

FCC TEST REPORT

FCC ID: 2BGHY-TB-001

Product : Wireless Charger

Model Name : TB-001, TB-001-W, TB-001-B, TB-001-G,
TB-001-R, TB-001-P, TB-001-O, OT-001

Brand : N/A

Report No. : NCT24020226E

Prepared for

Shenzhen Jinzhi Technology Co., Ltd.
609, No. 106 Yongfu Road, Qiaotou Community, Fuhai Street,
Bao'an District, Shenzhen, China

Prepared by

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1 TEST RESULT CERTIFICATION

Applicant's name : Shenzhen Jinzhi Technology Co., Ltd.

Address : 609, No. 106 Yongfu Road, Qiaotou Community, Fuhai Street,
Bao'an District, Shenzhen, China

Manufacture's name : Shenzhen Meskey Technology Co., Ltd.

Address : Room 401, Yuanshuo Science Park, Guihua Community,
Guanlan, Longhua, shenzhen, China

Product name : Wireless Charger

Model name : TB-001, TB-001-W, TB-001-B, TB-001-G,
TB-001-R, TB-001-P, TB-001-O, OT-001

Standards : FCC CFR Title 47 Part 15 Subpart C

Test procedure : ANSI C63.10: 2013

Date of Receipt : May 06, 2024

Test Date : May 06, 2024 - May 18, 2024

Date of Issue : May 18, 2024

This device described above has been tested by NCT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:



Keven Wu / Engineer

Technical Manager:



Henry Wang / Manager

Contents

Page

1 TEST RESULT CERTIFICATION	2
2 TEST SUMMARY	5
2.1 TEST SITE	6
3 GENERAL INFORMATION	7
3.1 GENERAL DESCRIPTION OF E.U.T.	7
3.2 TEST SETUP CONFIGURATION	8
3.3 TEST MODE	8
4 EQUIPMENT DURING TEST	9
4.1 EQUIPMENTS LIST	9
4.2 MEASUREMENT UNCERTAINTY	11
4.3 DESCRIPTION OF SUPPORT UNITS	11
5 CONDUCTED EMISSION	12
5.1 E.U.T. OPERATION	12
5.2 EUT SETUP	12
5.3 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	13
5.4 MEASUREMENT PROCEDURE	13
5.5 CONDUCTED EMISSION LIMIT	13
5.6 MEASUREMENT DESCRIPTION	13
5.7 CONDUCTED EMISSION TEST RESULT	13
6 RADIATED SPURIOUS EMISSIONS	16
6.1 EUT OPERATION	16
6.2 TEST SETUP	17
6.3 SPECTRUM ANALYZER SETUP	18
6.4 TEST PROCEDURE	18
6.5 SPECTRUM ANALYZER SETUP	18
6.6 SUMMARY OF TEST RESULTS	19
7 ANTENNA APPLICATION	22
7.1 ANTENNA REQUIREMENT	22

7.2 RESULT	22
8 TEST SETUP	24

2 Test Summary

Test Items	Test Requirement	Result
AC Power Line Conducted Emission	15.207	Pass
Spurious Emission	15.209(a)(f)	Pass
Antenna requirement	15.203	Pass

2.1 Test Site

Site Description

EMC Lab. : Accredited by CNAS, 2022-09-27

The certificate is valid until 2028.01.07

The Laboratory has been assessed and proved to be in compliance with
CNAS-CL01:2006 (identical to ISO/IEC 17025:2017)

The Certificate Registration Number is L8251

Designation Number: CN1347

Test Firm Registration Number: 894804

Accredited by A2LA, June 14, 2023

The Certificate Registration Number is 6837.01

Accredited by Industry Canada, November 09, 2018

The Conformity Assessment Body Identifier is CN0150

Name of Firm : Shenzhen NCT Testing Technology Co., Ltd.

Site Location : A101&B2, Fuqiao 6th Area , Xintian Community, Fuhai Street,
Baoan District, Shenzhen, China

3 General Information

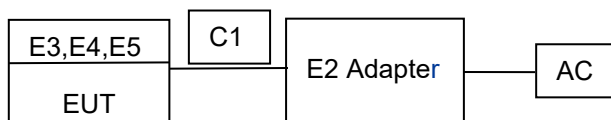
3.1 General Description of E.U.T.

Product Name	:	Wireless Charger
Model Name	:	TB-001
Model Difference	:	TB-001-W, TB-001-B, TB-001-G, TB-001-R, TB-001-P, TB-001-O, OT-001 (All models have same circuits diagram, PCB Layout, construction and rated power; Only the model name and the exterior color were different)
Sample ID	:	NCT24020226#
Sample(s) Status:	:	N/A
Series Model	:	N/A
Operating frequency	:	110KHz-205KHz
Type of Modulation	:	ASK
Antenna installation	:	Inductive loop coil Antenna
Antenna Gain	:	0dBi
Power supply	:	Input: DC 9V/3A, 5V/3A Output 1: Phone 5W/7.5W/10W/15W (Max) Output 2: TWS 5W (Max) Output 3: Watch 5W (Max)
Hardware Version	:	N/A
Software Version	:	N/A

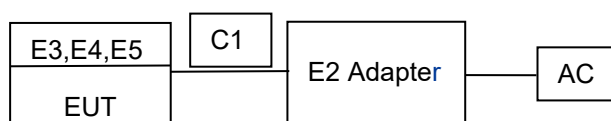
Remark: the Antenna gain is provided by customer from Antenna spec. and the laboratory will not be responsible for the accumulated calculation results which covers the information provided by the applicant.

