



EMC TEST REPORT

Test item description: Code table bicycle light

FCC ID: 2BVX3-BK-5201

Trademark(s): N/A

Model/Type reference: BK-5201

S/N: /

Report No.: CTB26041000701RE02

Applicant's name: Shenzhen Qianhai Zhilin E-Commerce Co., Ltd.

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Prepared by: Shenzhen CTB Testing Technology Co., Ltd.

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Date of Receipt: Apr. 10, 2026

Date of Test(s): Apr. 10, 2026 ~ Apr. 21, 2026

Date of Issue: Apr. 21, 2026

Test Standard(s): CFR47, FCC Part 15 Subpart B, ANSI C63.4: 2014

Test Result: Pass

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

Compiled by:

Black cai

Black cai

Reviewed by:

Bin Mei

Bin Mei

Approved by:



Rita Xiao

Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. The tested sample(s) and the sample information are provided by the applicant. The authenticity, accuracy, and completeness of the provided information are the sole responsibility of the applicant. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The result decision rules of our laboratory are based solely on the direct comparison between the actual measured values of test results and the standard limits, without considering the measurement uncertainty. "★" indicates the testing items were fulfilled by subcontracted lab. "✖" indicates the items are not in CNAS accreditation scope.

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1. Description of version

Report No.	Issue Date	Description	Approved
CTB26041000701RE02	Apr. 21, 2026	Original	Valid

2. Test summary

Test procedures according to the technical standards:

Standard	Test Item	Test Result
§15.107	Conducted Emission	PASS
§15.109	Radiated Emission	PASS

Remark:

Test according to ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024.

3. Measurement uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %

Test Item	Frequency	Expanded Uncertainty (U_{Lab})
Conducted Emission	150 kHz to 30 MHz	± 3.1 dB
Radiated Emission	30 MHz to 1000 MHz	± 4.1 dB
Radiated Emission	1000 MHz to 6000 MHz	± 4.8 dB

4. General information

4.1. Description of EUT

Test item description:	Code table bicycle light
Trademark(s):	N/A
Model/Type reference:	BK-5201
Serial Model No.	N/A
Model Difference	N/A
Ratings:	DC 3.7V by battery
Configuration	☒ Table-top ☐ Floor-standing
The highest frequency of the internal sources of the EUT	☐ below 1.705 MHz, the measurement shall only be made up to 30 MHz. ☐ between 1.705 MHz and 108 MHz, the measurement shall only be made up to 1 GHz. ☐ between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. ☒ between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz. ☐ above 1 GHz, the measurement shall be made up to 5th harmonic of the highest frequency or 40 GHz, whichever is lower.

Note: The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

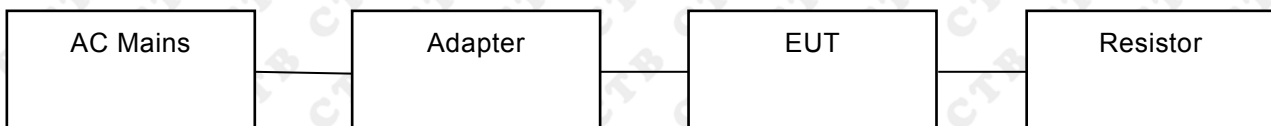
4.2. Description of accessory device

No.	Device Type	Brand	Model	Specification	Note

4.3. Test conditions

Temperature: 15-25°C
 Relative Humidity: 30-60 %
 Atmospheric pressure: 800hPa-1060hPa

4.4. Block diagram of EUT configuration



4.5. Operating condition of EUT

Operating condition	Mode 1	Working	Test Voltage	/
Note: This test covers all possible operating modes of the device, only the worst data are list in report. The worst data are shows (*) is the nearest standard limit which were recorded in this report.				

