

CFR 47 FCC PART 15 SUBPART C

TEST REPORT

For

3 in 1 Wireless Charging Station

MODEL NUMBER: HX-W1

REPORT NUMBER: E04A24080446F00401

ISSUE DATE: September 6, 2024

FCC ID: 2BKHM-HXW1

Prepared for

**Dongguan Yuanhaoxun Technology Co., Ltd.
Building 2 No.4, Shigu Longkou Road Tangxia Town Dongguan Guangdong
Province**

Prepared by

Guangdong Global Testing Technology Co., Ltd.

**Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city, Guangdong, People's Republic of China, 523808**

**This report is based on a single evaluation of the submitted sample(s) of the above mentioned
Product, it does not imply an assessment of the production of the products.**

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Global Testing Technology Co., Ltd.**

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	September 6, 2024	Initial Issue	

Summary of Test Results

Test Item	Limit/Requirement	Result
Antenna Requirement	FCC Part 15.203	Pass
AC Power Line Conducted Emission	FCC Part 15.207	Pass
20dB Bandwidth	FCC Part 15.215	Pass
Radiated Emission	FCC Part 15.205/15.209	Pass

Note:

1. N/A: In this whole report not applicable.

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

*The measurement result for the sample received is <Pass> according to <CFR 47 FCC PART 15 SUBPART C> when <Accuracy Method> decision rule is applied.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Dongguan Yuanhaoxun Technology Co., Ltd.
 Address: Building 2 No.4, Shigu Longkou Road Tangxia Town Dongguan Guangdong Province

Manufacturer Information

Company Name: Dongguan Yuanhaoxun Technology Co., Ltd.
 Address: Building 2 No.4, Shigu Longkou Road Tangxia Town Dongguan Guangdong Province

EUT Information

Product Description: 3 in 1 Wireless Charging Station
 Model: HX-W1
 Brand: /
 Sample Received Date: August 15, 2024
 Sample Status: Normal
 Sample ID: A24080446 001
 Date of Tested: August 15, 2024 to September 6, 2024

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 15 SUBPART C	Pass

Prepared By:

Jok Yang

Jok Yang
 Project Engineer

Approved By:

Shawn Wen

Shawn Wen
 Laboratory Manager

Checked By:

Alan He

Alan He
 Laboratory Leader



2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART C

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>A2LA (Certificate No.: 6947.01) Guangdong Global Testing Technology Co., Ltd. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1343) Guangdong Global Testing Technology Co., Ltd. has been recognized to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification rules</p> <p>ISED (Company No.: 30714) Guangdong Global Testing Technology Co., Ltd. has been registered and fully described in a report filed with ISED. The Company Number is 30714 and the test lab Conformity Assessment Body Identifier (CABID) is CN0148.</p>
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Note: All tests measurement facilities use to collect the measurement data are located at Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People's Republic of China, 523808

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Items	k	Uncertainty
20dB Emission Bandwidth	2	±9.2 PPM
Temperature	2	±0.5°C
Humidity	2	±3%

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

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emissions from the AC mains power ports (AMN)	150 kHz ~ 30 MHz	2	3.37
Radiated emissions	9 kHz ~ 30 MHz	2	4.16
Radiated emissions	30 MHz ~ 1 GHz	2	3.79

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	3 in 1 Wireless Charging Station
Model	HX-W1
Hardware Version	V1.0
Software Version	V1.0
Ratings	Type-C Input: 12V== 2.5A; 9V== 3A Wireless Output (Phone): 5W/7.5W/10W/15W(Max) Wireless Output (Watch): 3W(Max) Wireless Output (Earphone): 5W(Max)
Power Supply	DC 12V / DC 9V
Operation Mode	Wireless Charging
Operating Frequency	110-205KHz for phone charging 300-350KHz for Watch charging 110-205KHz for Earphone charging
Wireless Charging Power	15W(Max) for phone charging 3W(Max) for Watch charging 5W(Max) for Earphone charging
Modulation Technique	FSK for phone charging ASK for Watch charging ASK for Earphone charging
Antenna Type	Coil Antenna

5.2. TEST MODE

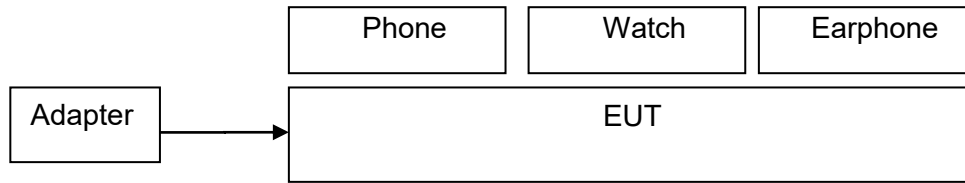
Test Mode	Description
M01	The EUT charges three loads (5W load+3W load+5W load). The EUT is powered by an adapter
M02	The EUT charges three loads (7.5W load+3W load+5W load). The EUT is powered by an adapter
M03	The EUT charges three loads (15W load+3W load+5W load). The EUT is powered by an adapter

5.3. SUPPORT UNITS FOR SYSTEM TEST

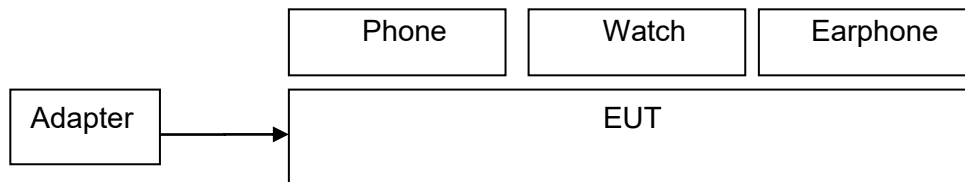
No.	Equipment	Manufacturer	Model No.	Serial No.	Remark
1	phone	Apple	A2404	/	/
2	phone	Xiaomi	Xiaomi 9	/	/
3	phone	SAMSUNG	Samsung Galaxy S9	/	/
4	Adapter	Xiaomi	580245A087	/	/
5	Earphone	momax	X5	/	/
6	Watch	Apple	A1859	/	/

5.4. SETUP DIAGRAM

AC conducted emission :



Radiated Emission:



6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Radiated emissions below 1GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
3m Semi-anechoic Chamber	ETS	9m*6m*6m	Q2146	2022/08/30	2025/08/29
EMI Test Receiver	Rohde & Schwarz	ESCI3	101409	2023/09/18	2024/09/17
Spectrum Analyzer	KEYSIGHT	N9020A	MY51283932	2023/09/18	2024/09/17
Spectrum Analyzer	Rohde & Schwarz	FSV40	101413	2023/09/18	2024/09/17
Pre-Amplifier	HzEMC	HPA-9K0130	HYP A21001	2023/09/18	2024/09/17
Biconilog Antenna	Schwarzbeck	VULB 9168	01315	2022/10/10	2025/10/09
Biconilog Antenna	ETS	3142E	00243646	2022/03/23	2025/03/22
Loop Antenna	ETS	6502	243668	2022/03/30	2025/03/29
Test Software	Farad	EZ-EMC (Ver.FA-03A2 RE)	N/A	N/A	N/A

Test Equipment of Conducted emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Shielded Room	CHENG YU	8m*5m*4m	N/A	2022/10/29	2025/10/28
EMI Test Receiver	Rohde & Schwarz	ESR3	102647	2023/09/18	2024/09/17
LISN/AMN	Rohde & Schwarz	ENV216	102843	2023/09/18	2024/09/17
NNLK 8129 RC	Schwarzbeck	NNLK 8129 RC	5046	2023/09/18	2024/09/17
Test Software	Farad	EZ-EMC (Ver. EMC-con-3A1 1+)	N/A	N/A	N/A

7. RADIATED TEST RESULTS

LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209.

