



FCC TEST REPORT

Applicant: Changzhou Jutai Electronic Co., Ltd

Address: No.8 Longfa Road, Xinbei District, Changzhou 213031, Jiangsu, China

Manufacturer 1: Changzhou Jutai Electronic Co., Ltd

Address: No.8 Longfa Road, Xinbei District, Changzhou 213031, Jiangsu, China

Manufacturer 2: RAINBOW LIGHTING CO., LTD

Address: HI-PARK (S.E.Z) (National Road 1 146.5 KM), SANGKAT CHROK MTEASE, BAVET CITY
SVAY RIENG PROVINCE, CAMBODIA

EUT: Class 2 Power Supply /Battery Charger

Trade Mark: 

Model Number: JT-DC050V1500-E, JT-DC300V0250-E
JT-DC120V0500-E, JT-DC150V0500-E, JT-DC080V0500-E,
JT-DC075V0500-E, JT-DC060V0500-E, JT-DCxxxVxxxx-E
(xxx-030-300 (030 to 300 indicates rated output voltage range 3V.d.c -30V.d.c in step of 0.1V. e.g 030=3V, 300=30V; xxxx-0010-1500 (010 to 1500 indicates rated output current range 10mA -1500mA in step of 1mA. e.g 0010=10mA, 1500=1500mA)) 7.5W max

Date of Receipt: Nov. 08, 2023

Test Date: Nov. 08, 2023 - Nov. 14, 2023

Date of Report: Nov. 14, 2023

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Building C, Shuanghuan, No. 8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

Applicable Standards: FCC Part 15 Subpart B
ANSI C63.4:2014

Test Result: Pass

Report Number: DL-20231111028E

Prepared (Test Engineer): Erica Li

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



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**1. VERSION**

Version No.	Date	Description
00	Nov. 14, 2023	Original

2. TEST SUMMARY

EMC Emission				
Standard	Test Item	Limit	Result	Remark
FCC PART 15 B	Conducted Emission at power ports	Class B	PASS	
	Radiated Emission below 1GHz	Class B	PASS	
	Radiated Emission above 1GHz	Class B	N/A	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report

(2) Test Facility: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Building C, Shuanghuan, No. 8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

FCC Test Firm Registration Number: 692225

Designation Number: CN1299

IC Registered No.: 27033

CAB ID.: CN0110

CNAS Registration Number: L11567



3. GENERAL INFORMATION

3.1 Description of Device (EUT)

EUT: Class 2 Power Supply /Battery Charger

Trade Mark:



Model Number:

JT-DC050V1500-E, JT-DC300V0250-E,
JT-DC120V0500-E, JT-DC150V0500-E, JT-DC080V0500-E,
JT-DC075V0500-E, JT-DC060V0500-E, JT-DCxxxVxxxx-E
(xxx-030-300 (030 to 300 indicates rated output voltage range 3V.d.c -30V.d.c in
step of 0.1V. e.g 030=3V, 300=30V; xxxx-0010-1500 (010 to 1500 indicates rated
output current range 10mA -1500mA in step of 1mA. e.g 0010=10mA,
1500=1500mA)) 7.5W max

Test Model: JT-DC050V1500-E, JT-DC300V0250-E

Model difference: The product's different for model number, appearance color and output voltage.

Power Supply:

JT-DC050V1500-E:
Input: 100-240V~ 50-60Hz, 0.3A
Output: 5V $\overline{=}$ 1.5A
JT-DC300V0250-E:
Input: 100-240V~ 50-60Hz, 0.3A
Output: 30V $\overline{=}$ 0.25A

Working Frequency: Below 108MHz

NOTE:

- (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (2) The EUT's all information provided by client.

3.2 Tested System Details

None.

3.3 Block Diagram of Test Set-up



3.4 Test Mode Description

Mode1: On Mode(JT-DC050V1500-E)

Mode2: On Mode(JT-DC300V0250-E)

3.5 Test Auxiliary Equipment

None.

3.6 Test Uncertainty

Conducted Emission Uncertainty : $\pm 2.56\text{dB}$

Radiated Emission Uncertainty : $\pm 3.24\text{dB}$



4. TEST INSTRUMENT USED

For Conducted Emission Test (843 Shielded Room)

Equipment	Manufacturer	Model	Serial	Last Cal.	Next Cal.
843 Shielded Room	ChengYu	843 Room	843	Sep. 20, 2022	Sep. 19, 2025
EMI Receiver	R&S	ESR	101421	Nov. 04, 2023	Nov. 03, 2024
LISN	R&S	ENV216	102417	Nov. 04, 2023	Nov. 03, 2024
Clamp	COM-POWER	CLA-050	431072	Nov. 04, 2023	Nov. 03, 2024
3-Loop Antenna	DAZE	ZN30401	13021	Nov. 04, 2023	Nov. 03, 2024
ISN T8	Schwarzbeck	NTFM 8158	101135	Nov. 04, 2023	Nov. 03, 2024
ISN T5	Schwarzbeck	NTFM 8158	101136	Nov. 04, 2023	Nov. 03, 2024
843 Cable 1#	ChengYu	CE Cable	001	Nov. 04, 2023	Nov. 03, 2024
843 Cable 1#	ChengYu	CE Cable	002	Nov. 04, 2023	Nov. 03, 2024

For Radiated Emission Test (966 chamber)

Equipment	Manufacturer	Model	Serial	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Sep. 20, 2022	Sep. 19, 2025
Spectrum Analyzer	Agilent	E4408B	MY50140780	Nov. 04, 2023	Nov. 03, 2024
EMI Receiver	R&S	ESRP7	101393	Nov. 04, 2023	Nov. 03, 2024
Amplifier	Schwarzbeck	BBV9743B	00153	Nov. 04, 2023	Nov. 03, 2024
Amplifier	EMEC	EM01G8GA	00270	Nov. 04, 2023	Nov. 03, 2024
Broadband Trilog Antenna	Schwarzbeck	VULB9162	00306	Nov. 04, 2023	Nov. 03, 2024
Horn Antenna	Schwarzbeck	BBHA9120D	02139	Nov. 04, 2023	Nov. 03, 2024
966 Cable 1#	ChengYu	966	004	Nov. 04, 2023	Nov. 03, 2024
966 Cable 2#	ChengYu	966	003	Nov. 04, 2023	Nov. 03, 2024

Other

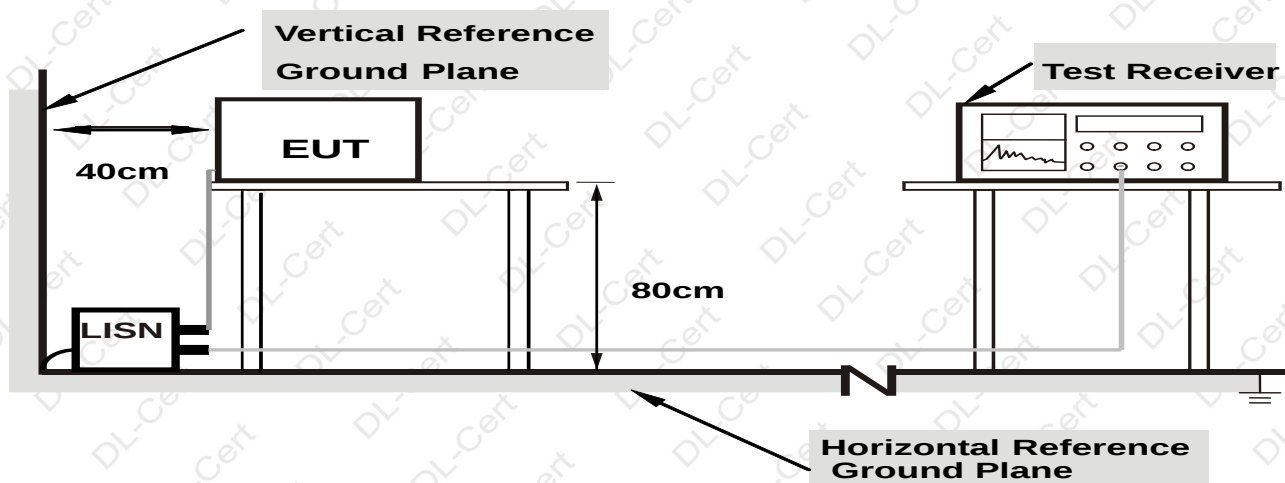
Name	Manufacturer	Model	Software version
EMC Conduction Test System	FALA	EZ_EMCC	EMC-CON 3A1.1
EMC radiation test system	FALA	EZ_EMCC	FA-03A2



