FCC PART 15C

TEST REPORT

For

Honoto Technology Co., LTD

9 Orchard Rd, Suite 102, Lake Forest, CA 92630, Lake Forest, California, United States

FCC ID: 2AYI8-PBK-A01

Report Type:	**Product Type:**
Original Report	Freedom charge Modular Dock

Report Number: SZNS210825-36526E-RF

Report Date: 2021-09-02

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RF Engineer

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Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

Product	Freedom charge Modular Dock
Tested Model	PBK-A01
Frequency Range	110.5 kHz-205kHz
Maximum Wireless Power	10W
Antenna Specification	Coil
Voltage Range	Micro Input: DC 5V, 2A, 10W DC 9V, 2A, 18W USB-A Output: DC 5V, 3A, 15W DC 9V, 2A, 18W DC 12V, 1.5A, 18W Wireless Output: 10W USB-C Input(PD): DC 5V, 3A, 15W DC 9V, 2A, 18W USB-C Output(PD): DC 5V, 3A, 15W DC 9V, 2A, 18W DC 12V, 1.5A, 18W
Date of Test	2021-08-27 to 2021-08-30
Sample serial number	SZNS210825-36526E-RF-S1(Gray), SZNS210825-36526E-RF-S2(White)
Received date	2021-8-25
Sample/EUT Status	Good Condition

Objective

This report is in accordance with Part 2, Subpart J, and Part 15, Subparts A and C of the Federal Communications Commission's rules.

The objective is to determine the compliance of EUT with FCC rules, section 15.203, 15.205, 15.207 and 15.209.

Related Submittal(s)/Grant(s)

No Related Submittal(s)/Grant(s).

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Item		Expanded Measurement uncertainty
Conducted Emissions	AC Mains	*2.72 dB (k=2, 95% level of confidence)*
Radiated emission	30MHz-1GHz	*4.28 dB (k=2, 95% level of confidence)*
	1GHz-18GHz	*4.98 dB (k=2, 95% level of confidence)*

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189.

The test site has been registered with ISED Canada under ISED Canada Registration Number 5077A-2.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a test mode

The device is a Freedom charge Modular Dock operation on frequency 110.5 kHz - 205 kHz.

Test Mode: Wireless Charging

M1: Charging through Micro USB M2: Charging through Base
M3: Charging through Type-C Port

EUT Exercise Software

No software used in test.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	Specification
SAIERKANG	Adapter	MDY-11-EB	CA62010U101960G	Unknown
Unknown	Load 01	Unknown	Load 01	10W
Unknown	Load 02	Unknown	Load 02	10W
Unknown	Wireless load	Wireless load 01	Wireless load 01	10W
HUAWEI	Mobile Phone	Mate 30	FEC0220617000901	Unknown

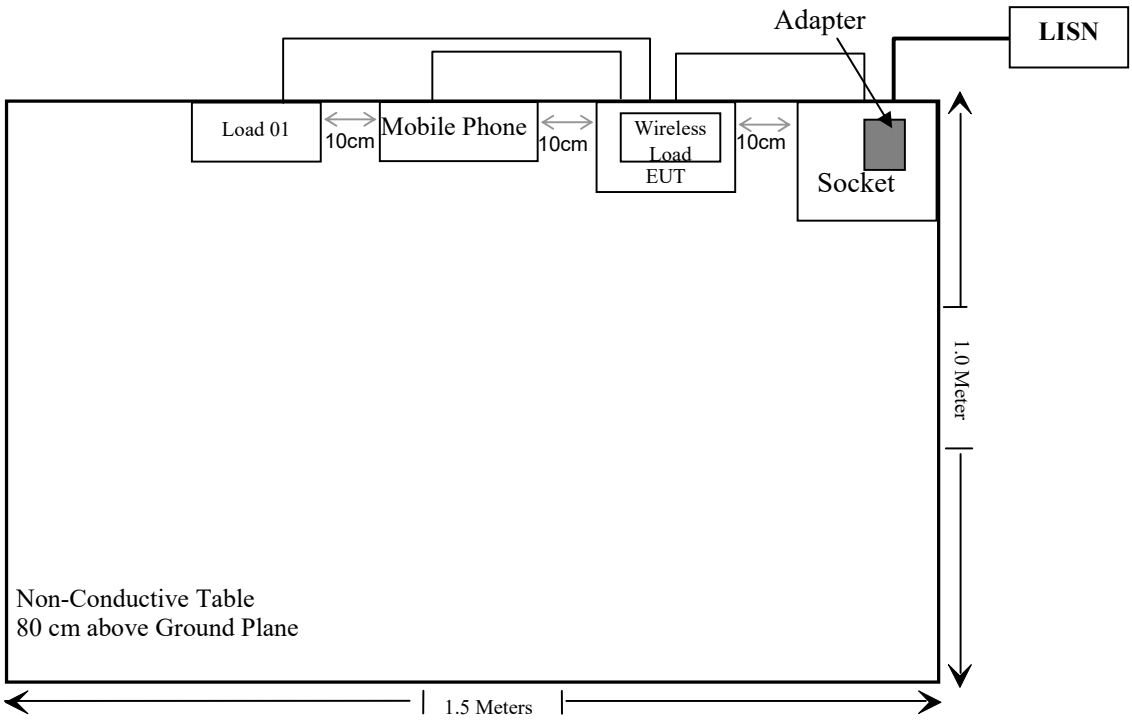
External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded Detachable USB Cable	0.94	Adapter	EUT/Base
Unshielded Detachable USB Cable	0.94	EUT	Mobile Phone
Unshielded Detachable USB Cable	0.76	Base	Dummy load 01
Unshielded Detachable USB Cable	0.1	Base	Dummy load 02

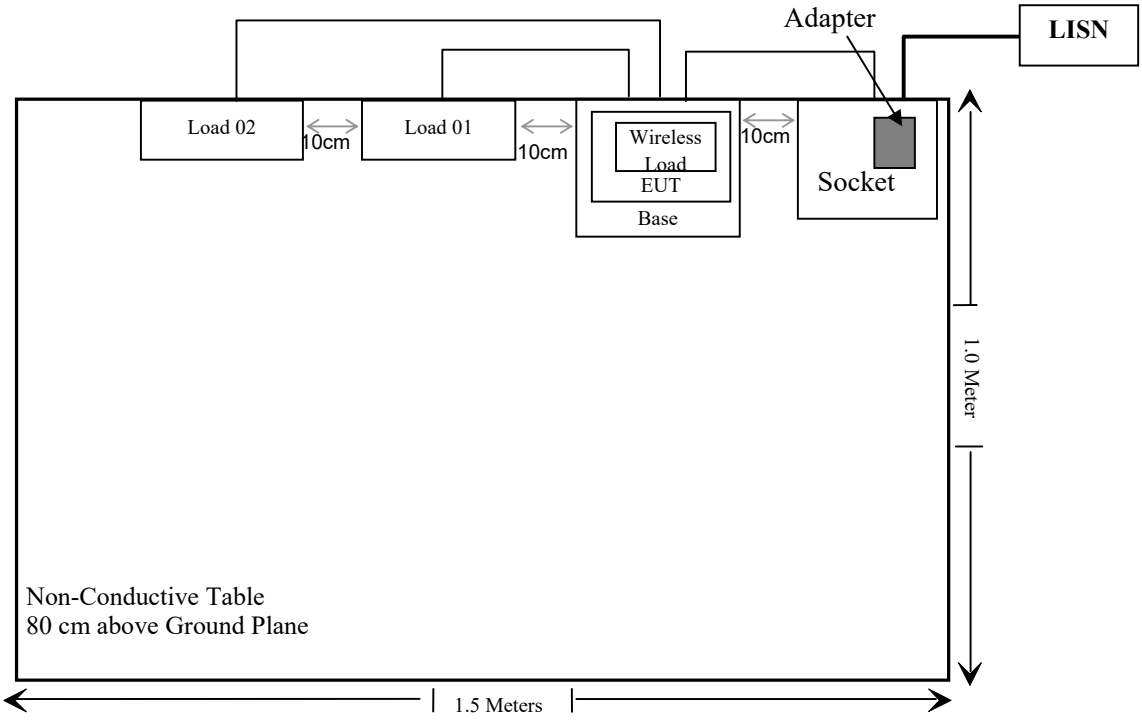
Block Diagram of Test Setup

For conducted emission:

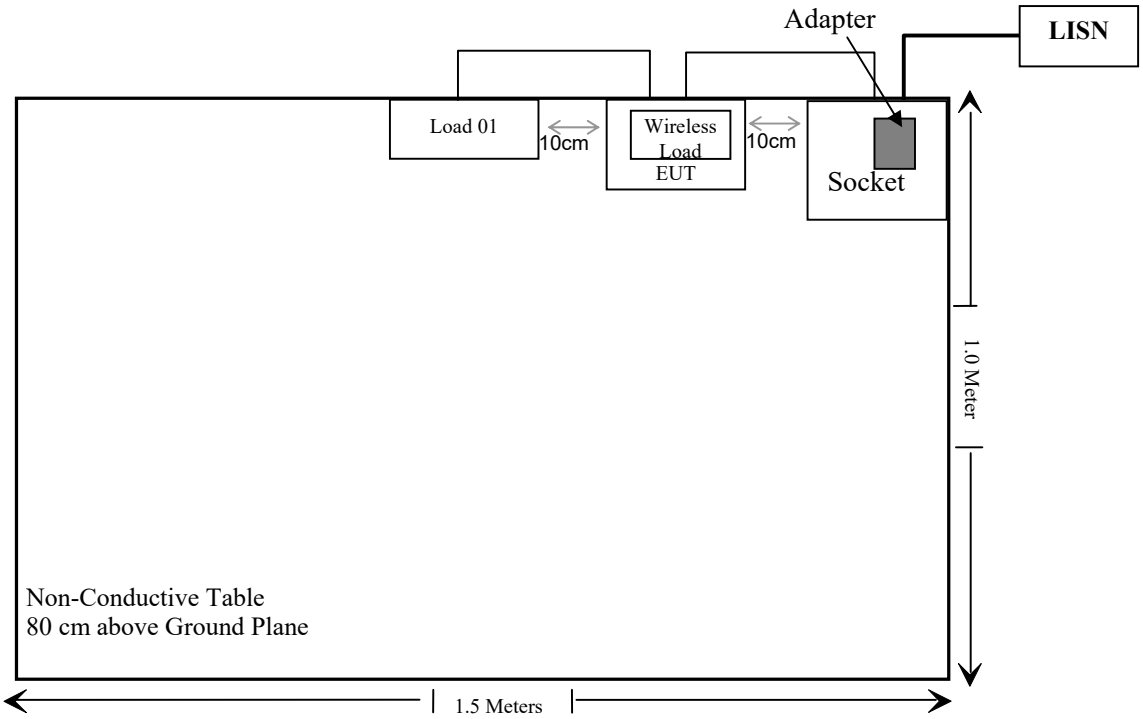
M1:



M2:



M3:


Adapter
LISN
Load 01
10cm
Wireless Load
EUT
10cm
Socket
1.0 Meter
Non-Conductive Table
80 cm above Ground Plane
1.5 Meters

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC§1.1310 & §2.1091	Maximum Permissible Exposure(MPE)	Compliance
FCC§15.203	Antenna Requirement	Compliance
FCC§15.207	AC Line Conducted Emission	Compliance
§15.209 §15.205	Radiated Emission Test	Compliance

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
MPE					
Narda	Electric and Magnetic Field Analyzer	EHP-200AC	180ZX10204	2021/06/07	2024/06/06
Narda	USB-RS232 Converter	Unknown	20042558	/	/
Narda	Software	EHP200-TS	Unknown	/	/
EMI					
Rohde & Schwarz	Test Receiver	ESPI3	100396	2020/12/24	2021/12/23
R & S	L.I.S.N.	ENV216	101314	2020/12/25	2021/12/24
Anritsu Corp	50Ω Coaxial Switch	MP59B	6200506474	2020/12/25	2021/12/24
Schwarzbeck	RF Coaxial Cable	N-2m	No.2	2020/01/04	2023/01/03
Conducted Emission Test Software: ES-K1 V1.71					
Rohde& Schwarz	Test Receiver	ESR	101817	2020/12/24	2021/12/23
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2020/01/05	2023/01/04
Schwarzbeck	LOOP Antenna	FMZB1516	1516131	2020/01/05	2023/01/04
SONOMA INSTRUMENT	Amplifier	310 N	186131	2020/12/25	2021/12/24
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2020/12/25	2021/12/24
Schwarzbeck	RF Coaxial Cable	N-5m	No.1	2020/01/04	2023/01/03
Schwarzbeck	RF Coaxial Cable	N-1m	No.6	2020/01/04	2023/01/03
SUHNER	RF Coaxial Cable	N-6m	No.10	2020/01/04	2023/01/03
SUHNER	RF Coaxial Cable	N-0.5m	No.15	2020/01/04	2023/01/03
Radiated Emission Test Software: EZ_EMC V 1.1.4.2					

*** Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1310, §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

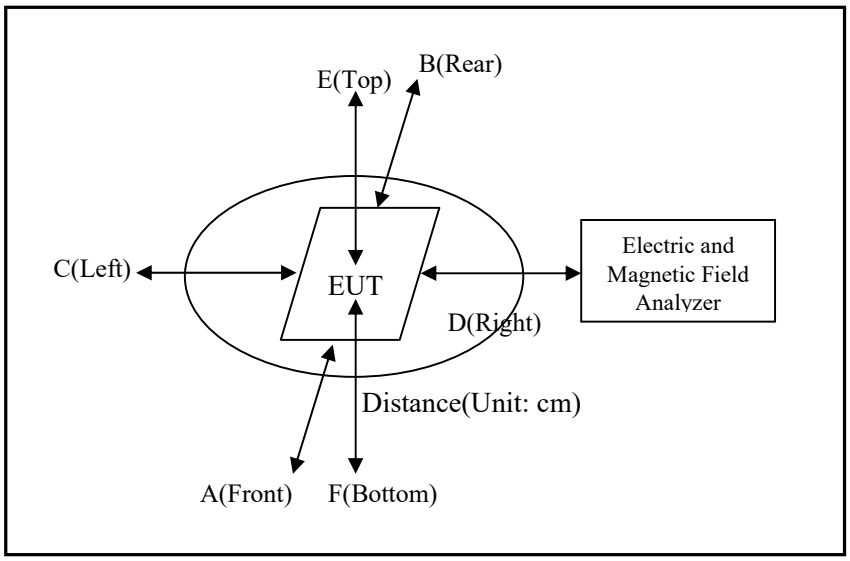
According with KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01 clause 3 c)

c) For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

According to KDB 680106 D01 RF Exposure Wireless Charging App v03r01 clause 5 b)

(1) Power transfer frequency is less than 1 MHz
(2) Output power from each primary coil is less than or equal to 15 watts.
(3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.
(4) Client device is placed directly in contact with the transmitter.
(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
(6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.