3.2 Test Setup Configuration

Conducted Emission



Radiated Emission



3.3 Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Mode 1	Charging+Wireless (Phone 15W)
Mode 2	Charging+Wireless (Phone 10W)
Mode 3	Charging+Wireless (Phone 7.5W)
Mode 4	Charging+Wireless (Phone 5W)
Mode 5	Charging+Wireless (Watch 5W)
Mode 6	Charging+Wireless (TWS 5W)
Mode 7	Charging+Wireless (Phone 5W+TWS 5W+ Watch 5W)
Mode 8	Charging+Wireless (Phone 7.5W+TWS 5W)
Mode 9	Charging+Wireless (Phone 7.5W+Watch 5W)
Mode 10	Charging+Wireless (Phone 10W+ TWS 5W)
Mode 11	Charging+Wireless (Phone 10W+ Watch 5W)
Mode 12	Charging+Wireless (Watch 5W+TWS 5W)
Mode 13	Charging+Wireless (Phone 15W+TWS 5W+ Watch 5W)
Mode 14	Charging+Wireless (Phone 10W+TWS 5W+ Watch 5W)
Mode 15	Charging+Wireless (Phone 7.5W+TWS 5W+ Watch 5W)
Mode 16	Charging+Wireless (Phone 5W+TWS 5W+ Watch 5W)
Note:All test modes were pre-tested, but we only recorded the worst Mode 13 case in this report.	

4 Equipment During Test

4.1 Equipments List

Conducted emission Test Equipment

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
944 Shielded Room	944 Room	/	EMToni	2022/5/31	2025/5/30
EMI Test Receiver	ESPI	101604	Rohde & Schwarz	2023/6/21	2024/6/20
LISN	ENV 216	102796	Rohde & Schwarz	2023/6/21	2024/6/20
LISN	VN1-13S	004023	CRANAGE	2023/6/21	2024/6/20
Cable	RG223-1500MM	NA	RG	2023/6/21	2024/6/20

Radiated emission & Radio Frequency Test Equipment

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
966 Shielded Room	966 Room	/	EMToni	2022/5/31	2025/5/30
EMI Test Receiver	ESCI	101178	Rohde & Schwarz	2023/6/21	2024/6/20
Amplifier (30MHz-1GHz)	BBV 9743 B	00374	SCHNWARZBECK	2023/6/21	2024/6/20
Bilog Antenna (30MHz-1GHz)	VULB9162	00473	SCHNWARZBECK	2023/3/19	2025/3/18
Horn antenna (1GHz-18GHz)	BBHA 9120 D	02622	SCHNWARZBECK	2023/3/19	2025/3/18
Preamplifier (1GHz-18GHz)	BBV 9718D	0024	SCHNWARZBECK	2023/6/21	2024/6/20
Spectrum Analyzer (10Hz-40GHz)	FSV 40	100952	Rohde & Schwarz	2023/6/21	2024/6/20
Preamplifier (18GHz-40GHz)	BBV 9721	0056	SCHNWARZBECK	2023/6/21	2024/6/20
Double Ridge Guide Horn Antenna (18GHz-40GHz)	SAS-574	588	A.H.System	2023/3/19	2025/3/18
Loop Antenna (9KHz-30MHz)	FMZB 1513-60	00115	SCHNWARZBECK	2023/6/21	2024/6/20
Amplifier (9KHz-30MHz)	CVP 9222 C BBV 9745	00109	SCHNWARZBECK	2023/6/21	2024/6/20
MXG Signal Analyzer	N9020A	MY50510202	Agilent	2023/6/21	2024/6/20

Comprehensive tester	CWM500	104995	Rohde & Schwarz	2023/6/21	2024/6/20
MXG Vector Signal Generator	N5182A	MY50140020	Agilent	2023/6/21	2024/6/20
MXG Analog Signal Generator	N5181A	MY47420919	Agilent	2023/6/21	2024/6/20
Power Sensor	TR1029-2	512364	Techoy	2023/6/21	2024/6/20
RF Swith	TR1029-1	512364	Techoy	2023/6/21	2024/6/20
Cable	DA800-4000MM	NA	DA	2023/6/21	2024/6/20
Cable	DA800-11000MM	NA	DA	2023/6/21	2024/6/20

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	AUDIX	e3	6.120718
2	EMC radiation test system	AUDIX	e3	6.120718
3	RF test system	TACHOY	RFTest	V1.0.0
4	RF communication test system	TACHOY	RFTest	V1.0.0

4.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10 ⁻⁶
Bandwidth	± 1.5 x 10 ⁻⁶
Time	±2%
Duty Cycle	±2%
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions (150kHz~30MHz)	±3.64dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~25GHz)	±4.74dB
Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%	

4.3 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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E1	Wireless Charger	N/A	TB-001	N/A	EUT
E2	Adapter	OPPO	VCB7CACH	N/A	Auxiliary
E3	Mobile Phone	Apple	iPhone 14	N/A	Auxiliary
E4	Watch	Apple	Iwatch Ultra	N/A	Auxiliary
E5	TWS headphones	Apple	AirPods Pro	N/A	Auxiliary

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

5 Conducted Emission

Test Requirement	: FCC Part15 C Section 15.207
Test Method	: ANSI C63.10:2013
Test Result	: PASS
Frequency Range	: 9kHz to 30MHz
Class/Severity	: Class B