5. List of Test and Measurement Instruments

Continuous disturbance							
No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware version	Calibrated Date	Calibrated until
1	843 Shield Room	C/ R/ T	843	/	/	2024/6/22	2027/6/21
2	LISN	ROHDE&SCHWARZ	ESH3-Z5	831551852	/	2025/5/22	2026/5/21
3	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100428	V4.42.SP3	2025/5/22	2026/5/21
4	Coaxial cable	ZDECL	Z302S	18091904	/	2025/5/22	2026/5/21
5	ISN	Schwarzbeck	NTFM8158	183	/	2025/6/18	2026/6/17
6	Voltage sensor	Schwarzbeck	TK 9420	01189	/	2025/9/19	2026/9/18
7	EZ-EMC	Frad	EMC-con3A1.1	/	/	/	/
8	Current Probe	FCC	F-52B	199453	/	2025/5/24	2026/5/23
9	Communication test set	R&S	CMW500	108058	B.19.07 (E1962B)	2025/5/23	2026/5/22
10	Communication test set	Agilent	E5515C	MY50102567	V3.5.80	2025/5/23	2026/5/22

Radiated emission(No.2 Chamber)							
No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware version	Calibrated Date	Calibrated until
1	966 Chamber	C/ R/ T	966	/	/	2024/6/8	2027/6/7
2	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA 9120 D	01911	/	2025/6/1	2026/5/31
3	Broadband Antenna	Schwarzbeck	VULB 9168	1471	/	2025/9/19	2026/9/18
4	Amplifier	Agilent	8449B	3008A01838	/	2025/6/3	2026/6/2
5	Preamplifier	Schwarzbeck	BBV 9743 B	00500	/	2025/5/30	2026/5/29
6	EMI TEST RECEIVER	R&S	ESCI7	100861	/	2025/9/19	2026/9/18
7	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2025/5/23	2026/5/22
8	EMI test software	Farad	EZ-EMC	/	Ver. FARAD-3A1+	/	/
9	Coaxial cable	Rosenberg	8m	/	/	2025/9/19	2026/9/18
10	Coaxial cable	Times	2m	/	/	2025/9/19	2026/9/18
11	Coaxial cable	Times	2m	/	/	2025/9/19	2026/9/18
12	Coaxial cable	Times	1m	/	/	2025/9/19	2026/9/18
13	loop antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2025/6/2	2026/6/1
14	Communication test set	R&S	CMW500	108058	B.19.07	2025/5/23	2026/5/22

					(E1962B)		
15	Communication test set	Agilent	E5515C	MY50102567	V3.5.80	2025/5/23	2026/5/22

6. Conducted Emission

6.1. Limit

Except for Class A devices:

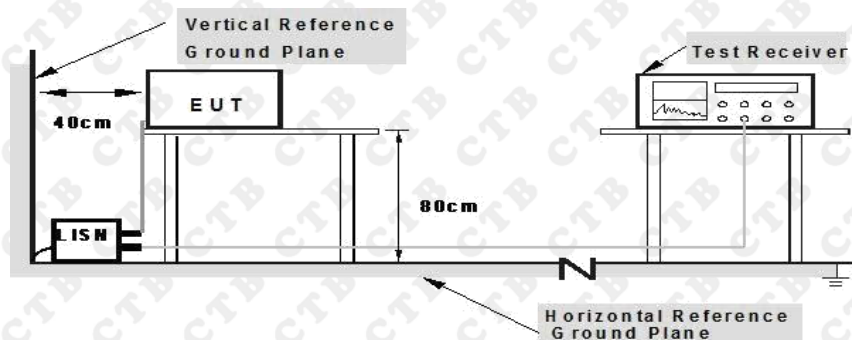
Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

Note: Decreases with the logarithm of the frequency.

For Class A devices:

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	79	66
0.5-30	73	60

6.2. Test setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

The setup of EUT is according with ANSI C63.4 measurement procedure. Specification used with FCC Part 15 limits.

