



FCC TEST REPORT

FCC ID: 2BC8J-PS-B008WALR

On Behalf of

SHENZHEN SNAPPER TECHNOLOGY CO., LTD

Universal Power Charger

**Model No.: PS-B008WA, PS-B008, PS-B008WAR, PS-B008WALR,
QM10004AC**

Prepared for : SHENZHEN SNAPPER TECHNOLOGY CO., LTD

Address : F4, BldgE, Fenghuang third Industrial area, Tengfeng Road, Fuyong,
Baoan, Shenzhen, 518000, China

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.

Address : Building i, No.2, Lixin Road, Fuyong Street, Bao'an District,
518103, Shenzhen, Guangdong, China

Report Number : A2406135-C01-R05

Date of Receipt : August 8, 2024

Date of Test : August 8, 2024 - October 23, 2024

Date of Report : October 23, 2024

Version Number : V0

Test Result : **Pass**

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TEST REPORT DECLARATION

Applicant : SHENZHEN SNAPPER TECHNOLOGY CO., LTD
Address : F4, BldgE, Fenghuang third Industrial area, Tengfeng Road, Fuyong, Baoan, Shenzhen, 518000, China
Manufacturer : SHENZHEN SNAPPER TECHNOLOGY CO., LTD
Address : F4, BldgE, Fenghuang third Industrial area, Tengfeng Road, Fuyong, Baoan, Shenzhen, 518000, China
EUT Description : Universal Power Charger
(A) Model No. : PS-B008WA, PS-B008, PS-B008WAR, PS-B008WALR, QM10004AC
(B) Trademark : N/A

Measurement Standard Used:

FCC CFR Title 47 Part 15 Subpart C Section 15.209

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the FCC CFR Title 47 Part 15 Subpart C Section 15.209 requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

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

Yannis Wen
Project Engineer



Approved by (name + signature).....:

Jack Xu
Project Manager



Date of issue.....:

October 23, 2024

Revision History

Revision	Issue Date	Revisions	Revised By
V0	October 23, 2024	Initial released Issue	Yannis Wen

1. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Spurious Emission	§15.209(a)(f)	PASS
Occupied Bandwidth	§15.215 (c)	PASS

Note:

1. *PASS: Test item meets the requirement.*
2. *Fail: Test item does not meet the requirement.*
3. *N/A: Test case does not apply to the test object.*
4. *The test result judgment is decided by the limit of test standard.*

2. General Information

2.1. Description of Device (EUT)

EUT Name	:	Universal Power Charger
Model No.	:	PS-B008WA, PS-B008, PS-B008WAR, PS-B008WALR, QM10004AC
DIFF.	:	There is no difference except the appearance color. All tests are made with the PS-B008WALR model.
Power supply	:	Battery: 10000mAh@3.7V 37Wh AC Input: 100-240V AC 50Hz/60Hz 0.3A(Max) Type-C Input: 5V--- 3A, 9V--- 2A, 12V--- 1.5A Type-C Output: 5V--- 3A, 9V--- 2.22A, 12V--- 1.67A 20W Max Type-C Wire Output: 5V--- 3A, 9V--- 2.22A, 12V--- 1.67A 20W Max lightning adaptor Output: 5V--- 2.4A, 9V--- 2.0A USB-A Output: 5V--- 3A, 9V--- 2A, 12V--- 1.5A 18W Max Wireless Output: 5W/7.5W/10W/15W Watch Wireless Output: 5V--- 2.5W (Max) Adaptor mode output: 5V--- 2A Total sharing output: 5V--- 3A
Radio technology	:	Wireless charging technology
Operation frequency	:	115~205KHz
Modulation	:	MSK
Antenna Type	:	Coil Antenna, Maximum Gain is 0dBi (Antenna information is provided by applicant.).
Software version	:	V1.0
Hardware version	:	V1.0
Intend use environment	:	Residential, commercial and light industrial environment

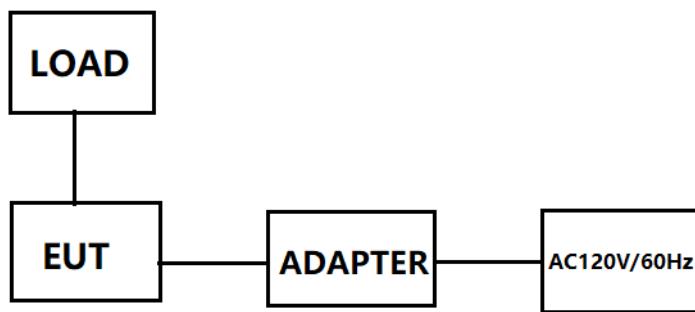
2.2. Accessories of Device (EUT)

Accessories1 : /
 Manufacturer : /
 Model : /
 Ratings : /

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1	N/A	N/A	N/A	N/A	N/A

2.4. Block Diagram of Connection between EUT and Simulators



2.5. Description of Test Modes

Channel	Frequency (KHz)
1	145

2.6. Test Conditions

Items	Required	Actual
Temperature range:	15-35°C	23°C
Humidity range:	25-75%	55%
Pressure range:	86-106kPa	98kPa

2.7. Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission

Registration Number: 293961

July 15, 2019 Certificated by IC

Registration Number: CN0085

2.8. Measurement Uncertainty

(95% confidence levels, k=2)

Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.74dB(Polarize: V) 3.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.77dB(Polarize: V) 3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V) 4.30 dB(Polarize: H)
Uncertainty for radio frequency	5.06×10^{-8} GHz
Uncertainty for conducted RF Power	0.40dB
Uncertainty for temperature	0.2°C
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

