



FCC TEST REPORT

FCC ID:2BC2G-MM2

Report Number..... : **ZKT-2309267496E**

Date of Test..... : Sept. 26, 2023, 2023 to Oct. 08, 2023

Date of issue..... : Oct. 08, 2023

Total number of pages..... : 17

Test Result : PASS

Testing Laboratory..... : **Shenzhen ZKT Technology Co., Ltd.**

Address : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name : **Shenzhen BeKonkin Technology Co., Ltd**

Address : 207, No. 5 Jinye Industrial Park, Guanlan Street, Longhua District, Shenzhen City

Manufacturer's name : **Shenzhen BeKonkin Technology Co., Ltd**

Address : 207, No. 5 Jinye Industrial Park, Guanlan Street, Longhua District, Shenzhen City

Test specification:

Standard..... : FCC Part 15 B, ANSI C63.4:2014

Test procedure..... : /

Non-standard test method : N/A

Test Report Form No..... : TRF-EL-117_V0

Test Report Form No..... : ZKT Testing

Master TRF : Dated: 2020-01-06

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Product name..... : **Magic Mouse 2 Charging Base**

Trademark : N/A

Model/Type reference..... : MM2

Ratings..... : Output: DC 5V1A



Testing procedure and testing location:

Testing Laboratory.....: **Shenzhen ZKT Technology Co., Ltd.**

Address.....: 1/F, No. 101, Building B, No. 6, Tangwei Community
Industrial Avenue, Fuhai Street, Bao'an District,
Shenzhen, China

Tested by (name + signature).....: Jim Liu

Reviewer (name + signature).....: Alan Zheng

Approved (name + signature).....: Lake Xie





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1. VERSION

Report No.	Version	Description	Approved
ZKT-2309267496E	Rev.01	Initial issue of report	Oct. 08, 2023



2. GENERAL INFORMATION

2.1 Description of Device (EUT)

Product Name:	Magic Mouse 2 Charging Base
Model No.:	MM2
Model Difference:	N/A
Serial No.:	N/A
Hardware version:	H1.0
Software version:	S1.0
RX Operation Frequency:	115KHz
Modulation type:	ASK
Antenna Type:	Inductive loop coil Antenna
Antenna gain:	0dBi
Power supply:	Output: DC 5V1A

2.2 Test Facility

Shenzhen ZKT Technology Co., Ltd.
Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street,
Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 692225
Designation Number: CN1299
IC Registered No.: 27033

2.3 MEASUREMENT UNCERTAINTY

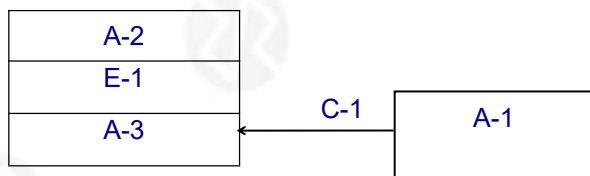
Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Value (dB)
Conducted Emission (150K-30MHZ)	3.20
Radiated disturbance(30MHz-1000MHz)	4.80
Radiated disturbance(9kHz-30MHz)	4.50

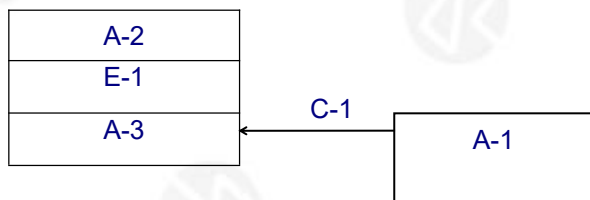


2.4 Block Diagram of EUT Configuration

Conducted Emission



Radiated Emission



2.5 Description Of Support Units (Conducted Mode)

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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Clock Radio with Wireless Charging	Pointuch	MM2	N/A	EUT
A-1	Adapter	HUAWEI	HW-050100B3W	N/A	Auxiliary
A-2	Touch Mouse	N/A	M511	N/A	Auxiliary
A-3	Wireless Charging	N/A	SYB-03854	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	1.0M	DC cable unshielded

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.