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz ~ 1 GHz)

Emissions radiated outside of the specified frequency bands above 30 MHz		
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
		Quasi-Peak
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

FCC Emissions radiated outside of the specified frequency bands below 30 MHz			
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	Field Strength Limit (dBuV/m) at 3 m
			Quasi-Peak
0.009-0.490	2400/F(kHz)	300	128.5-93.8
0.490-1.705	24000/F(kHz)	30	73.8-63.0
1.705-30.0	30	30	69.5

FCC Restricted bands of operation refer to FCC §15.205 (a):

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

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

²Above 38.6c

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyser

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.
2. The EUT was arranged to its worst case and then 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. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.
5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.
6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. 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 the quasi-peak and average detector and reported.
7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made

to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω . For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to $Y-51.5 = Z$ dBuA/m, which has the same margin, W dB, to the corresponding 15.209(a) limit.

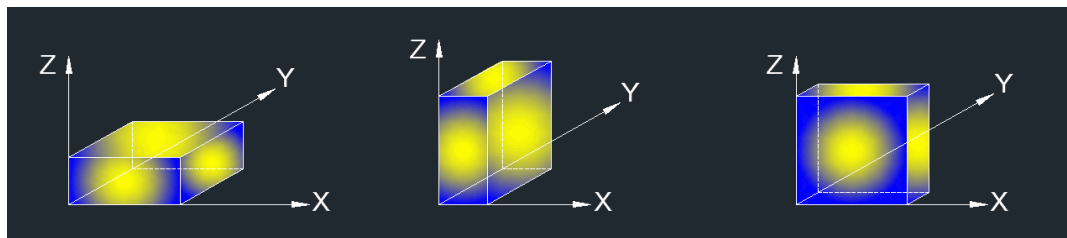
Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

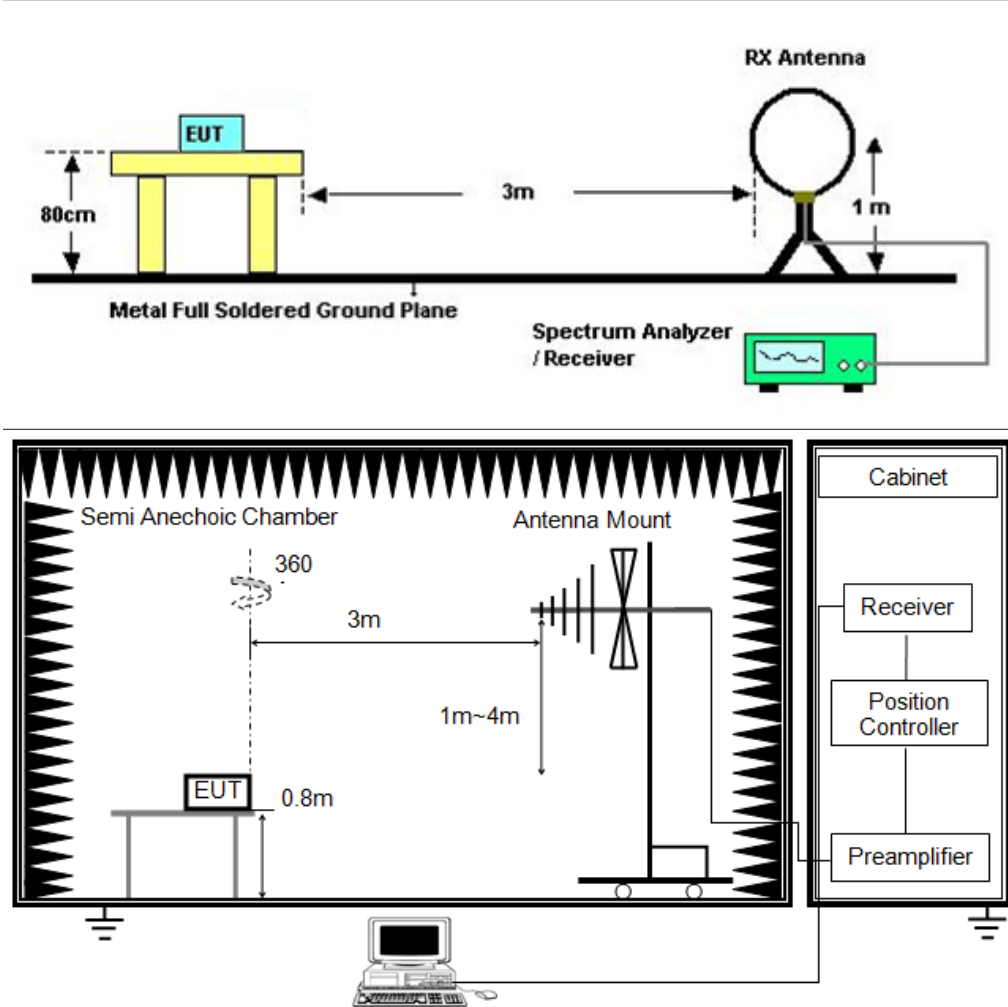
1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. 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 the quasi-peak detector and reported.

X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

TEST SETUP



TEST ENVIRONMENT

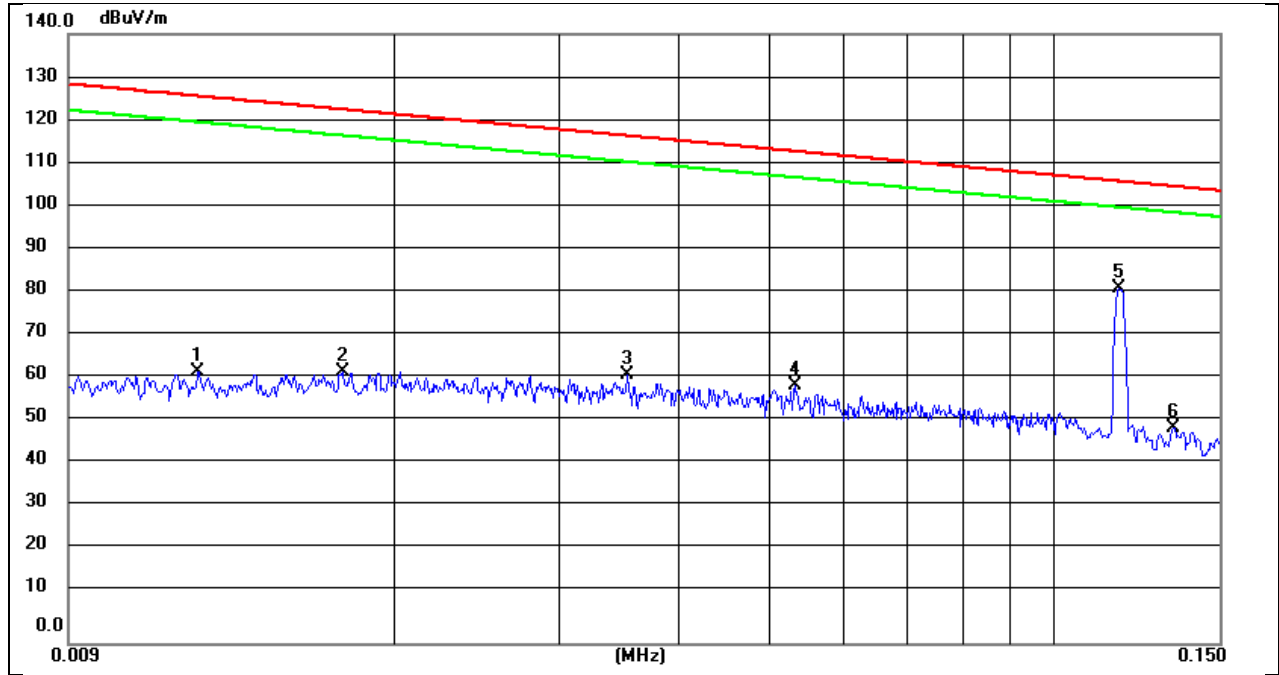
Temperature	24.3°C	Relative Humidity	53.2%
Atmosphere Pressure	101kPa		