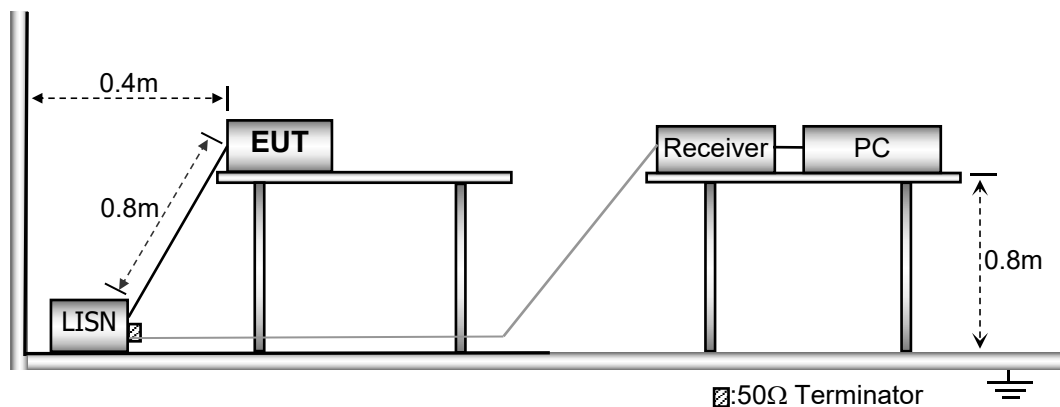
5.1 E.U.T. Operation

Operating Environment :

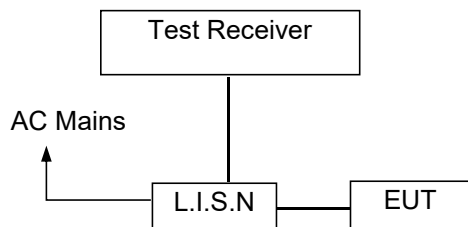
Temperature	: 25.5 °C
Humidity	: 51 % RH
Atmospheric Pressure	: 101.2kPa

5.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.



5.3 Test SET-UP (Block Diagram of Configuration)



5.4 Measurement Procedure

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

5.5 Conducted Emission Limit

Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

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

5.6 Measurement Description

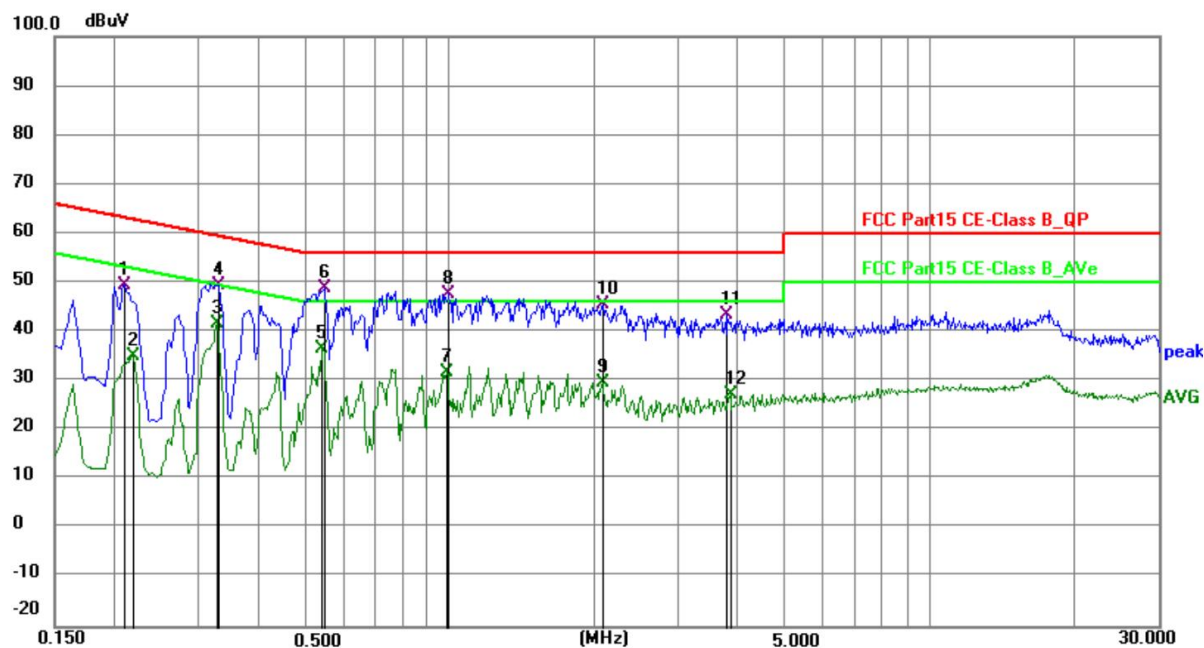
The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

5.7 Conducted Emission Test Result

Pass.