Block Diagram of Test Setup



Note:
For mobile condition distance: A/B/C/D is 15cm; E is 20cm;

Test Data

Environmental Conditions

Temperature:	25°C
Relative Humidity:	65 %
ATM Pressure:	101.0 kPa

The testing was performed by Ting Lǔ on 2020-08-30

Test mode: Wireless Charging

M1:

H-Field Strength

Frequency Range (kHz)	Position A (A/m)	Position B (A/m)	Position C (A/m)	Position D (A/m)	Position E (A/m)	50% Limit (A/m)	Limit Test (A/m)
110.5-205	0.186	0.205	0.220	0.248	0.273	0.815	1.63

E-Field Strength

Frequency Range (kHz)	Position A (V/m)	Position B (V/m)	Position C (V/m)	Position D (V/m)	Position E (V/m)	50% Limit (V/m)	Limit Test (V/m)
110.5-205	0.332	0.410	0.416	0.447	0.489	307	614

Note:
For mobile condition distance: A/B/C/D is 15cm; E is 20cm;

M2:

H-Field Strength

Frequency Range (kHz)	Position A (A/m)	Position B (A/m)	Position C (A/m)	Position D (A/m)	Position E (A/m)	50% Limit (A/m)	Limit Test (A/m)
110.5-205	0.198	0.210	0.204	0.208	0.223	0.815	1.63

E-Field Strength

Frequency Range (kHz)	Position A (V/m)	Position B (V/m)	Position C (V/m)	Position D (V/m)	Position E (V/m)	50% Limit (V/m)	Limit Test (V/m)
110.5-205	0.379	0.420	0.431	0.442	0.456	307	614

Note:
For mobile condition distance: A/B/C/D is 15cm; E is 20cm;

M3:

H-Field Strength

Frequency Range (kHz)	Position A (A/m)	Position B (A/m)	Position C (A/m)	Position D (A/m)	Position E (A/m)	50% Limit (A/m)	Limit Test (A/m)
110.5-205	0.171	0.225	0.264	0.280	0.293	0.815	1.63

E-Field Strength

Frequency Range (kHz)	Position A (V/m)	Position B (V/m)	Position C (V/m)	Position D (V/m)	Position E (V/m)	50% Limit (V/m)	Limit Test (V/m)
110.5-205	0.342	0.390	0.402	0.438	0.449	307	614

Note:
For mobile condition distance: A/B/C/D is 15cm; E is 20cm;

Result: Compliance

Considerations of compliance 680106 D01 RF Exposure Wireless Charging App v03r01 clause 5 b:

(1) Power transfer frequency is less than 1 MHz.

Yes, the operation frequency is 110.5-205 kHz.

(2) Output power from each primary coil is less than or equal to 15 watts.

Yes, the maximum output power of primary coil is 10 Watts, less than 15 watts.

(3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.

The transfer system includes only single primary coil, and system detect and allow coupling only between individual pairs of coils.

(4) Client device is placed directly in contact with the transmitter.

Yes, client device is placed directly in contact with the transmitter

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

Yes, mobile exposure conditions only.

(6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Yes, the test result for H and E-field strength less than 50% of the MPE limit.

FCC§15.203 – ANTENNA REQUIREMENT

Applicable Standard

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

Antenna Connected Construction

The EUT has one internal coil arrangement, which were permanently attached, fulfill the requirement of this section. Please refer to the EUT photos.

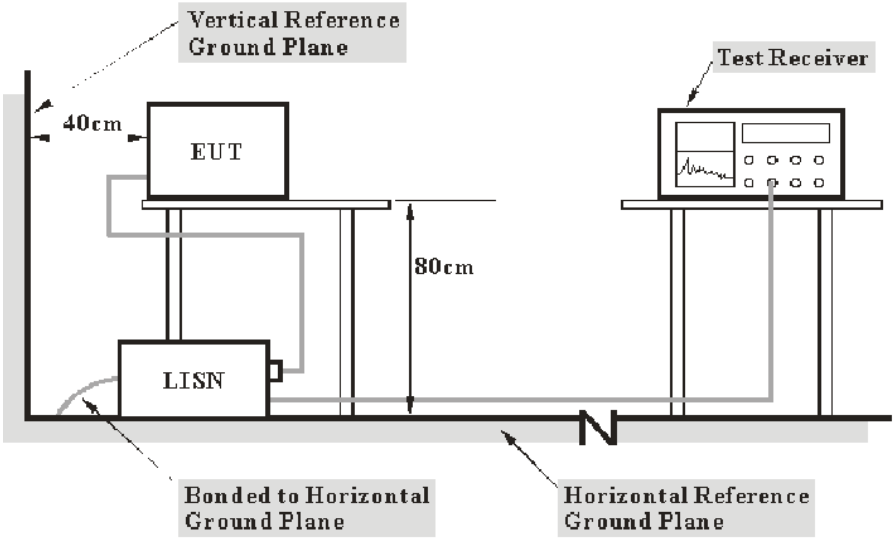
Result: Compliance.

FCC §15.207 – AC LINE CONDUCTED EMISSION

Applicable Standard

FCC§15.207

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Corrected Factor & Margin Calculation

The basic equation is as follows:

Level (QuasiPeak or Average) = Reading Level + Transd Factor

Note:
Transd Factor = Cable loss + Factor of coupling device

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Level

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

Test Data

Environmental Conditions

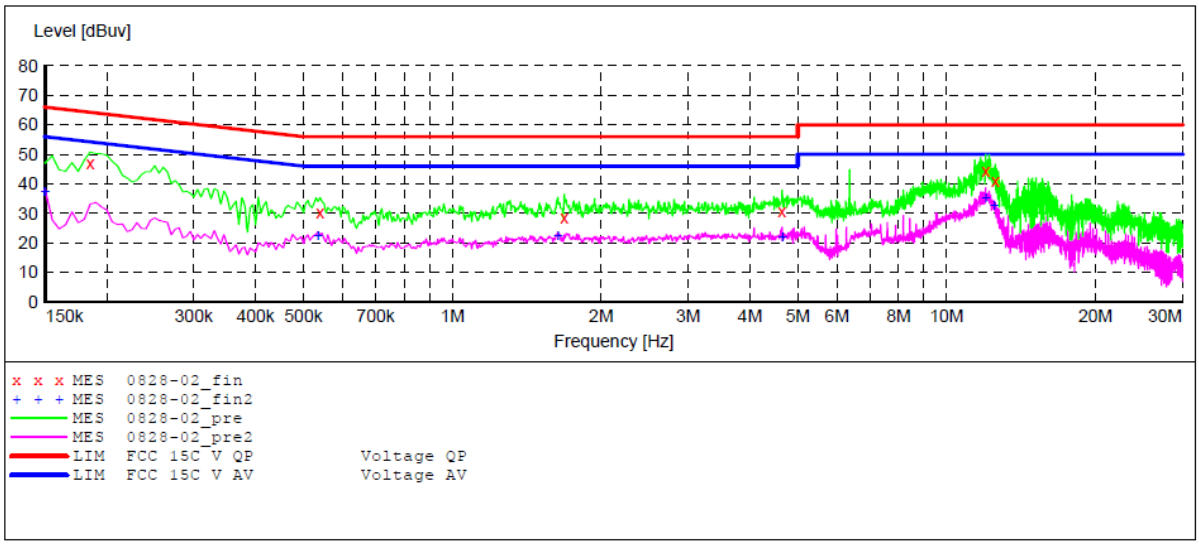
Temperature:	25°C
Relative Humidity:	65 %
ATM Pressure:	101.0 kPa

The testing was performed by Ting Lǔ on 2021-08-27 and 2021-08-28.

