

Test Report No.:
FCC2024-0026-RF

RF Test Report

EUT : Wireless Charging Moudule
MODEL : 7900800X9D01
BRAND NAME : N/A
APPLICANT : Shenzhen Jiuzhou Zhuoneng Electric CO., LTD.
Classification Of Test : Commission Test

CVC Testing Technology Co., Ltd.



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Test Report No.: FCC2024-0026-RF

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Product Name	Wireless Charging Moudule	Trade Mark	/
Type/Model	7900800X9D01	Sample Status	/
Applicant	Shenzhen Jiuzhou Zhuoneng Electric CO., LTD.		
Applicant Address	Southern No. 12Rd., Hi-Tech Industrial Park, Nanshan District		
Manufacturer	Shenzhen Jiuzhou Zhuoneng Electric CO., LTD.		
Manufacturer Address	Southern No. 12Rd., Hi-Tech Industrial Park, Nanshan District		
Factory	Shenzhen Jiuzhou Zhuoneng Electric CO., LTD.		
Factory Address	Southern No. 12Rd., Hi-Tech Industrial Park, Nanshan District		
Sample Identification	1-1	Test Item	See page 5
Tested According To	FCC Part 15, Subpart C, Section 15.207, Section 15.209 Canada RSS-216 Issue 2+A1: 2020-09 Canada RSS-Gen Issue 5+A1+A2(2021-02)		
Receiving Date	2024-06-03	Completing Date	2024-07-05
Test conclusion	<p>The equipment under test was found to comply with the requirements of the standards applied.</p> <p>Final Verdict: Pass.</p> <p>Seal of CVC Date of issue: 2024-10-31</p>		
Abbreviations: / Pass= passed Fail = failed N/A= not applicable			
This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.			

Approved by:

Chen Huawen

Reviewed by:

Xu Zhenfei

Tested by:

Lu Weiji



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCC2024-0026-RF	Original release	October.31,2024



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
FCC STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.203	Antenna Requirement	PASS	No antenna connector is used.
15.207	AC Power Conducted Emission	N/A	See note 1
15.209,15.205,	Radiated Emissions	PASS	Meet the requirement of limit.
15.215 (c)	20dB Bandwidth Measurement	PASS	Meet the requirement of limit.

Note 1: This module is not operating on the AC power line.



1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Test Equipment	Type/Mode	SERIAL NO.	Equipment No.	Manufacturer	Cal. Due
Radiation SpuriousTest System					/
5m Semi-Anechoic Chamber	SAC-5	SAC-5-2.0	EM-000557	COMTEST	2024/11/02
loop antenna	HLA 6121	540046	EM-000546	TESEQ	2025/06/04
Spectrum Analyzer	N9010B	MY57470323	DZ-000174	KEYSIGHT	2025/01/02
EMI Test Receiver	N9038A-508	MY532290079	EM-000397	Agilent	2025/01/13
EMI Test Receiver	ESR7	102235	VGDY-0956	R&S	2025/01/13
Broadband Antenna	VULB 9163	9163-530	EM-000342	SCHWARZBECK	2025/06/07



1.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

No.	ITEM	FREQUENCY	UNCERTAINTY
1	20dB Bandwidth	110.5KHz ~ 205KHz	±936 Hz
2	Conducted Emissions	9kHz~30MHz	±2.66dB
3	Radiated Spurious Emissions	9KHz ~ 30MHz	±0.769dB
		30MHz ~ 1GMHz	±0.877dB
		1GHz ~ 18GHz	±0.777dB
		18GHz ~ 40GHz	±1.315dB

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

1.3 TEST LOCATION

The tests and measurements refer to this report were performed by RF testing Lab. of CVC Testing Technology Co., Ltd.

Address: No.3,TiantaiyiRoad,KaitaiAvenue,ScienceCity,Guangzhou,China

Post Code: 510663 Tel: 020-32293888

FAX: 020-32293889 E-mail: office@cvc.org.cn

Test Firm Registration Number: 937273



2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT	Wireless Charging Moudule
BRAND	N/A
MODEL	7900800X9D01
ADDITIONAL MODEL	N/A
FCC ID	2BLX3-7900800X9D01
POWER SUPPLY	DC 24V
MODULATION TYPE	ASK
OPERATING FREQUENCY	110.5KHz ~ 205KHz
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A
Remark: <ol style="list-style-type: none">For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.The information of the EUT is declared by the manufacturer.For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.Please refer to the EUT photo document for detailed EUT photo (FCC2024-0026-EUT).	



