

FCC TEST REPORT
For
Zhuhai Tessian Power Technology Co., Ltd.
CHARCO Power Bank
Test Model: TS-PB02

Prepared for : Zhuhai Tessian Power Technology Co., Ltd.
Address : Building 14, Xiangzhou Chuanggang Center, No.199, Weikang Road, Xiangzhou District, Zhuhai, Guangdong Province, China

Prepared by : Guangzhou LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : May 07, 2026
Number of tested samples : 2
Sample No. : A260429069-1, A260429069-2
Serial number : Prototype
Date of Test : May 07, 2026 ~ May 14, 2026
Date of Report : May 15, 2026

FCC TEST REPORT FCC CFR 47 PART 15C	
Report Reference No.	LCSC04296013EA
Date Of Issue	May 15, 2026
Testing Laboratory Name	Guangzhou LCS Compliance Testing Laboratory Ltd.
Address	No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China
Testing Location/ Procedure	Full application of Harmonised standards ☒ Partial application of Harmonised standards ☐ Other standard testing method ☐
Applicant's Name	Zhuhai Tessen Power Technology Co., Ltd.
Address	Building 14, Xiangzhou Chuanggang Center, No.199, Weikang Road, Xiangzhou District, Zhuhai, Guangdong Province, China
Test Specification	
Standard	FCC CFR 47 PART 15C
Test Report Form No.	TRF-4-E-168 A/0
TRF Originator	Guangzhou LCS Compliance Testing Laboratory Ltd.
Master TRF	Dated 2011-03
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Test Item Description	CHARCO Power Bank
Trade Mark	CHARCO
Test Model	TS-PB02
Ratings	Please Refer to Page 6
Result	PASS

Compiled by:

Lifeng Le.

Supervised by:

Justin Zhu

Approved by:

Gavin Liang

Lifeng Le / Administrators

Justin Zhu/ Technique Director

Gavin Liang/ Manager

FCC TEST REPORT

Test Report No. : LCSC04296013EA	<u>May 15, 2026</u> Date of issue
---	--------------------------------------

Test Model.....	: TS-PB02
EUT.....	: CHARCO Power Bank
Applicant.....	: Zhuhai Tessian Power Technology Co., Ltd.
Address.....	: Building 14, Xiangzhou Chuanggang Center, No.199, Weikang Road, Xiangzhou District, Zhuhai, Guangdong Province, China
Telephone.....	: /
Fax.....	: /
Manufacturer.....	: Zhuhai Tessian Power Technology Co., Ltd.
Address.....	: Building 14, Xiangzhou Chuanggang Center, No.199, Weikang Road, Xiangzhou District, Zhuhai, Guangdong Province, China
Telephone.....	: /
Fax.....	: /
Factory	: SHENZHEN PUSHIDA ELECTRONIC TECHNOLOGY CO., LTD
Address.....	: 4th Floor 1 Factory Building Haosan Industrial Park Heyi Community Shajing Street Baoan Area Shenzhen, China
Telephone.....	: /
Fax.....	: /

Test Result	PASS
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Report Version	Issue Date	Revision Content	Revised By
000	May 15, 2026	Initial Issue	--

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1. GENERAL INFORMATION

1.1 Description of Device (EUT)

EUT : CHARCO Power Bank
 Test Model : TS-PB02
 Ratings : Lithium Battery Energy: DC 3.85V, 10000mAh, 38.5Wh
 Rated Capacity: 6000mAh(5V---3A)
 USB-C/USB-C Cable Input: 5V---3A/9V---2A/12V---1.5A (18W Max)
 USB-C/USB-C Cable Output: 5V---3A/9V---2.22A/12V---1.67A (20W Max)
 Wireless Output(Phone):5W/7.5W/10W/15W
 Wireless Output(Watch) :2.5W
 Wireless Output(Earbuds) :5W
 Total Output: 5V---3A (15W Max)
 Hardware Version : /
 Software Version : /
 Wireless Charging :
 Operating Frequency : 110-205.0KHz
 Modulation Type : ASK
 Antenna Type : Coil Antenna
 Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.

1.2 Support equipment List

Manufacturer	Description	Model	Serial Number	Certificate
ShenZhen HuaJin Electronics CO., LTD	Adapter	HJ-0502000W2-EU	--	FCC
Huawei	Mobile phone	FRD-AL10	--	FCC
HONOR	Mobile phone	V30Pro	66B0219C25014679	FCC

Note: Auxiliary equipment is provided by the laboratory.

1.3 External I/O Cable

I/O Port Description	Quantity	Cable
Type-C Port	1	N/A

1.4 Description of Test Facility

Site Description
 EMC Lab. :
 CNAS Registration Number is L11555
 A2LA Certificate Number: 5099.01
 FCC Designation Number is CN1379
 Test Firm Registration Number: 729882

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10-2020 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.

1.5 Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.6 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Radiation Uncertainty	9KHz~30MHz	3.10dB	(1)
	30MHz~200MHz	2.96dB	(1)
	200MHz~1000MHz	3.10dB	(1)
	1GHz~26.5GHz	3.80dB	(1)
	26.5GHz~40GHz	3.90dB	(1)
Conduction Uncertainty	150kHz~30MHz	1.63dB	(1)
Power disturbance	30MHz~300MHz	1.60dB	(1)

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

1.7 Description of Test Modes

Equipment under test was operated during the measurement under the following conditions:

☒ Charging and communication mode

Modulation Type: CW (ASK)

Test Modes		
Mode 1	AC/DC Adapter (12V/1.5A) + EUT + Phone (Battery Status: <1%)	Record
Mode 2	AC/DC Adapter (12V/1.5A) + EUT + Phone (Battery Status: <50%)	Record
Mode 3	AC/DC Adapter (12V/1.5A) + EUT + Phone (Battery Status: 100%)	Record
Mode 4	AC/DC Adapter (9V/2A) + EUT + Phone (Battery Status: <1%)	Pre-tested
Mode 5	AC/DC Adapter (9V/2A) + EUT + Phone (Battery Status: <50%)	Pre-tested
Mode 6	AC/DC Adapter (9V/2A) + EUT + Phone (Battery Status: 100%)	Pre-tested
Mode 7	AC/DC Adapter (5V/3A) + EUT + Phone (Battery Status: <1%)	Pre-tested
Mode 8	AC/DC Adapter (5V/3A) + EUT + Phone (Battery Status: <50%)	Pre-tested
Mode 9	AC/DC Adapter (5V/3A) + EUT + Phone (Battery Status: 100%)	Pre-tested
Note: All test modes were pre-tested for ac and dc mode, but we only recorded the worst case in this report for ac mode.		

For AC conducted emission, pre-test at both AC 120V/60Hz and AC 240V/50Hz, recorded worst case;

For AC conducted emission, pre-test at both AC charge from power adapter modes, recorded worst case.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.30-2021, FCC CFR PART 15C 15.207.

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The EUT was operated in the normal operating mode and a continuous transmits mode for other tests.

According to its specifications, the EUT must comply with the requirements of the Section 15.207 under the FCC Rules Part 15 Subpart C.