6.3. EMI test receiver setup

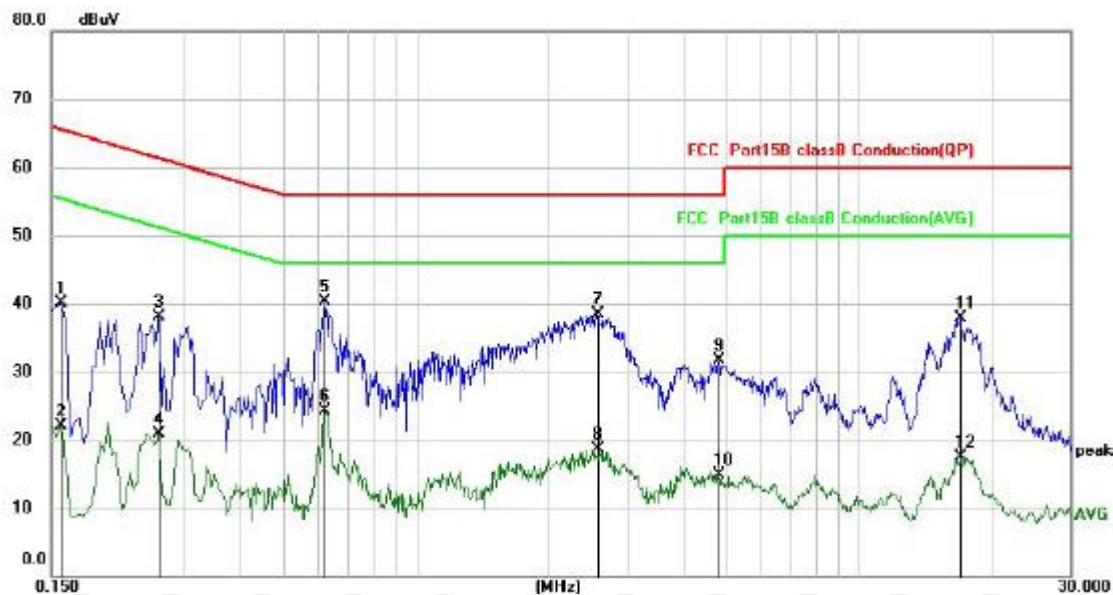
Frequency Range	9kHz-30MHz
Resolution Bandwidth	200Hz (9kHz-150kHz) 9kHz (150kHz-30MHz)

6.4. Test procedure

1. Measurement was performed in shielded room, and instruments used were followed clause 4 of ANSI C63.4.
2. Detailed test procedure was following clause 7 of ANSI C63.4.
3. Frequency range 150kHz – 30MHz was checked and EMI receiver measurement bandwidth was set to 9 kHz.

6.5. Test results

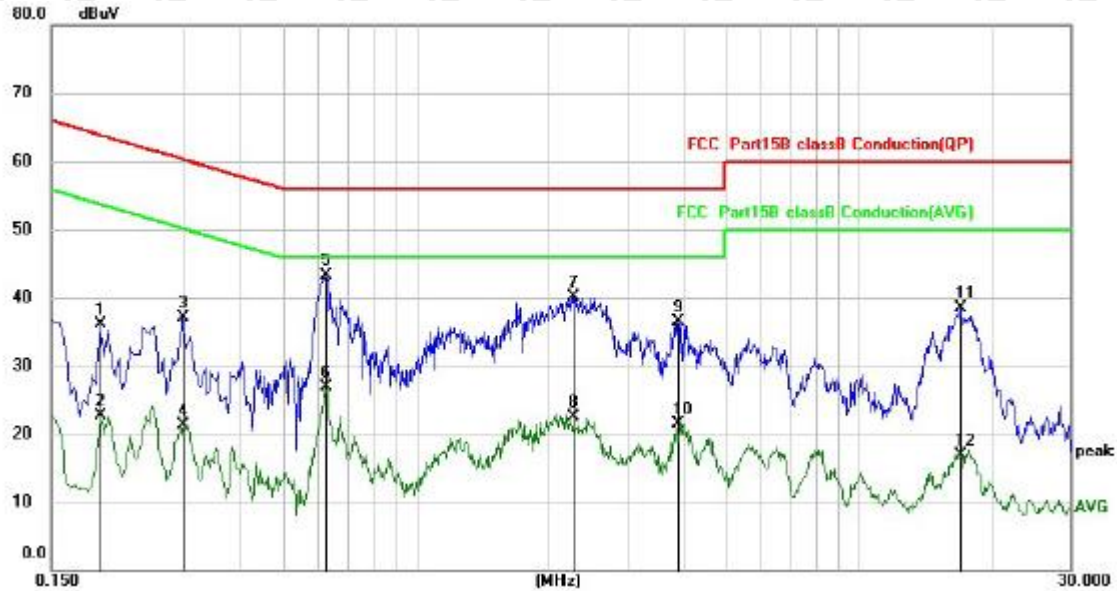
Temperature:	23℃	Relative Humidity:	54 %
Pressure:	101kPa	Phase :	Line
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1



No. Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV	Limit dBμV	Over dB	Detector
1	0.1580	29.98	10.07	40.05	65.57	-25.52	QP
2	0.1580	12.02	10.07	22.09	55.57	-33.48	AVG
3	0.2620	27.93	10.08	38.01	61.37	-23.36	QP
4	0.2620	10.90	10.08	20.98	51.37	-30.39	AVG
5 *	0.6220	30.29	10.10	40.39	56.00	-15.61	QP
6	0.6220	14.23	10.10	24.33	46.00	-21.67	AVG
7	2.5540	28.25	10.19	38.44	56.00	-17.56	QP
8	2.5540	8.49	10.19	18.68	46.00	-27.32	AVG
9	4.8020	21.45	10.27	31.72	56.00	-24.28	QP
10	4.8020	4.59	10.27	14.86	46.00	-31.14	AVG
11	16.9780	27.04	10.82	37.86	60.00	-22.14	QP
12	16.9780	6.60	10.82	17.42	50.00	-32.58	AVG

Note: Result=Reading + Factor
Over Limit=Result - Limit

Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	0.1940	26.01	10.08	36.09	63.86	-27.77	QP
2	0.1940	12.62	10.08	22.70	53.86	-31.16	AVG
3	0.2980	26.98	10.08	37.06	60.30	-23.24	QP
4	0.2980	11.26	10.08	21.34	50.30	-28.96	AVG
5 *	0.6260	33.20	10.10	43.30	56.00	-12.70	QP
6	0.6260	16.87	10.10	26.97	46.00	-19.03	AVG
7	2.2500	29.96	10.18	40.14	56.00	-15.86	QP
8	2.2500	12.27	10.18	22.45	46.00	-23.55	AVG
9	3.8820	26.24	10.24	36.48	56.00	-19.52	QP
10	3.8820	11.27	10.24	21.51	46.00	-24.49	AVG
11	16.9340	27.59	10.82	38.41	60.00	-21.59	QP
12	16.9340	6.17	10.82	16.99	50.00	-33.01	AVG

Note: Result=Reading + Factor
Over Limit=Result – Limit

7. Radiated emissions

7.1. Limit

Except for Class A devices (at 3m):

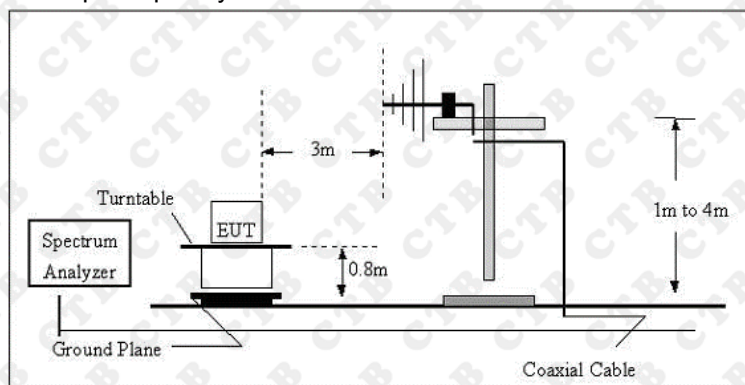
Frequency of emission (MHz)	Field strength (microvolts/meter)	
	(microvolts/meter)	(dB μ V/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

For Class A devices (at 10m):