2.6 Test Instrument Used

Conducted emissions & Magnetic Emission & Disturbance power Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Oct. 21, 2022	Oct. 20, 2023
2	LISN	CYBERTEK	EM5040A	E1850400149	N/A	Oct. 21, 2022	Oct. 20, 2023
3	Test Cable	N/A	C-01	N/A	N/A	Oct. 21, 2022	Oct. 20, 2023
4	Test Cable	N/A	C-02	N/A	N/A	Oct. 21, 2022	Oct. 20, 2023
5	Test Cable	N/A	C-03	N/A	N/A	Oct. 21, 2022	Oct. 20, 2023
6	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Oct. 28, 2022	Oct. 27, 2023
7	Triple-Loop Antenna	N/A	RF300	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
8	Absorbing Clamp	DZ	ZN23201	15034	N/A	Oct. 31, 2022	Oct. 30, 2023
9	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	\	\

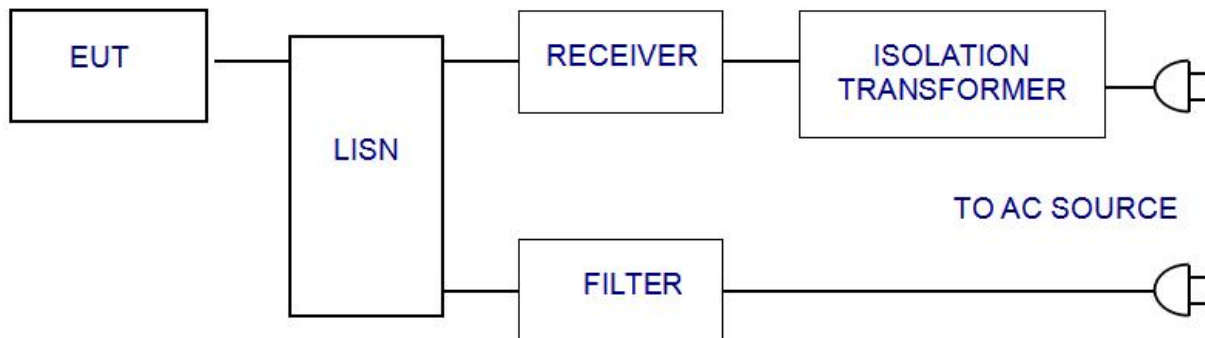
Radiated emissions Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	9020A	MY55370835	A.17.05	Oct. 28, 2022	Oct. 27, 2023
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Oct. 28, 2022	Oct. 27, 2023
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	101169	4.32	Oct. 28, 2022	Oct. 27, 2023
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	N/A	N/A	Nov. 02, 2022	Nov. 01, 2023
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Nov. 01, 2022	Oct. 31, 2023
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Oct. 28, 2022	Oct. 27, 2023
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Nov. 01, 2022	Oct. 31, 2023
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	060747	N/A	Nov. 15, 2022	Nov. 14, 2023
9	Amplifier (1GHz-26.5GHz)	Agilent	8449B	3008A00315	N/A	Oct. 28, 2022	Oct. 27, 2023
10	Amplifier (500MHz-40GHz)	quanjuda	DLE-161	097	N/A	Oct. 28, 2022	Oct. 27, 2023
11	Test Cable	N/A	R-01	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
12	Test Cable	N/A	R-02	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
13	Test Cable	N/A	R-03	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
14	Magnetic Field Probe Tester	Narda	ELT-400	0-0344	N/A	Nov. 15, 2022	Nov. 14, 2023
15	D.C. Power Supply	LongWei	TPR-6405D	N/A	N/A	\	\
16	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	\	\
17	Turntable	MF	MF-7802BS	N/A	N/A	\	\
18	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\



3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1 Block Diagram Of Test Setup



3.2 Test Standard

FCC PART 15 B

3.3 Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.4 EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5 Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.

3.5.2 Turn on the power of all equipments.

3.5.3 Let the EUT work in test modes and test it.

3.6 Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 15 B** regulations during conducted emission test.