5. CONDUCTED EMISSION TEST

5.1 Block Diagram of Test Setup

For Mains Terminals Test



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

5.2 Test Standard and Limit

FCC PART 15 B

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15~0.50	66 ~ 56*	55 ~ 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.

5.3 EUT Configuration on Test

The following equipment's 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.

5.4 Operating Condition of EUT

5.4.1 Setup the EUT and simulators as shown in Section 5.1.

5.4.2 Turn on the power of all equipments.

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



5.5 Test Procedure

The EUT is put on the table and connected to the AC mains through a Artificial Mains Network (AMN) or ISN. 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 **ANSI C63.4** regulations during conducted emission test.

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

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

5.6 Test Result

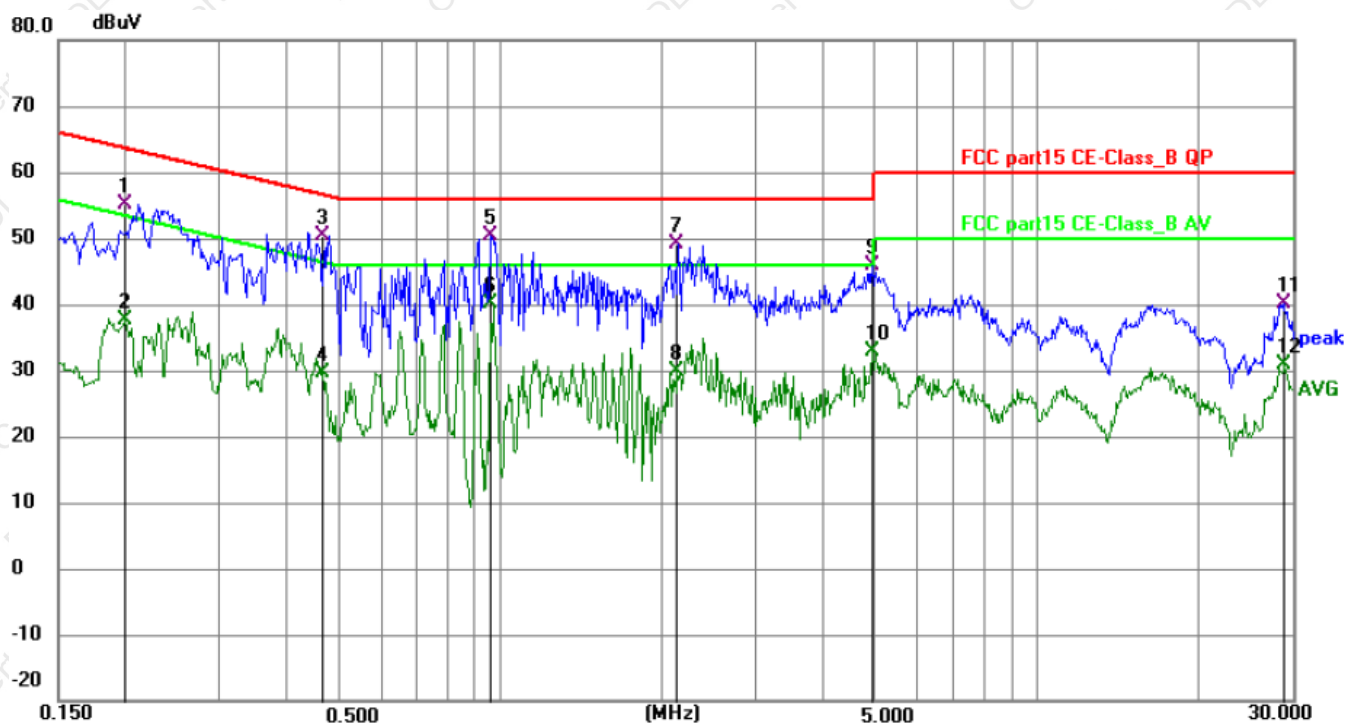
PASS

Please refer to the following page.



Conducted Emission Test Data

Temperature:	24.5℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Line
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.199500	45.61	9.48	55.09	63.63	-8.54	QP	P	
2	0.199500	28.12	9.48	37.60	53.63	-16.03	AVG	P	
3	0.465000	41.24	9.17	50.41	56.60	-6.19	QP	P	
4	0.465000	20.53	9.17	29.70	46.60	-16.90	AVG	P	
5 *	0.960000	40.96	9.30	50.26	56.00	-5.74	QP	P	
6	0.960000	30.71	9.30	40.01	46.00	-5.99	AVG	P	
7	2.143300	39.51	9.68	49.19	56.00	-6.81	QP	P	
8	2.143300	20.29	9.68	29.97	46.00	-16.03	AVG	P	
9	4.929000	36.10	9.67	45.77	56.00	-10.23	QP	P	
10	4.929000	23.27	9.67	32.94	46.00	-13.06	AVG	P	
11	28.770000	29.21	10.98	40.19	60.00	-19.81	QP	P	
12	28.770000	19.83	10.98	30.81	50.00	-19.19	AVG	P	

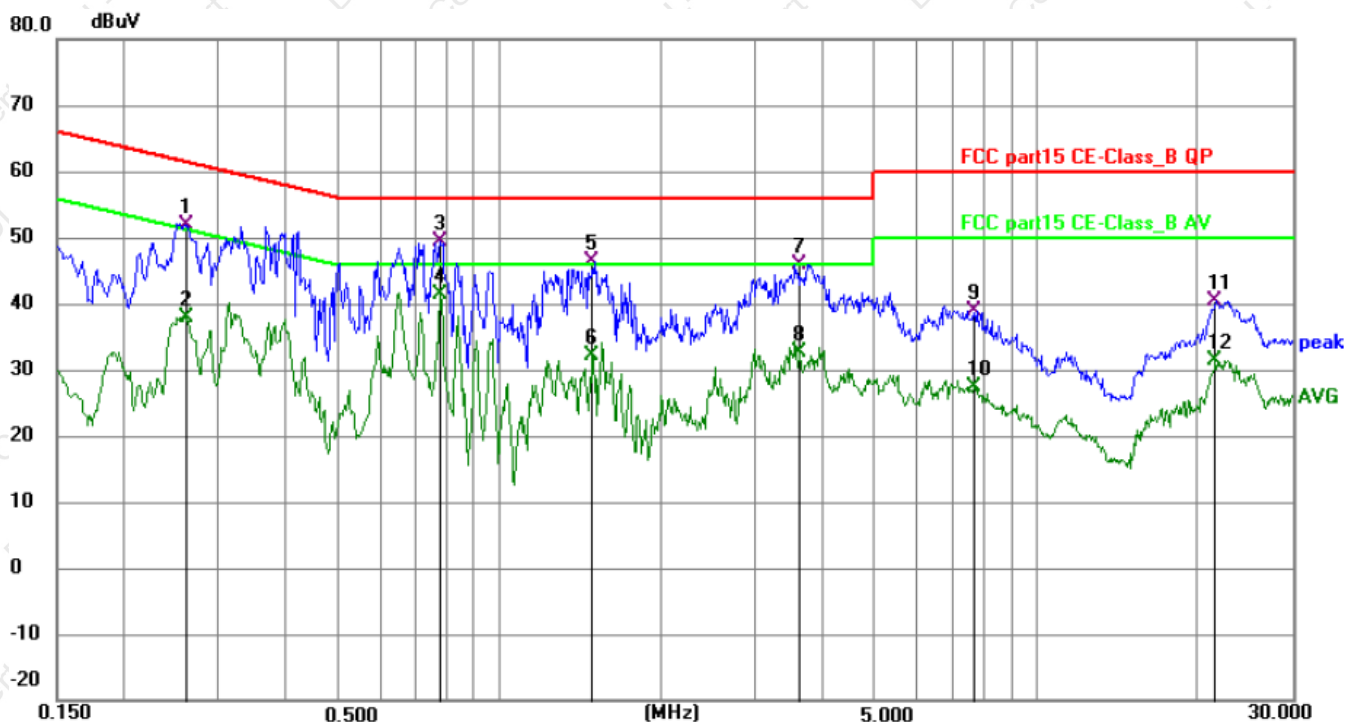
Remark: Correct Factor = Cable lose + LISN insertion loss;