We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	L
Test Voltage :	AC 120V/60Hz	Test Mode :	Mode 13

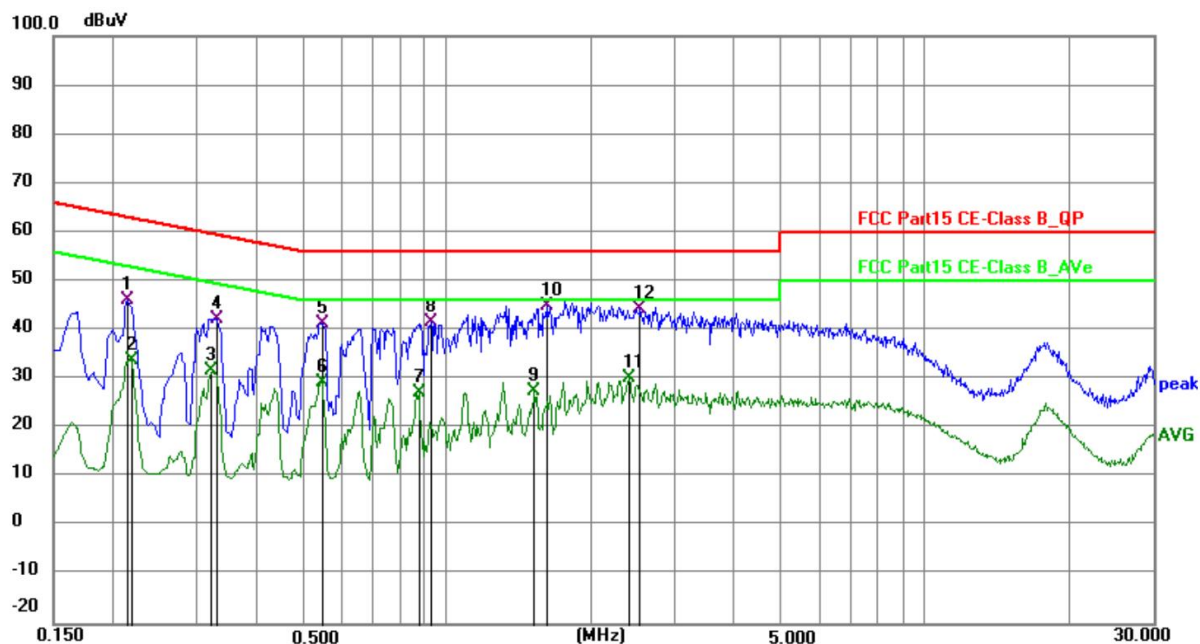


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2085	38.97	10.56	49.53	63.26	-13.73	QP
2	0.2175	24.43	10.56	34.99	52.91	-17.92	AVG
3	0.3255	31.06	10.57	41.63	49.57	-7.94	AVG
4	0.3300	38.88	10.57	49.45	59.45	-10.00	QP
5	0.5415	26.06	10.60	36.66	46.00	-9.34	AVG
6 *	0.5460	38.19	10.60	48.79	56.00	-7.21	QP
7	0.9870	21.22	10.66	31.88	46.00	-14.12	AVG
8	0.9960	37.06	10.66	47.72	56.00	-8.28	QP
9	2.0805	18.93	10.68	29.61	46.00	-16.39	AVG
10	2.0940	34.99	10.68	45.67	56.00	-10.33	QP
11	3.7905	32.65	10.66	43.31	56.00	-12.69	QP
12	3.8445	16.66	10.66	27.32	46.00	-18.68	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz	Test Mode :	Mode 13



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2130	35.74	10.56	46.30	63.09	-16.79	QP
2	0.2175	23.31	10.56	33.87	52.91	-19.04	AVG
3	0.3209	21.20	10.57	31.77	49.68	-17.91	AVG
4	0.3300	31.71	10.57	42.28	59.45	-17.17	QP
5	0.5460	30.66	10.60	41.26	56.00	-14.74	QP
6	0.5460	18.70	10.60	29.30	46.00	-16.70	AVG
7	0.8745	16.61	10.68	27.29	46.00	-18.71	AVG
8	0.9240	31.01	10.67	41.68	56.00	-14.32	QP
9	1.5225	16.78	10.66	27.44	46.00	-18.56	AVG
10 *	1.6170	34.33	10.66	44.99	56.00	-11.01	QP
11	2.4045	19.51	10.67	30.18	46.00	-15.82	AVG
12	2.5305	33.56	10.67	44.23	56.00	-11.77	QP

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

6 Radiated Spurious Emissions

Test Requirement : FCC CFR47 Part 15 Section 15.209

Test Method : ANSI C63.10:2013

Test Result : PASS

Measurement Distance : 3m

Limit : See the follow table

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log^{(24000/F(\text{kHz}))} + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

6.1 EUT Operation

Operating Environment :