Test mode: Wireless Charging

M1:

AC 120 V/60 Hz, Line:



MEASUREMENT RESULT: "0828-02_fin"

2021-8-27 04:54

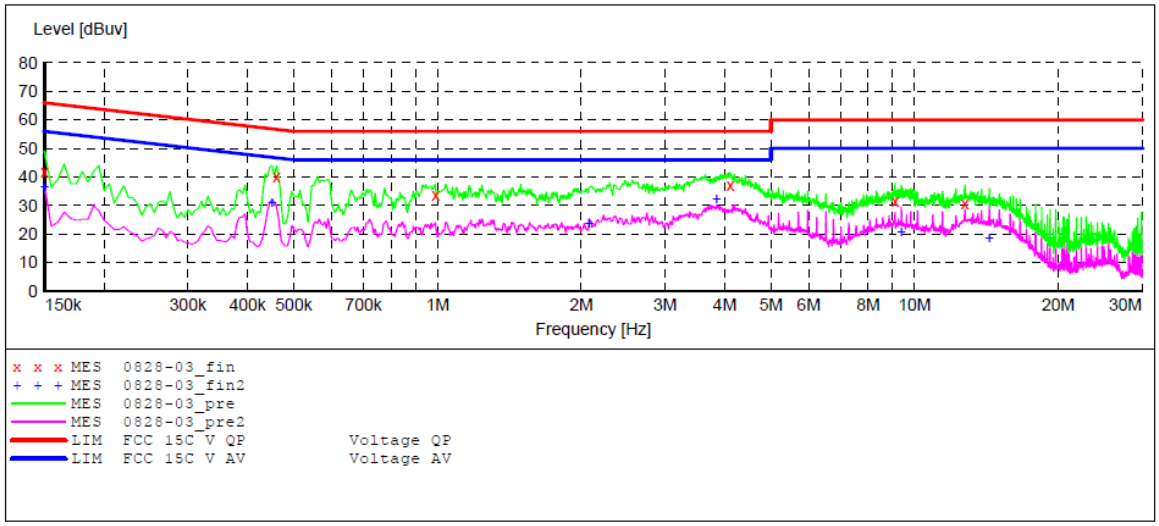
Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.185000	47.00	10.8	64	17.0	QP	L1	GND
0.540000	30.10	11.0	56	25.9	QP	L1	GND
1.685000	28.60	11.2	56	27.4	QP	L1	GND
4.650000	30.60	11.4	56	25.4	QP	L1	GND
12.000000	44.20	11.6	60	15.8	QP	L1	GND
12.550000	40.90	11.6	60	19.1	QP	L1	GND

MEASUREMENT RESULT: "0828-02_fin2"

2021-8-27 04:54

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	37.40	10.8	56	18.6	AV	L1	GND
0.535000	22.60	11.0	46	23.4	AV	L1	GND
1.635000	22.80	11.2	46	23.2	AV	L1	GND
4.650000	22.00	11.4	46	24.0	AV	L1	GND
12.000000	35.40	11.6	50	14.6	AV	L1	GND
12.475000	32.90	11.6	50	17.1	AV	L1	GND

AC 120V/ 60 Hz, Neutral:



MEASUREMENT RESULT: "0828-03_fin"

2021-8-28 04:23

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	42.00	10.8	66	24.0	QP	N	GND
0.460000	40.20	11.0	57	16.8	QP	N	GND
0.990000	33.70	11.1	56	22.3	QP	N	GND
4.110000	37.30	11.4	56	18.7	QP	N	GND
9.110000	31.50	11.6	60	28.5	QP	N	GND
12.750000	30.50	11.6	60	29.5	QP	N	GND

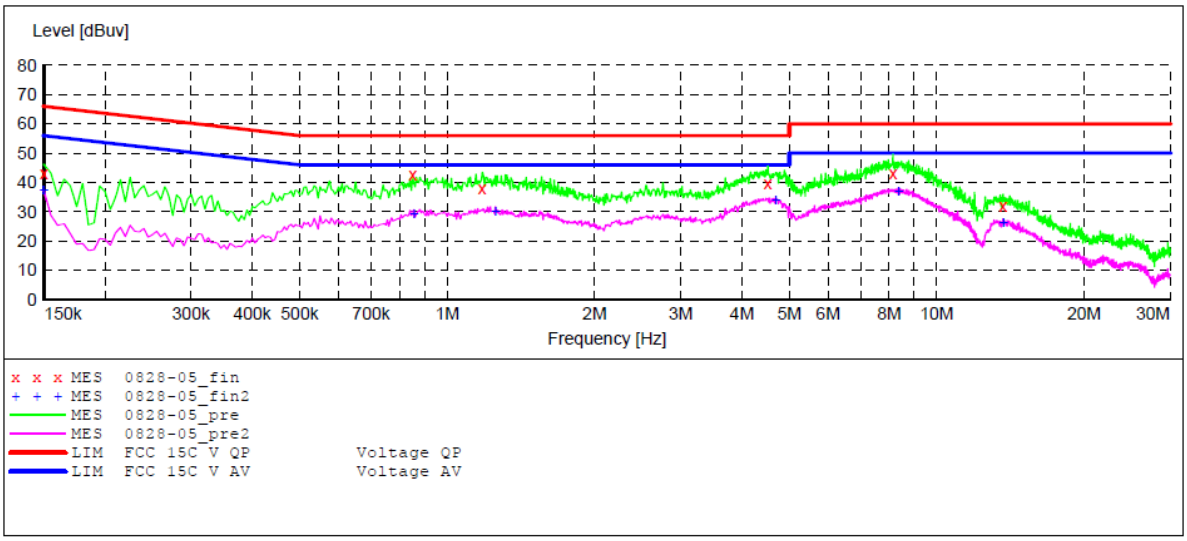
MEASUREMENT RESULT: "0828-03_fin2"

2021-8-28 04:23

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	36.80	10.8	56	19.2	AV	N	GND
0.450000	31.10	11.0	47	15.9	AV	N	GND
2.080000	24.00	11.3	46	22.0	AV	N	GND
3.850000	32.60	11.4	46	13.4	AV	N	GND
9.390000	21.10	11.6	50	28.9	AV	N	GND
14.350000	18.60	11.6	50	31.4	AV	N	GND

M2:

AC 120 V/60 Hz, Line:



MEASUREMENT RESULT: "0828-05_fin"