Level = Reading + Correct factor; Margin = Level – Limit;



Conducted Emission Test Data

Temperature:	24.5℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Neutral
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.260000	43.00	8.98	51.98	61.43	-9.45	QP	P	
2	0.260000	28.85	8.98	37.83	51.43	-13.60	AVG	P	
3	0.775200	40.16	9.24	49.40	56.00	-6.60	QP	P	
4 *	0.775200	32.24	9.24	41.48	46.00	-4.52	AVG	P	
5	1.491000	36.78	9.62	46.40	56.00	-9.60	QP	P	
6	1.491000	22.53	9.62	32.15	46.00	-13.85	AVG	P	
7	3.624000	36.16	9.81	45.97	56.00	-10.03	QP	P	
8	3.624000	22.72	9.81	32.53	46.00	-13.47	AVG	P	
9	7.655800	28.98	9.91	38.89	60.00	-21.11	QP	P	
10	7.655800	17.50	9.91	27.41	50.00	-22.59	AVG	P	
11	21.556400	29.69	10.71	40.40	60.00	-19.60	QP	P	
12	21.556400	20.61	10.71	31.32	50.00	-18.68	AVG	P	

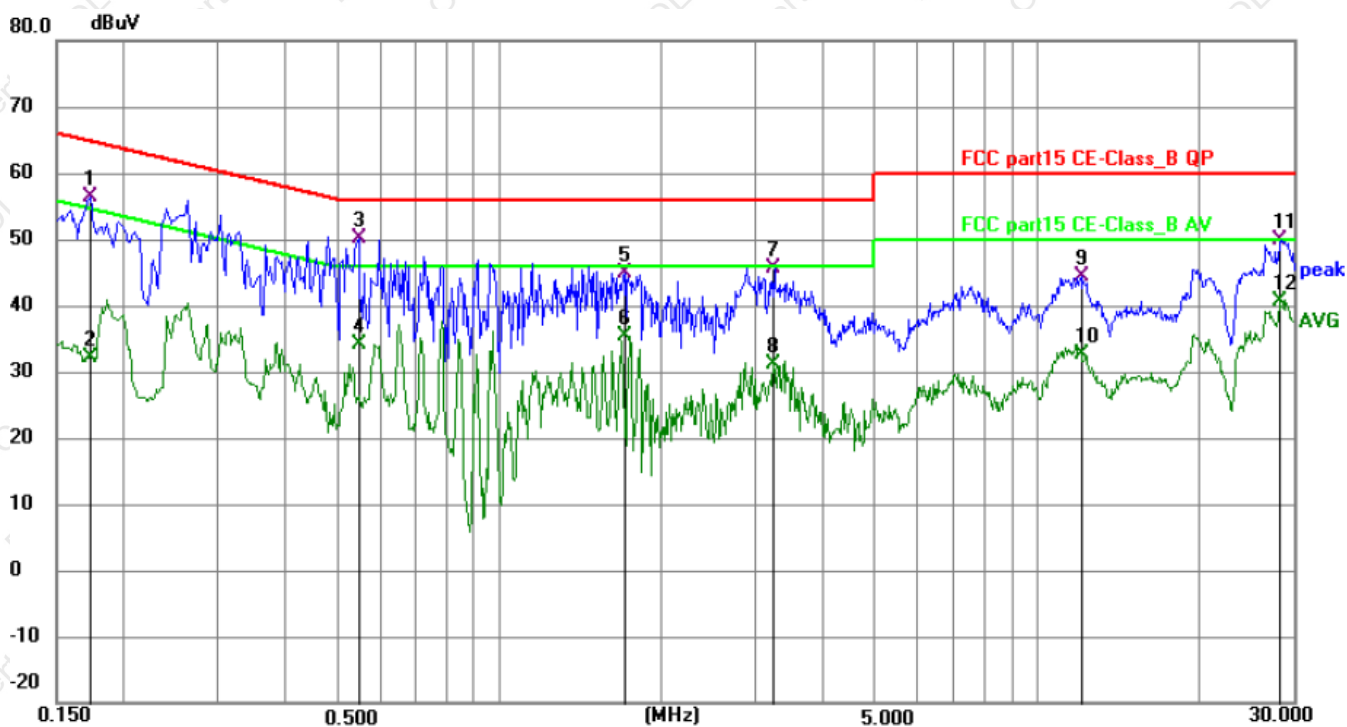
Remark: Correct Factor = Cable lose + LISN insertion loss;

Level = Reading + Correct factor; Margin = Level - Limit;



Conducted Emission Test Data

Temperature:	24.5℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Line
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 2



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.172300	46.37	10.04	56.41	64.85	-8.44	QP	P	
2	0.172300	22.16	10.04	32.20	54.85	-22.65	AVG	P	
3 *	0.546000	40.98	9.24	50.22	56.00	-5.78	QP	P	
4	0.546000	24.77	9.24	34.01	46.00	-11.99	AVG	P	
5	1.711500	35.23	9.70	44.93	56.00	-11.07	QP	P	
6	1.711500	25.62	9.70	35.32	46.00	-10.68	AVG	P	
7	3.237000	36.77	8.82	45.59	56.00	-10.41	QP	P	
8	3.237000	22.43	8.82	31.25	46.00	-14.75	AVG	P	
9	12.115500	34.48	9.99	44.47	60.00	-15.53	QP	P	
10	12.115500	22.58	9.99	32.57	50.00	-17.43	AVG	P	
11	28.153500	38.94	11.04	49.98	60.00	-10.02	QP	P	
12	28.153500	29.49	11.04	40.53	50.00	-9.47	AVG	P	