2.2 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC PART 15, Subpart C. Section 15.209
ANSI C63.10-2020

All test items have been performed and recorded as per the above standards

2.3 DESCRIPTION OF TEST MODE

The EUT were tested under the following modes, the final worst mode was marked in boldface and recorded in this repor

EMISSION Test Modes			
For Radiated Emission Tests(9kHz~30MHz)			
Test Mode		Test condition	Test Voltage
1	wireless charging (15W)	Test condition 1: Operating mode of the device with the client (battery status of the client device is 1%)	DC 24V
		Test condition 2: Operating mode of the device with the client (battery status of the client device is 50%)	
		Test condition 3: Operating mode of the device with the client (battery status of the client device is 99%)	
2	wireless charging (10W)	Test condition 1: Operating mode of the device with the client (battery status of the client device is 1%)	
		Test condition 2: Operating mode of the device with the client (battery status of the client device is 50%)	
		Test condition 3: Operating mode of the device with the client (battery status of the client device is 99%)	
3	wireless charging (7.5W)	Test condition 1: Operating mode of the device with the client (battery status of the client device is 1%)	
		Test condition 2: Operating mode of the device with the client (battery status of the client device is 50%)	
		Test condition 3: Operating mode of the device with the client (battery status of the client device is 99%)	
4	wireless charging (5W)	Test condition 1: Operating mode of the device with the client (battery status of the client device is 1%)	
		Test condition 2: Operating mode of the device with the client (battery status of the client device is 50%)	
		Test condition 3: Operating mode of the device with the client (battery status of the client device is 99%)	
For Radiated Emission Tests(30MHz~1GHz)			
Test Mode		Test condition	Test Voltage
1	wireless charging (15W)	Test condition 1: Operating mode of the device with the client (battery status of the client device is 1%)	DC 24V
		Test condition 2: Operating mode of the device with the client (battery status of the client device is 50%)	
		Test condition 3: Operating mode of the device with the client (battery status of the client device is 99%)	
2	wireless charging (10W)	Test condition 1: Operating mode of the device with the client (battery status of the client device is 1%)	



		Test condition 2: Operating mode of the device with the client (battery status of the client device is 50%)	
		Test condition 3: Operating mode of the device with the client (battery status of the client device is 99%)	
3	wireless charging (7.5W)	Test condition 1: Operating mode of the device with the client (battery status of the client device is 1%)	
		Test condition 2: Operating mode of the device with the client (battery status of the client device is 50%)	
		Test condition 3: Operating mode of the device with the client (battery status of the client device is 99%)	
4	wireless charging (5W)	Test condition 1: Operating mode of the device with the client (battery status of the client device is 1%)	
		Test condition 2: Operating mode of the device with the client (battery status of the client device is 50%)	
		Test condition 3: Operating mode of the device with the client (battery status of the client device is 99%)	

2.4 DESCRIPTION OF SUPPORT UNITS

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.

Support Equipment							
NO	Description	Brand		Model No.	Serial Number		Supplied by
1	Wireless charging load	/		5W, 7.5W, 10W, 15W	/		Lab
Support Cable							
NO	Description	Quantity (Number)	Length (m)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 Limit