2021-8-28 04:27

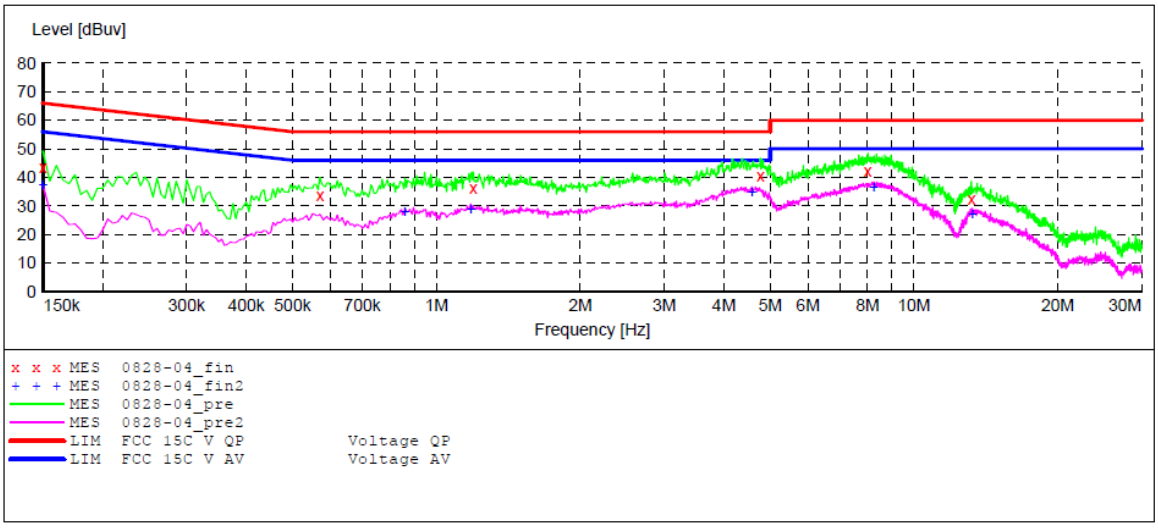
Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	43.30	10.8	66	22.7	QP	L1	GND
0.850000	42.60	11.1	56	13.4	QP	L1	GND
1.180000	38.00	11.2	56	18.0	QP	L1	GND
4.520000	39.60	11.4	56	16.4	QP	L1	GND
8.140000	43.10	11.5	60	16.9	QP	L1	GND
13.675000	32.10	11.6	60	27.9	QP	L1	GND

MEASUREMENT RESULT: "0828-05_fin2"

2021-8-28 04:27

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	37.40	10.8	56	18.6	AV	L1	GND
0.855000	29.50	11.1	46	16.5	AV	L1	GND
1.255000	30.30	11.2	46	15.7	AV	L1	GND
4.690000	34.00	11.4	46	12.0	AV	L1	GND
8.370000	37.30	11.5	50	12.7	AV	L1	GND
13.675000	26.50	11.6	50	23.5	AV	L1	GND

AC 120V/ 60 Hz, Neutral:



MEASUREMENT RESULT: "0828-04_fin"

2021-8-28 04:25

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	43.40	10.8	66	22.6	QP	N	GND
0.570000	33.90	11.0	56	22.1	QP	N	GND
1.195000	36.20	11.2	56	19.8	QP	N	GND
4.770000	40.40	11.4	56	15.6	QP	N	GND
8.010000	42.20	11.5	60	17.8	QP	N	GND
13.200000	32.50	11.6	60	27.5	QP	N	GND

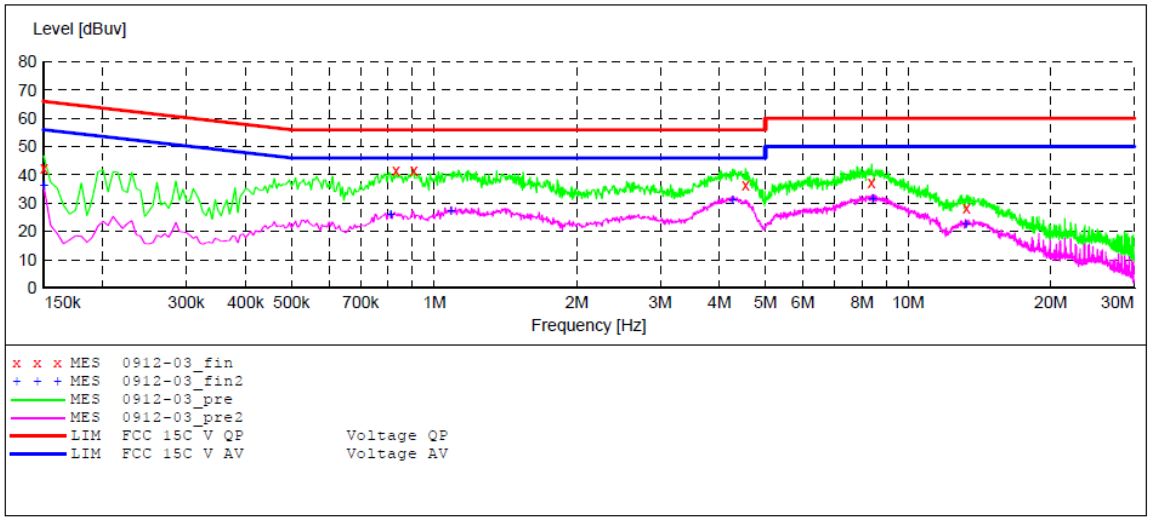
MEASUREMENT RESULT: "0828-04_fin2"

2021-8-28 04:25

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	37.70	10.8	56	18.3	AV	N	GND
0.860000	28.30	11.1	46	17.7	AV	N	GND
1.180000	29.20	11.2	46	16.8	AV	N	GND
4.580000	35.00	11.4	46	11.0	AV	N	GND
8.250000	36.80	11.5	50	13.2	AV	N	GND
13.250000	27.30	11.6	50	22.7	AV	N	GND

M3:

AC 120 V/60 Hz, Line:



MEASUREMENT RESULT: "0912-03_fin"

2021-8-28 02:52

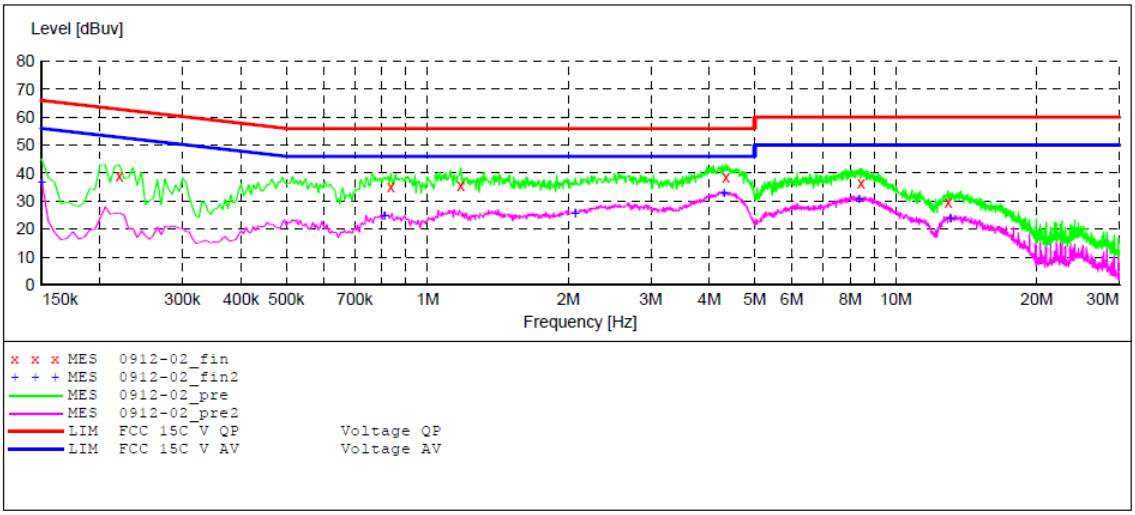
Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	42.60	10.8	66	23.4	QP	L1	GND
0.830000	41.70	11.1	56	14.3	QP	L1	GND
0.905000	41.60	11.1	56	14.4	QP	L1	GND
4.540000	36.30	11.4	56	19.7	QP	L1	GND
8.380000	37.40	11.5	60	22.6	QP	L1	GND
13.300000	28.50	11.6	60	31.5	QP	L1	GND