2.9. Test Equipment List

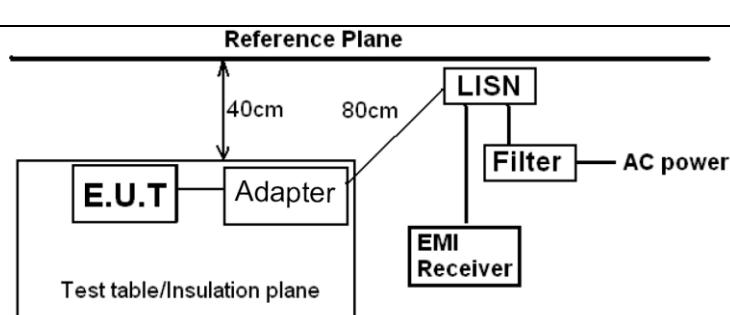
Equipment	Manufacture	Model No.	Firmware version	Serial No.	Last cal.	Cal Interval
9*6*6 anechoic chamber	CHENYU	9*6*6	/	N/A	2022.05.18	3Year
Spectrum analyzer	ROHDE&SCHWARZ	FSV40-N	2.3	102137	2024.08.08	1Year
Spectrum analyzer	Agilent	N9020A	A.14.16	MY499100060	2024.08.08	1Year
Receiver	ROHDE&SCHWARZ	ESR	2.28 SP1	1316.3003K03-10 2082-Wa	2024.08.08	1Year
Receiver	R&S	ESCI	4.42 SP1	101165	2024.08.08	1Year
Bilog Antenna	Schwarzbeck	VULB 9168	/	VULB 9168#627	2023.08.28	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	/	2106	2023.08.19	2Year
Loop Antenna	SCHWARZBECK	FMZB 1519B	/	00128	2023.08.19	2Year
RF Cable	Resenberger	Cable 1	/	RE1	2024.08.08	1Year
RF Cable	Resenberger	Cable 2	/	RE2	2024.08.08	1Year
RF Cable	Resenberger	Cable 3	/	CE1	2024.08.08	1Year
Pre-amplifier	HP	HP8347A	/	2834A00455	2024.08.08	1Year
Pre-amplifier	Agilent	8449B	/	3008A02664	2024.08.08	1Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	/	8126-466	2024.08.08	1Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	/	101043	2024.08.08	1Year
Horn Antenna	SCHWARZBECK	BBHA 9170	/	00946	2023.08.19	2Year
Preamplifier	SKET	LNPA_1840 -50	/	SK2018101801	2024.08.08	1 Year
Power Meter	Agilent	E9300A	/	MY41496628	2024.08.08	1 Year
Power Sensor	DARE	RPR3006W	/	15100041SNO91	2024.08.08	1 Year
Electronic Thermo-Hygrometer	S.H.Qixiang	HTC-1	/	N/A	2024.08.11	1 Year
Switching Mode Power Supply	JUNKE	JK12010S	/	20140927-6	2024.08.08	1 Year
Adjustable attenuator	MWRFtest	N/A	/	N/A	N/A	N/A
10dB Attenuator	Mini-Circuits	DC-6G	/	N/A	N/A	N/A

Software Information			
Test Item	Software Name	Manufacturer	Version
RE	EZ-EMC	Farad	Alpha-3A1
CE	EZ-EMC	Farad	Alpha-3A1
RF-CE	MTS 8310	MW	V2.0.0.0

3. Test Results and Measurement Data

3.1. Conducted Emission

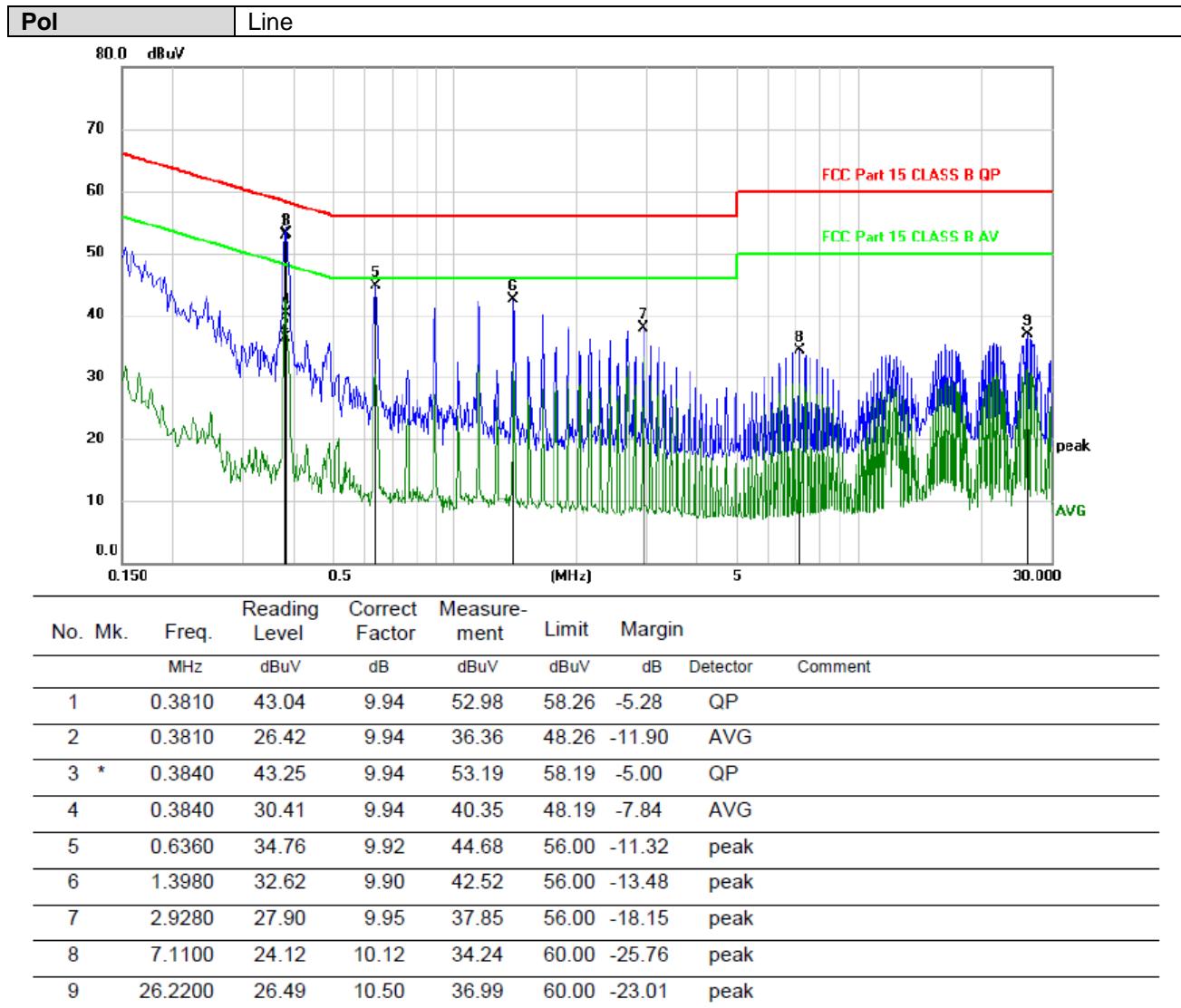
3.1.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207																
Test Method:	ANSI C63.10:2013																
Frequency Range:	150 kHz to 30 MHz																
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto																
Limits:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>			Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)																
	Quasi-peak	Average															
0.15-0.5	66 to 56*	56 to 46*															
0.5-5	56	46															
5-30	60	50															
Test Setup:	 <p><i>Remark:</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>																
Test Mode:	Transmitting Mode																
Test Procedure:	<ol style="list-style-type: none"> The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement. 																
Test Result:	PASS																