TEST RESULTS

Please refer to section 8.1.

7.1. RADIATED SPURIOUS EMISSION

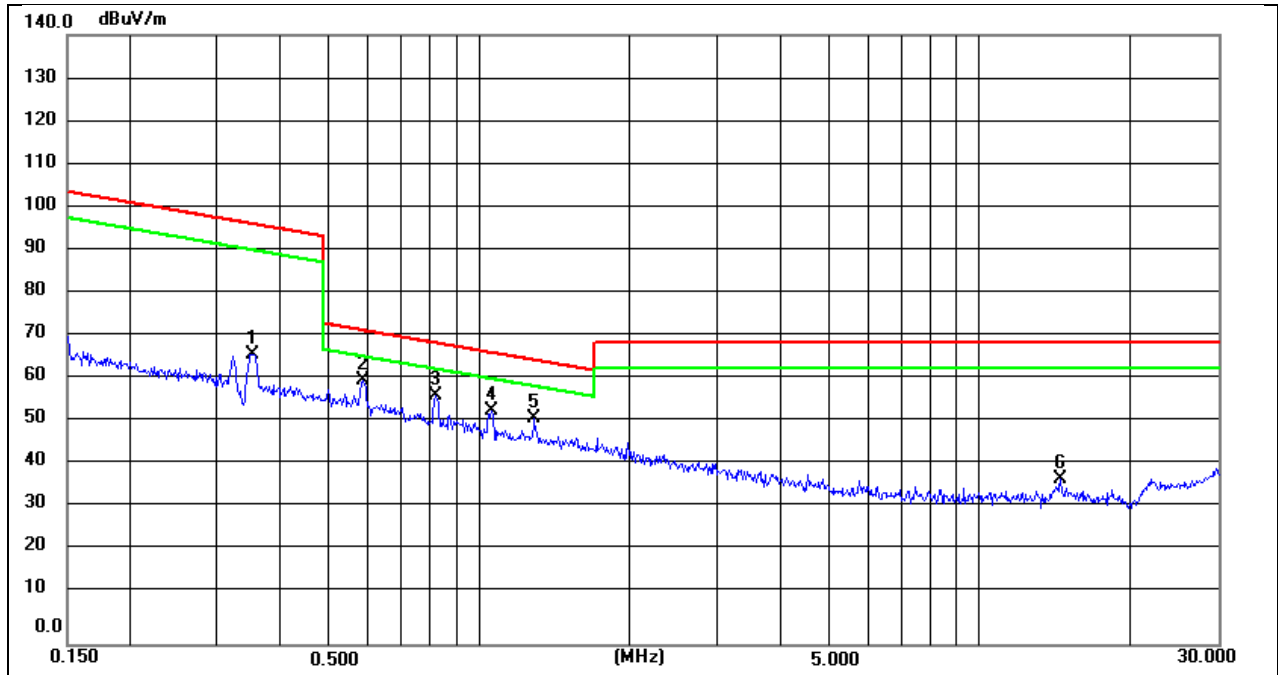
Mode:	M03
Power:	DC 12V
TE:	Berny
Date	2024/08/20
T/A/P	24.3°C/53.2%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	0.0123	42.19	20.40	62.59	125.79	-63.20	QP	coplanar
2	0.0176	42.31	20.33	62.64	122.68	-60.04	QP	coplanar
3	0.0353	41.86	20.09	61.95	116.64	-54.69	QP	coplanar
4	0.0531	39.39	19.89	59.28	113.09	-53.81	QP	coplanar
5	0.1171	62.12	19.58	81.70	106.23	-24.53	QP	coplanar
6	0.1340	29.97	19.64	49.61	105.06	-55.45	QP	coplanar

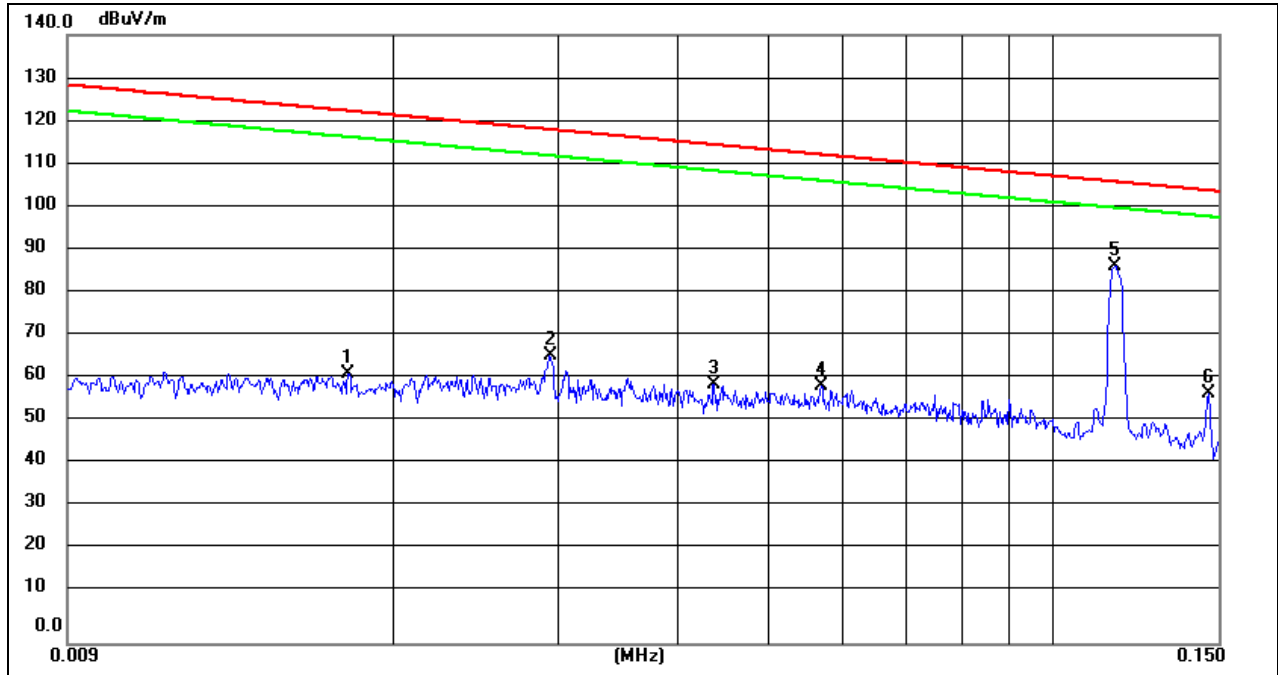
Mode:	M03
Power:	DC 12V
TE:	Berny
Date	2024/08/20
T/A/P	24.3°C/53.2%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	0.3520	47.21	19.61	66.82	96.67	-29.85	QP	coplanar
2	0.5854	41.36	19.57	60.93	72.26	-11.33	QP	coplanar
3	0.8174	37.94	19.49	57.43	69.37	-11.94	QP	coplanar
4	1.0541	34.33	19.44	53.77	67.17	-13.40	QP	coplanar
5	1.2892	32.47	19.46	51.93	65.42	-13.49	QP	coplanar
6	14.5171	17.77	20.39	38.16	69.50	-31.34	QP	coplanar