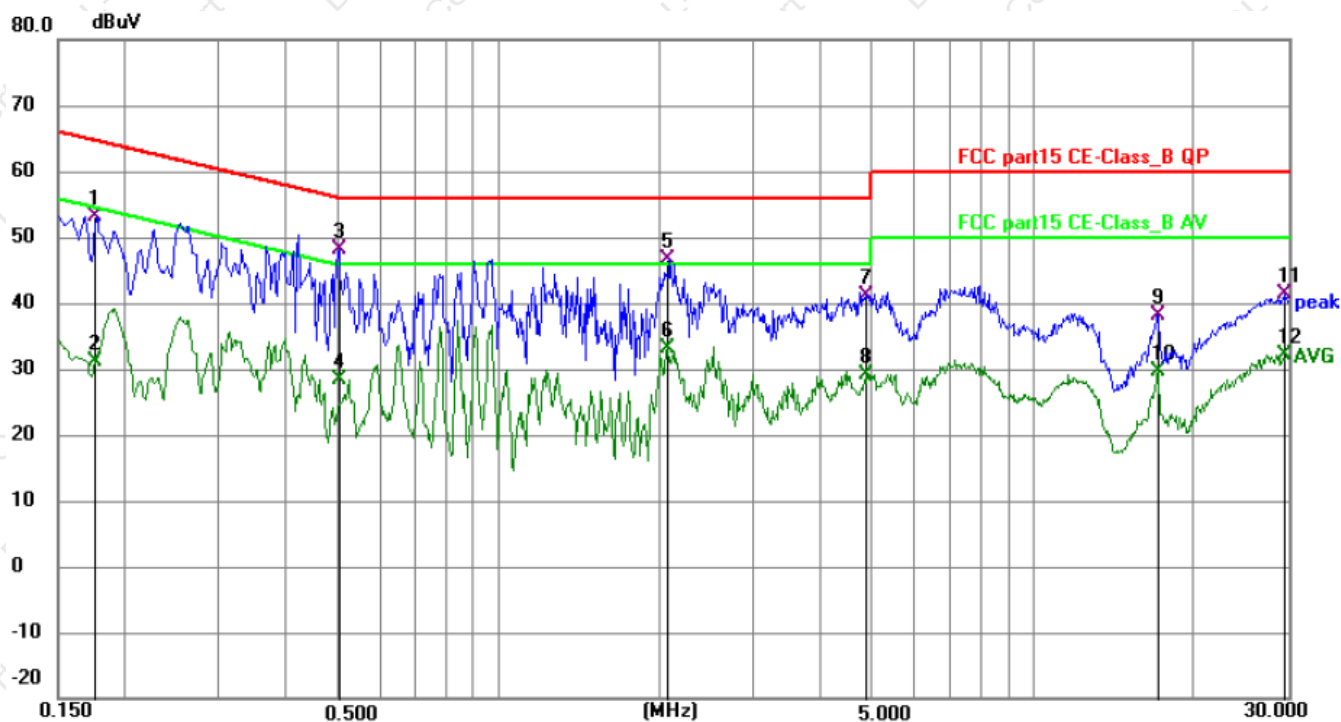
Remark: Correct Factor = Cable lose + LISN insertion loss;

Level = Reading + Correct factor; Margin = Level – Limit;



Conducted Emission Test Data

Temperature:	24.5℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Neutral
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 2



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.175800	43.64	9.57	53.21	64.68	-11.47	QP	P	
2	0.175800	21.51	9.57	31.08	54.68	-23.60	AVG	P	
3 *	0.501000	38.81	9.38	48.19	56.00	-7.81	QP	P	
4	0.501000	18.88	9.38	28.26	46.00	-17.74	AVG	P	
5	2.067000	36.90	9.84	46.74	56.00	-9.26	QP	P	
6	2.067000	23.32	9.84	33.16	46.00	-12.84	AVG	P	
7	4.888300	31.27	9.80	41.07	56.00	-14.93	QP	P	
8	4.888300	19.22	9.80	29.02	46.00	-16.98	AVG	P	
9	17.114700	27.86	10.34	38.20	60.00	-21.80	QP	P	
10	17.114700	19.17	10.34	29.51	50.00	-20.49	AVG	P	
11	29.485300	30.34	10.99	41.33	60.00	-18.67	QP	P	
12	29.485300	21.24	10.99	32.23	50.00	-17.77	AVG	P	

Remark: Correct Factor = Cable lose + LISN insertion loss;

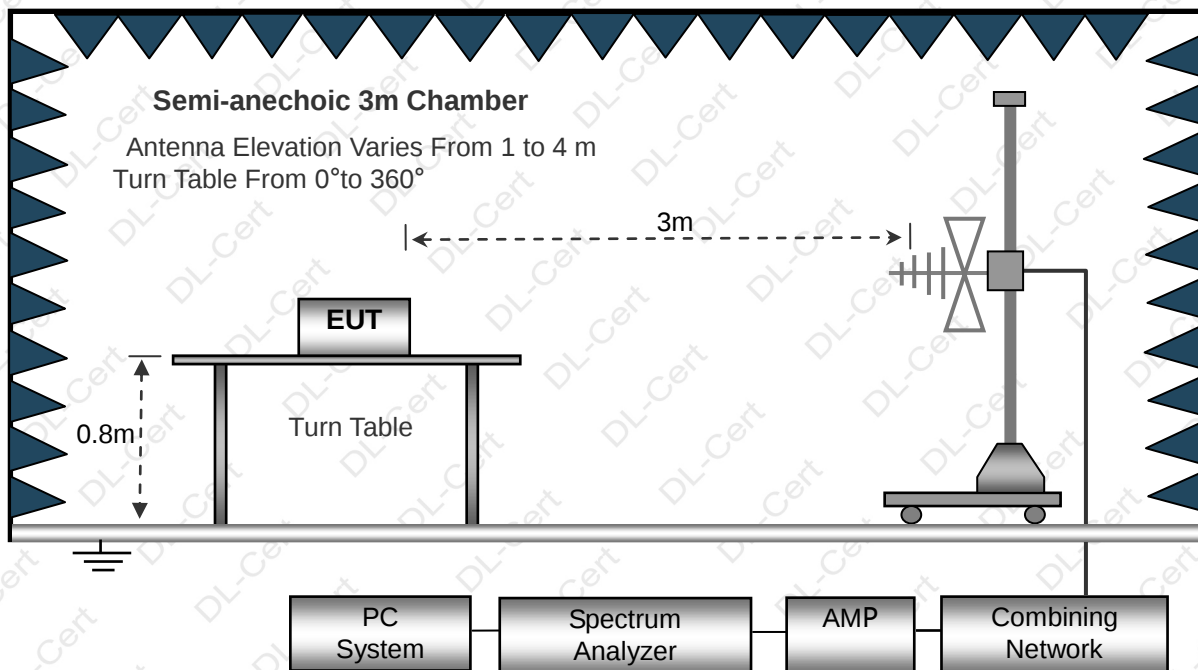
Level = Reading + Correct factor; Margin = Level - Limit;