3.1.2. Test Data

Please refer to following diagram for individual

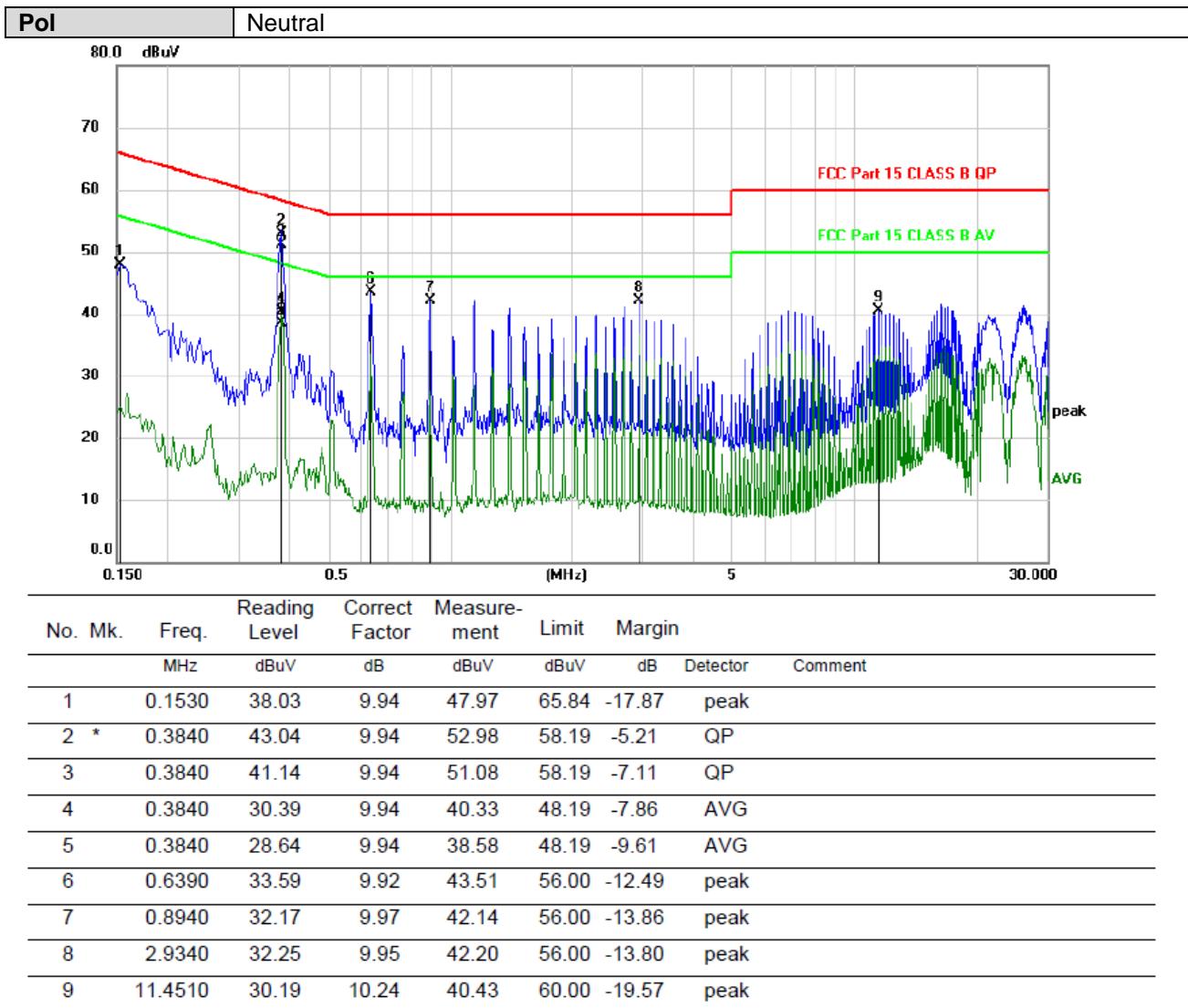
Test Mode	: TM1:Charging(AC in)+Wireless output(15W)
Test Result	: PASS
Note: The test results are listed in next pages.	
All test modes has been tested, this report only reflected the worst mode.(Charging+15W)	
If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out.	
If the limits for the measurement with the average detector are met when using a receiver with a quasi-peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.	