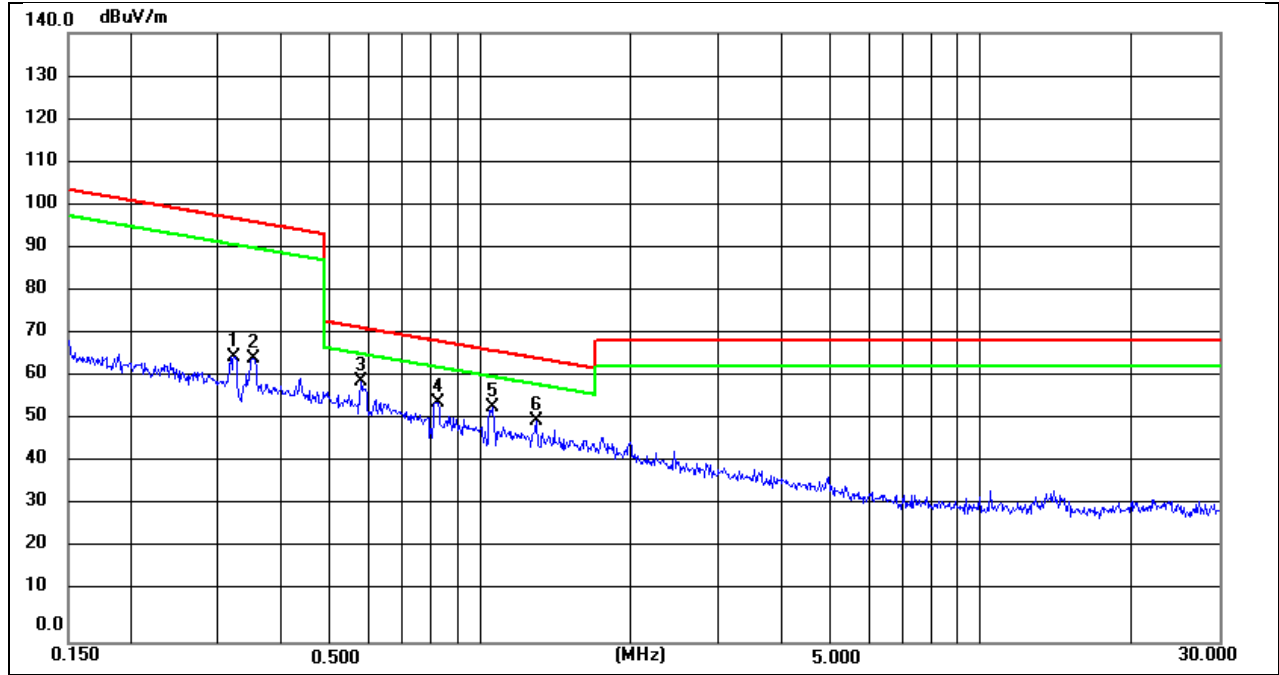
Mode:	M03
Power:	DC 12V
TE:	Berny
Date	2024/08/20
T/A/P	24.3°C/53.2%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμ V)	Corr. (dB)	Meas. (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Det.	Pol.
1	0.0179	41.86	20.32	62.18	122.53	-60.35	QP	coaxial
2	0.0293	46.05	20.16	66.21	118.25	-52.04	QP	coaxial
3	0.0437	39.63	20.00	59.63	114.78	-55.15	QP	coaxial
4	0.0568	39.44	19.84	59.28	112.51	-53.23	QP	coaxial
5	0.1164	67.49	19.57	87.06	106.28	-19.22	QP	coaxial
6	0.1462	38.02	19.64	57.66	104.30	-46.64	QP	coaxial

Mode:	M03
Power:	DC 12V
TE:	Berny
Date	2024/08/20
T/A/P	24.3°C/53.2%/101Kpa



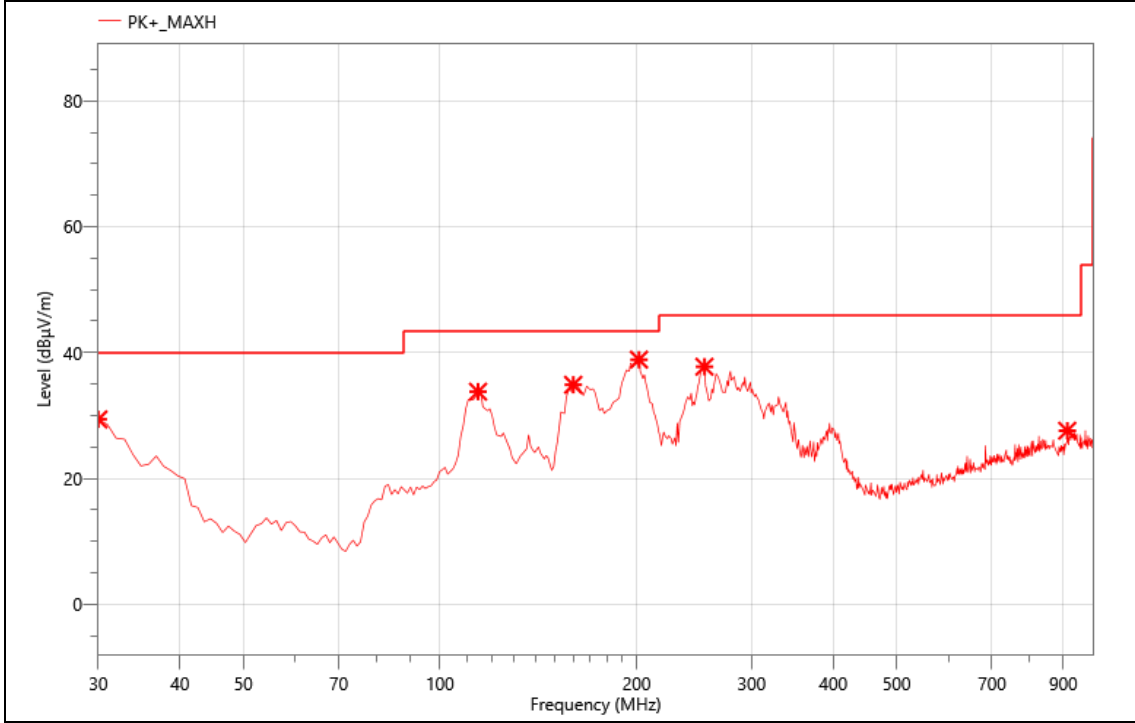
Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	0.3217	46.12	19.62	65.74	97.45	-31.71	QP	coaxial
2	0.3520	45.71	19.61	65.32	96.67	-31.35	QP	coaxial
3	0.5762	40.57	19.57	60.14	72.40	-12.26	QP	coaxial
4	0.8217	35.77	19.49	55.26	69.32	-14.06	QP	coaxial
5	1.0541	34.73	19.44	54.17	67.17	-13.00	QP	coaxial
6	1.2960	31.66	19.46	51.12	65.38	-14.26	QP	coaxial

Note:

- 1.Measurement = Reading Level + Correct Factor.
- 2.Margin= Measurement - Limit.
3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
4. M01, M02 and M03 were all tested, and only M03 was recorded in the report as the worst mode.