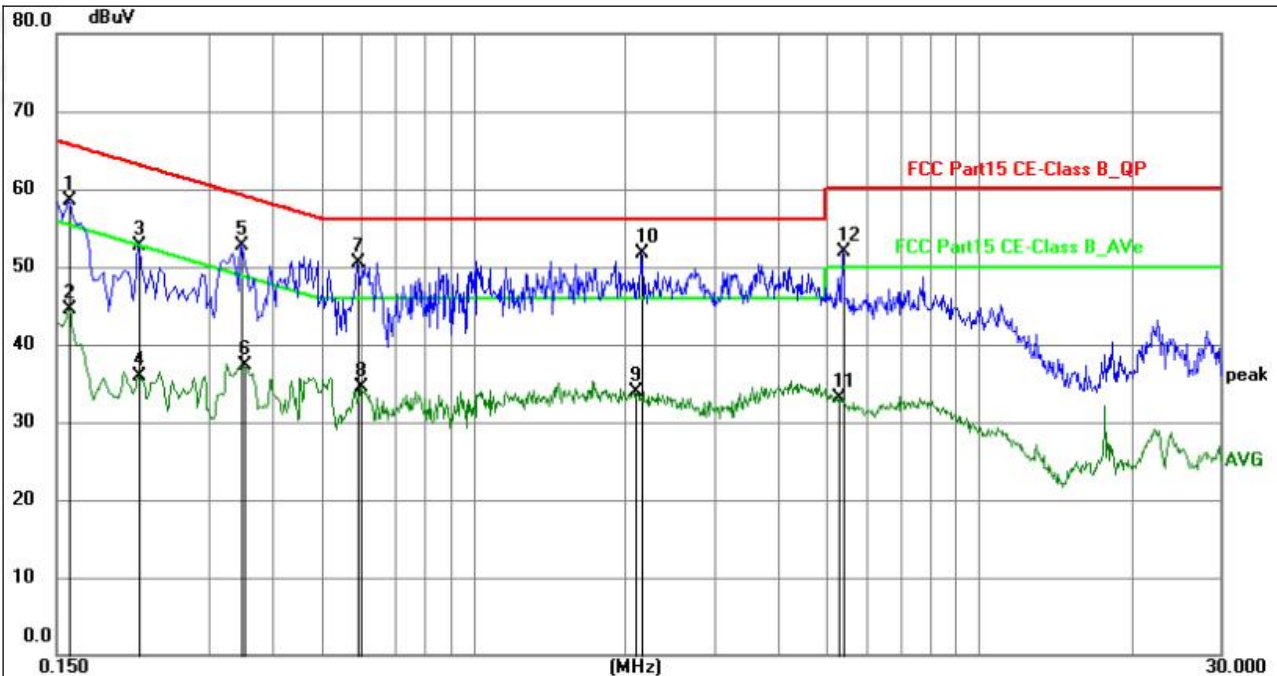
The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

The frequency range from 150 KHz to 30 MHz is investigated.



3.7 Test Result

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	L
Test Voltage :	AC 120V/60Hz		