*:Maximum data x:Over limit !:over margin

(Reference Only)

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable



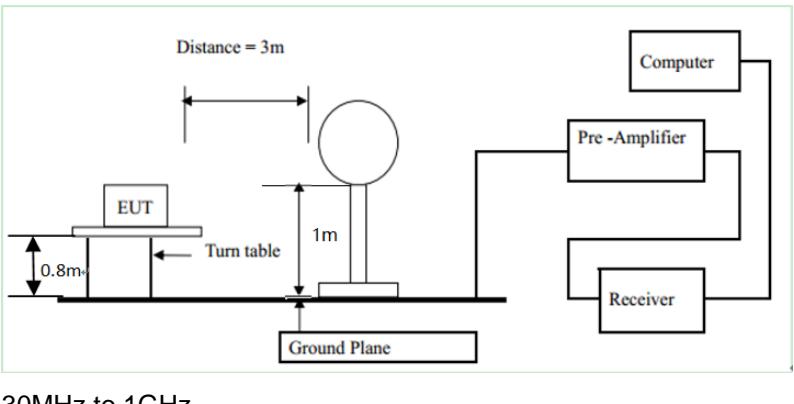
*:Maximum data x:Over limit !:over margin

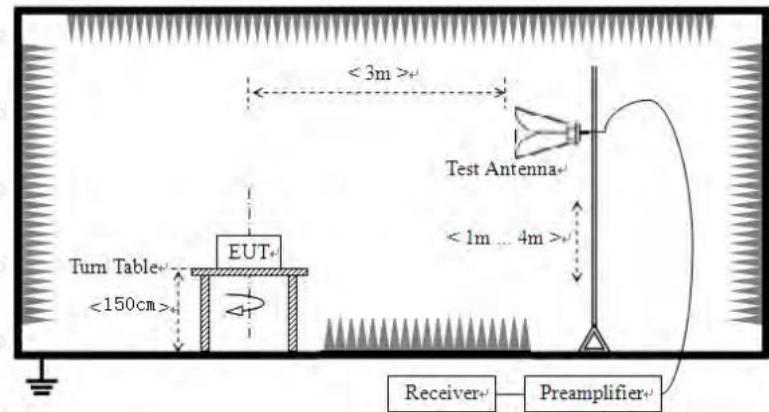
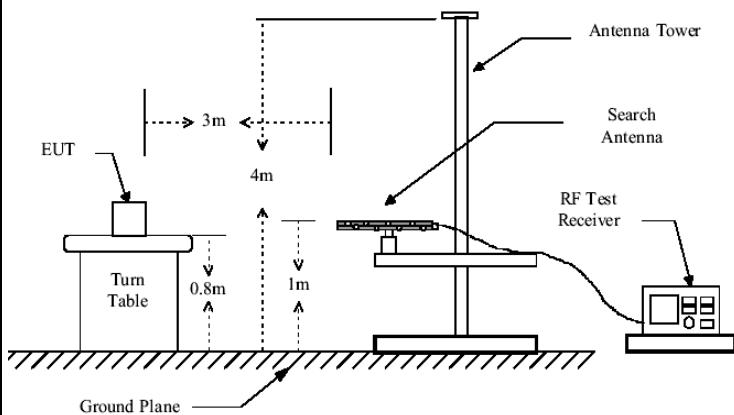
(Reference Only)

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

3.2. Radiated Spurious Emission Measurement

3.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.209						
Test Method:	ANSI C63.10: 2013						
Frequency Range:	9 kHz to 25 GHz						
Measurement Distance:	3 m						
Antenna Polarization:	Horizontal & Vertical						
Operation mode:	Refer to item 4.1						
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark		
	9kHz-150kHz	Quasi-pea k	200Hz	1kHz	Quasi-peak Value		
	150kHz-30MHz	Quasi-pea k	9kHz	30kHz	Quasi-peak Value		
	30MHz-1GHz	Quasi-pea k	100KH z	300KH z	Quasi-peak Value		
	Above 1GHz	Peak	1MHz	3MHz	Peak Value		
		Peak	1MHz	10Hz	Average Value		
Limit:	Frequency		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		30		30		
	30-88		100		3		
	88-216		150		3		
	216-960		200		3		
	Above 960		500		3		
	Frequency		Field Strength (microvolts/meter)		Measureme nt Distance (meters)		
	Above 1GHz		500		3		
	Above 1GHz		5000		3		
Test setup:	For radiated emissions below 30MHz						
							
	30MHz to 1GHz						



Test Procedure:

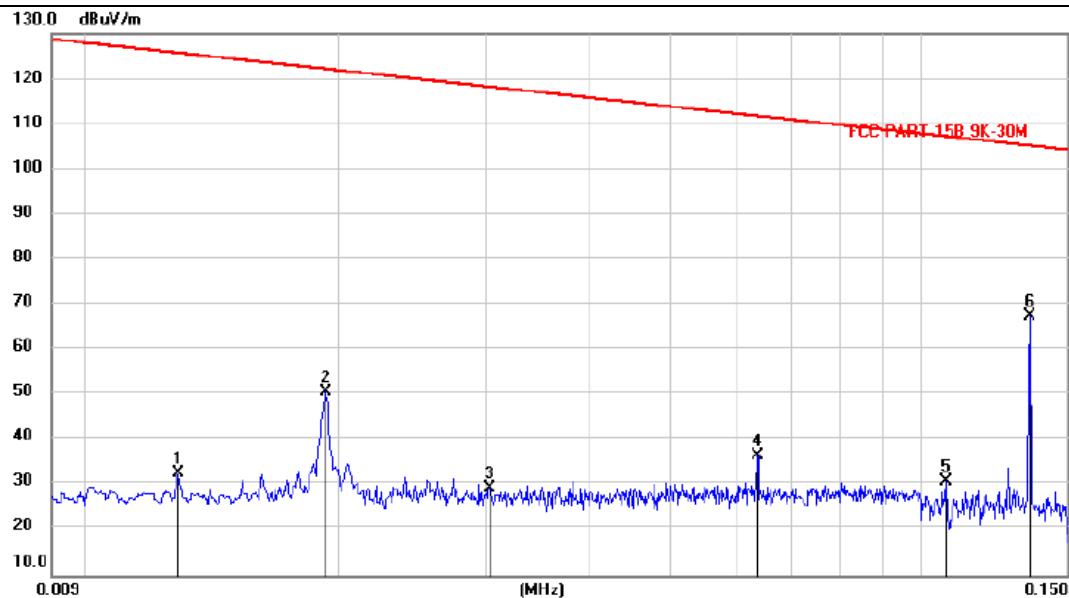
1. For the radiated emission test below 1GHz:
The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level.
For the radiated emission test above 1GHz:
Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
2. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
3. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using