2.3 General Test Procedures

2.3.1 Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2.1 of ANSI C63.10-2020 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1GHz and 1.5 m above ground plane above 1GHz. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.3 of ANSI C63.10-2020

2.4. Test Sample

The application provides 2 samples to meet requirement;

Sample Number	Description
Sample 1(A260429069-1)	Engineer sample – continuous transmit
Sample 2(A260429069-2)	Normal sample – Intermittent transmit

3. SYSTEM TEST CONFIGURATION

3.1 Justification

The system was configured for testing in a normal condition.

3.2 EUT Exercise Software

N/A.

3.3 Special Accessories

No.	Equipment	Manufacturer	Model No.	Serial No.	Length	shielded/ unshielded	Notes
/	/	/	/	/	/	/	/

3.4 Block Diagram/Schematics

Please refer to the related document.

3.5 Equipment Modifications

Guangzhou LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

3.6 Test Setup

Please refer to the test setup photo.

4. SUMMARY OF TEST EQUIPMENT

Item	Equipment	Manufacturer	Model No.	Equipment No.	Cal Date	Due Date
1	Power Meter	Keysight	E4417A	GLCS-E-279	2026-04-07	2027-04-06
2	Power Sensor	Keysight	E9304A	GLCS-E-280	2026-04-07	2027-04-06
3	Power Sensor	Keysight	E9304A	GLCS-E-281	2026-04-07	2027-04-06
4	Spread Ppectrum Unit	Tonscend	TS-WF7U2	GLCS-E-364	N/A	N/A
5	Test Software	Tonscend	JS1120-3	GLCS-E-366	N/A	N/A
6	RF Control Unit	Tonscend	JS0806-2	GLCS-E-365	2025-09-01	2026-08-31
7	MXA Signal Analyzer	Keysight	N9020A	GLCS-E-356	2025-08-18	2026-08-17
8	DC Power Supply	Keysight	E3642A	GLCS-E-357	2025-08-18	2026-08-17
9	Signal Analyzer	Keysight	N5172B	GLCS-E-353	2025-08-18	2026-08-17
10	Signal Analyzer	Keysight	N5181A	GLCS-E-354	2025-08-18	2026-08-17
11	WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	GLCS-E-355	2025-08-18	2026-08-17
12	EMI Test Software	Farad	EZ-EMC(Ver.FA-03A 2 RE+)	GLCS-E-012	N/A	N/A
13	Semi Anechoic Chamber#1	Maorui	966	GLCS-E-001	2024-04-21	2027-04-20
14	Positioning Controller	Max-Full	MF-7802	GLCS-E-015	N/A	N/A
15	Active Loop Antenna	TESEQ	HLA 6121	GLCS-E-155	2025-07-19	2026-07-18
16	By-log Antenna	SCHWARZBECK	VULB9163	GLCS-E-352	2025-08-16	2028-08-15
17	Low-frequency amplifier	Sonoma	310N	GLCS-E-036	2026-04-07	2027-04-06
18	Horn Antenna	SCHWARZBECK	BBHA 9120D	GLCS-E-060	2025-07-19	2026-07-18
19	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	GLCS-E-348	2025-08-18	2028-08-17
20	Broadband Preamplifier	Cesheng Technology	LNPA_30M06G-40(1 8GHz)	GLCS-E-286	2026-04-07	2027-04-06
21	Broadband Preamplifier	Cesheng Technology	LNPA 30M06G-40(40GHz)	GLCS-E-287	2026-04-10	2027-04-09
22	EMI Test Receiver	R&S	ESR 7	GLCS-E-192	2026-04-07	2027-04-06
23	RS SPECTRUM ANALYZER	R&S	FSP40	GLCS-E-349	2025-08-16	2026-08-15
24	6dB Attenuator	/	100W/6dB	GLCS-E-350	2025-08-13	2026-08-12
25	3dB Attenuator	/	2N-3dB	GLCS-E-351	2025-08-13	2026-08-12
26	EMI Test Receiver	ROHDE & SCHWARZ	ESR7	GLCS-E-158	2026-04-07	2027-04-06
27	Artificial Mains Network	ROHDE & SCHWARZ	ESH2-Z5	GLCS-E-011	2026-01-14	2027-01-13
28	EMI Test Software	Farad	EZ-EMC(Ver.FA-03A 2 RE+)	GLCS-E-017	N/A	N/A
29	Antenna Mast	Maorui	BK-4AT-BS	GLCS-E-249	N/A	N/A
30	Pulse Limiter	SCHWARZBECK	VTSD 9561-F	GLCS-E-080	2026-04-07	2027-04-06

5. SUMMARY OF TEST RESULT

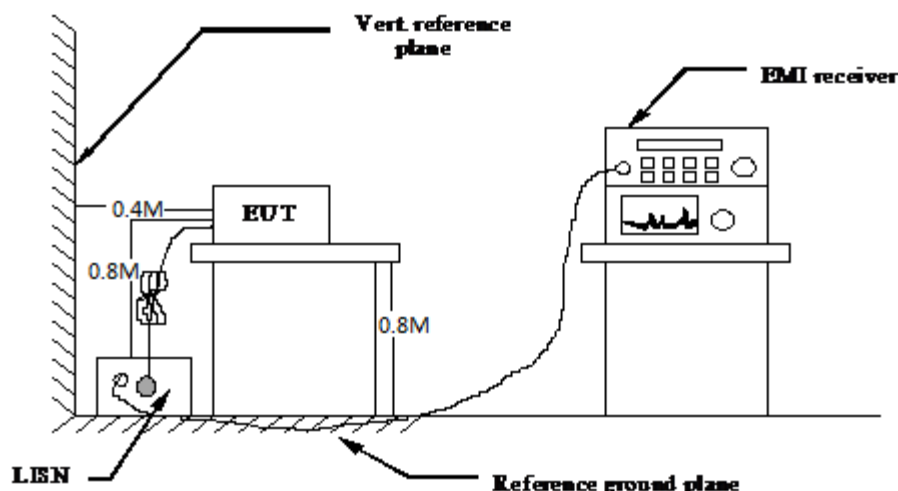
FCC Rules	Description of Test	Test Sample	Result
§15.207(a)	AC Conducted Emissions	Sample 1	Compliant
§15.209	Radiated Spurious Emissions	Sample 1	Compliant
§15.215	20 dB Bandwidth	Sample 1	Compliant

Remark: The measurement uncertainty is not included in the test result.

N/A – Not Applicable!!!