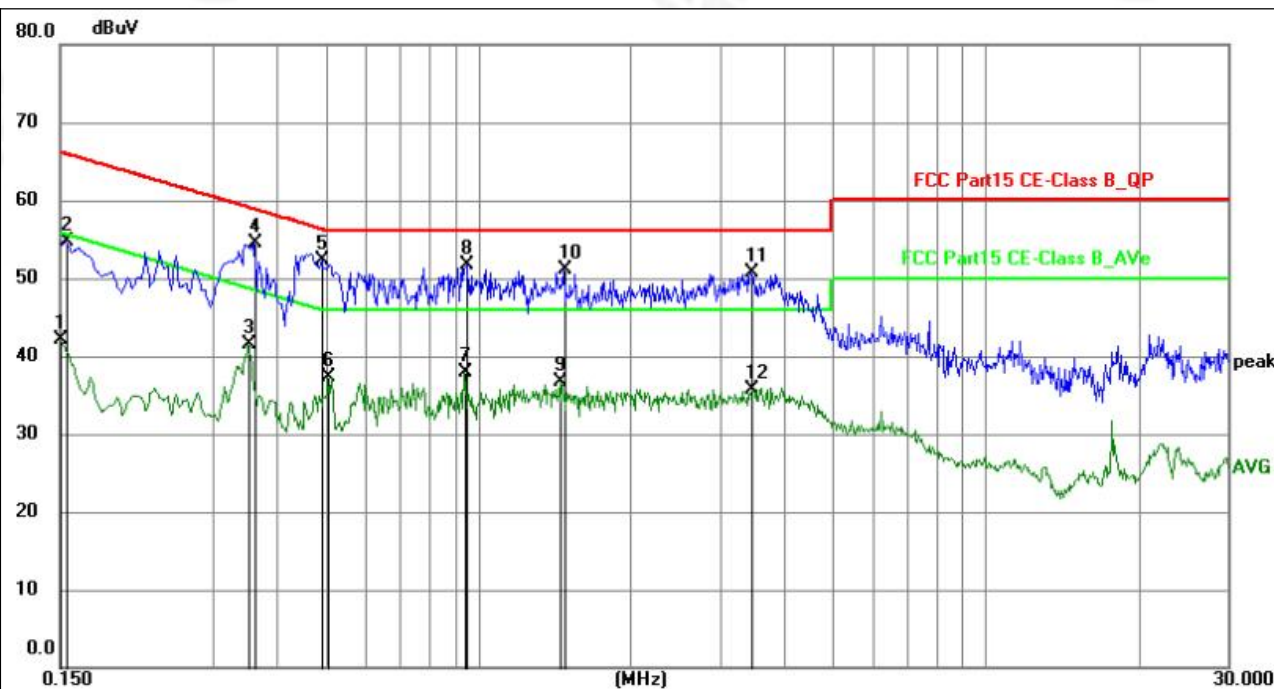
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1590	37.98	20.52	58.50	65.52	-7.02	QP	P
2	0.1590	23.97	20.52	44.49	55.52	-11.03	AVG	P
3	0.2175	32.04	20.68	52.72	62.91	-10.19	QP	P
4	0.2175	15.23	20.68	35.91	52.91	-17.00	AVG	P
5	0.3480	32.18	20.62	52.80	59.01	-6.21	QP	P
6	0.3525	16.63	20.61	37.24	48.90	-11.66	AVG	P
7	0.5909	30.01	20.58	50.59	56.00	-5.41	QP	P
8	0.6000	13.85	20.59	34.44	46.00	-11.56	AVG	P
9	2.0984	13.04	20.87	33.91	46.00	-12.09	AVG	P
10	2.1479	30.91	20.86	51.77	56.00	-4.23	QP	P
11	5.2800	12.13	20.98	33.11	50.00	-16.89	AVG	P
12	5.3654	30.82	20.99	51.81	60.00	-8.19	QP	P

Notes:

- 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3.Measurement Level = Reading level + Correct Factor



Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1500	21.50	20.58	42.08	56.00	-13.92	AVG	P
2	0.1544	34.16	20.60	54.76	65.76	-11.00	QP	P
3	0.3525	20.82	20.74	41.56	48.90	-7.34	AVG	P
4	0.3615	33.71	20.74	54.45	58.69	-4.24	QP	P
5	0.4920	31.63	20.69	52.32	56.13	-3.81	QP	P
6	0.5055	16.63	20.69	37.32	46.00	-8.68	AVG	P
7	0.9419	17.01	20.80	37.81	46.00	-8.19	AVG	P
8	0.9509	30.83	20.80	51.63	56.00	-4.37	QP	P
9	1.4504	15.95	20.82	36.77	46.00	-9.23	AVG	P
10	1.4729	30.35	20.82	51.17	56.00	-4.83	QP	P
11	3.4530	29.71	20.93	50.64	56.00	-5.36	QP	P
12	3.4665	14.84	20.93	35.77	46.00	-10.23	AVG	P

Notes:

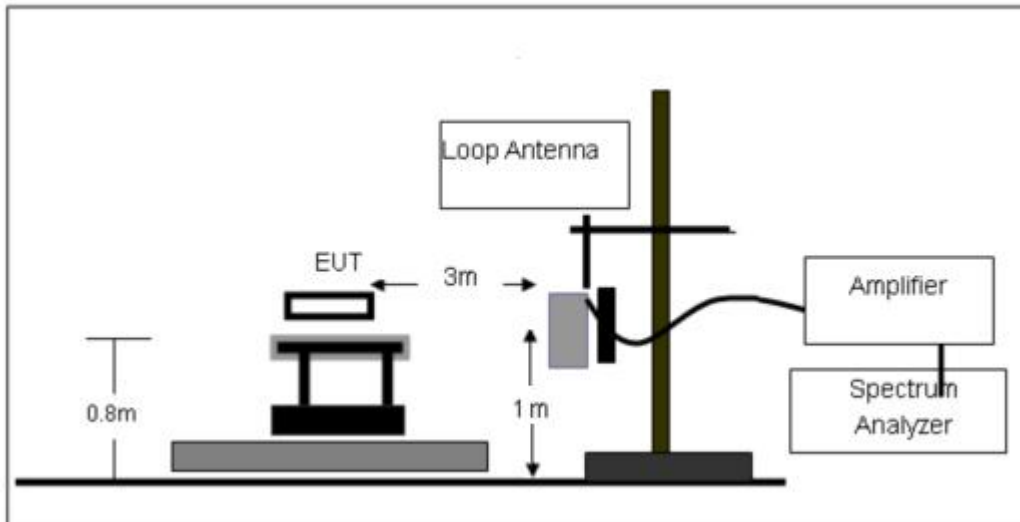
- 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3.Measurement Level = Reading level + Correct Factor