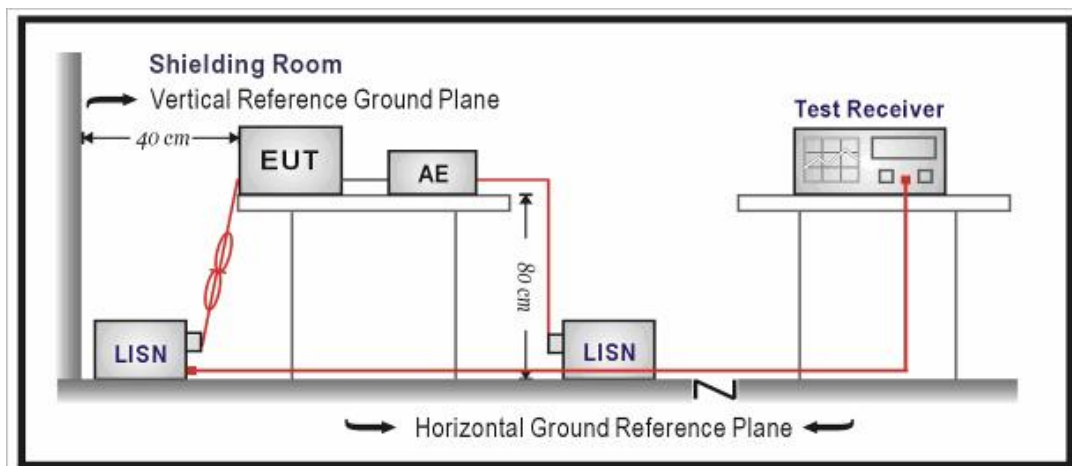
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.
NOTE: 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3.1.2 Measurement procedure

- The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the Test photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source. The equipment under test shall be placed on a support of non-metallic material, the height of which shall be 1.5m above the ground,
- The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

3.1.3 Test setup





3.1.4 Test results

Conducted Emission applies to an intentional radiator that is designed to be connected to the public utility (AC) power line. Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.



3.2 RADIATED EMISSIONS

3.2.1 Limits

Test Standard: Part 15C

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a). Other emissions shall be at least 20dB below the highest level of the desired power.

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

NOTE: 1. The lower limit shall apply at the transition frequencies.
NOTE: 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
NOTE: 3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

3.2.2 Measurement procedure

Test Standard: Part 15C

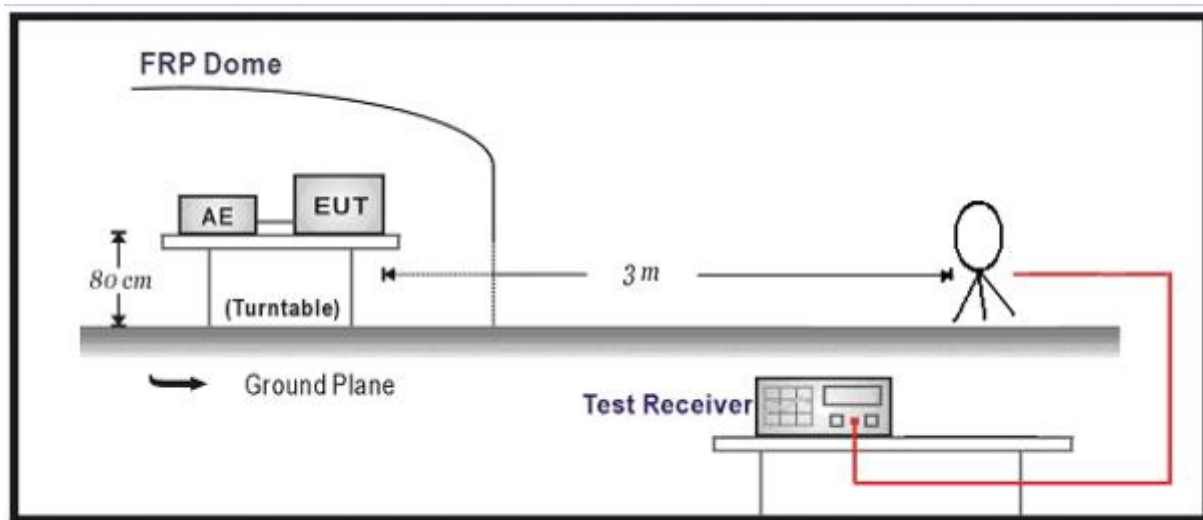
- a. The EUT was placed on the top of a rotating table 1.5 meters(above 1GHz) and 0.8 meters(below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. For below 1GHz was used bilog antenna, and above 1GHz was used horn antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.
- g. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

NOTE:

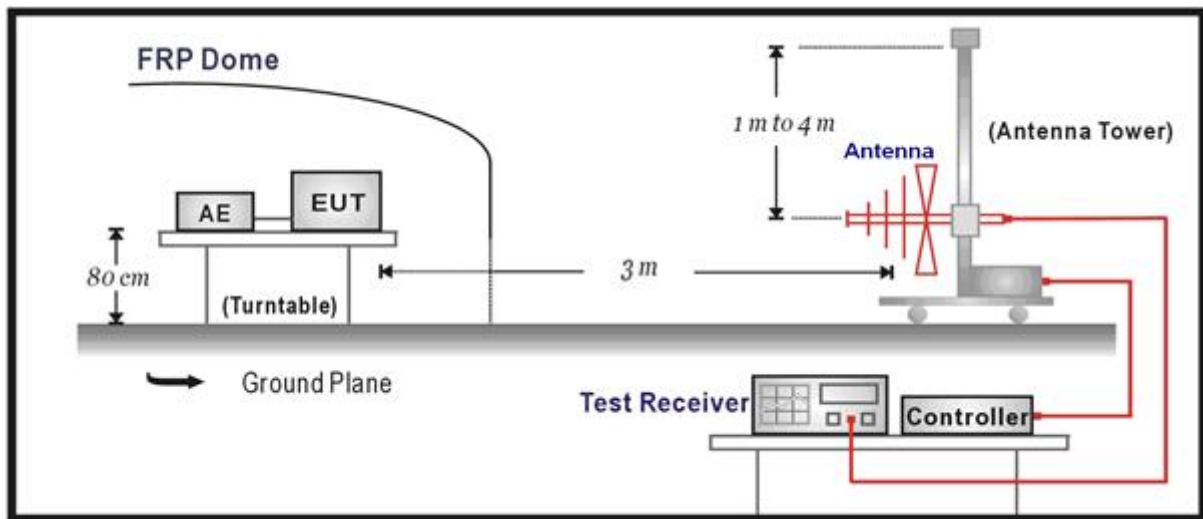
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The testing of the EUT was performed on all 3 orthogonal axes; the worst-case test configuration was reported on the file test setup photo.

3.2.3 Test setup

Below 30MHz Test Setup:



Below 1GHz Test Setup:

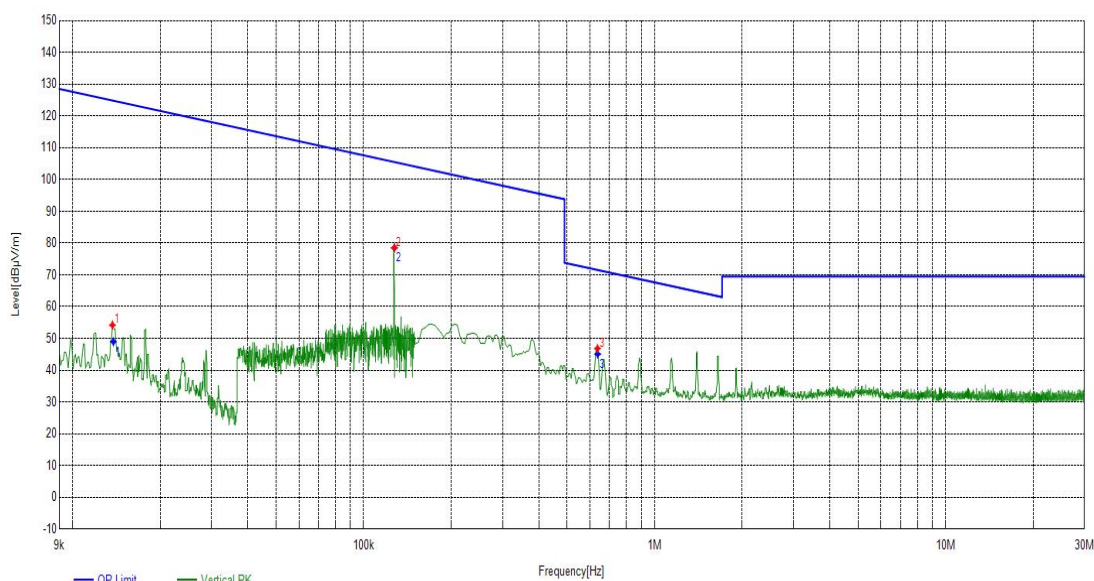


3.2.4 Test results

Results under test standard PART 15C:

9KHz ~ 30MHz WORST-CASE MODE:

Test Mode	wireless charging (5W) Test condition 1 Worst-Case Mode	Channel	/
Frequency Range	9KHz ~ 30MHz	Polarity	Quasi-Peak (QP) Peak(PK) Average(AV)



Suspected List

Frequency [MHz]	Factor [dB]	Reading [dBuV/m]	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
0.0137	19.81	34.39	54.20	124.85	70.65	PK	100	328	PASS
0.1275	19.66	58.80	78.46	105.49	27.03	PK	100	320	PASS
0.6362	19.67	27.15	46.82	71.54	24.72	PK	100	104	PASS

Final Data List

Frequency [MHz]	Factor [dB]	QP Value [dBuV/m]	Average Value [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
0.0138	19.81	---	48.97	124.81	75.84	250	324	PASS
0.1275	19.66	---	78.49	105.49	27.00	140	316	PASS
0.6371	19.67	45.09	---	71.53	26.44	120	101	PASS

Remark: 1. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).

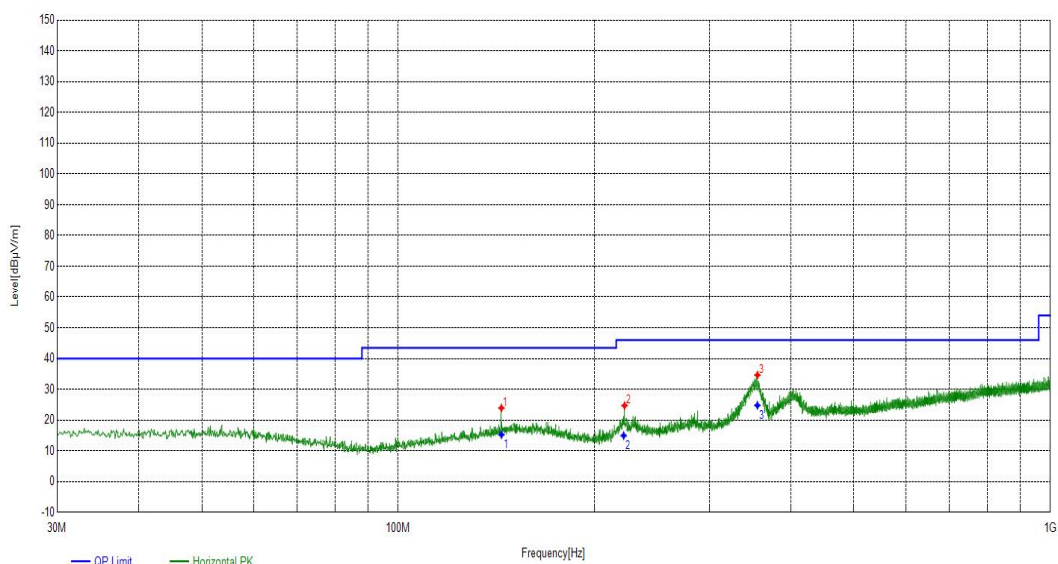
2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. Margin(dB) = Limit[dBuV/m] - Level [dBuV/m].



30MHz ~ 1GHz WORST-CASE MODE:

Test Mode	wireless charging (7.5W) Test condition 2 Worst-Case Mode	Polarity	Horizontal
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP) Peak(PK)