6. POWER LINE CONDUCTED MEASUREMENT

6.1. Block Diagram of Test Setup



6.2. Standard Applicable

According to §15.207: For all the consumer devices which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range are listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

* Decreasing linearly with the logarithm of the frequency

6.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS \text{ (dB}\mu\text{V/m)} = RA \text{ (dB}\mu\text{V)} + AF \text{ (dB/m)} + CL \text{ (dB)} - AG \text{ (dB)}$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

6.4 Test Results

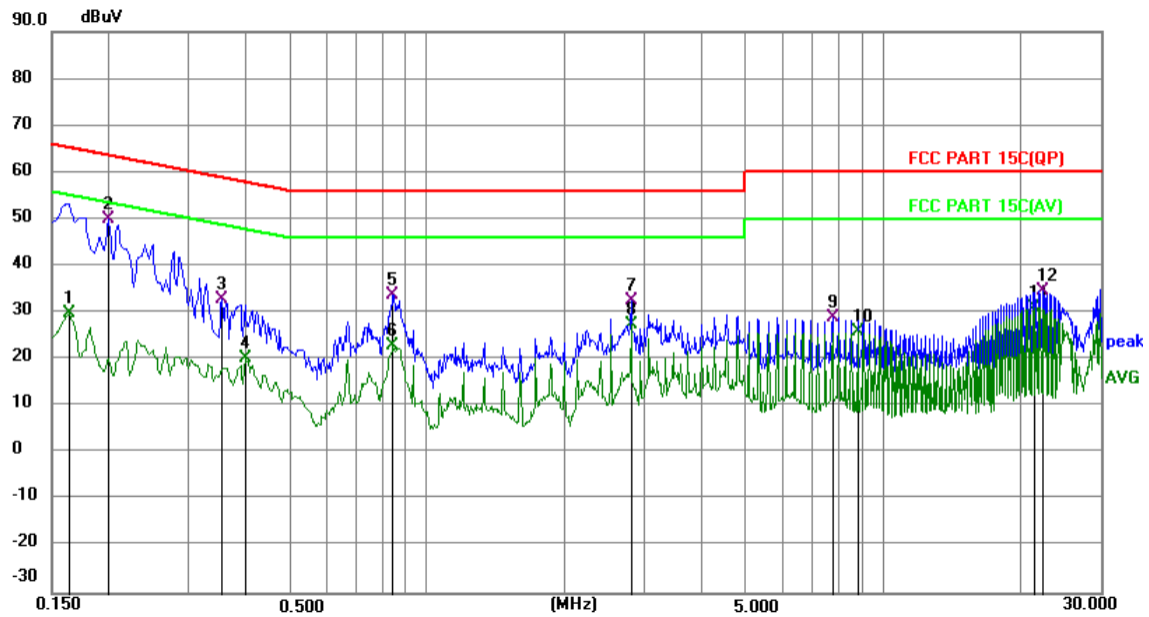
PASS

The test data please refer to following page.

Temperature	21.1℃	Humidity	52.2%
Test Engineer	Suichao Lai	Configurations	Mode 1

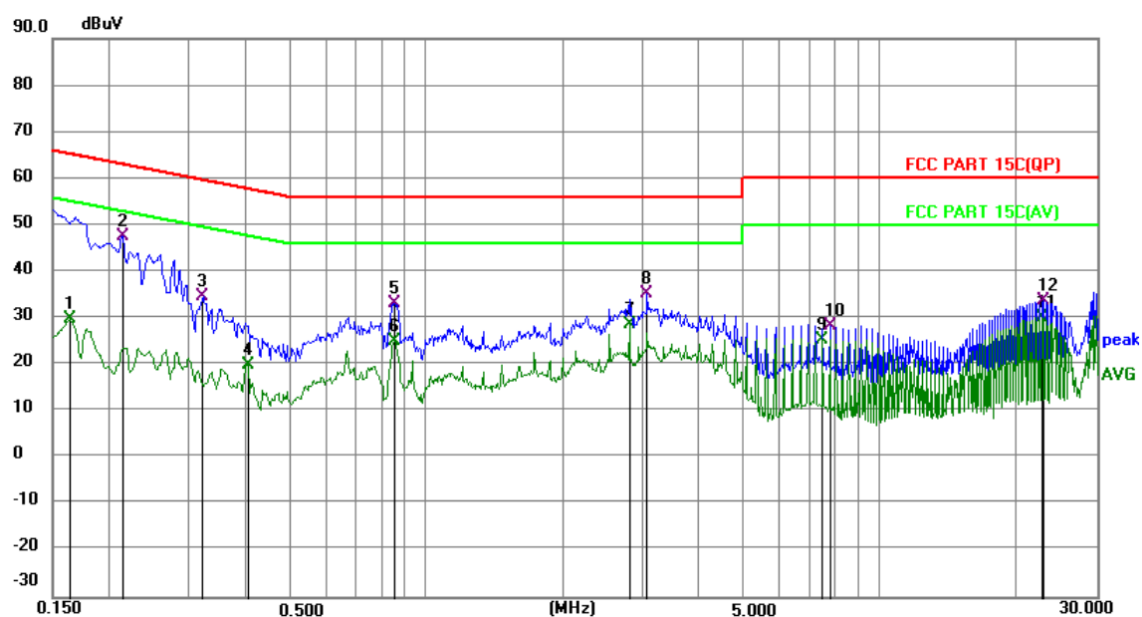
AC Power Line Conducted Emission (Power input to adapter @ AC 120V/60Hz (Worst Case))

With usb cable:
Line



No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1635	19.81	10.15	29.96	55.28	-25.32	AVG	
2	*	0.1995	39.77	10.09	49.86	63.63	-13.77	QP	
3		0.3524	22.65	10.10	32.75	58.91	-26.16	QP	
4		0.3975	10.24	10.07	20.31	47.91	-27.60	AVG	
5		0.8430	23.65	10.18	33.83	56.00	-22.17	QP	
6		0.8430	12.72	10.18	22.90	46.00	-23.10	AVG	
7		2.8004	22.46	10.20	32.66	56.00	-23.34	QP	
8		2.8004	17.18	10.20	27.38	46.00	-18.62	AVG	
9		7.7280	18.66	10.30	28.96	60.00	-31.04	QP	
10		8.7944	15.58	10.34	25.92	50.00	-24.08	AVG	
11		21.5925	20.82	10.37	31.19	50.00	-18.81	AVG	
12		22.3890	24.20	10.35	34.55	60.00	-25.45	QP	