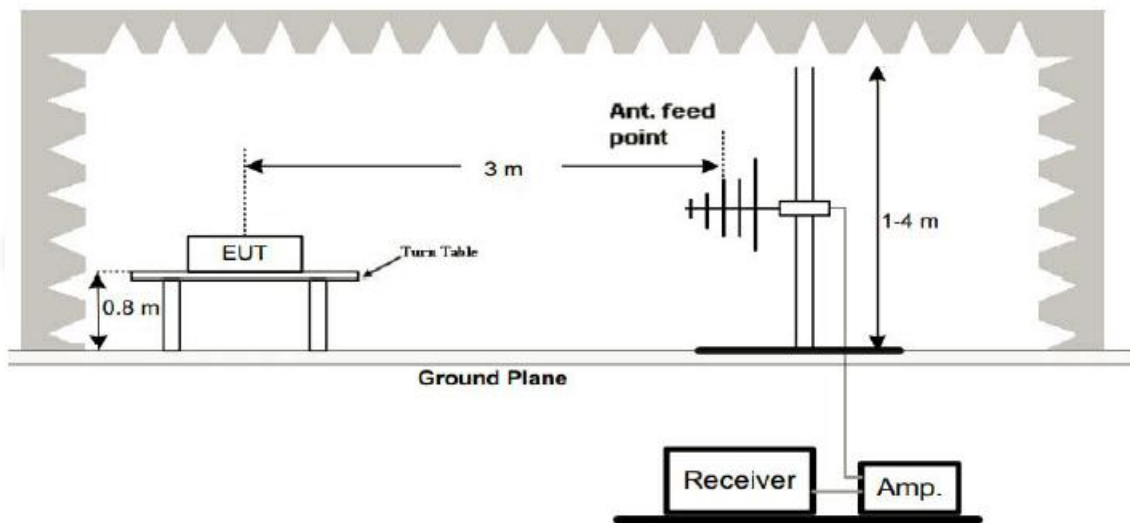
4. RADIATION EMISSION TEST

4.1 Block Diagram of Test Setup

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.205 limits.

4.2 Test Standard

FCC PART 15 B



4.3 Radiation Limit

Limits for frequency below 30MHz

Frequency	Limit (uV/m)	Measurement Distance(m)	Remark
0.009-0.490	2400/F(kHz)	300	Quasi-peak Value
0.490-1.705	24000/F(kHz)	30	Quasi-peak Value
1.705-30	30	30	Quasi-peak Value

Limits for frequency Above 30MHz

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
	74.00	Peak Value

4.4 EUT Configuration on Test

The FCC PART 15 B regulations test method must be used to find the maximum emission during radiated emission test. The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6 Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 B on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz. The frequency range from 30MHz to 1000MHz is checked. The highest frequency of the internal sources of the EUT was below 108MHz, so the measurement was only made up to 1GHz.