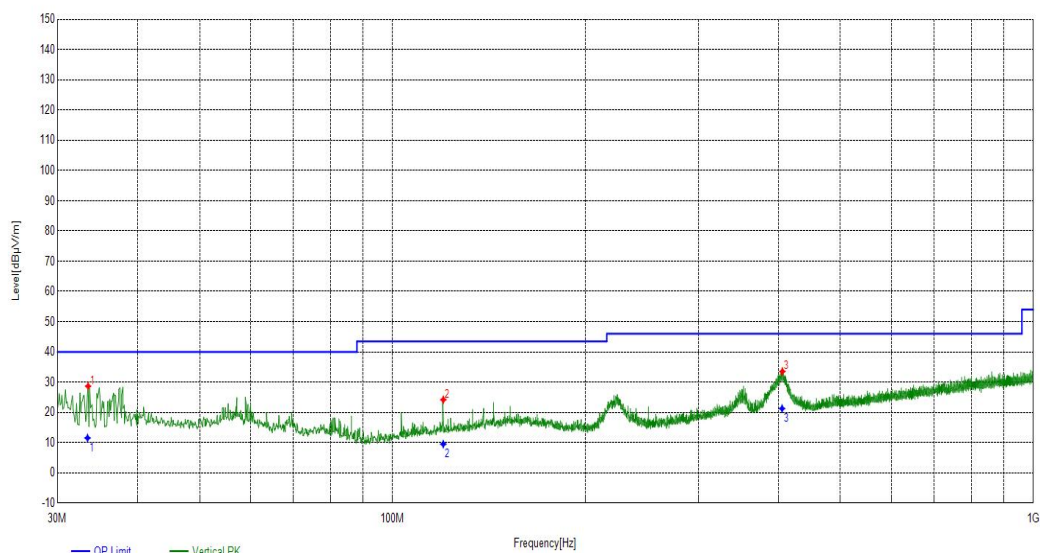
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
143.9864	20.33	3.59	23.92	43.50	19.58	PK	100	226	PASS
222.3702	18.25	6.46	24.71	46.00	21.29	PK	100	38	PASS
355.5646	22.82	11.83	34.65	46.00	11.35	PK	100	179	PASS

Final Data List							
Frequency [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
143.9906	20.33	15.25	43.50	28.25	194	231	PASS
221.704	18.25	14.96	46.00	31.04	155	43	PASS
355.4823	22.82	24.78	46.00	21.22	104	184	PASS

Remark: 1. Level (dBμV/m) = Reading (dBμV/m) + Factor (dB).
2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]



Test Mode	wireless charging (7.5W) Test condition 2 Worst-Case Mode	Polarity	Vertical
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP) Peak(PK)



Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
33.4923	19.36	9.29	28.65	40.00	11.35	PK	100	34	PASS
120.025	18.36	5.84	24.20	43.50	19.30	PK	100	20	PASS
405.9126	24.11	9.43	33.54	46.00	12.46	PK	100	60	PASS

Final Data List							
Frequency [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
33.423	19.36	11.54	40.00	28.46	130	39	PASS
120.0024	18.36	9.52	43.50	33.98	350	24	PASS
405.4309	24.11	21.27	46.00	24.73	370	62	PASS

Remark: 1. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

3.3 20dB Bandwidth Measurement

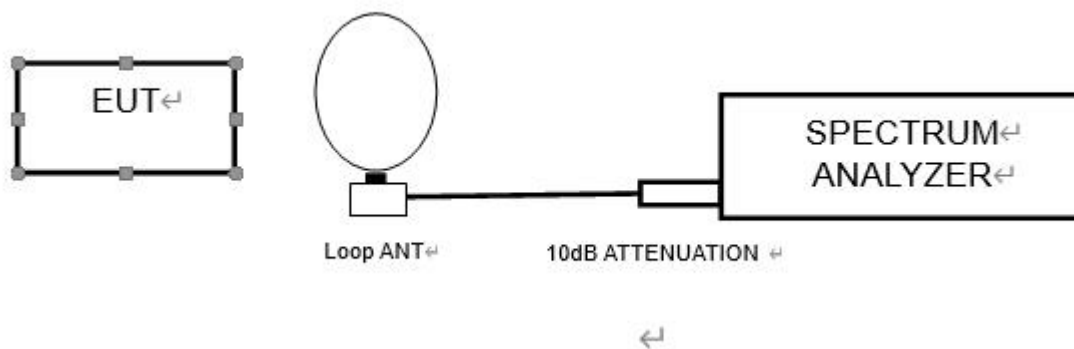
3.3.1 Limits of 20dB Bandwidth Measurement

The field strength of any emissions appearing between the band edges and out of band shall be attenuated at least 20 dB below the level of the unmodulated carrier or to the general limits in Section 15.209.

3.3.2 Measurement procedure

- . Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Turn on the EUT, then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.
- Repeat above procedures until all frequencies measured were complete.