MEASUREMENT RESULT: "0912-03_fin2"

2021-8-28 02:52

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	36.60	10.8	56	19.4	AV	L1	GND
0.810000	26.40	11.1	46	19.6	AV	L1	GND
1.085000	27.40	11.1	46	18.6	AV	L1	GND
4.270000	31.50	11.4	46	14.5	AV	L1	GND
8.420000	31.90	11.5	50	18.1	AV	L1	GND
13.225000	22.70	11.6	50	27.3	AV	L1	GND

AC 120V/ 60 Hz, Neutral:



MEASUREMENT RESULT: "0912-02_fin"

2021-8-28 02:49

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.220000	38.90	10.8	63	23.1	QP	N	GND
0.835000	35.30	11.1	56	20.7	QP	N	GND
1.180000	35.40	11.2	56	20.6	QP	N	GND
4.340000	38.40	11.4	56	17.6	QP	N	GND
8.430000	36.70	11.5	60	23.3	QP	N	GND
12.950000	29.50	11.6	60	30.5	QP	N	GND

MEASUREMENT RESULT: "0912-02_fin2"

2021-8-28 02:49

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	36.80	10.8	56	19.2	AV	N	GND
0.810000	24.80	11.1	46	21.2	AV	N	GND
2.070000	25.80	11.3	46	20.2	AV	N	GND
4.300000	32.90	11.4	46	13.1	AV	N	GND
8.350000	30.90	11.5	50	19.1	AV	N	GND
13.075000	23.90	11.6	50	26.1	AV	N	GND

FCC §15.205 & §15.209 - RADIATED EMISSIONS TEST

Applicable Standard

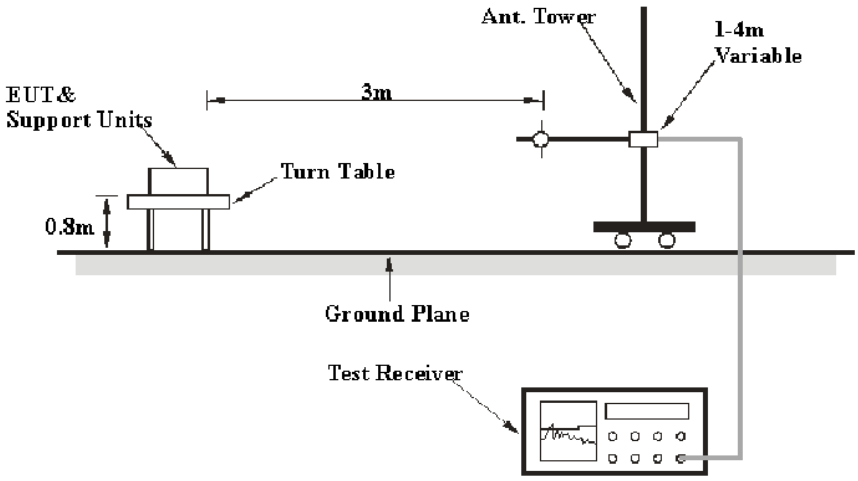
As per FCC Part 15.209

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (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

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

EUT Setup



The radiated emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part Subpart C limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 1 GHz.

During the radiated emission test, the EMI test Receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	Measurement
9 kHz – 150 kHz	200 Hz	1 kHz	QP/Average
150 kHz – 30 MHz	9 kHz	30 kHz	QP/Average
30 MHz – 1000 MHz	120 kHz	300 kHz	QP

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

If the maximized peak measured value complies with the limit, then it is unnecessary to perform an QP/Average measurement

Corrected Amplitude & Margin Calculation

For 9kHz-30MHz:
The basic equation is as follows:

Level (QuasiPeak or Average) = Reading Level + Transd Factor

Note:
Transd Factor = Cable loss + Factor of coupling device

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Level

For above 30MHz:
The basic equation is as follows:

Result = Meter Reading+ Factor

Note:
Factor = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Result - Limit

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209&15.205.

Test Data

Environmental Conditions

Temperature:	21 °C
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

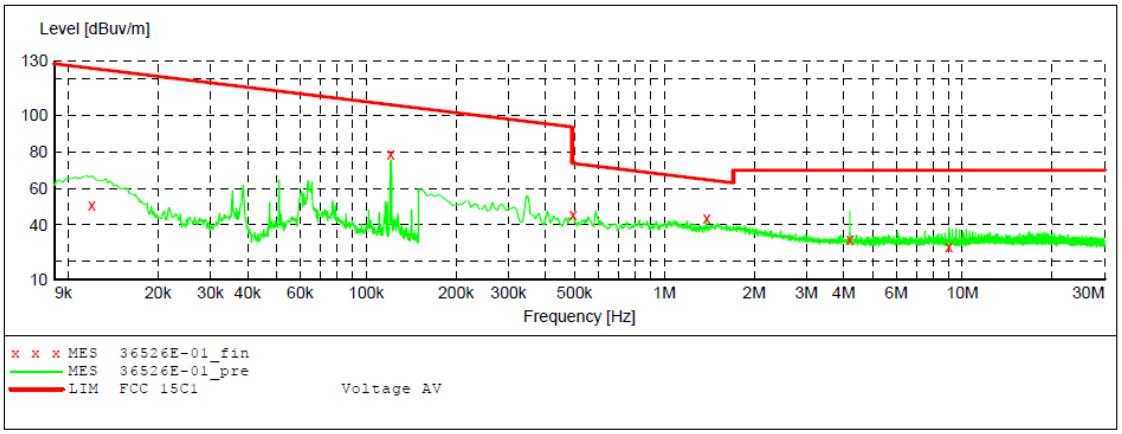
The testing was performed by Ting Lǔ on 2021-08-30 for Below 30MHz and 2021-08-28 for 30MHz-1GHz.

Test mode: Wireless Charging

Result: Compliance

M1:
9 kHz~30MHz:

Worst case (Full load, Z Axis) was recorded in the report.



MEASUREMENT RESULT: "36526E-01_fin"

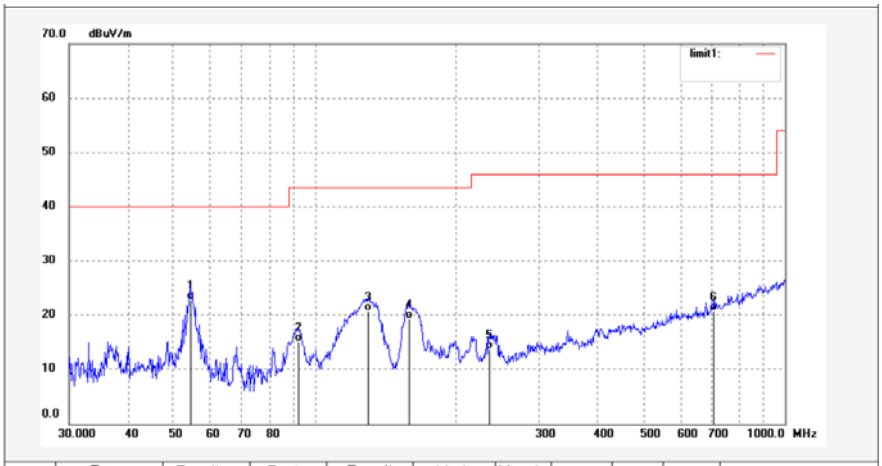
2021-8-30 11:30

Frequency MHz	Level dBuv/m	Transd dB	Limit dBuv/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
0.012000	50.80	20.1	126.0	75.2	QP	105.0	0.00	Z
0.120800	78.50	20.1	106.0	27.5	QP	105.0	0.00	Z
0.495000	45.50	20.3	73.7	28.2	QP	105.0	0.00	Z
1.385000	43.40	20.4	64.8	21.4	QP	105.0	0.00	Z
4.195000	31.70	20.5	69.5	38.3	QP	105.0	0.00	Z
9.020000	28.10	20.6	69.5	41.9	QP	105.0	0.00	Z