4.7 Test Result

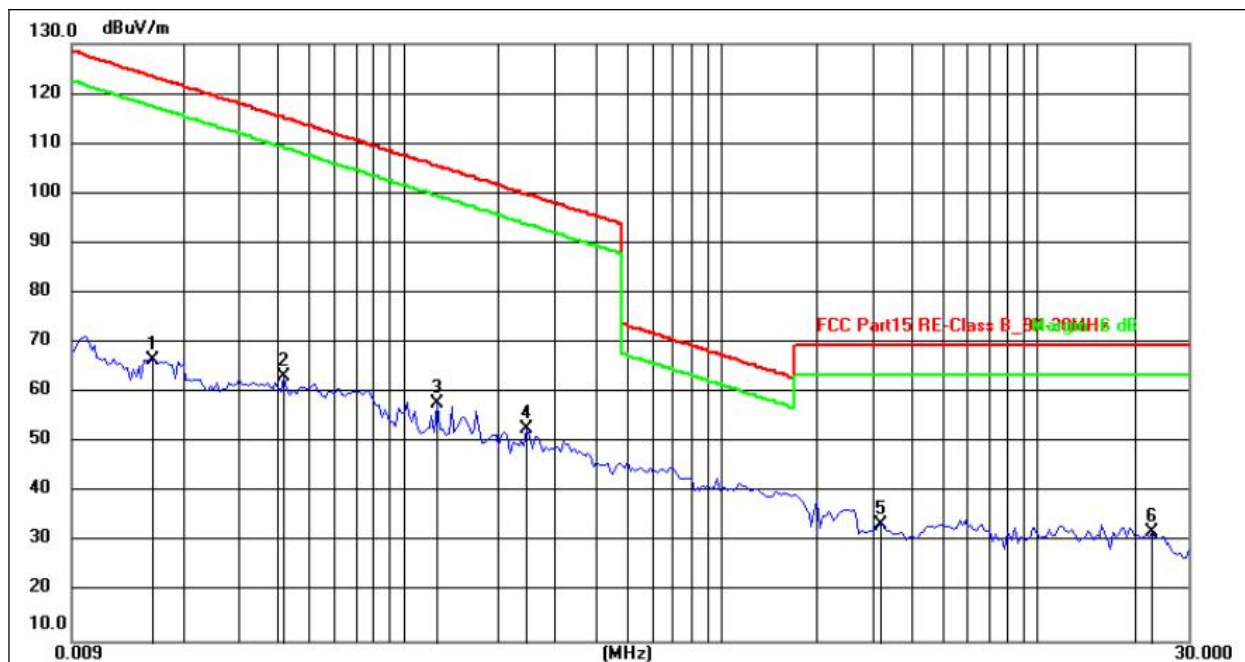
Measurement data:

Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80

Limit dBuV/m @3m = Limit dBuV/m @30m + 40

9 kHz~30 MHz

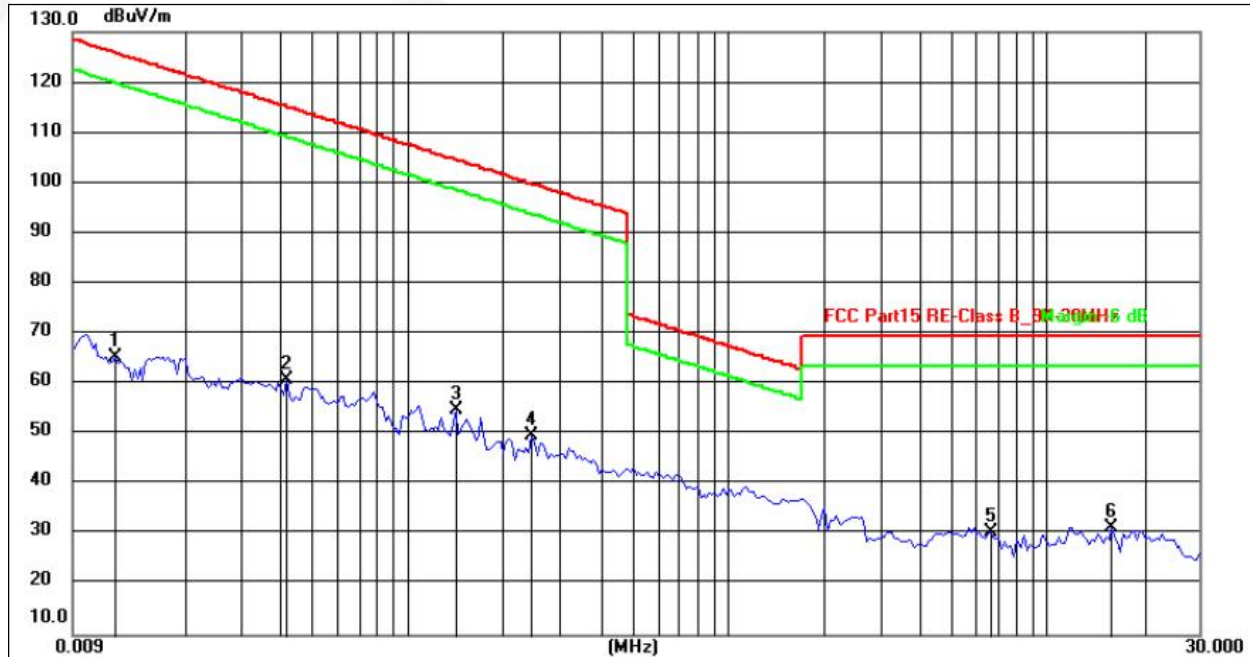
Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Concentric
Test Voltage:	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0160	46.07	20.49	66.56	123.52	-56.96	peak
2	0.0420	43.33	19.94	63.27	115.14	-51.87	peak
3	0.1282	38.01	19.93	57.94	105.45	-47.51	peak
4	0.2452	32.70	20.10	52.80	99.81	-47.01	peak
5	3.2235	13.84	19.63	33.47	69.54	-36.07	peak
6	23.0472	13.70	18.40	32.10	69.54	-37.44	peak



Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Coplanarity
Test Voltage:	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0120	44.77	20.53	65.30	126.02	-60.72	peak
2	0.0420	40.83	19.94	60.77	115.14	-54.37	peak
3	0.1418	34.74	20.01	54.75	104.57	-49.82	peak
4	0.2452	29.70	20.10	49.80	99.81	-50.01	peak
5	6.6894	11.24	19.31	30.55	69.54	-38.99	peak
6	15.9991	12.70	18.82	31.52	69.54	-38.02	peak

Note:

Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

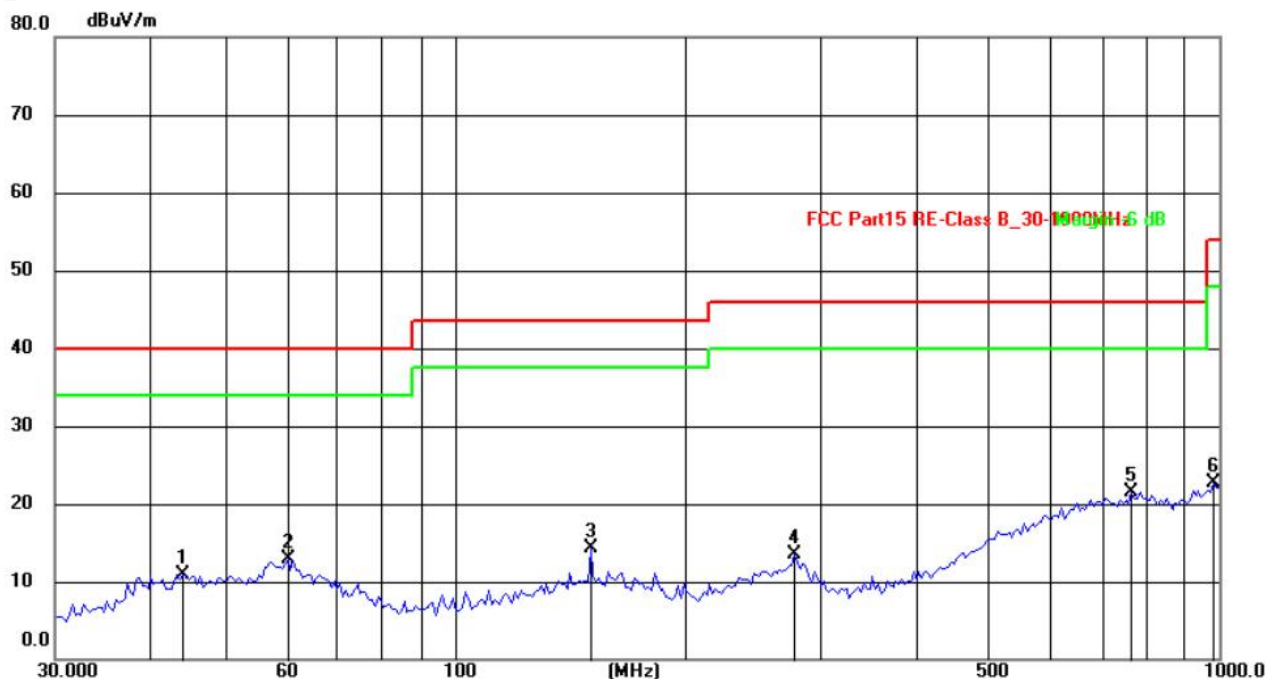
Margin = Emission Level- Limit.