3.3.3 Test setup



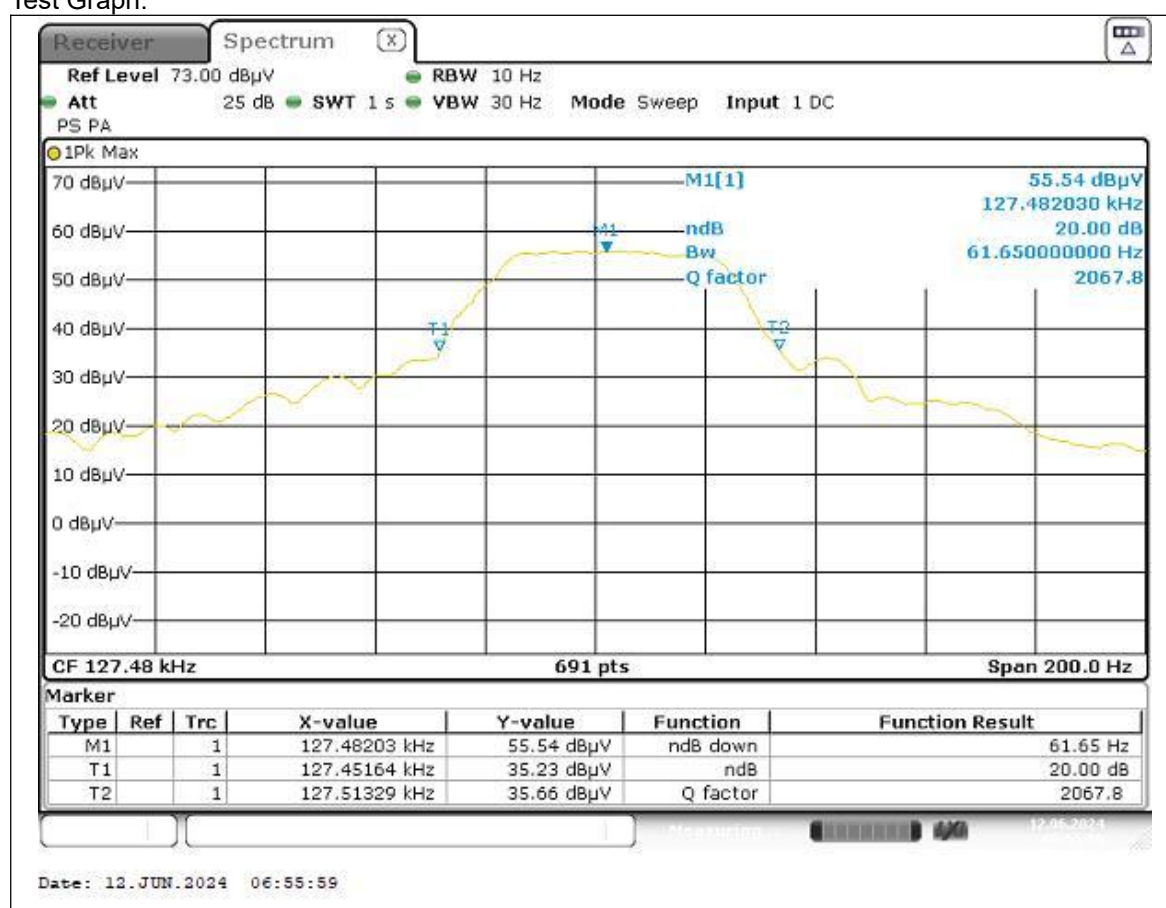


3.3.4 Test results

TEST MODE	CHANNEL FREQUENCY (KHz)	20dB BANDWIDTH (Hz)
Wireless Charging	127.48203	61.65

Lower & Upper Test Frequency Point (MHz)	Test Frequency (KHz)	P/F
Lower	127.45164	PASS
Upper	127.51329	PASS

Test Graph:





4 PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Photos).



5 PHOTOGRAPHS OF THE EUT

Please refer to the attached file (External Photos report and Internal Photos).



Important

- (1) The test report is valid with the official seal of the laboratory and the signatures of Test engineer, Author and Reviewer simultaneously.
- (2) The test report is invalid if altered.
- (3) Any photocopies or part photocopies in the test report are forbidden without the written permission from the laboratory.
- (4) Objections to the test report must be submitted to the laboratory within 15 days.
- (5) Generally, commission test is responsible for the tested samples only.

Address of the laboratory:

CVC Testing Technology Co., Ltd.

Address: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, China

Post Code: 510663 Tel: 020-32293888

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