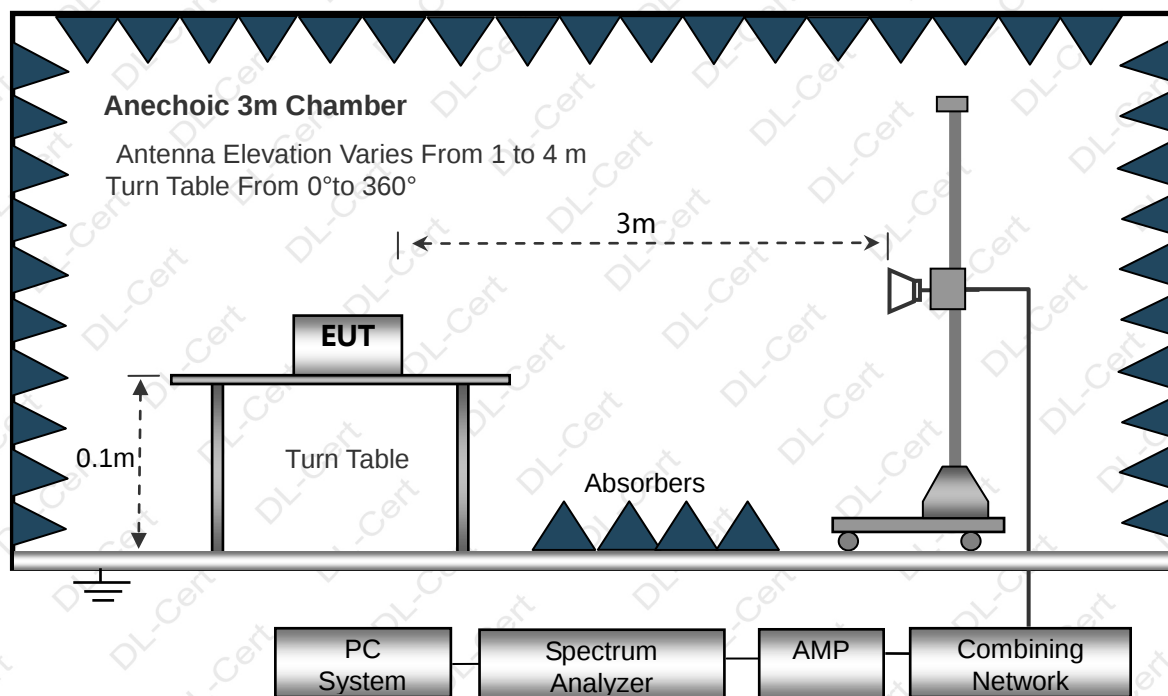
6. RADIATION EMISSION TEST

6.1 Block Diagram of Test Setup

Below 1GHz



Above 1GHz



6.2 Test Standard and Limit

FCC PART 15 B



Below 1GHz

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dB μ V/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

Above 1GHz

Frequency MHz	Distance (Meters)	Field Strengths Limits dB(μ V)/m	Detector
1000~6000	3	74.0	PEAK
1000~6000	3	54.0	AVERAGE

Remark:

(1) The smaller limit shall apply at the cross point between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument, antenna and the closed point of any part of the device or system.

6.3 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 5.3.

6.4 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 5.4 except the test set up replaced as Section 6.2.

6.5 Test Procedure

- 1) The radiated emissions test was conducted in a semi-anechoic chamber.
- 2) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
- 3) Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.
- 4) The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.
- 5) The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz.
- 6) The frequency range from 30MHz to 1000MHz is checked.

6.6 Test Result

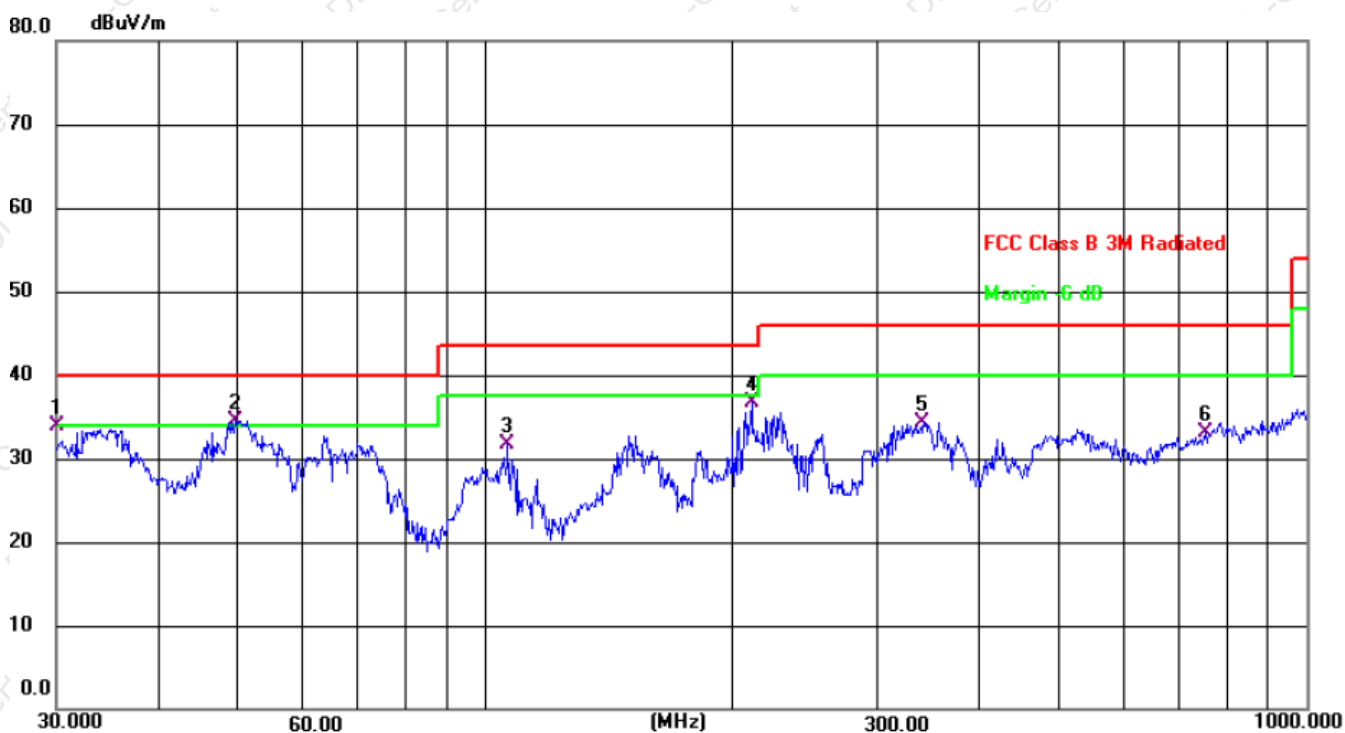
PASS

Please refer to the following page.



Radiation Emission Test Data

Temperature:	24.5℃	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		30.0000	48.57	-14.70	33.87	40.00	-6.13	QP
2	*	49.5328	46.07	-11.52	34.55	40.00	-5.45	QP
3		106.3850	47.08	-15.31	31.77	43.50	-11.73	QP
4		210.7860	49.60	-12.97	36.63	43.50	-6.87	QP
5		341.9786	44.42	-10.11	34.31	46.00	-11.69	QP
6		752.7431	35.99	-2.95	33.04	46.00	-12.96	QP

Remark:

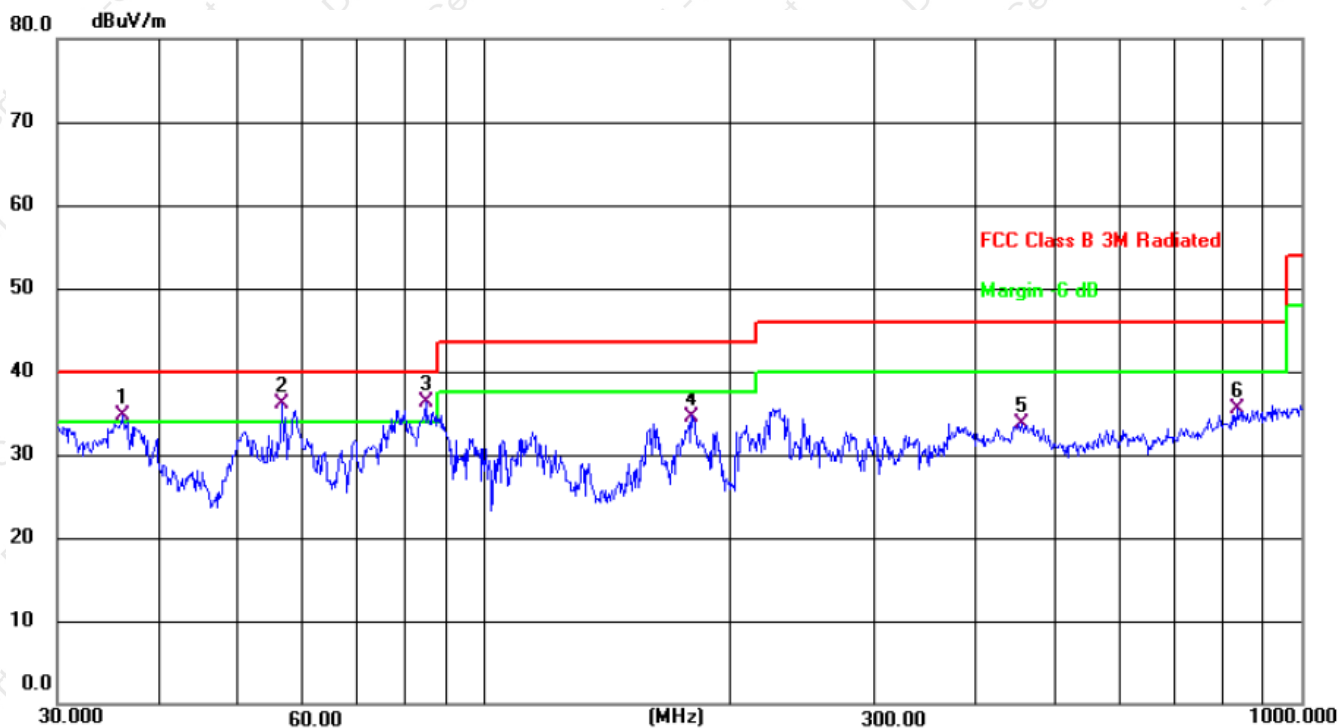
Correct Factor=Cable loss+Antenna factor-Preamplifier

Measurement Level = Reading Level + Correct Factor; Margin = Measurement Level- Limit;



Radiation Emission Test Data

Temperature:	24.5℃	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	!	36.1269	48.12	-13.46	34.66	40.00	-5.34	QP
2	!	56.5929	47.77	-11.66	36.11	40.00	-3.89	QP
3	*	84.7018	52.46	-16.13	36.33	40.00	-3.67	QP
4		179.3863	49.10	-14.50	34.60	43.50	-8.90	QP
5		454.3100	40.72	-6.96	33.76	46.00	-12.24	QP
6		833.3170	36.23	-0.82	35.41	46.00	-10.59	QP

Remark:

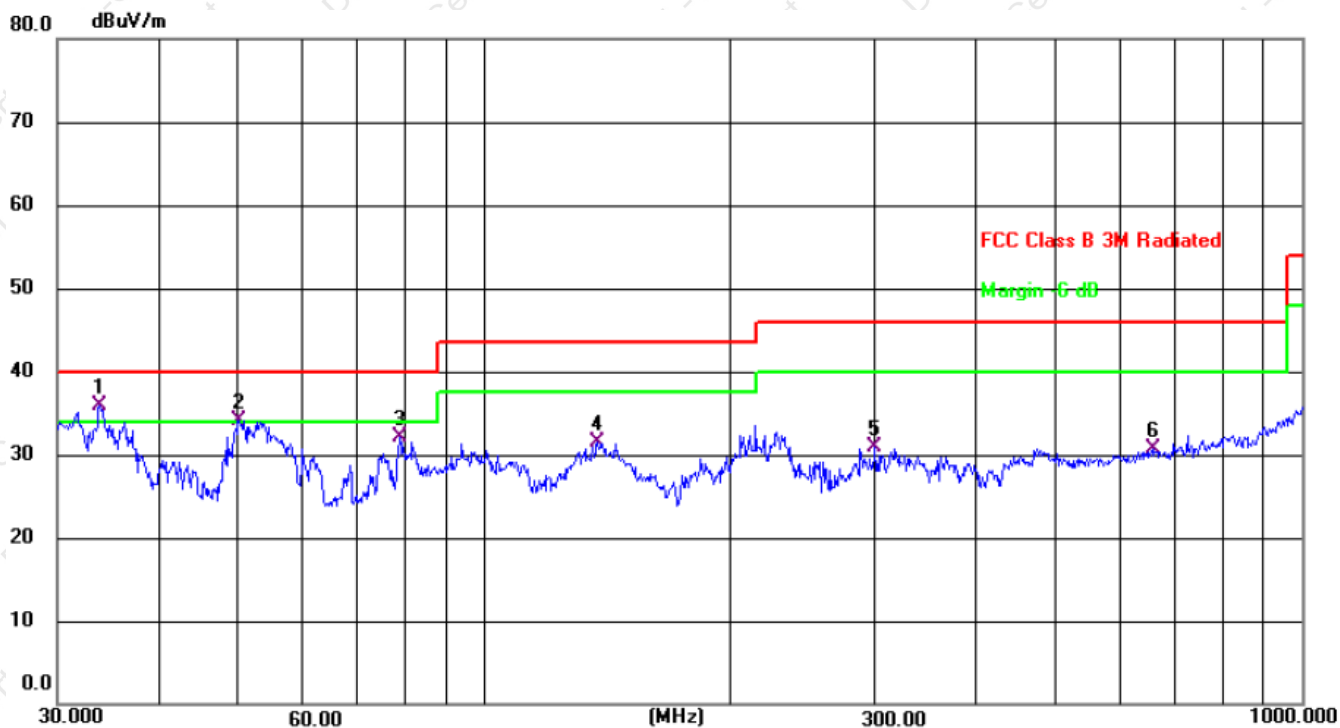
Correct Factor=Cable loss+Antenna factor-Preamplifier

Measurement Level = Reading Level + Correct Factor; Margin = Measurement Level- Limit;



Radiation Emission Test Data

Temperature:	24.5℃	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 2



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	*	33.7986	49.66	-13.71	35.95	40.00	-4.05	QP
2	!	50.0566	45.60	-11.50	34.10	40.00	-5.90	QP
3		78.6885	48.17	-16.06	32.11	40.00	-7.89	QP
4		137.4200	47.56	-16.06	31.50	43.50	-12.00	QP
5		300.3672	41.51	-10.69	30.82	46.00	-15.18	QP
6		656.5300	35.33	-4.63	30.70	46.00	-15.30	QP

Remark:

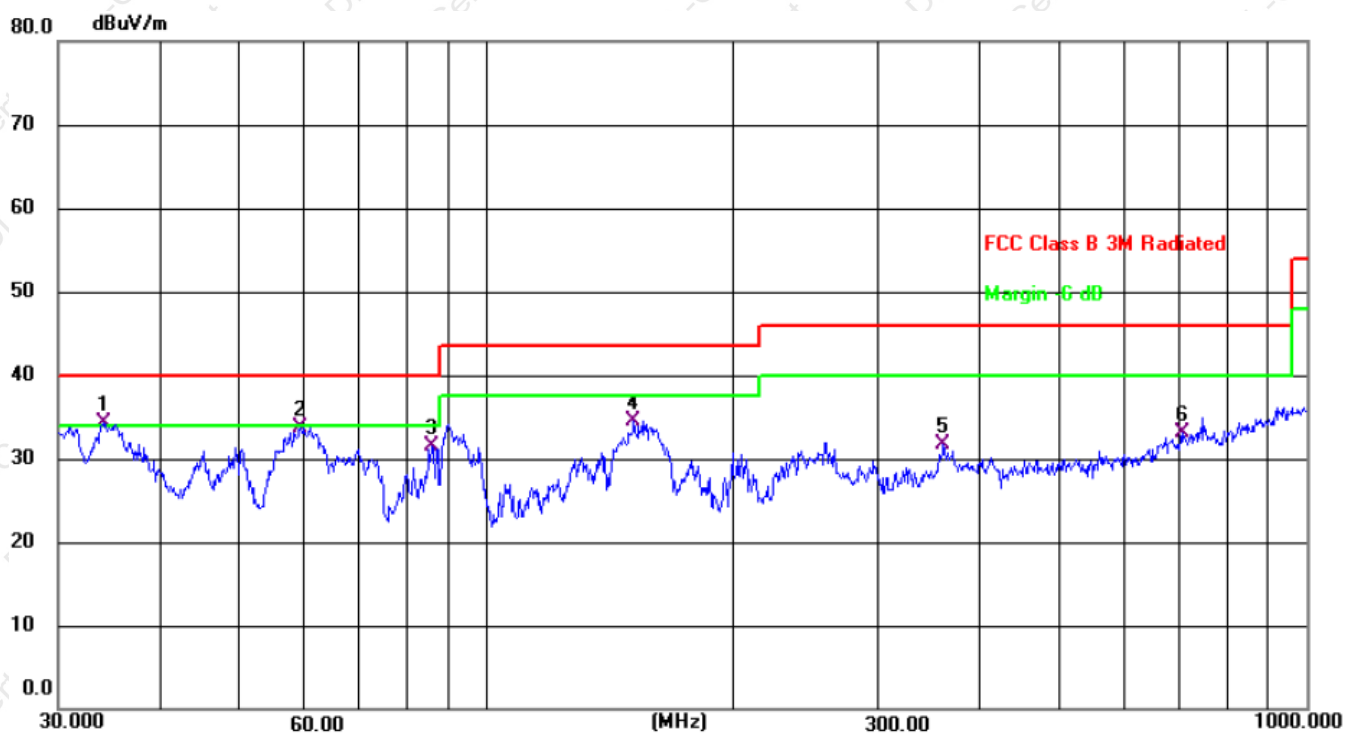
Correct Factor=Cable loss+Antenna factor-Preamplifier

Measurement Level = Reading Level + Correct Factor; Margin = Measurement Level- Limit;



Radiation Emission Test Data

Temperature:	24.5℃	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 2



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Margin dB	Detector
1	*	34.1559	48.28	-13.89	34.39	40.00	-5.61	QP
2		59.2323	45.66	-11.89	33.77	40.00	-6.23	QP
3		85.5973	47.49	-15.93	31.56	40.00	-8.44	QP
4		151.0663	50.94	-16.43	34.51	43.50	-8.99	QP
5		360.4476	40.48	-8.81	31.67	46.00	-14.33	QP
6		704.2259	35.66	-2.54	33.12	46.00	-12.88	QP

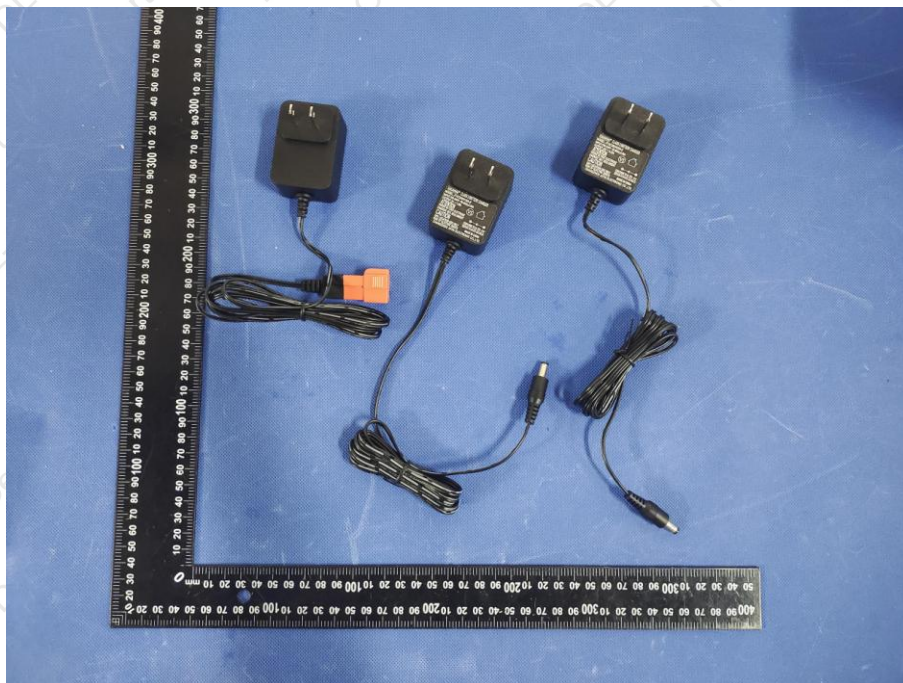
Remark:

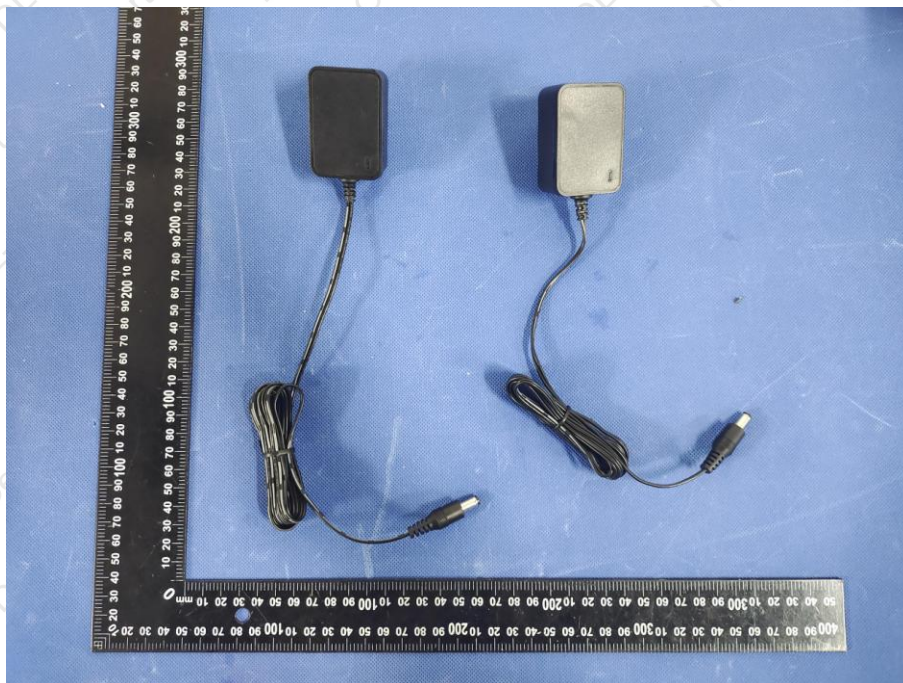
Correct Factor=Cable loss+Antenna factor-Preamplifier