Temperature : 23.5 °C

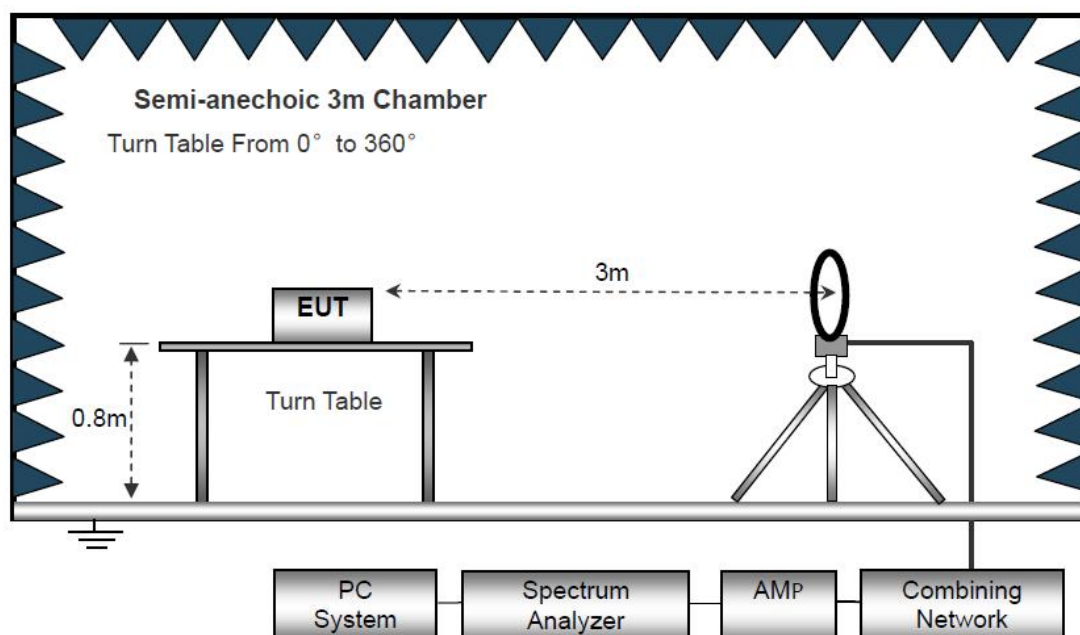
Humidity : 51.1 % RH

Atmospheric Pressure : 101.2kPa

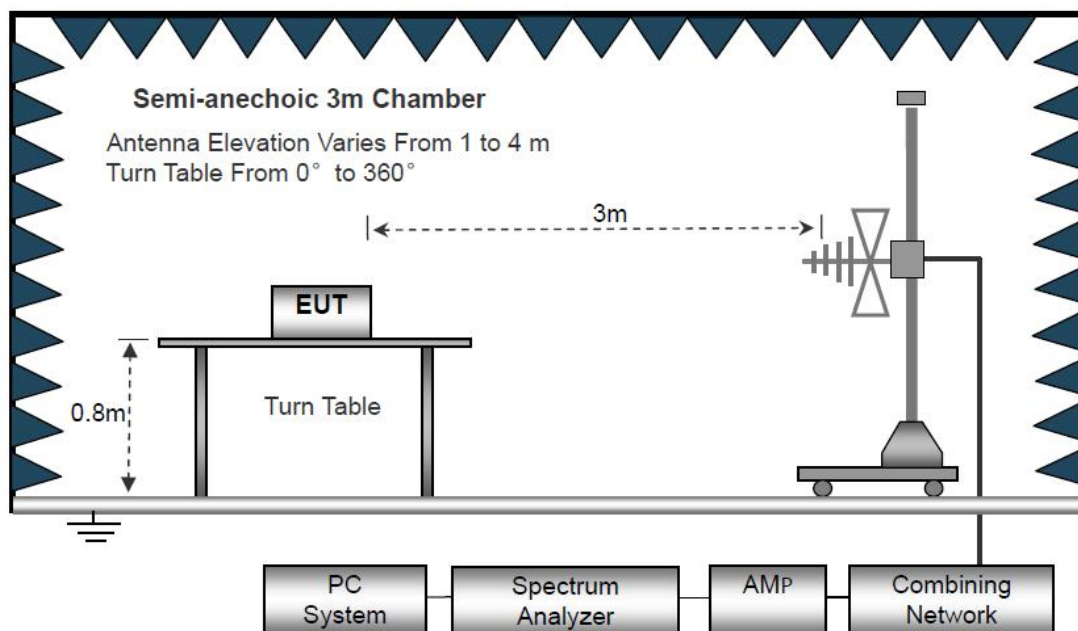
6.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site

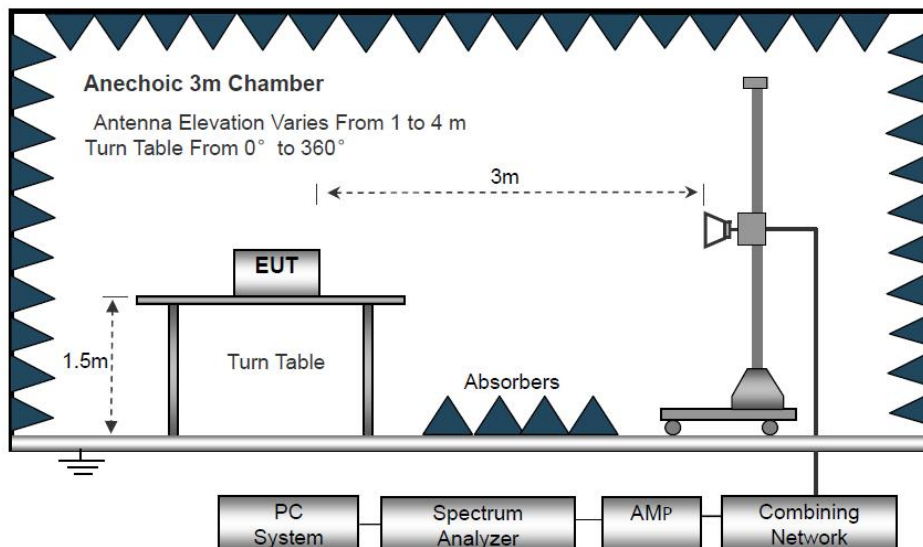
The test setup for emission measurement below 30MHz



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz



6.3 Spectrum Analyzer Setup

	Frequency	Detector	RBW	VBW	Remark
Receiver Setup	Below 30MHz	--	10kHz	10kHz	--
	30MHz ~ 1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value

6.4 Test Procedure

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna (calibrated by dipole antenna) are used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on measurement.