Part 15 Section 15.31(f)(2) (9kHz-30MHz)
Limit at 3m=Limit at 300m-40*log(3(m)/300(m))
Limit at 3m=Limit at 30m-40*log(3(m)/30(m))

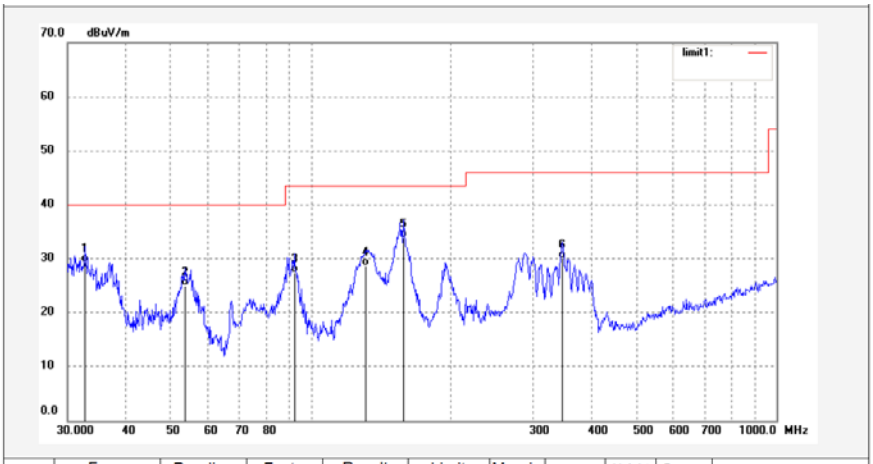
30 MHz ~ 1GHz

Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	54.4516	40.17	-17.37	22.80	40.00	-17.20	QP			
2	92.4624	35.23	-20.14	15.09	43.50	-28.41	QP			
3	129.9226	39.54	-18.79	20.75	43.50	-22.75	QP			
4	158.6677	38.97	-19.63	19.34	43.50	-24.16	QP			
5	234.9909	30.30	-16.58	13.72	46.00	-32.28	QP			
6	706.6999	27.60	-6.86	20.74	46.00	-25.26	QP			

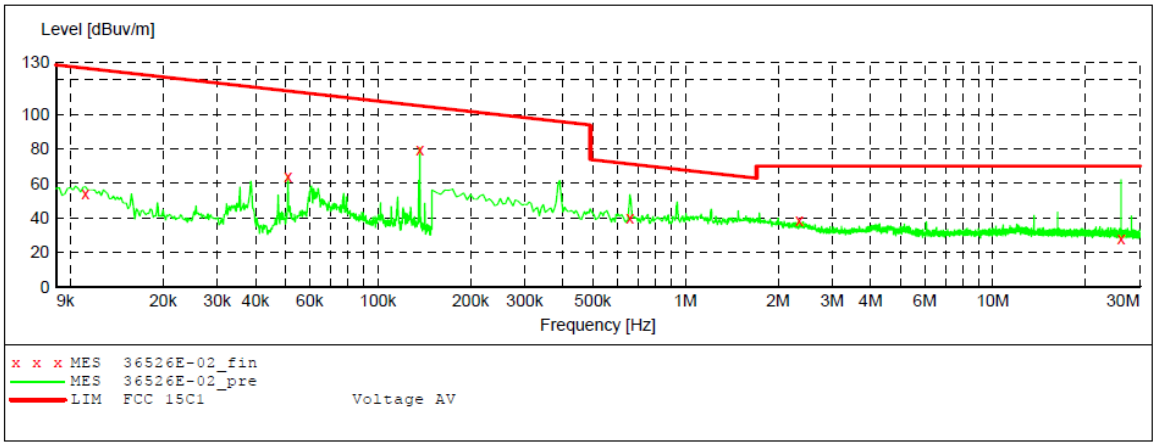
Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.6340	43.61	-14.34	29.27	40.00	-10.73	QP			
2	53.6932	42.59	-17.58	25.01	40.00	-14.99	QP			
3	92.1388	47.20	-19.89	27.31	43.50	-16.19	QP			
4	130.8369	47.49	-18.82	28.67	43.50	-14.83	QP			
5	158.1123	53.61	-19.69	33.92	43.50	-9.58	QP			
6	346.8092	43.31	-13.35	29.96	46.00	-16.04	QP			

M2:
9 kHz~30MHz:

Worst case (Full load, Z Axis) was recorded in the report.



MEASUREMENT RESULT: "36526E-02_fin"

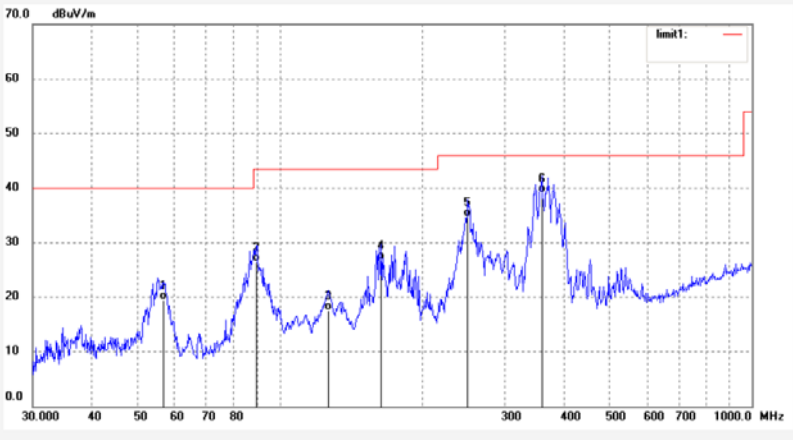
2021-8-30 11:25

Frequency MHz	Level dBuv/m	Transd dB	Limit dBuv/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
0.012000	54.10	20.1	126.0	72.5	QP	105.0	0.00	Z
0.051000	64.20	20.1	113.4	49.2	QP	105.0	0.00	Z
0.136800	79.70	20.1	104.9	25.2	QP	105.0	0.00	Z
0.660000	40.20	20.3	71.8	31.0	QP	105.0	0.00	Z
2.340000	38.30	20.4	69.5	31.7	QP	105.0	0.00	Z
26.120000	28.20	21.7	69.5	41.8	QP	105.0	0.00	Z

Part 15 Section 15.31(f)(2) (9kHz-30MHz)
Limit at 3m=Limit at 300m-40*log(3(m)/300(m))
Limit at 3m=Limit at 30m-40*log(3(m)/30(m))