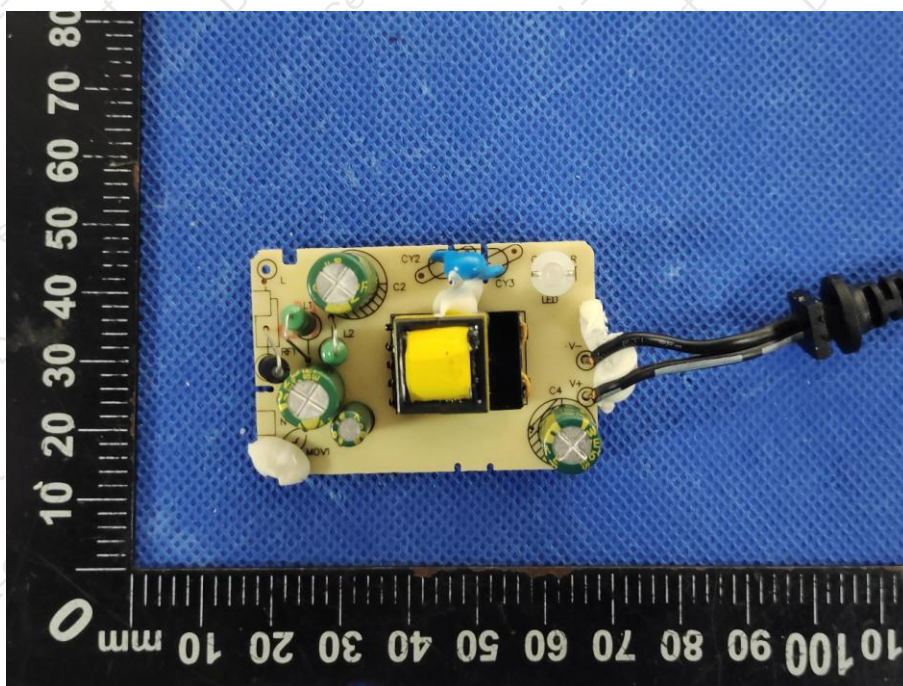
Measurement Level = Reading Level + Correct Factor; Margin = Measurement Level- Limit;

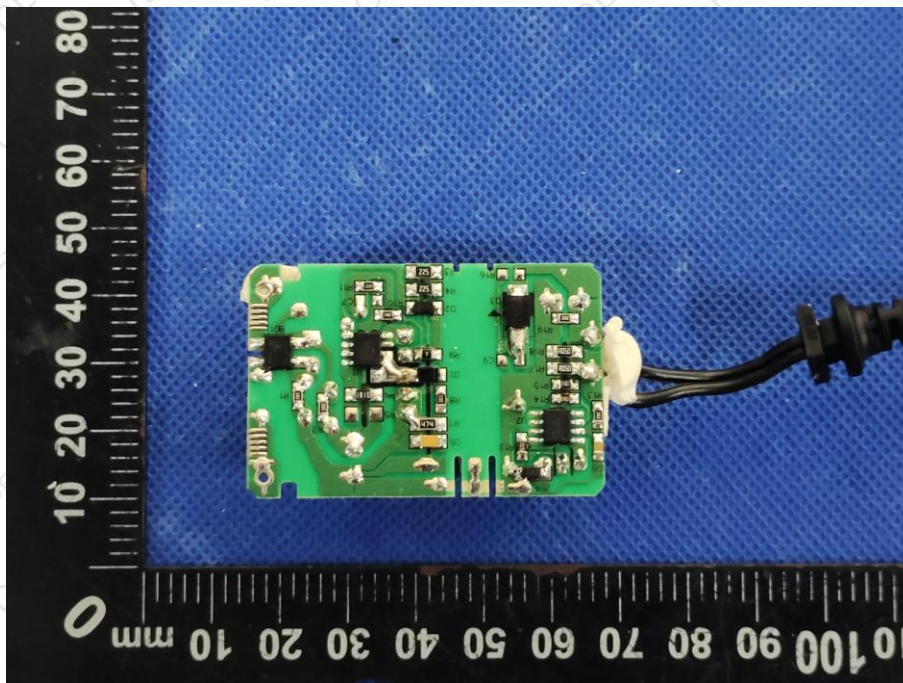


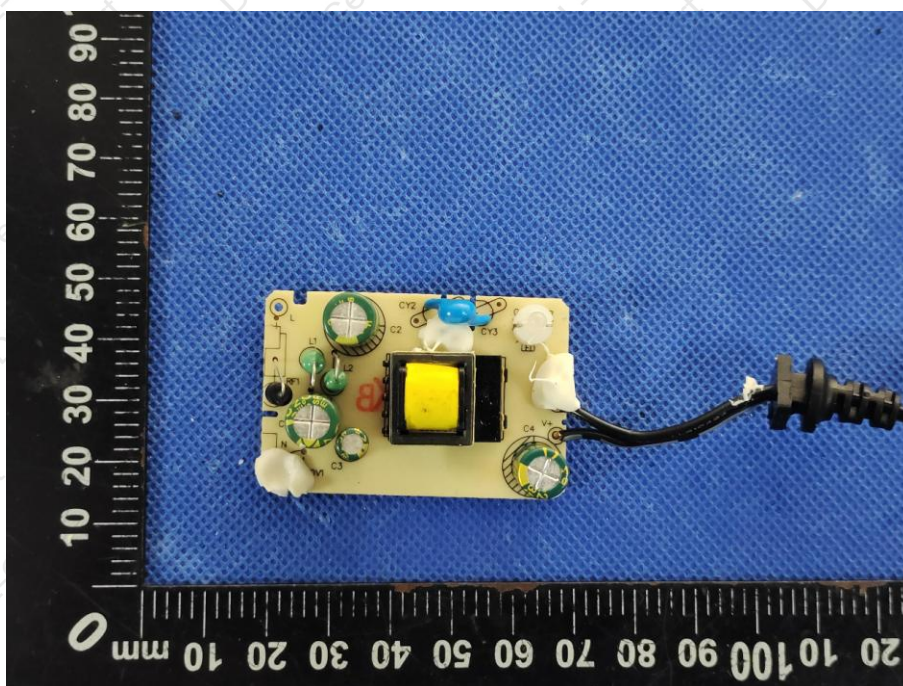
7. EUT PHOTOGRAPHS

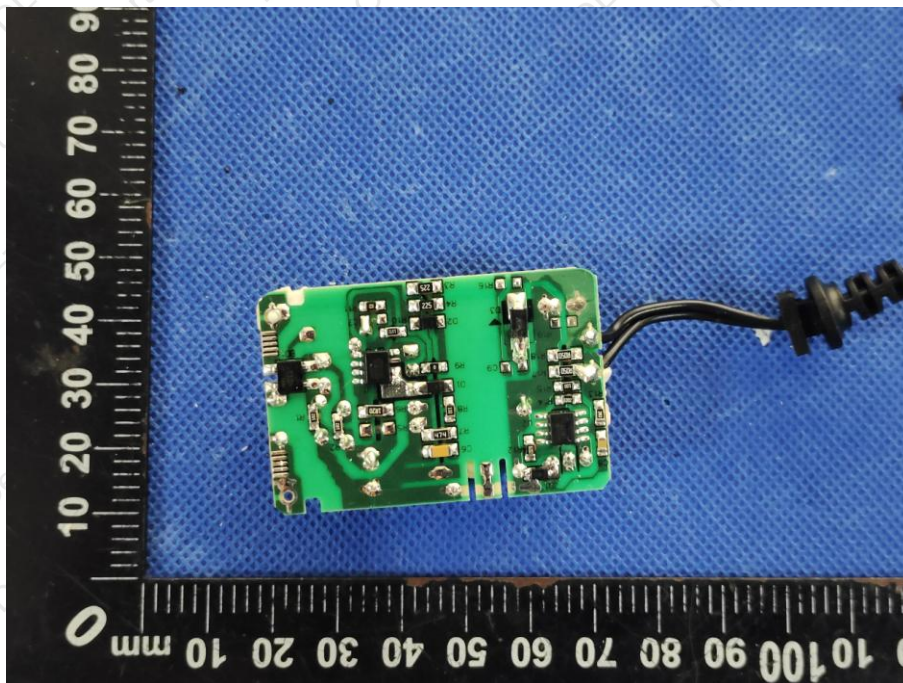












***** END OF REPORT *****