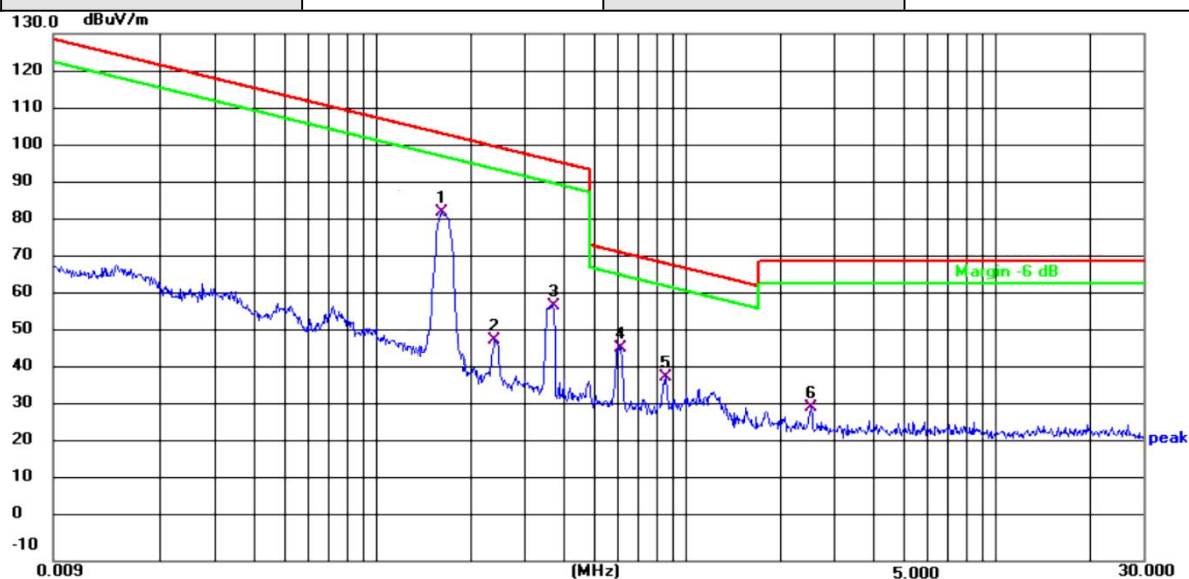
6.5 Spectrum Analyzer Setup

	Frequency	Detector	RBW	VBW	Remark
Receiver Setup	Below 30MHz	--	10kHz	10kHz	--
	30MHz ~ 1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value

6.6 Summary of Test Results

Test Frequency: 9KHz-30MHz

Temperature:	26°C	Relative Humidity:	53%
Pressure:	101kPa	Polarization:	Coaxial
Test Voltage :	AC 120V/50Hz	Test Mode :	Mode 13



Frequency (kHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
159.2	91.83	-9.44	82.39	103.57	-21.18	PK
159.2	70.78	-9.44	61.34	83.57	-22.23	AV
240.2	57.52	-9.02	48.50	99.99	-51.49	PK
240.2	36.95	-9.02	27.93	79.99	-52.06	AV
369.6	66.43	-8.78	57.65	96.25	-38.60	PK
369.6	45.72	-8.78	36.94	76.25	-39.31	AV
611.1	54.96	-8.25	46.71	71.88	-25.17	QP
859.2	46.34	-7.62	38.72	68.92	-30.20	QP
2527.7	35.19	-4.36	30.83	69.54	-38.71	QP

Note:

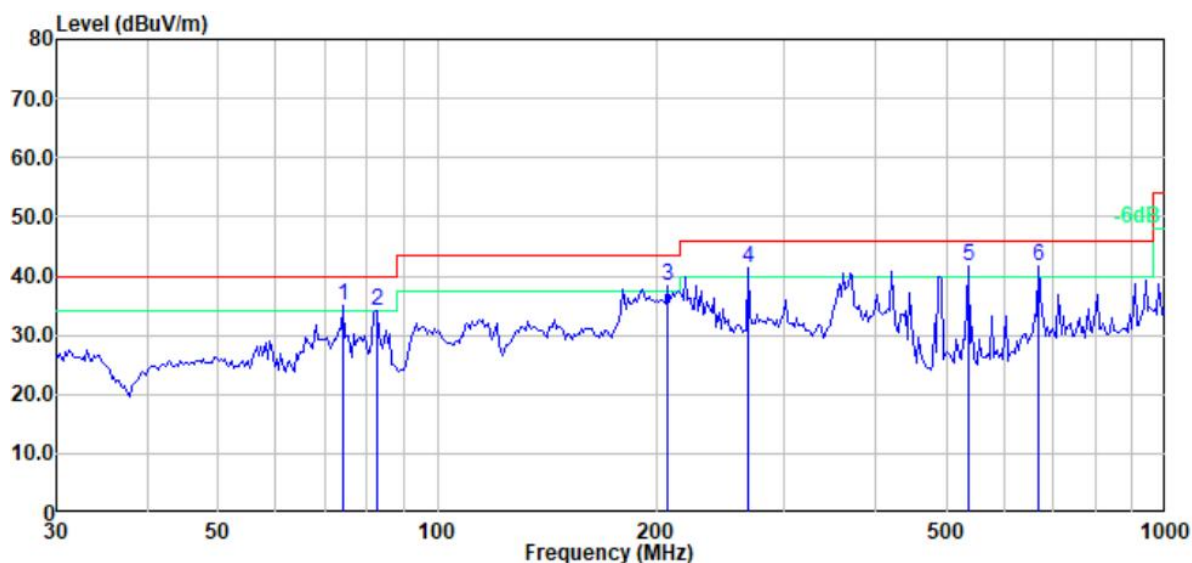
Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

Margin = Emission Level- Limit.