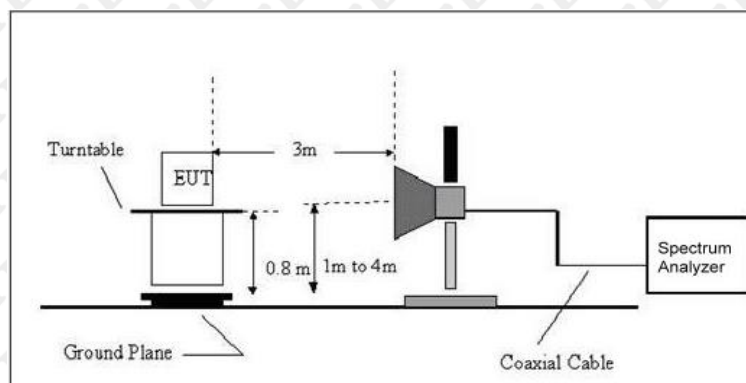
Frequency of emission (MHz)	Field strength (microvolts/meter)	
	(microvolts/meter)	(dB μ V/m)
30-88	90	39
88-216	150	43.5
216-960	210	46.4
Above 960	300	49.5

7.2. Test setup

Radiated Emission Test Set-Up Frequency Below 1 GHz



Radiated Emission Test Set-Up Frequency Above 1GHz



The radiated tests were performed in 3 meter Chamber test site, using the setup accordance with the ANSI C63.4:2014.

7.3. EMI test receiver setup and spectrum analyzer setup

During the radiated emission test, the EMI test receiver and Spectrum Analyzer were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30MHz-1000MHz	100kHz	300kHz	120kHz	QP
Above 1GHz	1MHz	3MHz	/	PK
	1MHz	10Hz	/	AVG

7.4. Test procedure

1. The measurement was performed in a semi-anechoic chamber, and instruments used were followed clause 4 of ANSI C63.4
2. Detailed test procedure was following clause 8 of ANSI C63.4.

7.5. Corrected Amplitude & Margin Calculation

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

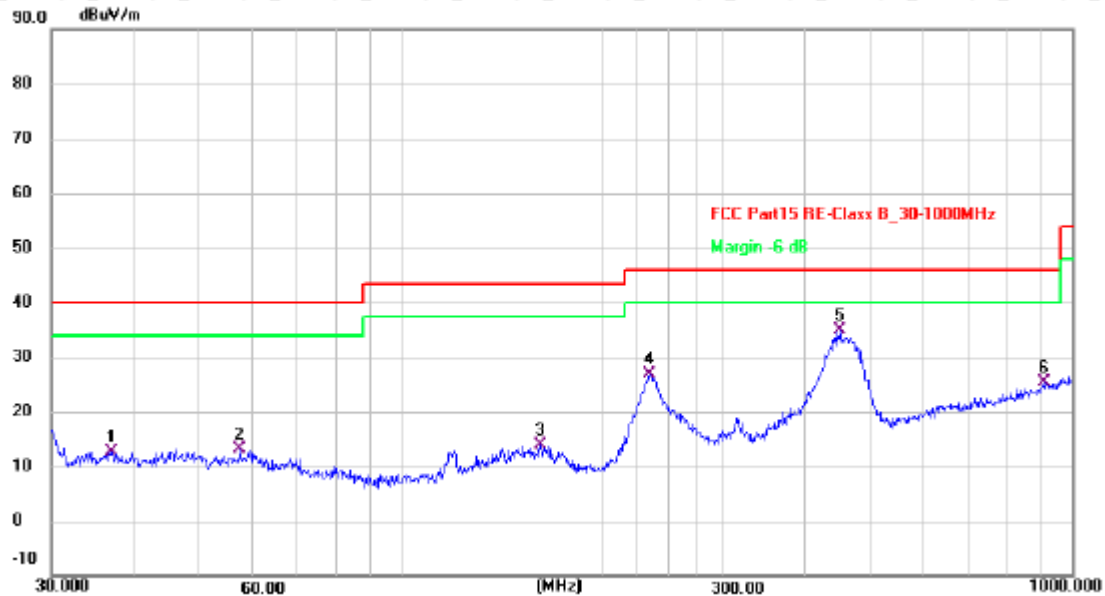
$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