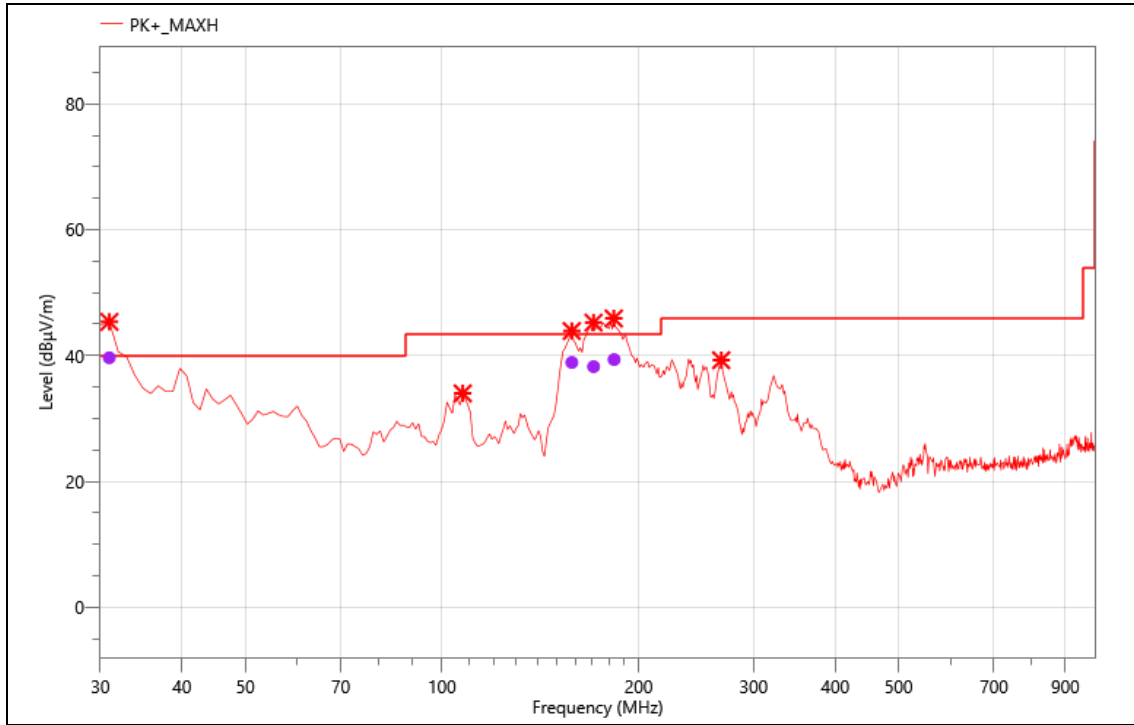
Mode:	M03
Power:	DC 12V
TE:	Berny
Date	2024/08/27
T/A/P	23.9°C/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	30.000	43.66	-14.27	29.39	40.00	10.61	PK+	H
2	114.390	58.05	-24.25	33.80	43.50	9.70	PK+	H
3	159.980	56.72	-21.82	34.90	43.50	8.60	PK+	H
4	201.690	60.85	-21.96	38.89	43.50	4.61	PK+	H
5	254.070	56.66	-18.89	37.77	46.00	8.23	PK+	H
6	912.700	31.77	-4.17	27.60	46.00	18.40	PK+	H

Mode:	M03
Power:	DC 12V
TE:	Berny
Date	2024/08/27
T/A/P	23.9°C/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	30.970	60.17	-14.8	45.37	40.00	-5.37	PK+	V
2	107.600	57.66	-23.65	34.01	43.50	9.49	PK+	V
3	158.040	65.43	-21.51	43.92	43.50	-0.42	PK+	V
4	170.650	67.78	-22.52	45.26	43.50	-1.76	PK+	V
5	183.260	68.22	-22.31	45.91	43.50	-2.41	PK+	V
6	267.650	57.72	-18.44	39.28	46.00	6.72	PK+	V

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.	Verdict
1	30.952	54.46	-14.79	39.67	40.00	0.33	QP	V	PASS
2	158.040	60.43	-21.51	38.92	43.50	4.58	QP	V	PASS
3	170.650	60.78	-22.52	38.26	43.50	5.24	QP	V	PASS
4	183.458	61.70	-22.32	39.38	43.50	4.12	QP	V	PASS

Note:

- 1.Measurement = Reading Level + Correct Factor.
- 2.Margin=Limit- Measurement.
3. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
4. Peak: Peak detector.
5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

6. M01, M02 and M03 were all tested, and only M03 was recorded in the report as the worst mode.

8. AC POWER LINE CONDUCTED EMISSION

LIMITS

Please refer to CFR 47 FCC §15.207 (a)

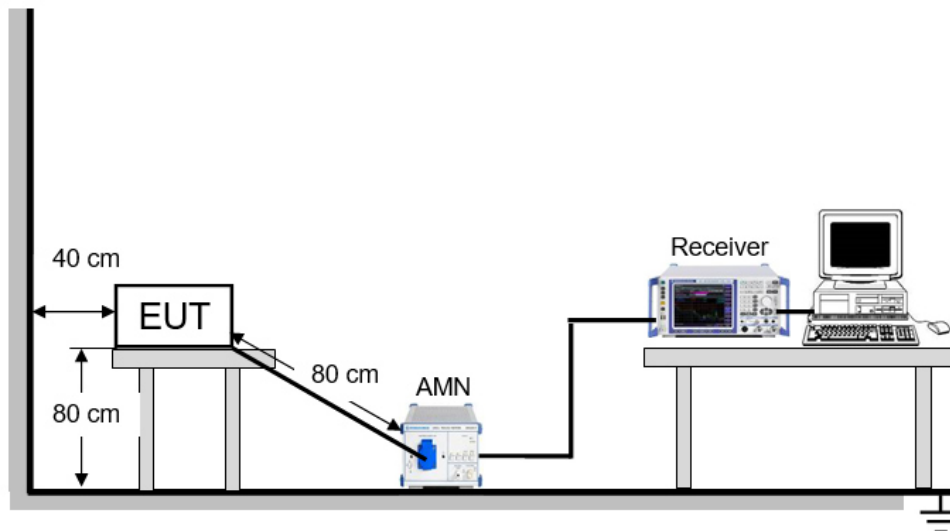
FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