Neutral



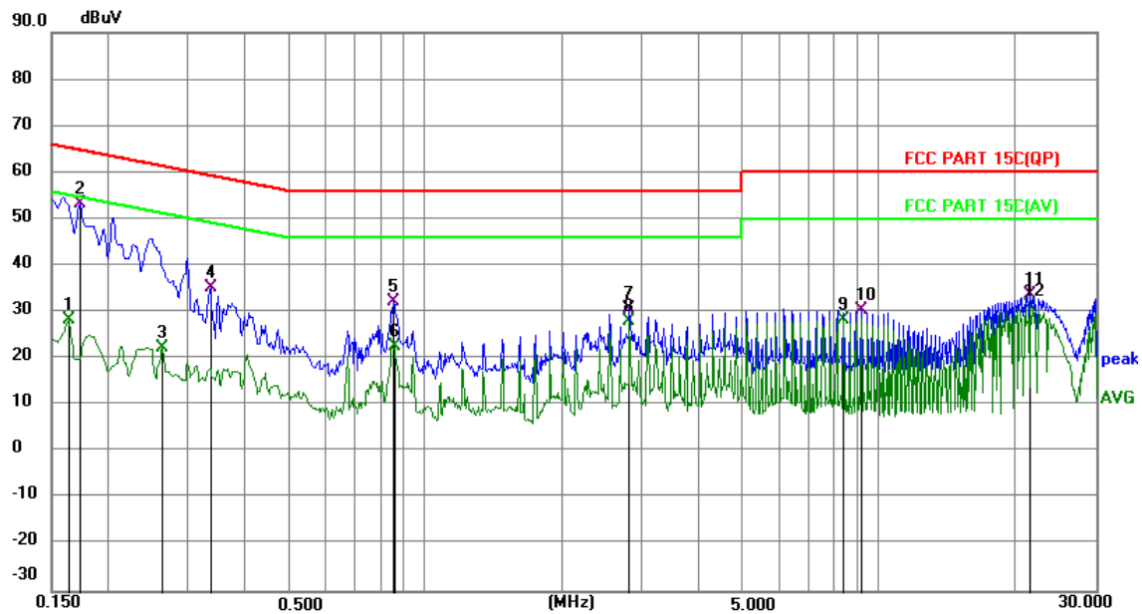
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
1		0.1635	19.84	10.10	29.94	55.28	-25.34	AVG	
2	*	0.2130	37.50	10.13	47.63	63.09	-15.46	QP	
3		0.3209	24.54	10.06	34.60	59.68	-25.08	QP	
4		0.4020	9.77	10.05	19.82	47.81	-27.99	AVG	
5		0.8520	23.15	10.10	33.25	56.00	-22.75	QP	
6		0.8520	15.05	10.10	25.15	46.00	-20.85	AVG	
7		2.8004	18.34	10.23	28.57	46.00	-17.43	AVG	
8		3.0660	24.95	10.23	35.18	56.00	-20.82	QP	
9		7.4714	15.22	10.24	25.46	50.00	-24.54	AVG	
10		7.7370	18.01	10.24	28.25	60.00	-31.75	QP	
11		22.6724	19.98	10.32	30.30	50.00	-19.70	AVG	
12		22.9424	23.56	10.31	33.87	60.00	-26.13	QP	

***Note: Pre-scan all modes and recorded the worst case results in this report.

Margin=Reading level + Correct - Limit;

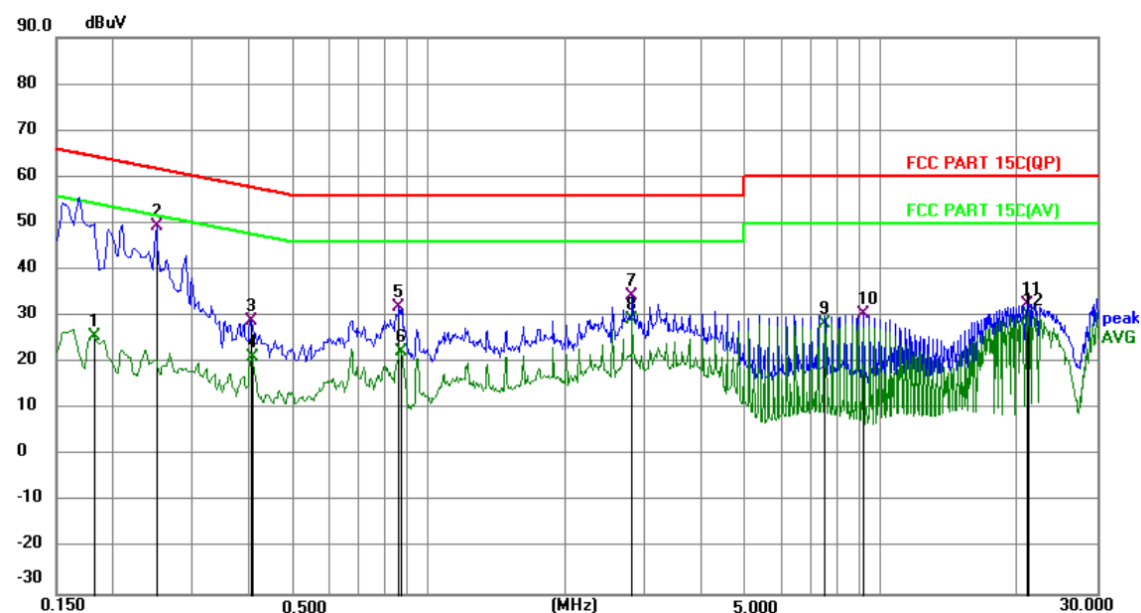
Correct Factor=Lisn Factor+Cable Factor+Insertion loss of Pulse Limitter

Without usb cable:
Line



No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1635	18.21	10.15	28.36	55.28	-26.92	AVG	
2	*	0.1724	43.22	10.14	53.36	64.84	-11.48	QP	
3		0.2625	12.14	10.12	22.26	51.35	-29.09	AVG	
4		0.3345	25.04	10.12	35.16	59.34	-24.18	QP	
5		0.8520	21.98	10.19	32.17	56.00	-23.83	QP	
6		0.8565	12.52	10.19	22.71	46.00	-23.29	AVG	
7		2.8230	20.57	10.19	30.76	56.00	-25.24	QP	
8		2.8230	17.83	10.19	28.02	46.00	-17.98	AVG	
9		8.3354	18.15	10.33	28.48	50.00	-21.52	AVG	
10		9.1410	20.16	10.35	30.51	60.00	-29.49	QP	
11		21.5025	23.31	10.37	33.68	60.00	-26.32	QP	
12		21.5025	20.84	10.37	31.21	50.00	-18.79	AVG	

Neutral



No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1814	15.55	10.10	25.65	54.42	-28.77	AVG	
2	*	0.2490	39.22	10.10	49.32	61.79	-12.47	QP	
3		0.4020	19.02	10.05	29.07	57.81	-28.74	QP	
4		0.4063	11.04	10.05	21.09	47.72	-26.63	AVG	
5		0.8610	21.88	10.10	31.98	56.00	-24.02	QP	
6		0.8700	12.32	10.10	22.42	46.00	-23.58	AVG	
7		2.8230	24.24	10.23	34.47	56.00	-21.53	QP	
8		2.8230	18.95	10.23	29.18	46.00	-16.82	AVG	
9		7.5255	18.25	10.24	28.49	50.00	-21.51	AVG	
10		9.1364	20.09	10.27	30.36	60.00	-29.64	QP	
11		20.9624	22.19	10.34	32.53	60.00	-27.47	QP	
12		21.2325	19.82	10.34	30.16	50.00	-19.84	AVG	

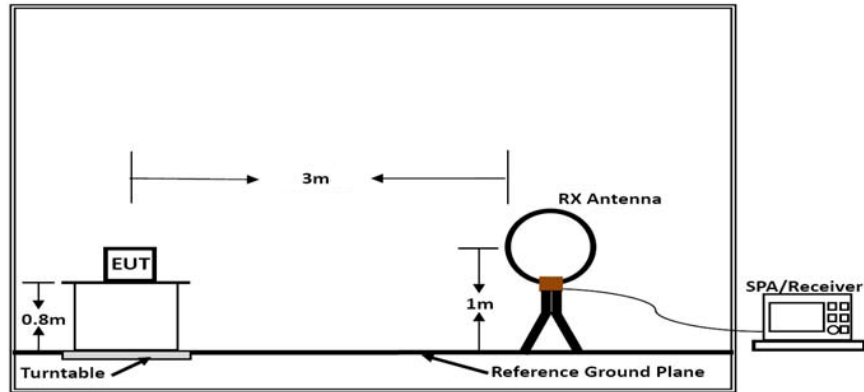
***Note: Pre-scan all modes and recorded the worst case results in this report.