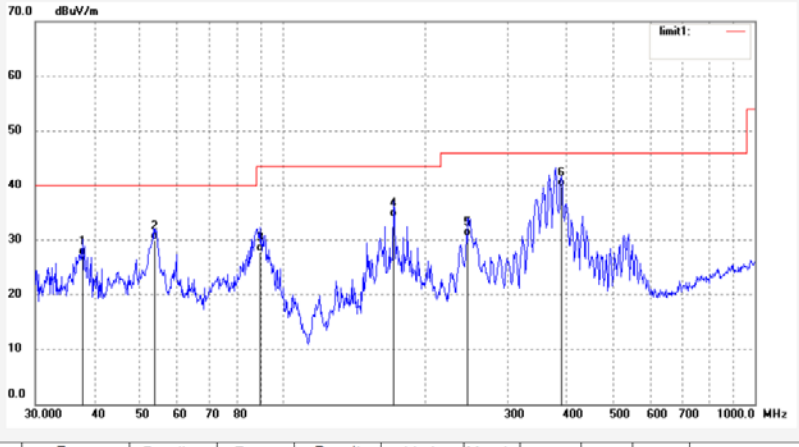
30 MHz ~ 1GHz

Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	56.7917	37.41	-17.83	19.58	40.00	-20.42	QP			
2	89.2764	47.20	-20.71	26.49	43.50	-17.01	QP			
3	126.7723	36.36	-18.71	17.65	43.50	-25.85	QP			
4	164.3301	46.23	-19.45	26.78	43.50	-16.72	QP			
5	250.3012	51.23	-16.44	34.79	46.00	-11.21	QP			
6	359.1860	52.32	-13.18	39.14	46.00	-6.86	QP			

Vertical

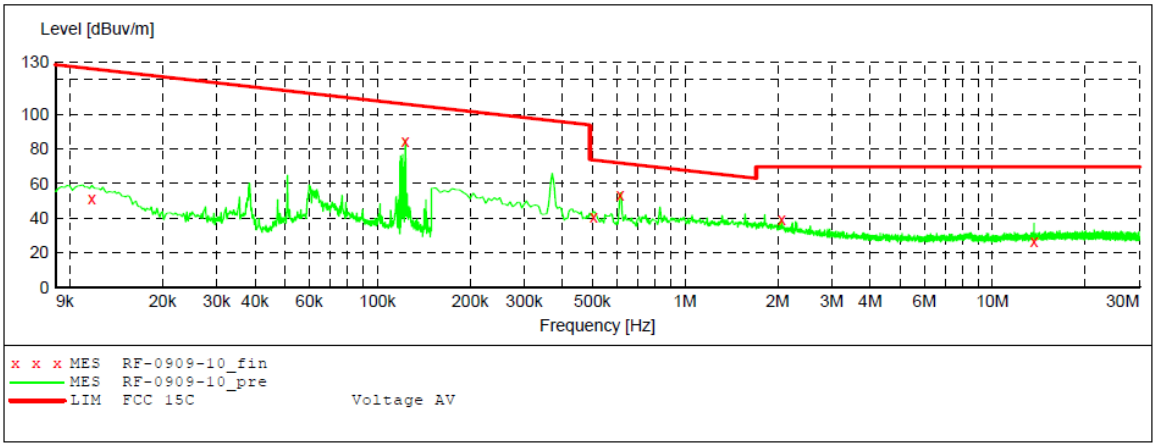


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	37.8121	46.09	-18.96	27.13	40.00	-12.87	QP			
2	53.6932	47.42	-17.33	30.09	40.00	-9.91	QP			
3	89.5899	48.52	-20.63	27.89	43.50	-15.61	QP			
4	171.9945	52.82	-18.69	34.13	43.50	-9.37	QP			
5	247.6819	47.10	-16.44	30.66	46.00	-15.34	QP			
6	389.3549	52.63	-12.83	39.80	46.00	-6.20	QP			

M3:

9 kHz~30MHz:

Worst case (Full load, Z Axis) was recorded in the report.



MEASUREMENT RESULT: "RF-0909-10_fin"

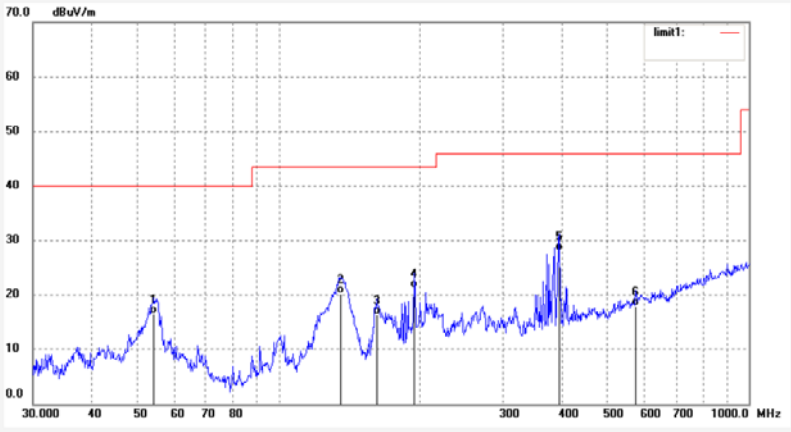
2021-8-30 10:07

Frequency MHz	Level dBuv/m	Transd dB	Limit dBuv/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
0.012000	51.60	20.1	126.0	74.6	QP	105.0	0.00	Z
0.123200	84.70	20.1	105.8	21.1	QP	105.0	0.00	Z
0.505000	40.70	20.3	73.5	32.8	QP	105.0	0.00	Z
0.615000	53.30	20.3	71.8	18.5	QP	105.0	0.00	Z
2.060000	39.30	20.4	69.5	30.2	QP	105.0	0.00	Z
13.640000	26.40	21.0	69.5	43.1	QP	105.0	0.00	Z

Part 15 Section 15.31(f)(2) (9kHz-30MHz)
Limit at 3m=Limit at 300m-40*log(3(m)/300(m))
Limit at 3m=Limit at 30m-40*log(3(m)/30(m))

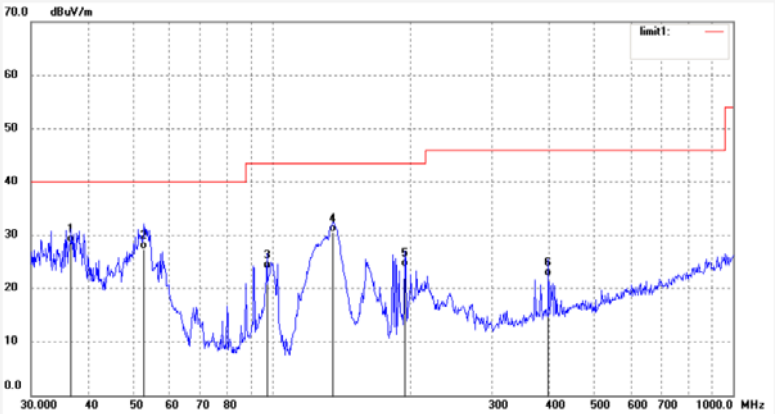
30 MHz ~ 1GHz

Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	54.2610	33.90	-17.36	16.54	40.00	-23.46	QP			
2	135.5062	39.31	-19.11	20.20	43.50	-23.30	QP			
3	161.4740	35.80	-19.48	16.32	43.50	-27.18	QP			
4	194.4533	38.91	-17.64	21.27	43.50	-22.23	QP			
5	394.8545	40.80	-12.63	28.17	46.00	-17.83	QP			
6	574.6258	26.31	-8.33	17.98	46.00	-28.02	QP			

Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	36.6375	43.97	-15.43	28.54	40.00	-11.46	QP			
2	52.7600	44.98	-17.51	27.47	40.00	-12.53	QP			
3	97.4560	42.59	-18.94	23.65	43.50	-19.85	QP			
4	135.5062	49.61	-19.11	30.50	43.50	-13.00	QP			
5	194.4534	41.63	-17.64	23.99	43.50	-19.51	QP			
6	397.6334	34.90	-12.52	22.38	46.00	-23.62	QP			

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