	<p>the quasi-peak detector and reported.</p> <p>4. Use the following spectrum analyzer settings:</p> <ul style="list-style-type: none">(1) Span shall wide enough to fully capture the emission being measured;(2) Set RBW=100 kHz for $f < 1$ GHz; VBW \geq RBW; Sweep = auto; Detector function = peak; Trace = max hold;(3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. <p>For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent. VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.</p>
Test mode:	Refer to section 4.1 for details
Test results:	PASS

3.2.2. Test Data

Please refer to following diagram for individual

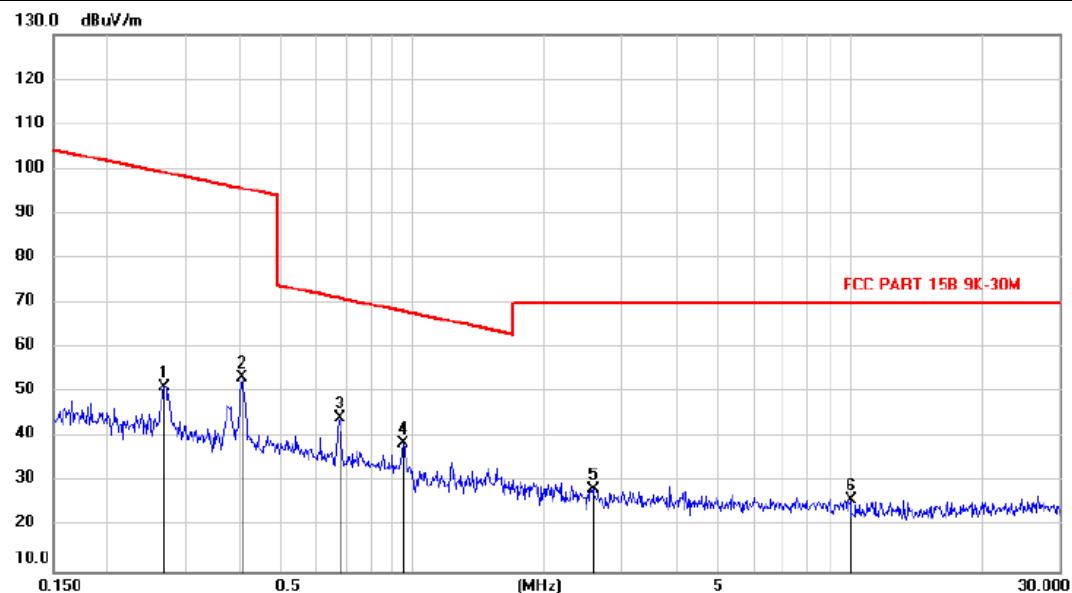
Frequency Range	: 9KHz~30MHz
Test Mode	: TX: 145kHz
Test Results	: PASS
Note: 1. The test results are listed in next pages. 2. This mode is worst case mode, so this report only reflected the worst mode. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.	



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.0128	11.09	21.43	32.52	125.6	-93.13	peak			
2		0.0192	29.39	21.27	50.66	122.1	-71.46	peak			
3		0.0303	8.36	20.98	29.34	118.1	-88.82	peak			
4		0.0637	16.42	20.11	36.53	111.7	-75.18	peak			
5		0.1073	11.18	19.73	30.91	107.1	-76.28	peak			
6	*	0.1354	47.57	19.98	67.55	105.1	-37.62	peak			

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.2699	31.26	20.03	51.29	99.16	-47.87	peak			
2		0.4051	33.40	19.84	53.24	95.65	-42.41	peak			
3	*	0.6769	24.44	19.81	44.25	71.15	-26.90	peak			
4		0.9451	18.71	19.97	38.68	68.21	-29.53	peak			
5		2.5698	8.05	20.39	28.44	70.00	-41.56	peak			
6		10.0027	4.98	21.20	26.18	70.00	-43.82	peak			

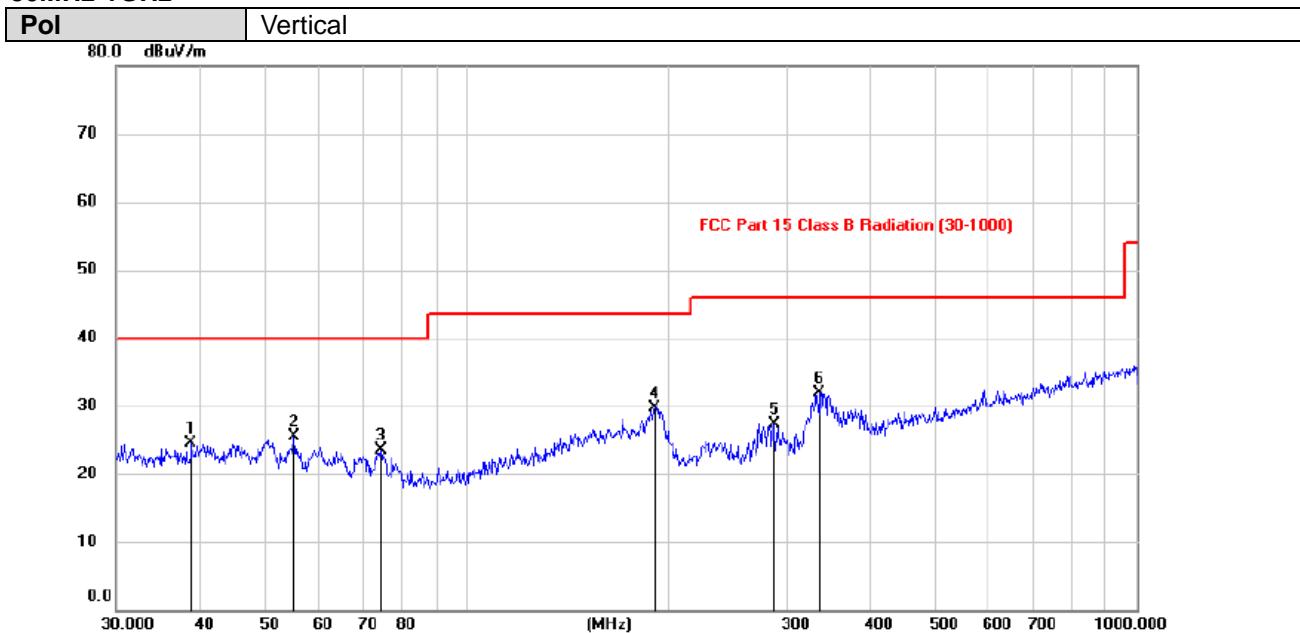
Note: 1. *:Maximum data; x:Over limit; l:over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Frequency Range	:	30MHz~1000MHz
Test Mode	:	TM1:Charging(AC in)+Wireless output(15W)
Test Results	:	PASS
Note: 1. The test results are listed in next pages. 2. All test modes has been tested, this report only reflected the worst mode. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.		