TEST PROCEDURE

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

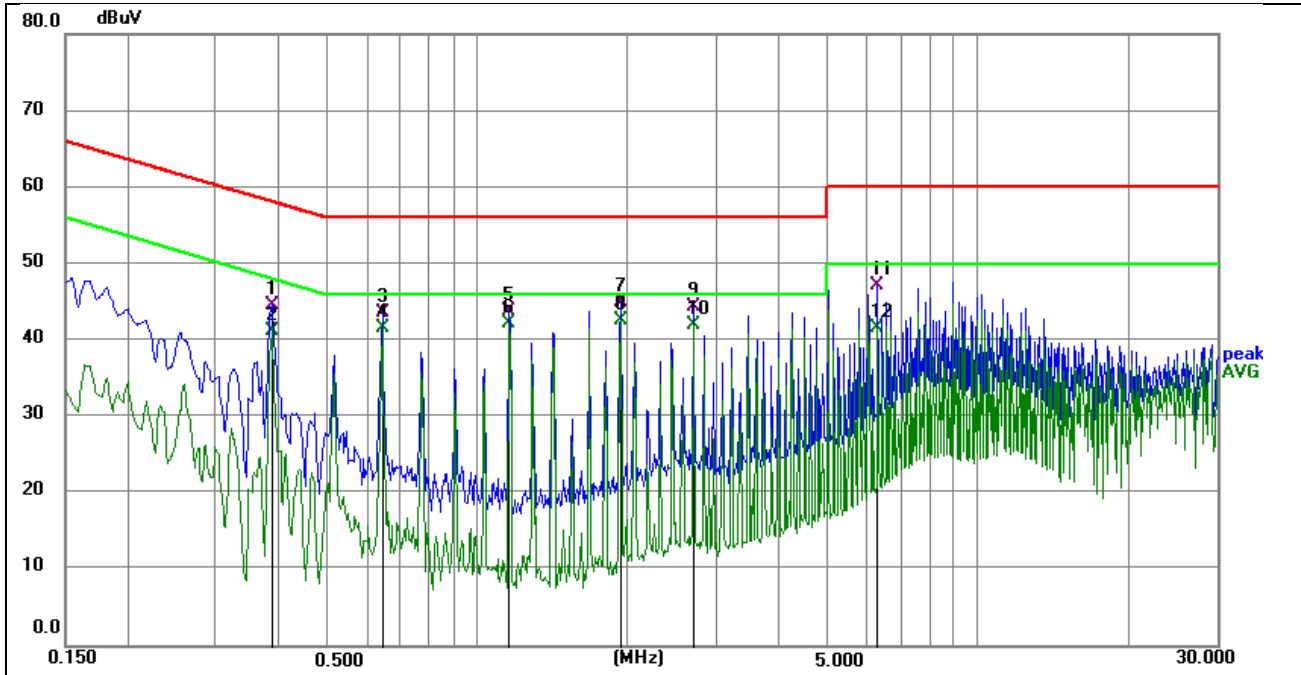
TEST SETUP



TEST ENVIRONMENT

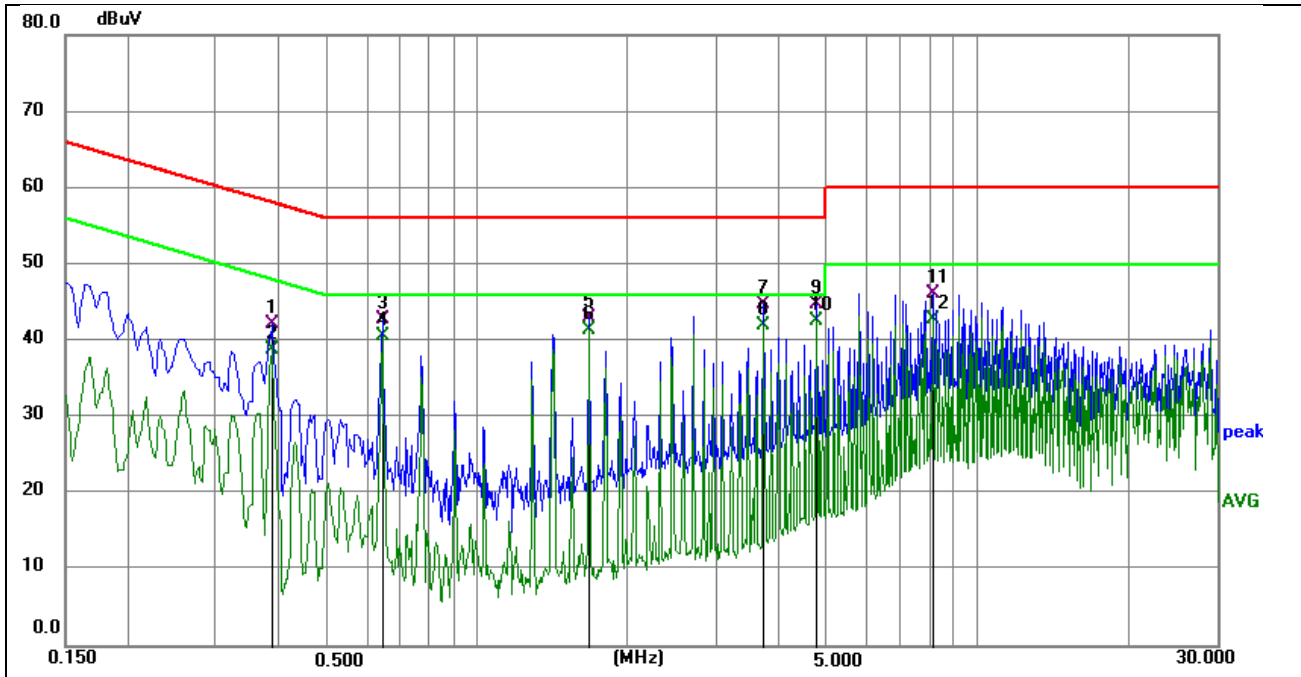
Temperature	26°C	Relative Humidity	54%
Atmosphere Pressure	101kPa		

TEST RESULTS



Phase: L1	Mode: M03
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.3885	34.73	9.80	44.53	58.10	-13.57	QP
2	0.3885	31.45	9.80	41.25	48.10	-6.85	AVG
3	0.6450	33.65	9.88	43.53	56.00	-12.47	QP
4	0.6450	31.77	9.88	41.65	46.00	-4.35	AVG
5	1.1580	33.83	9.95	43.78	56.00	-12.22	QP
6	1.1580	32.32	9.95	42.27	46.00	-3.73	AVG
7	1.9320	34.90	9.99	44.89	56.00	-11.11	QP
8	1.9320	32.66	9.99	42.65	46.00	-3.35	AVG
9	2.7060	34.38	9.99	44.37	56.00	-11.63	QP
10	2.7060	32.06	9.99	42.05	46.00	-3.95	AVG
11	6.3105	37.02	10.12	47.14	60.00	-12.86	QP
12	6.3105	31.46	10.12	41.58	50.00	-8.42	AVG



Phase: N	Mode: M03
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.3885	32.41	9.79	42.20	58.10	-15.90	QP
2	0.3885	28.99	9.79	38.78	48.10	-9.32	AVG
3	0.6450	32.92	9.84	42.76	56.00	-13.24	QP
4	0.6450	30.75	9.84	40.59	46.00	-5.41	AVG
5	1.6755	33.20	9.83	43.03	56.00	-12.97	QP
6	1.6755	31.49	9.83	41.32	46.00	-4.68	AVG
7	3.7320	34.90	9.81	44.71	56.00	-11.29	QP
8	3.7320	32.16	9.81	41.97	46.00	-4.03	AVG
9	4.7625	35.05	9.80	44.85	56.00	-11.15	QP
10	4.7625	32.76	9.80	42.56	46.00	-3.44	AVG
11	8.1105	36.42	9.77	46.19	60.00	-13.81	QP
12	8.1105	33.03	9.77	42.80	50.00	-7.20	AVG

Note: 1. Result = Reading + Correct Factor.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).