Margin=Reading level + Correct - Limit;

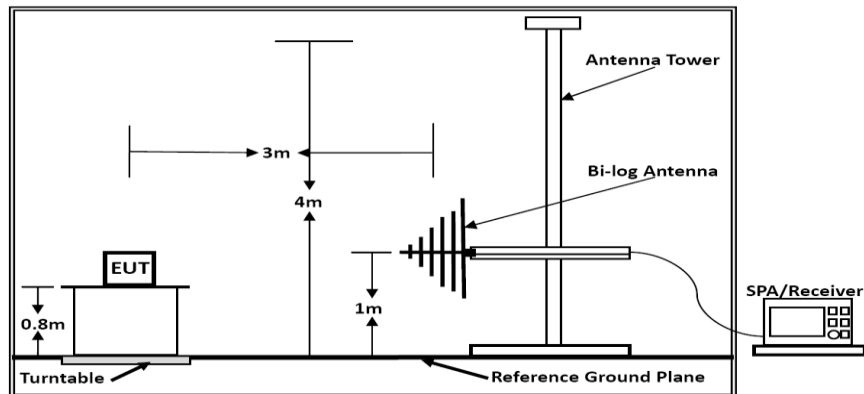
Correct Factor=Lisn Factor+Cable Factor+Insertion loss of Pulse Limitter

7. RADIATED EMISSION MEASUREMENT

7.1. Block Diagram of Test Setup



Below 30MHz



Below 1GHz

7.2. Radiated Emission Limit

15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
\1\ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2\)
13.36-13.41			

\1\ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

\2\ Above 38.6

According to §15.247 (d): 20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

7.3. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.4. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS \text{ (dBuV/m)} = RA \text{ (dBuV)} + AF \text{ (dB/m)} + CL \text{ (dB)} - AG \text{ (dB)}$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

7.5. Operating Condition of EUT

(1) Setup the EUT as shown in Section 7.1.

7.6. Measuring Setting

The following table is the setting of spectrum analyzer and receiver.

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP/Average
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP/Average
Start ~ Stop Frequency	30MHz~1000MHz / RB 100kHz for QP

7.7. Test Procedure

1) Sequence of testing 9 kHz to 30 MHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- If the EUT is a floor standing device, it is placed on the ground.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Premeasurement:

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna height is 1.0 meter.
- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

- Identified emissions during the premeasurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QPK detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

2) Sequence of testing 30 MHz to 1 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna is polarized vertical and horizontal.

--- The antenna height changes from 1 to 3 meter.

--- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ($\pm 45^\circ$) and antenna movement between 1 and 4 meter.

--- The final measurement will be done with QP detector with an EMI receiver.

--- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

7.8. Test Results

PASS.

Both AC and DC modes were tested, only AC mode was recorded

Only report the worst test data (Mode 1) in test report;

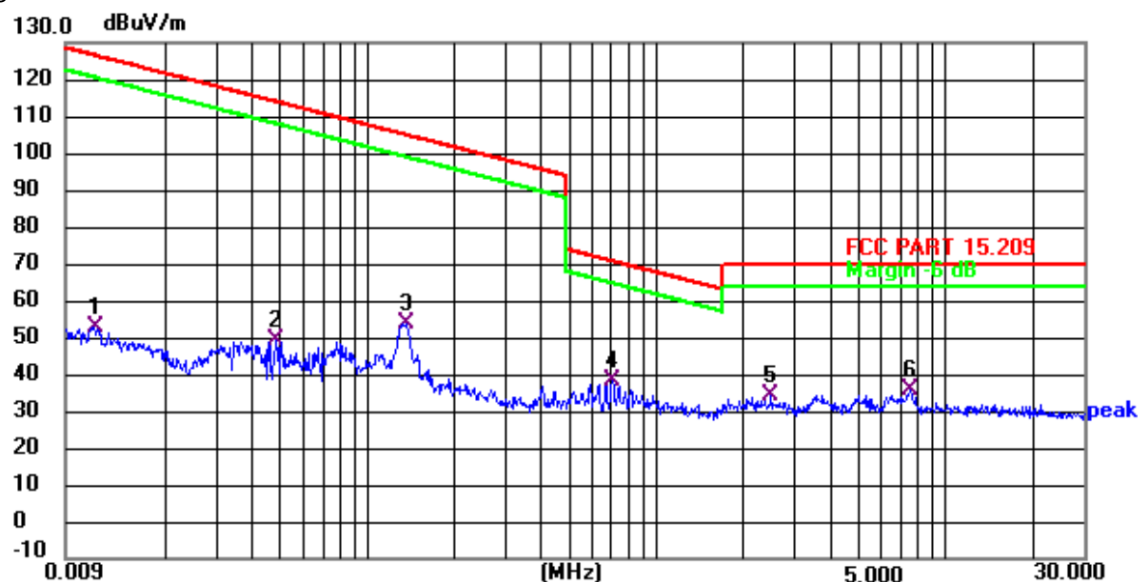
The test data please refer to following page:

Temperature	23.4℃	Humidity	51.7%
Test Engineer	Suichao Lai	Configurations	Transmit

With usb cable:

0.009 MHz – 30 MHz

0 degree



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		0.0112	31.85	20.92	52.77	126.62	-73.85	QP	
2		0.0482	28.02	21.39	49.41	113.94	-64.53	QP	
3		0.1351	32.11	21.56	53.67	104.99	-51.32	QP	
4	*	0.7015	16.94	21.26	38.20	70.68	-32.48	QP	
5		2.4865	12.84	21.27	34.11	69.54	-35.43	QP	
6		7.5550	14.84	21.06	35.90	69.54	-33.64	QP	

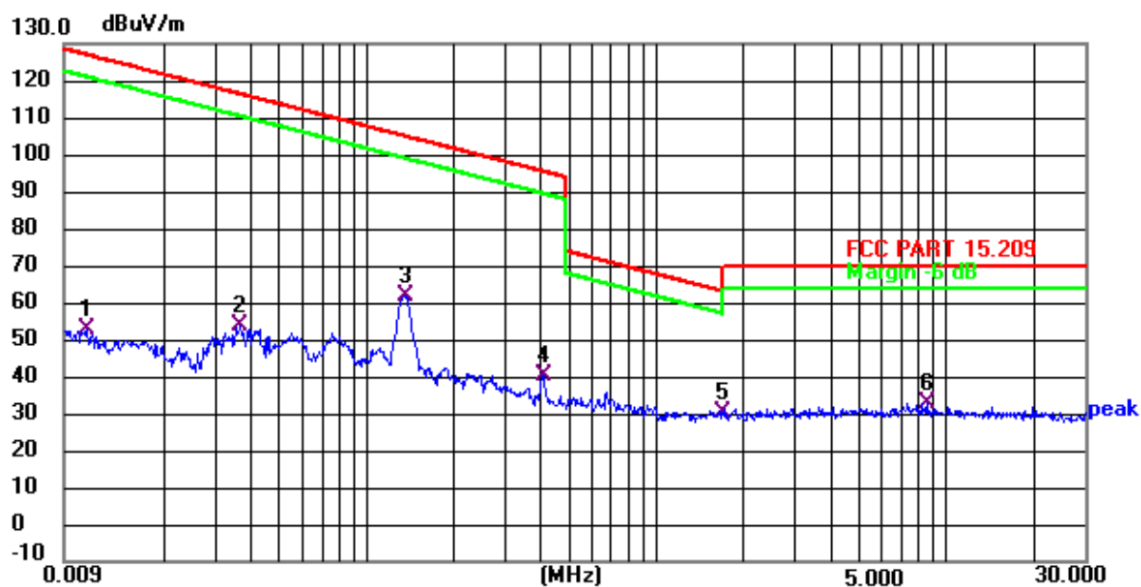
Remark: 1). Measured at antenna position 0 degree and 90 degree, recorded worst case at 0 degree.