Frequency Range	:	Above 1GHz
EUT	:	/
M/N	:	/
Test Engineer	:	/
Test Mode	:	/
Test Results	:	N/A
Note: 1. The highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. So the frequency rang above 1GHz radiation test not applicable.		

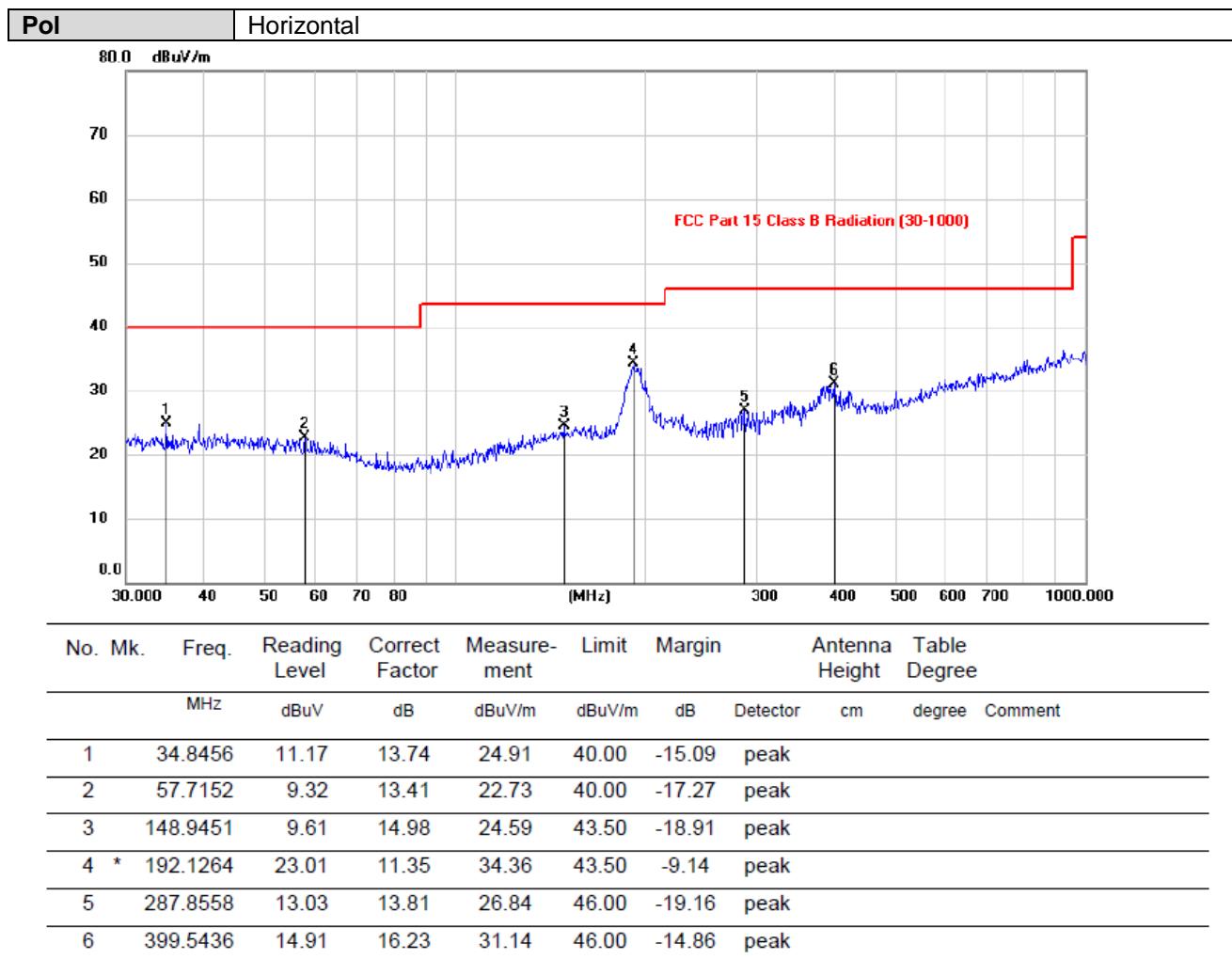
30MHz-1GHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna		Table Degree
								MHz	dBuV	
								dB	dB	Detector
1		38.8287	10.04	14.40	24.44	40.00	-15.56			peak
2		55.2724	11.90	13.57	25.47	40.00	-14.53			peak
3		74.4216	12.74	10.68	23.42	40.00	-16.58			peak
4	*	190.6723	18.37	11.43	29.80	43.50	-13.70			peak
5		287.4187	13.43	13.80	27.23	46.00	-18.77			peak
6		336.7823	16.95	15.00	31.95	46.00	-14.05			peak

Note: 1. *:Maximum data; x:Over limit; !:over margin.

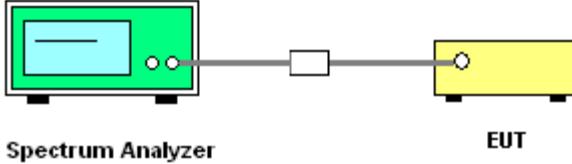
2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.