30MHz-1GHz

Radiation Emission Test Data

Temperature:	26°C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	DC 5V	Test Mode:	Working



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	44.1202	25.08	-14.10	10.98	40.00	-29.02	QP
2	60.4918	27.18	-14.36	12.82	40.00	-27.18	QP
3	150.5377	30.81	-16.54	14.27	43.50	-29.23	QP
4	278.0668	27.93	-14.46	13.47	46.00	-32.53	QP
5	768.7481	28.33	-6.88	21.45	46.00	-24.55	QP
6	982.6200	27.96	-5.24	22.72	54.00	-31.28	QP

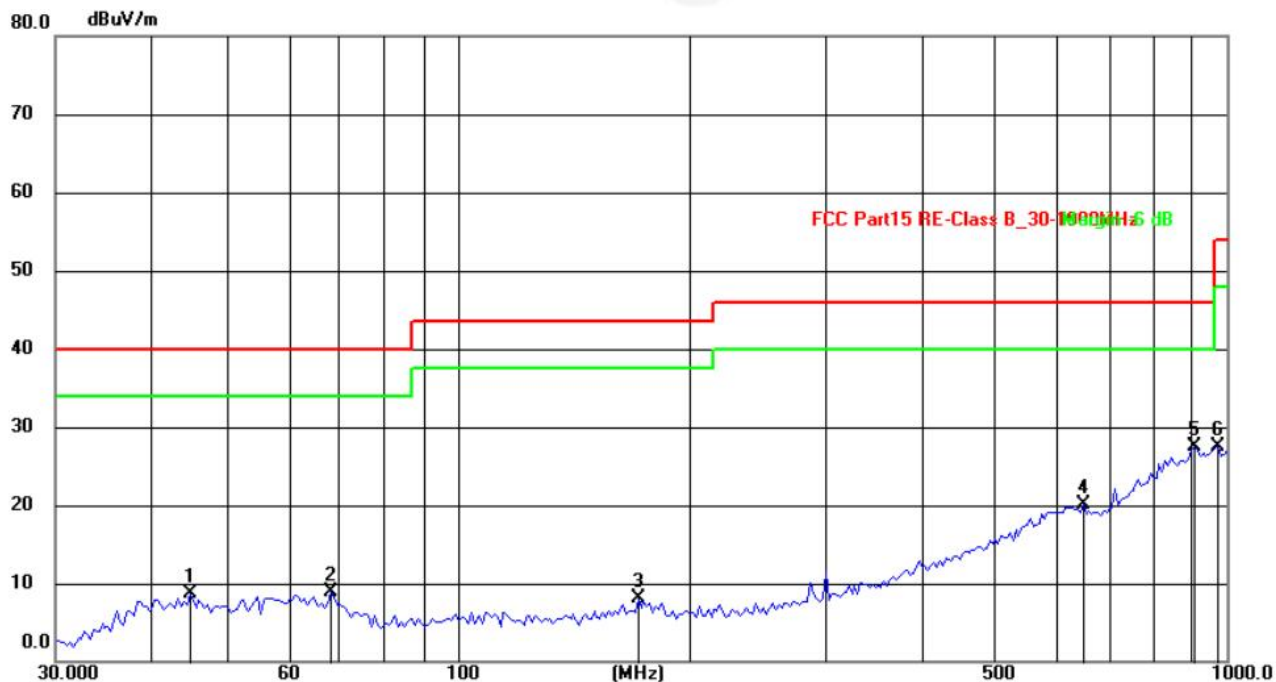
Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.



Radiation Emission Test Data

Temperature:	26℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	DC 5V	Test Mode:	Working



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	44.9006	25.69	-17.08	8.61	40.00	-31.39	QP
2	68.3908	28.15	-19.17	8.98	40.00	-31.02	QP
3	171.6933	28.07	-19.98	8.09	43.50	-35.41	QP
4	650.7997	27.81	-7.71	20.10	46.00	-25.90	QP
5	908.0731	28.21	-0.70	27.51	46.00	-18.49	QP
6	974.0436	27.77	-0.35	27.42	54.00	-26.58	QP



5. EUT PHOTOGRAPHS

Reference to the appendix II for details.

6. EUT TEST PHOTOGRAPHS

Reference to the appendix I for details.

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