4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes have been tested, only the worst data was recorded in the report(M03).

9. 20DB BANDWIDTH

LIMITS

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

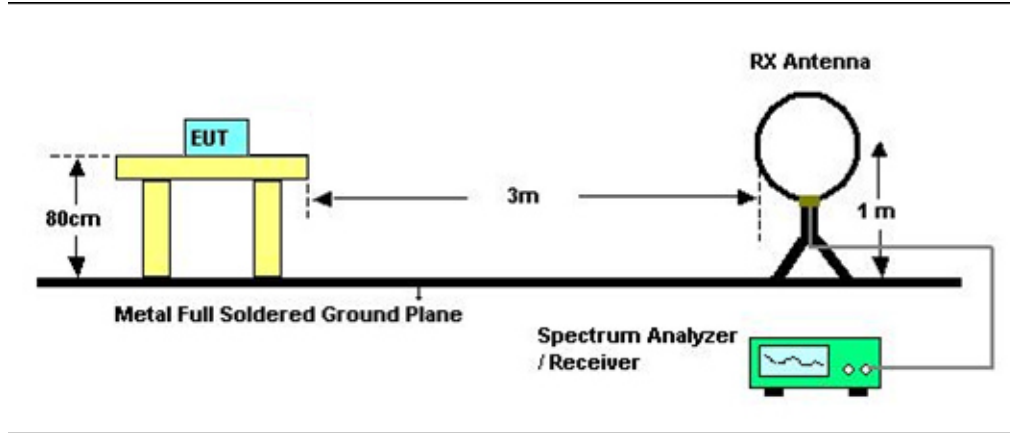
TEST PROCEDURE

- a.) The EUT operates at maximum output power according to the user manual.
- b.) If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- c.) If the EUT is a floor standing device, it is placed on the ground.
- d.) Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- f.) The EUT is connected to DC Power Source or an adapter.
- e.) The measurement distance is 3 meter.
- f.) The EUT was set into operation.
- g.) Adjust the test instrument for the following setting.

RBW	1kHz
VBW	3*RBW
Detector	Peak
Sweep time	Auto
Trace Mode	Max hold

- h.) Allow trace to fully stabilize.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.2°C	Relative Humidity	52%
Atmosphere Pressure	101kPa		