2. The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

7.6. Test results

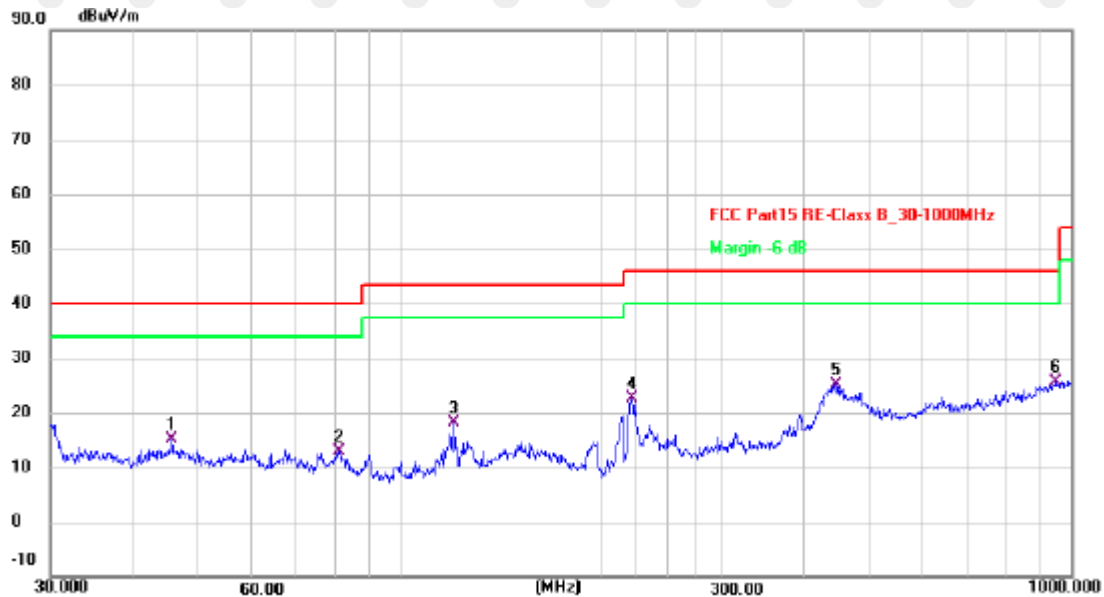
Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Polarization :	Horizontal
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	36.8953	25.89	-13.29	12.60	40.00	-27.40	QP
2	57.3923	26.61	-13.57	13.04	40.00	-26.96	QP
3	160.9090	26.05	-12.26	13.79	43.50	-29.71	QP
4	234.1683	41.33	-14.55	26.78	46.00	-19.22	QP
5 *	451.1350	43.98	-9.12	34.86	46.00	-11.14	QP
6	906.4824	26.13	-0.70	25.43	46.00	-20.57	QP

Note: Result=Reading+Factor
Over Limit=Result-Limit

Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Polarization :	Vertical
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1