Test Frequency: 30MHz ~ 1GHz

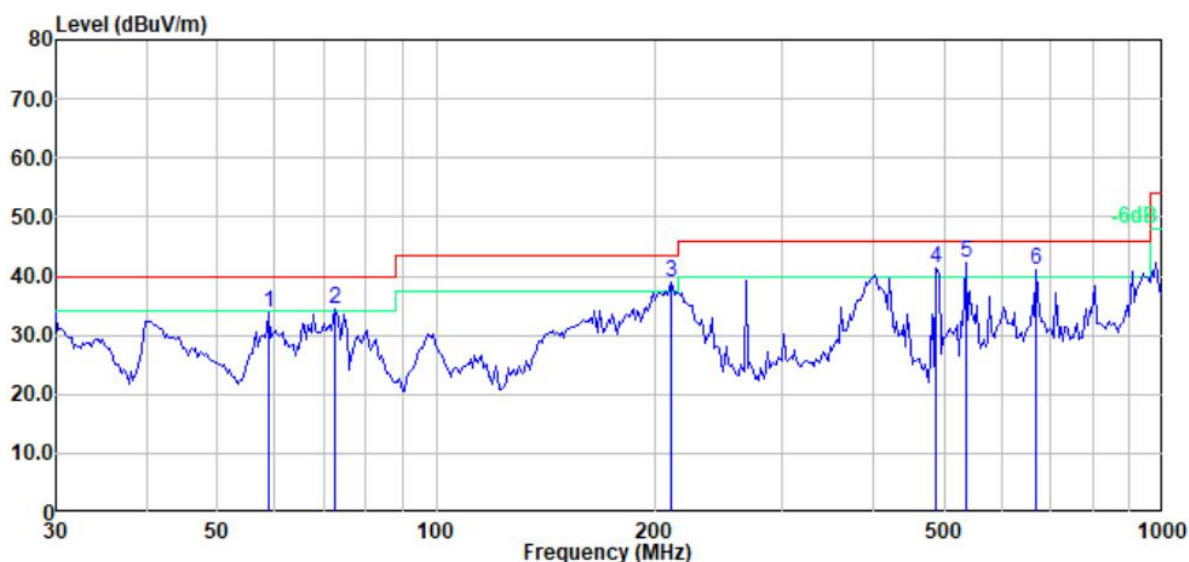
Temperature:	26°C	Relative Humidity:	53%
Pressure:	101kPa	Polarization:	Horizontal
Test Voltage :	AC 120V/50Hz	Test Mode :	Mode 13



	Freq	Read Level	Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV/m	dB/m	dBuV/m	dB		
1	74.270	49.96	35.05	-14.91	40.00	-4.95	Horizontal	QP
2	82.526	50.31	34.05	-16.26	40.00	-5.95	Horizontal	QP
3	207.197	52.42	38.41	-14.01	43.50	-5.09	Horizontal	QP
4	266.840	52.91	41.24	-11.67	46.00	-4.76	Horizontal	QP
5	535.038	46.52	41.61	-4.91	46.00	-4.39	Horizontal	QP
6	669.952	43.85	41.57	-2.28	46.00	-4.43	Horizontal	QP

Remark: Level=Reading Level + Factor; Factor = Antenna Factor + Cable Loss - Pre-amplifier.

Temperature:	26°C	Relative Humidity:	53%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage :	AC 120V/50Hz	Test Mode :	Mode 13



	Freq	Read Level	Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV/m	dB/m	dBuV/m	dB		
1	58.898	46.75	33.67	-13.08	40.00	-6.33	Vertical	QP
2	72.720	49.12	34.34	-14.78	40.00	-5.66	Vertical	QP
3	210.129	52.82	38.90	-13.92	43.50	-4.60	Vertical	QP
4	488.326	47.32	41.35	-5.97	46.00	-4.65	Vertical	QP
5	535.038	47.12	42.21	-4.91	46.00	-3.79	Vertical	QP
6	669.952	43.20	40.92	-2.28	46.00	-5.08	Vertical	QP

Remark: Level=Reading Level + Factor; Factor = Antenna Factor + Cable Loss - Pre-amplifier.