2). Margin=Reading level + Factor- Limit

With usb cable:

0.009 MHz – 30 MHz

0 degree



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		0.0107	31.61	20.91	52.52	127.02	-74.50	QP	
2		0.0366	32.31	21.33	53.64	116.33	-62.69	QP	
3		0.1351	40.22	21.56	61.78	104.99	-43.21	QP	
4		0.4073	18.78	21.51	40.29	95.41	-55.12	QP	
5	*	1.6983	9.15	21.11	30.26	63.00	-32.74	QP	
6		8.5324	11.86	21.10	32.96	69.54	-36.58	QP	

Remark: 1). Measured at antenna position 0 degree and 90 degree, recorded worst case at 0 degree.

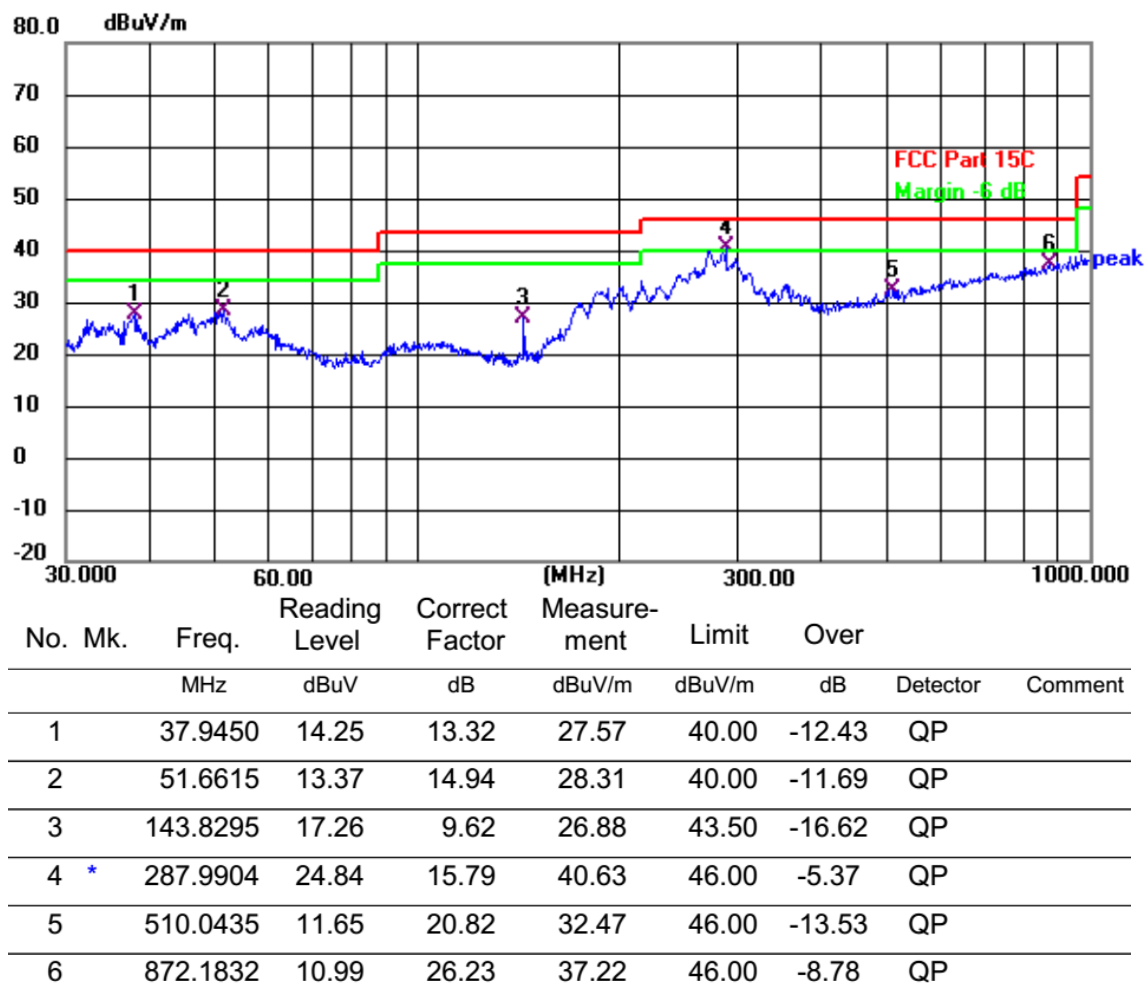
2). Margin=Reading level + Factor- Limit

Temperature	23.4℃	Humidity	51.7%
Test Engineer	Suichao Lai	Configurations	Transmit

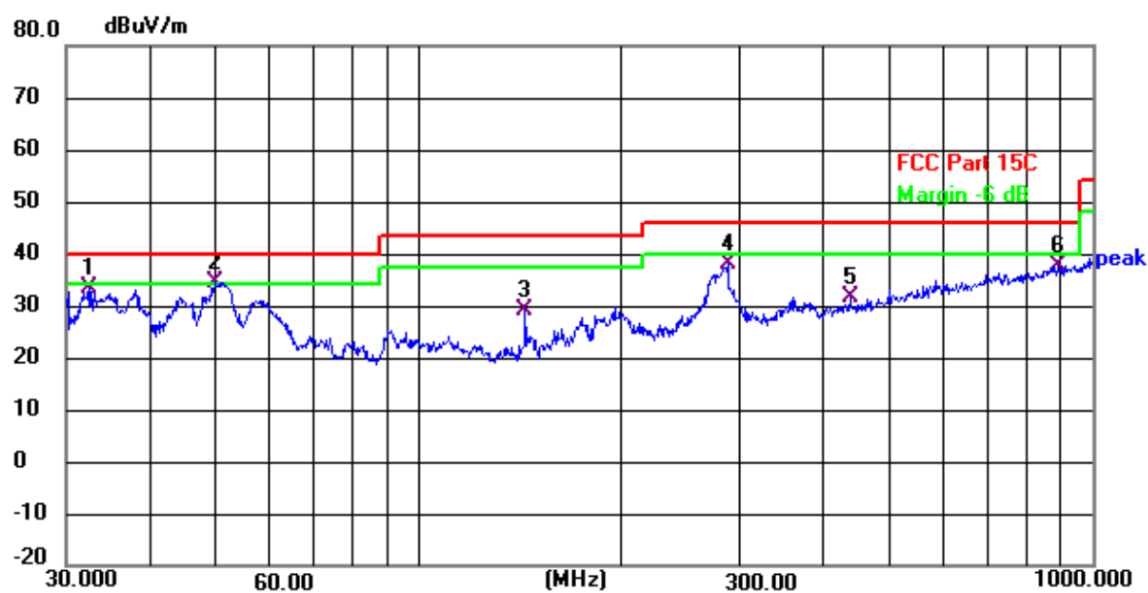
Below 1GHz

With usb cable:

Horizontal



Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		32.4060	21.89	11.62	33.51	40.00	-6.49	QP	
2	*	49.8814	19.89	14.75	34.64	40.00	-5.36	QP	
3		143.8295	19.45	9.62	29.07	43.50	-14.43	QP	
4		287.9904	22.24	15.79	38.03	46.00	-7.97	QP	
5		437.1200	12.30	19.23	31.53	46.00	-14.47	QP	
6		890.7277	11.21	26.57	37.78	46.00	-8.22	QP	

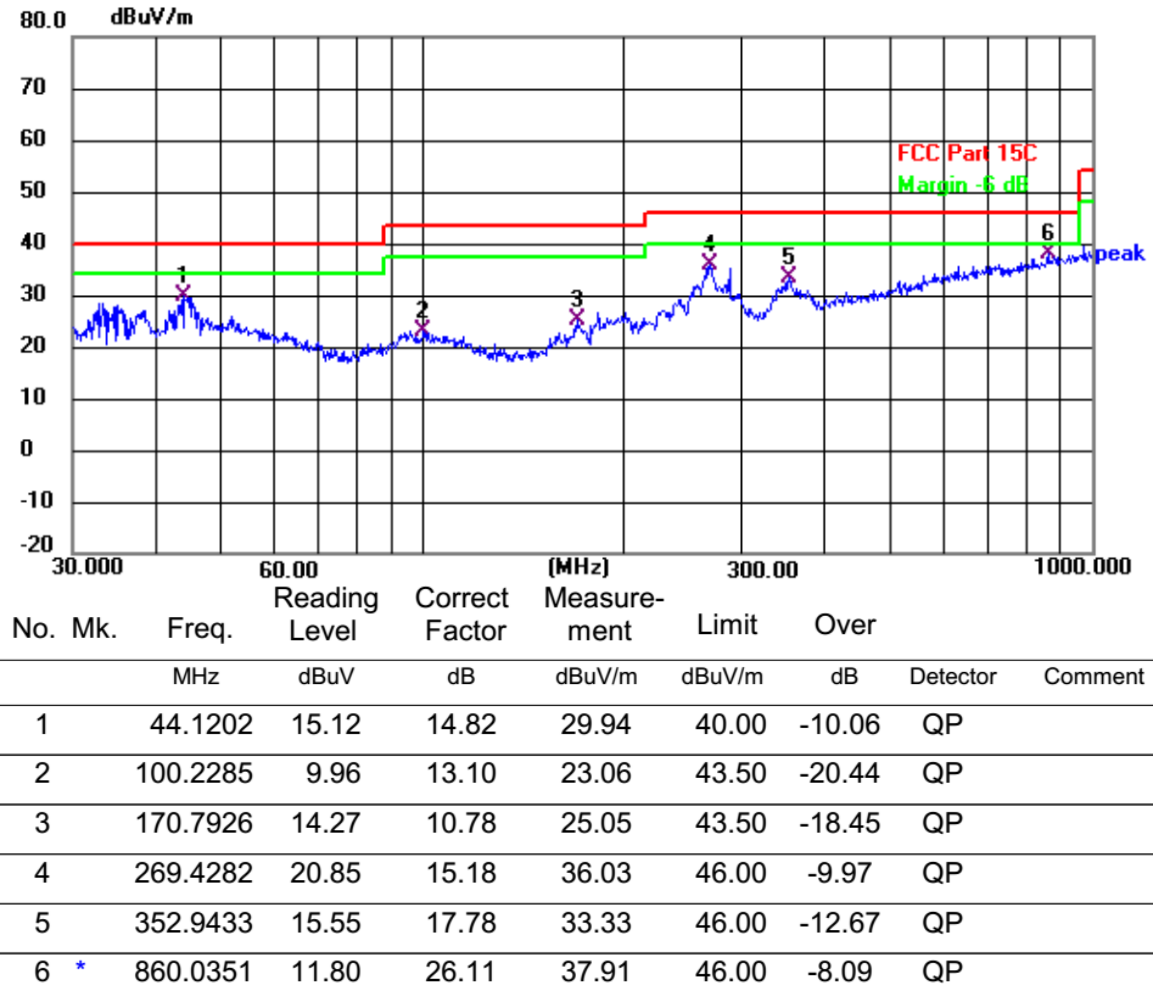
1). Emission level (dBuV/m) = 20 log Emission level (uV/m).

2). Margin=Reading level + Factor- Limit.

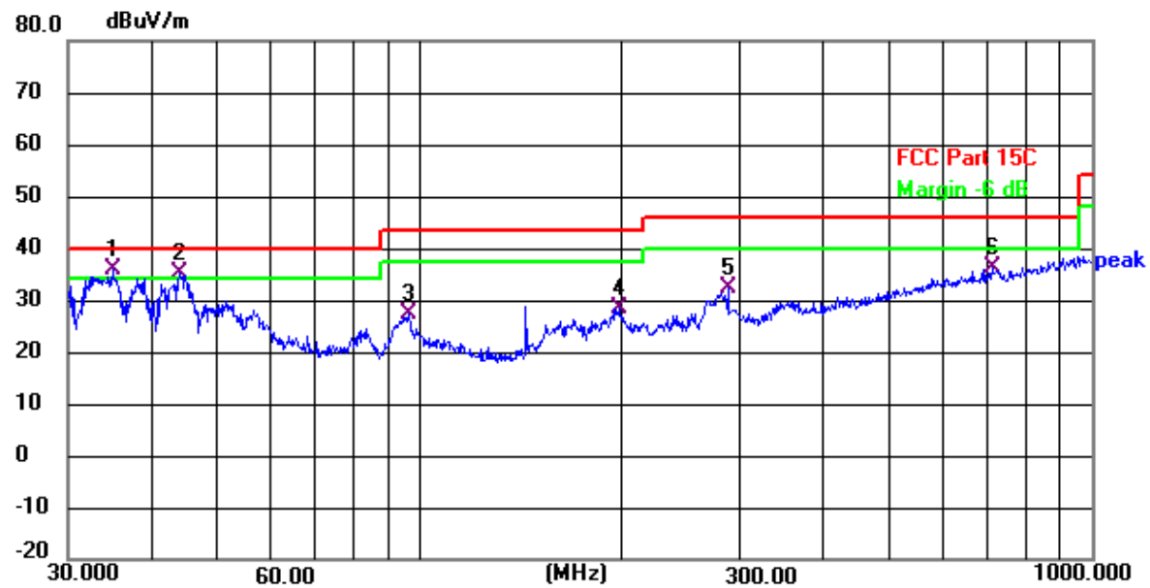
Correct Factor=Antenna Factor+Cable Factor- Pre-amplifier Factor

Without usb cable:

Horizontal



Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	35.0048	23.75	12.11	35.86	40.00	-4.14	QP	
2	!	44.1200	20.27	14.82	35.09	40.00	-4.91	QP	
3		96.4361	14.77	12.63	27.40	43.50	-16.10	QP	
4		197.8928	15.15	13.23	28.38	43.50	-15.12	QP	
5		287.9904	16.50	15.79	32.29	46.00	-13.71	QP	
6		711.6734	11.92	24.20	36.12	46.00	-9.88	QP	

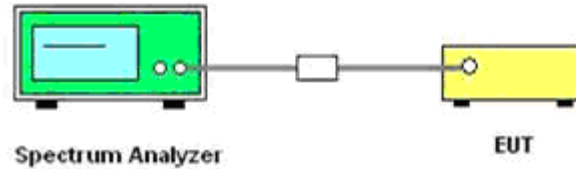
1). Emission level (dBuV/m) = $20 \log$ Emission level (uV/m).