Note: 1. *:Maximum data; x:Over limit; !:over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

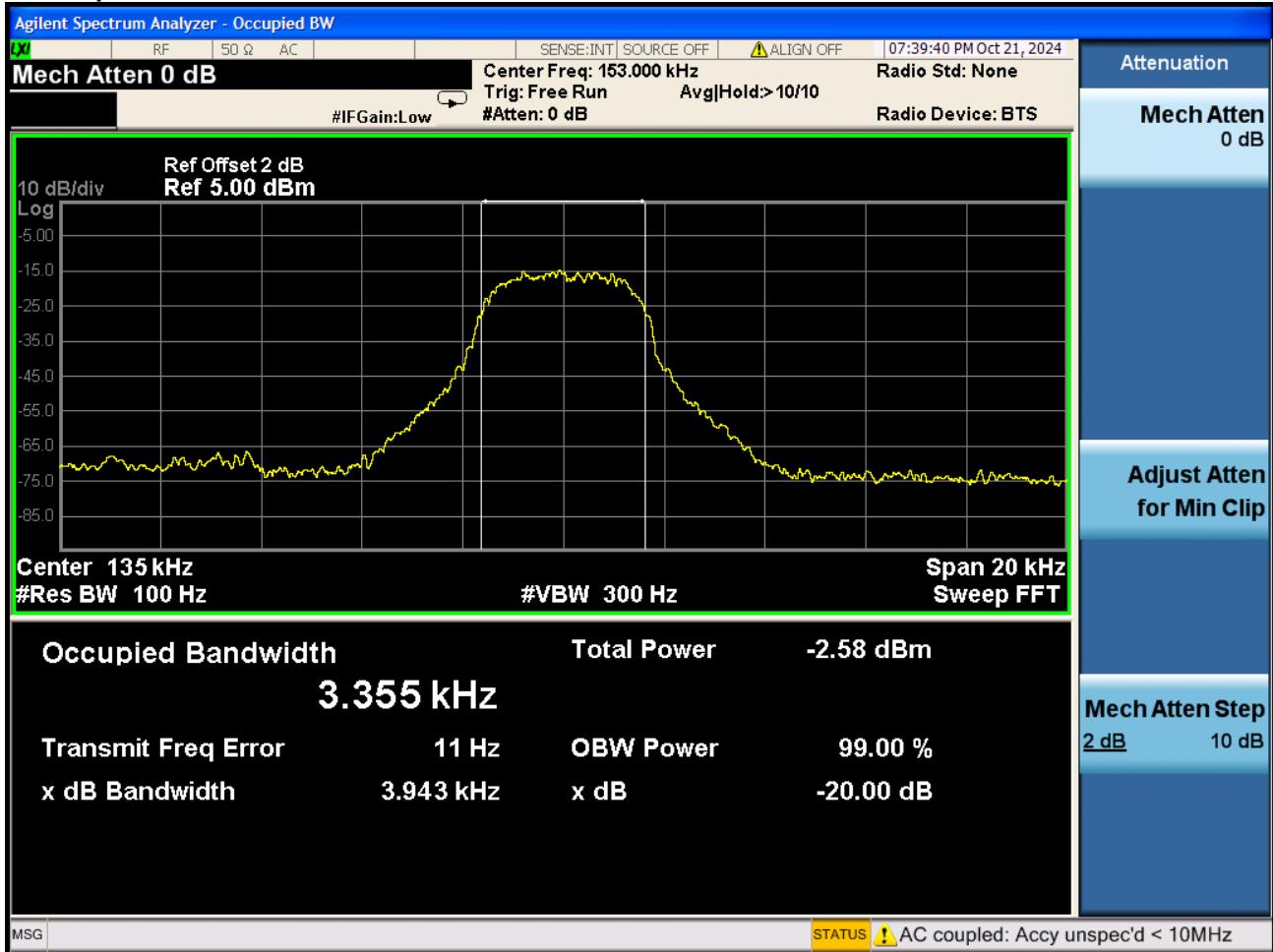
3.3. Test Specification

Test Requirement:	FCC Part15 C Section 15.215(c)
Test Method:	ANSI C63.10: 2013
Limit:	N/A
Test Procedure:	<ol style="list-style-type: none"> 1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW\geq1% of the 20 dB bandwidth; VBW\geqRBW; Sweep = auto; Detector function = peak; Trace = max hold. 4. Measure and record the results in the test report.
Test setup:	 <p>Spectrum Analyzer EUT</p>
Test Mode:	Refer to section 4.1 for details
Test results:	PASS

