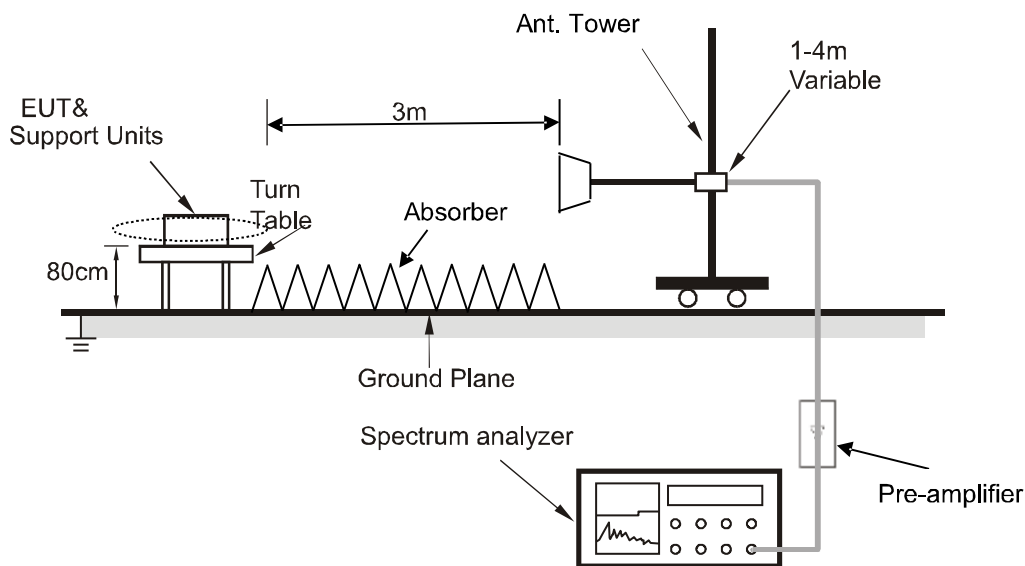
- The EUT and support equipment, if needed, was set up as per the test configuration to simulate typical usage per the user's manual. The test setup is refer to the standard ANSI C63.4-2014.
- The antenna was placed at 3 away from the EUT. The antenna connected to the EMI test receiver or spectrum analyzer via a cable and at times a pre-amplifier would be used.
- Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- The test mode(s) described in Item 1.2 were scanned and measured.
- The test data of the worst-case condition(s) was recorded.

5.2.4 Test Setup

Below 1GHz:



Above 1GHz:



For the actual test configuration, please refer to the related item – Photographs of the test setup.