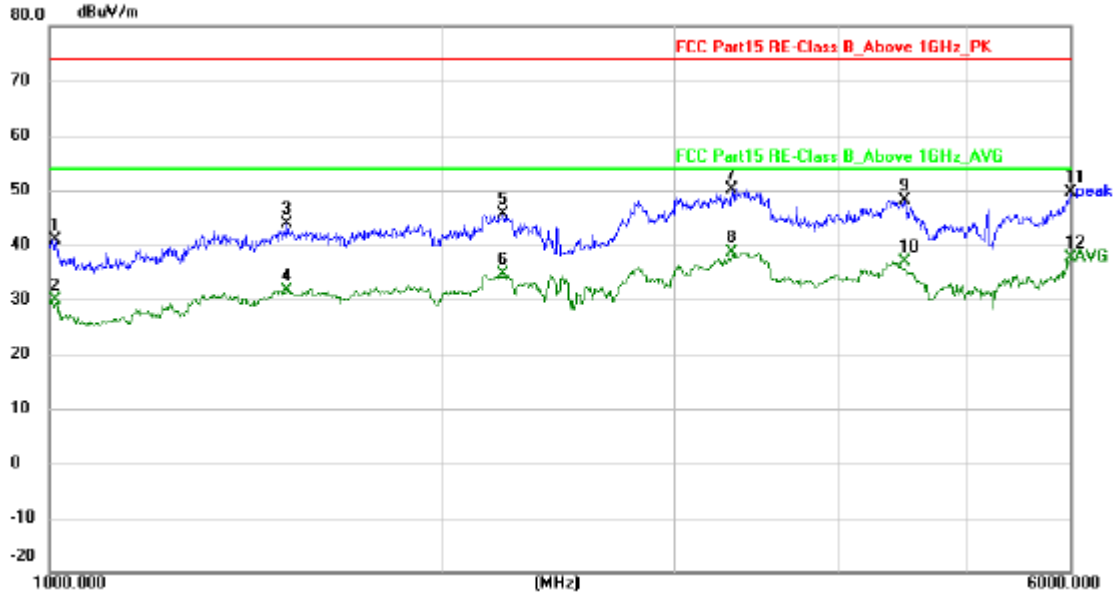


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	45.5348	28.25	-13.12	15.13	40.00	-24.87	QP
2	80.9274	29.79	-16.90	12.89	40.00	-27.11	QP
3	119.8556	34.60	-16.38	18.22	43.50	-25.28	QP
4	221.3921	37.52	-15.00	22.52	46.00	-23.48	QP
5	446.4140	34.47	-9.22	25.25	46.00	-20.75	QP
6 *	945.4400	25.76	-0.16	25.60	46.00	-20.40	QP

Note: Result=Reading+Factor
Over Limit=Result-Limit

Above 1GHz:

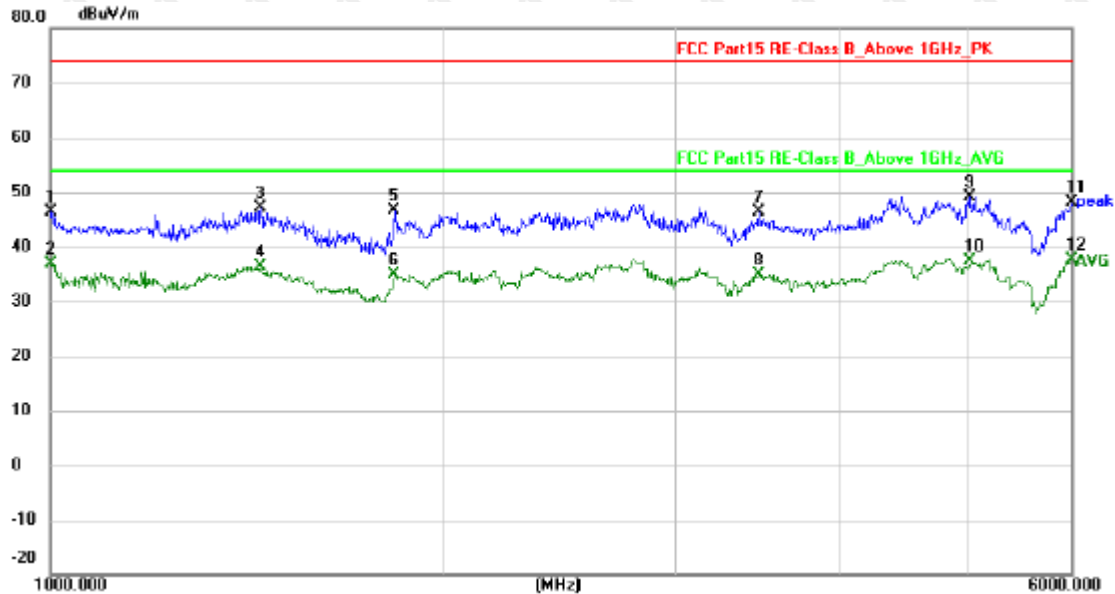
Temperature:	24°C	Relative Humidity:	54 %
Pressure:	101kPa	Polarization :	Horizontal
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1010.809	19.00	21.95	40.95	74.00	-33.05	peak
2	1010.809	7.98	21.95	29.93	54.00	-24.07	AVG
3	1518.131	16.25	27.51	43.76	74.00	-30.24	peak
4	1518.131	4.11	27.51	31.62	54.00	-22.38	AVG
5	2219.613	16.21	29.44	45.65	74.00	-28.35	peak
6	2219.613	5.30	29.44	34.74	54.00	-19.26	AVG
7	3309.825	17.63	32.40	50.03	74.00	-23.97	peak
8 *	3309.825	6.25	32.40	38.65	54.00	-15.35	AVG
9	4488.392	14.23	33.99	48.22	74.00	-25.78	peak
10	4488.392	2.83	33.99	36.82	54.00	-17.18	AVG
11	6000.000	9.91	39.65	49.56	74.00	-24.44	peak
12	6000.000	-1.98	39.65	37.67	54.00	-16.33	AVG