3.3.1. Test Data

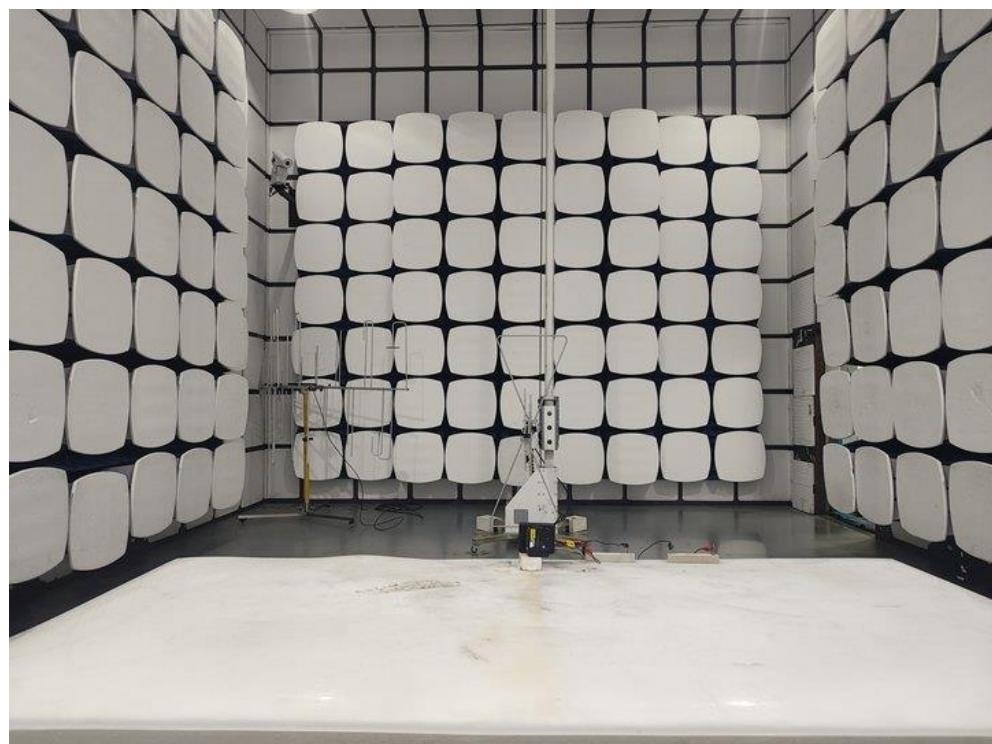
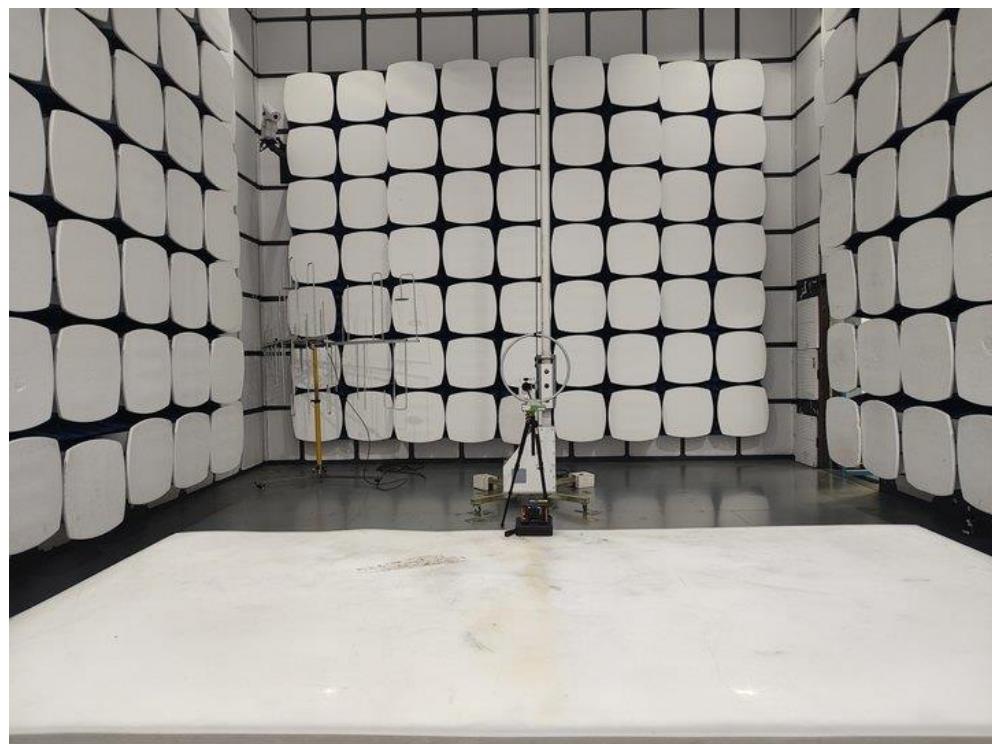
Frequency(KHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
135	3.355	---	PASS

Test plots as follows:

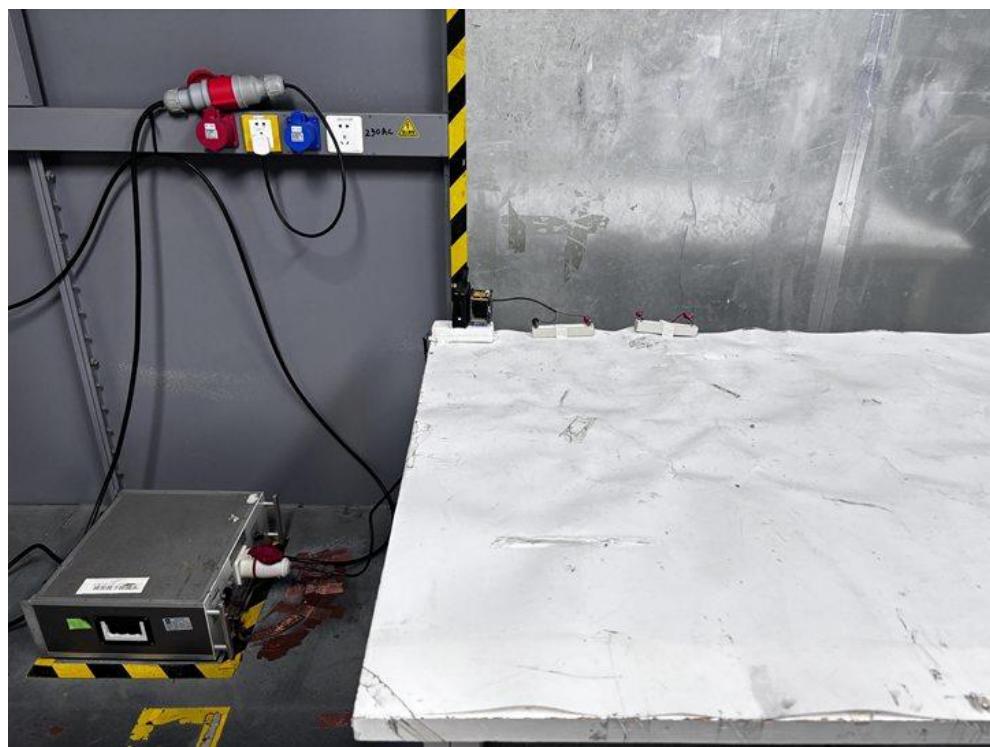


4. Photos of Test Setup

4.1.1. Radiated Emission



4.1.2. Conducted Emission



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