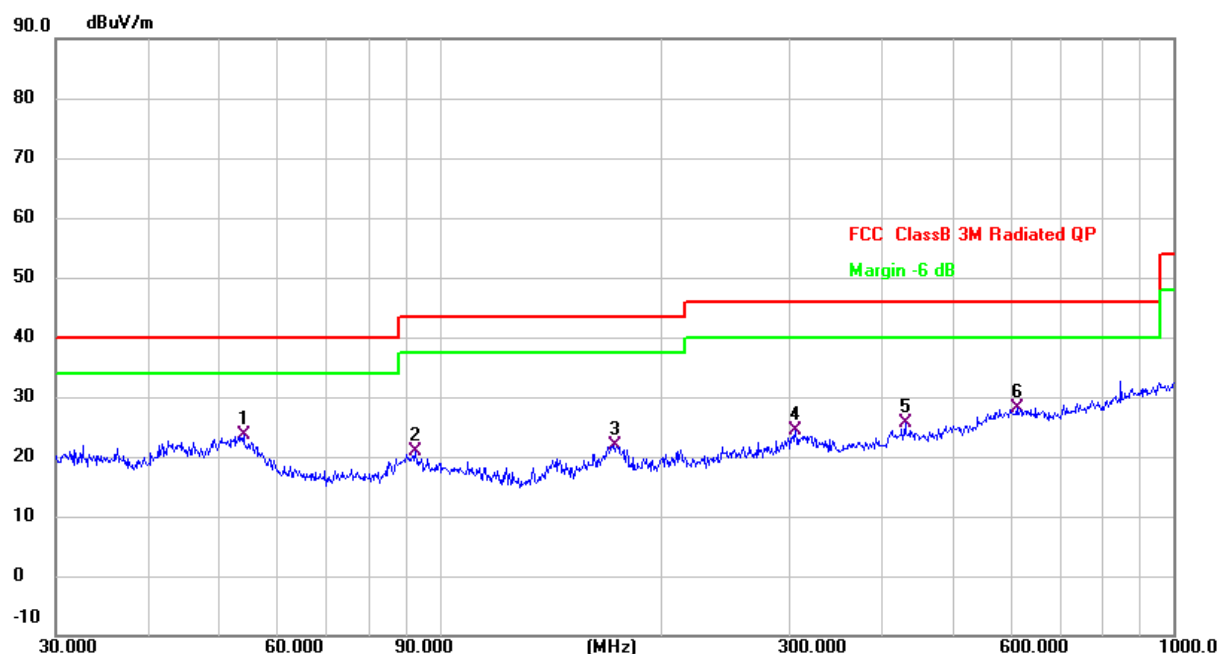
5.2.5 Test result

Calculation formula:

Measurement (dB μ V/m) = Reading Level (dB μ V) + Correct Factor (dB/m)
Over (dB) = Measurement (dB μ V/m) – Limit (dB μ V/m)

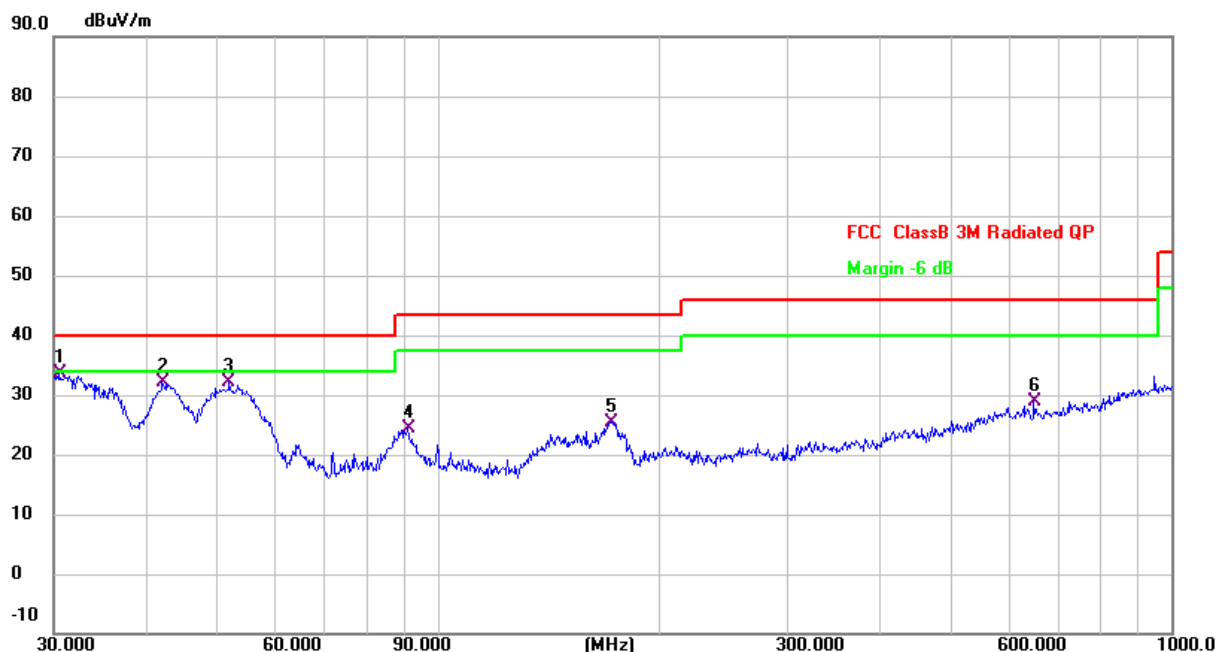
Note: The highest internal frequency of the EUT is less than 108MHz, the measurement shall only be made up to 1 GHz.