2). Margin=Reading level + Factor- Limit.

Correct Factor=Antenna Factor+Cable Factor- Pre-amplifier Factor

8. 20 DB BANDWIDTH MEASUREMENT

8.1. Block Diagram of Test Setup



8.2. Test Procedure

Use the following spectrum analyzer settings:

Span = 800Hz

RBW = 10Hz

VBW = 30Hz

Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

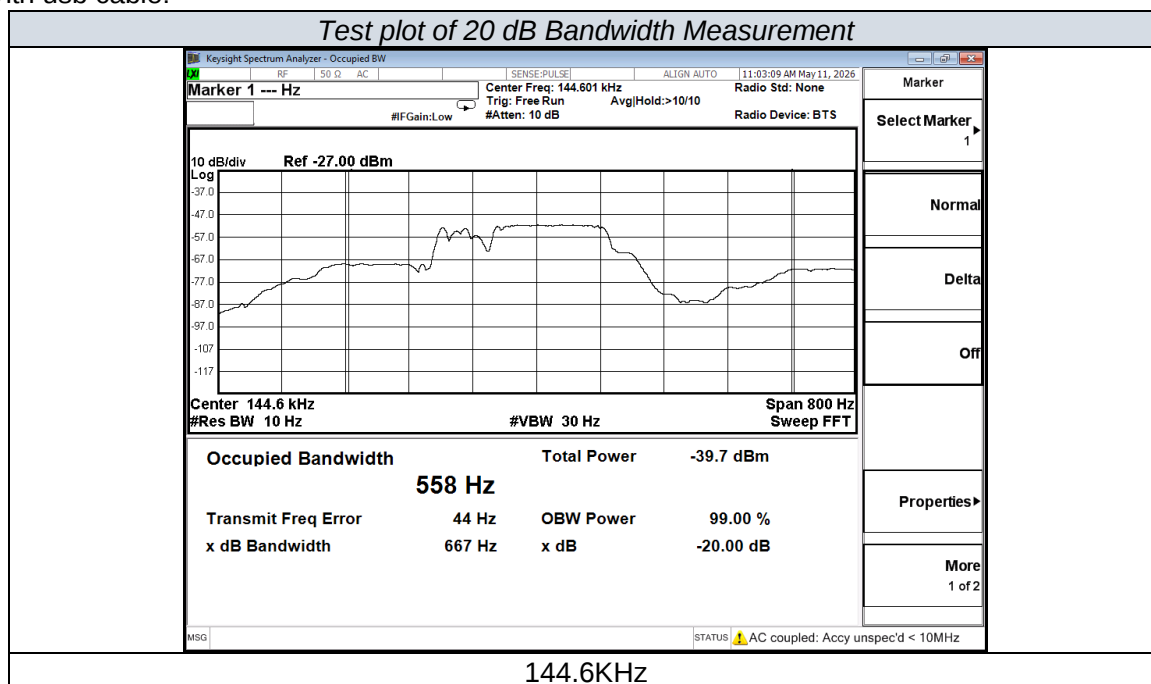
8.3. Test Results

Test Result Of 20dB Bandwidth Measurement		
Test Frequency (MHz)	20dB Bandwidth (kHz)	Limit (kHz)
0.1446	0.667	Non-Specified
0.1449	0.344	Non-Specified

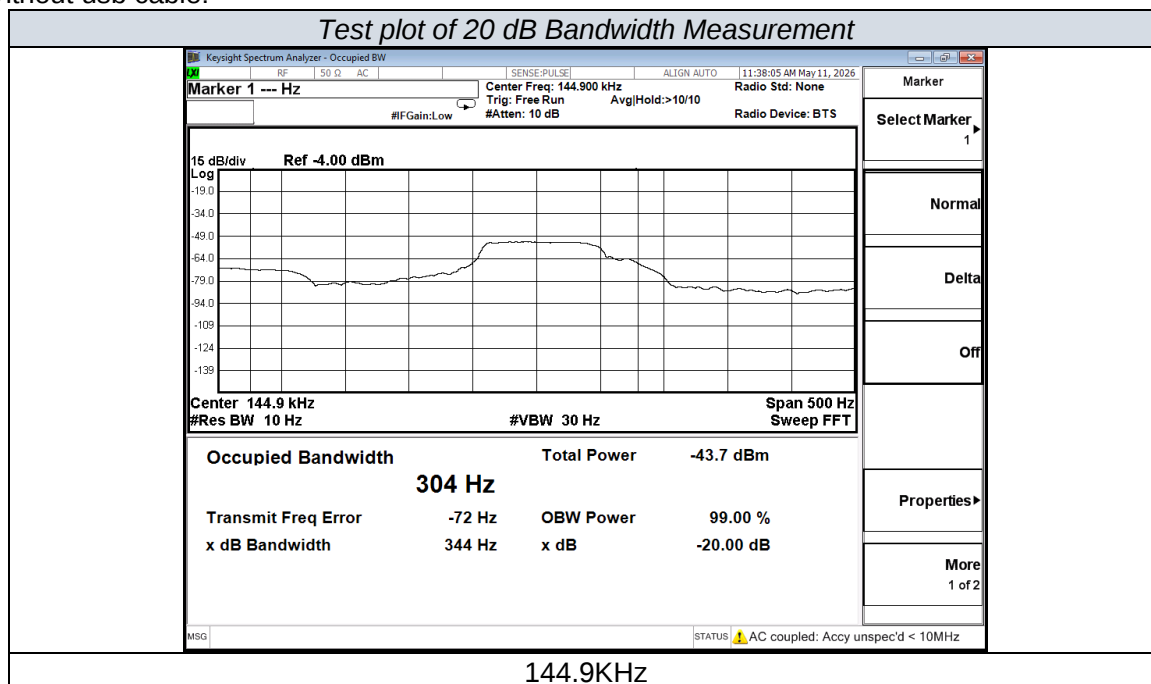
Result: Pass

Please refer to the following page for test plot.

With usb cable:



Without usb cable:



9. PHOTOGRAPHS OF TEST SETUP

Please refer to separated files for Test Setup Photos of the EUT.

10. EXTERNAL PHOTOGRAPHS OF THE EUT

Please refer to separated files for External Photos of the EUT.

11. INTERNAL PHOTOGRAPHS OF THE EUT

Please refer to separated files for Internal Photos of the EUT.

-----THE END OF REPORT-----