Note: Result=Reading+Factor
Over Limit=Result-Limit

Temperature:	24°C	Relative Humidity:	54 %
Pressure:	101kPa	Polarization :	Vertical
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1

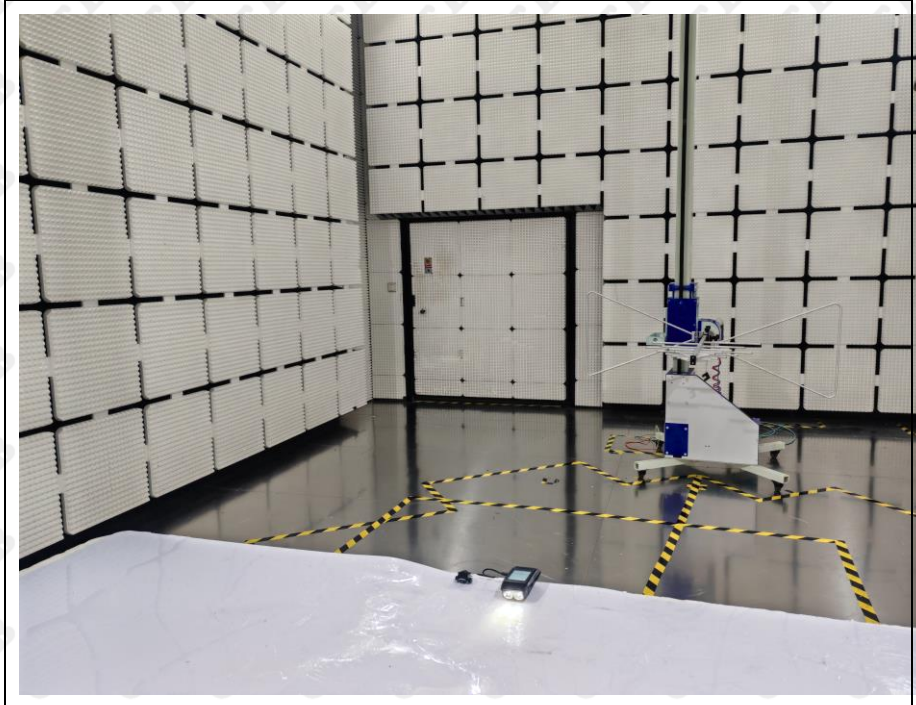


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1001.793	24.53	21.84	46.37	74.00	-27.63	peak
2	1001.793	14.96	21.84	36.80	54.00	-17.20	AVG
3	1446.436	20.32	26.85	47.17	74.00	-26.83	peak
4	1446.436	9.54	26.85	36.39	54.00	-17.61	AVG
5	1832.378	18.07	28.46	46.53	74.00	-27.47	peak
6	1832.378	6.52	28.46	34.98	54.00	-19.02	AVG
7	3467.664	13.52	32.87	46.39	74.00	-27.61	peak
8	3467.664	2.05	32.87	34.92	54.00	-19.08	AVG
9	5024.748	13.51	35.63	49.14	74.00	-24.86	peak
10	5024.748	1.87	35.63	37.50	54.00	-16.50	AVG
11	6000.000	8.60	39.65	48.25	74.00	-25.75	peak
12 *	6000.000	-2.06	39.65	37.59	54.00	-16.41	AVG

Note: Result=Reading+Factor
Over Limit=Result-Limit

8. Photographs of test setup

Radiated Emission



Radiated Emission Above 1GHz





End of report