Test mode:	Mode 1	Polarization:	Horizontal
Power supply:	Power by AC/DC adapter (AC 120V/60Hz)	Test site:	RE chamber 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	54.0711	32.10	-8.40	23.70	40.00	-16.30	QP
2		92.7871	29.60	-8.79	20.81	43.50	-22.69	QP
3		172.5988	31.34	-9.42	21.92	43.50	-21.58	QP
4		305.6800	30.05	-5.56	24.49	46.00	-21.51	QP
5		431.0316	28.78	-3.26	25.52	46.00	-20.48	QP
6		612.0642	28.12	0.03	28.15	46.00	-17.85	QP

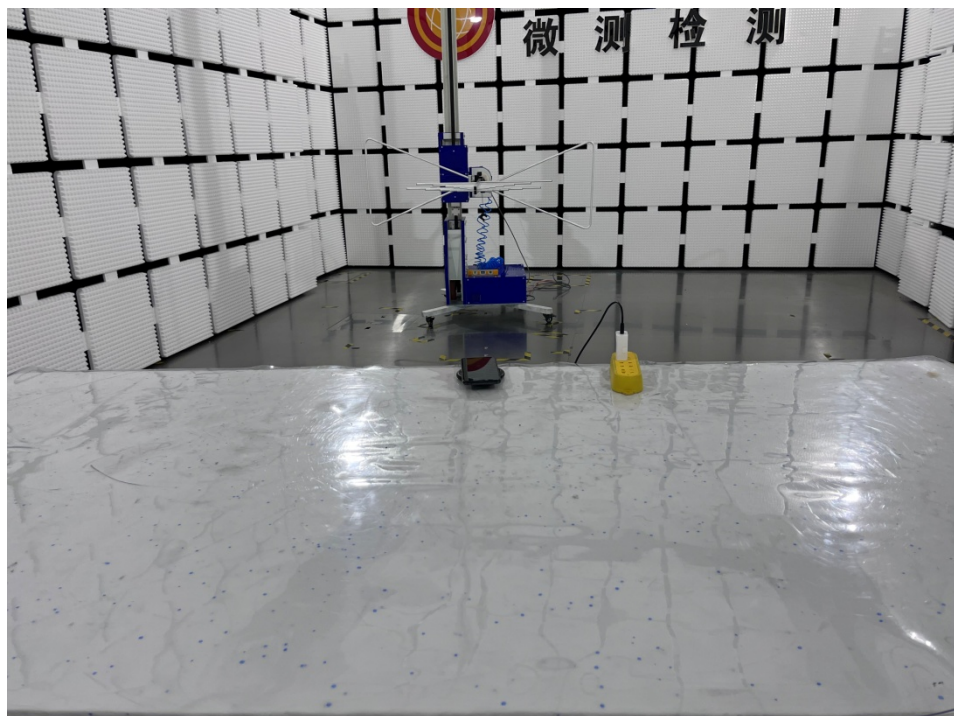
Test mode:	Mode 1	Polarization:	Vertical
Power supply:	Power by AC/DC adapter (AC 120V/60Hz)	Test site:	RE chamber 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	30.5306	42.40	-8.83	33.57	40.00	-6.43	QP
2		42.1541	39.97	-7.83	32.14	40.00	-7.86	QP
3		52.0251	40.25	-8.02	32.23	40.00	-7.77	QP
4		91.1745	33.12	-8.86	24.26	43.50	-19.24	QP
5		172.5987	34.92	-9.42	25.50	43.50	-18.00	QP
6		649.6596	29.17	-0.30	28.87	46.00	-17.13	QP

Photographs of the test setup

Radiated emissions below 1GHz



Conducted emissions



Photographs of the EUT

See the APPENDIX 1 - EUT PHOTO.

----End of Report----