7 Antenna Application

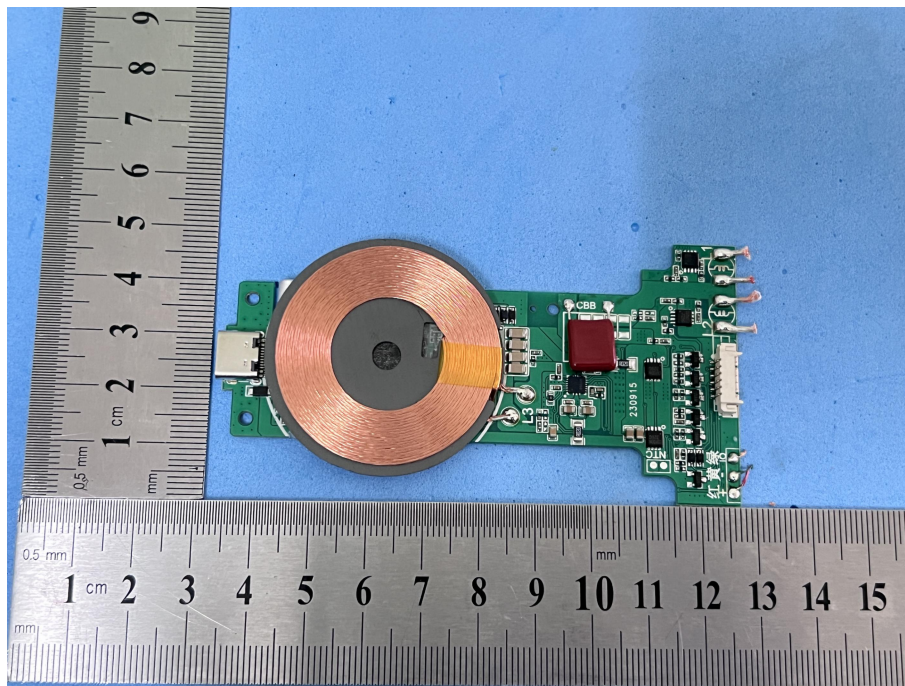
7.1 Antenna Requirement

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

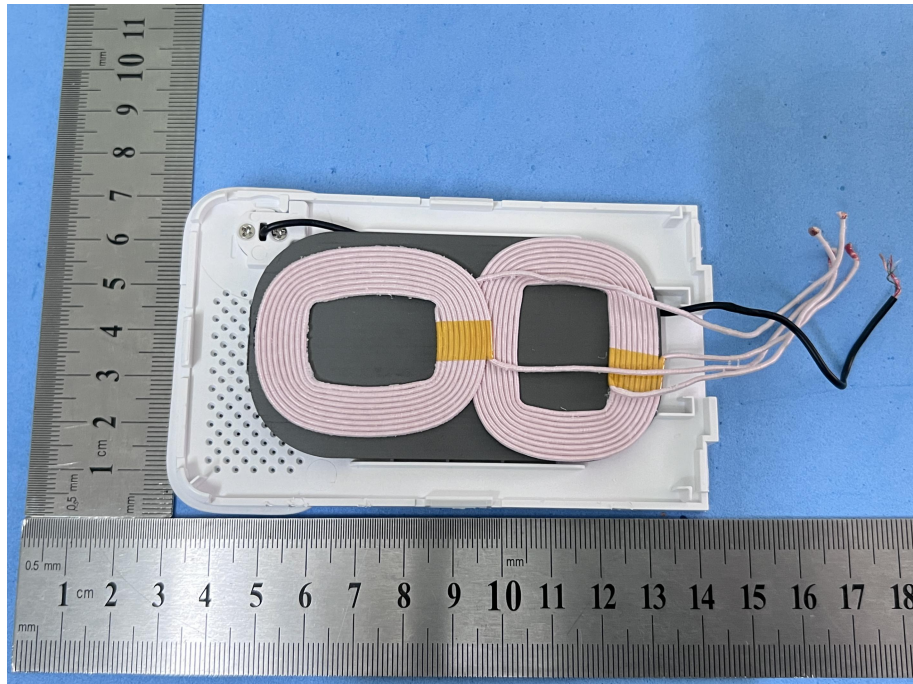
7.2 Result

The EUT'S antenna, permanent attached antenna, is Inductive loop coil Antenna. The antenna's gain is 0dBi and meets the requirement.

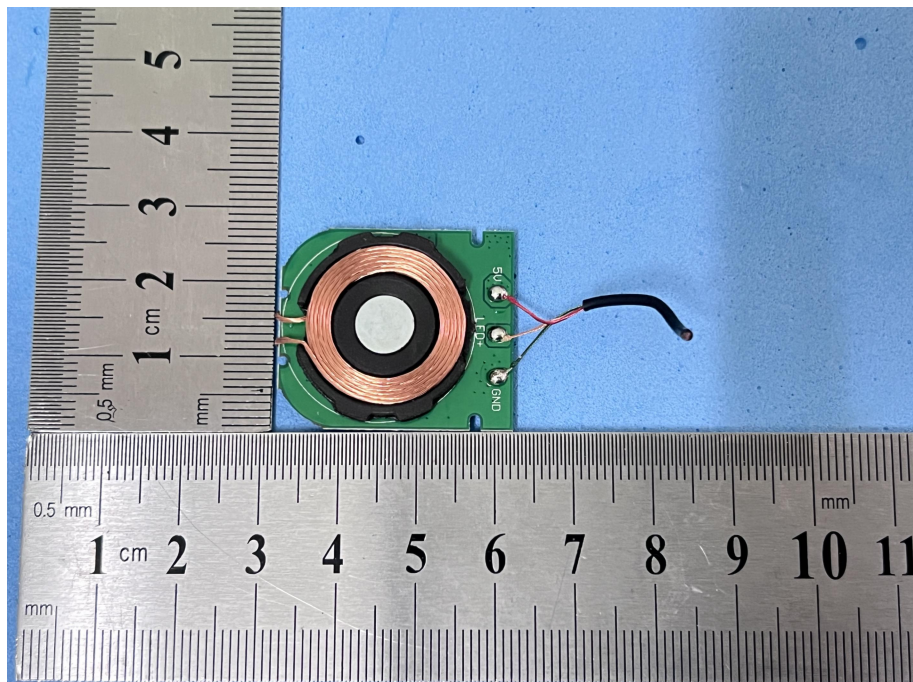
TWS ANT



Phone ANT



Watch ANT



8 Test Setup and EUT Photos

Please the attachment for details.

*******THE END REPORT*******