TEST RESULTS

For phone

Frequency (kHz)	20dB Bandwidth (kHz)	Result
128.7	2.749	Pass

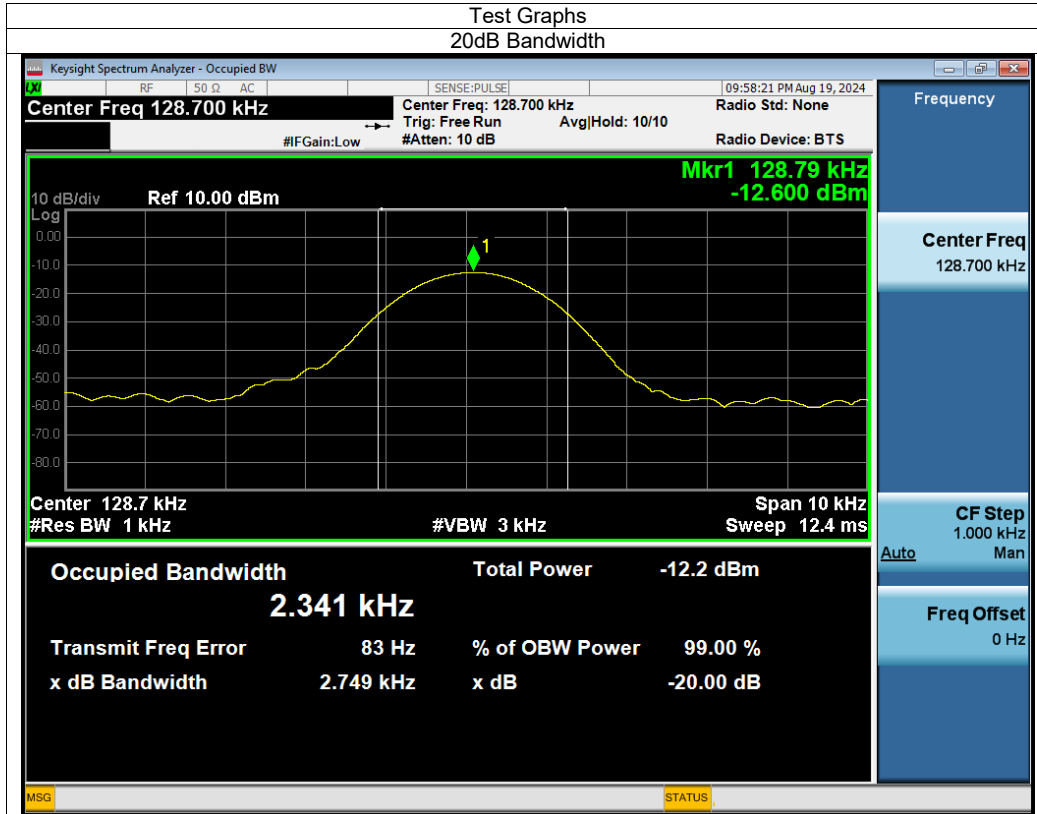
For Watch

Frequency (kHz)	20dB Bandwidth (kHz)	Result
322.4	2.683	Pass

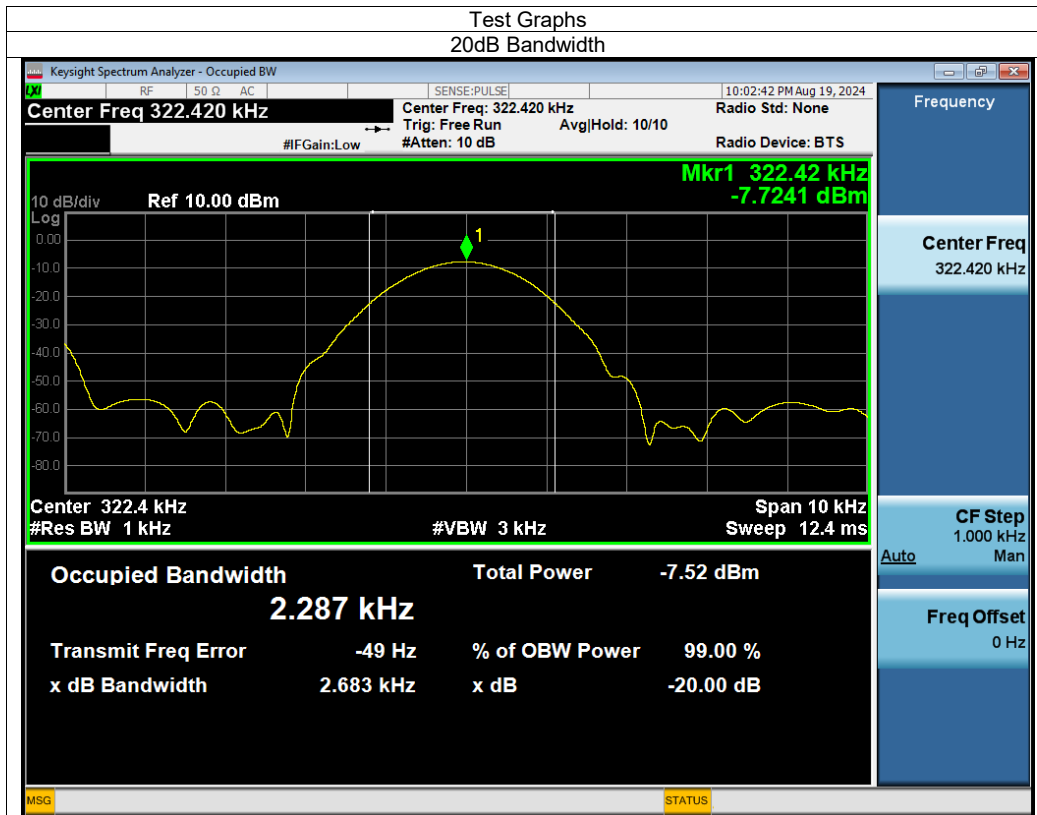
For Earphone

Frequency (kHz)	20dB Bandwidth (kHz)	Result
146	2.707	Pass

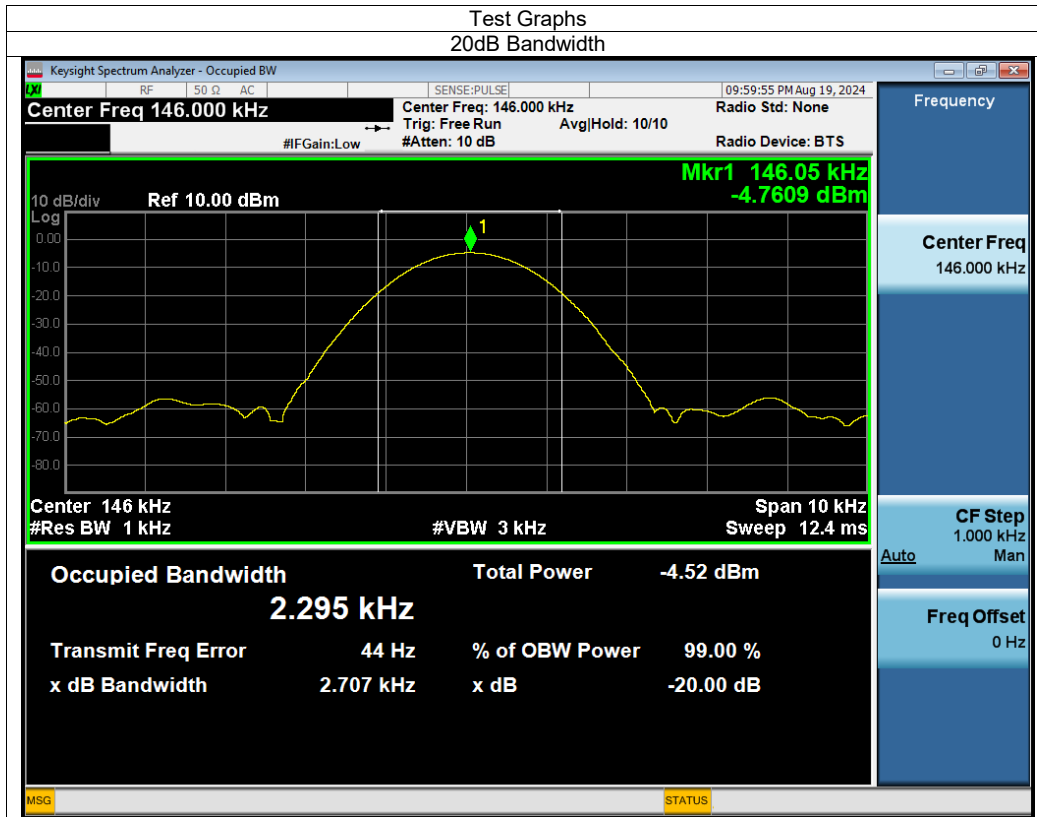
For phone



For Watch



For Earphone



10. ANTENNA REQUIREMENT

REQUIREMENT

Please refer to FCC §15.203

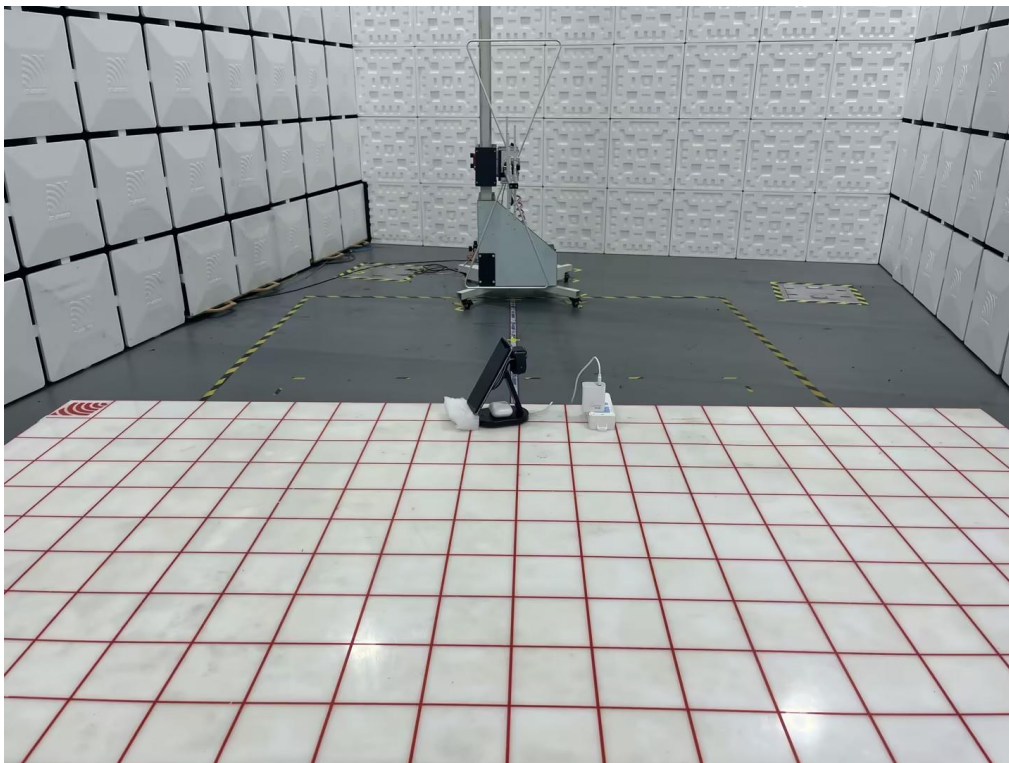
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

DESCRIPTION

Pass

APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION

Radiated Spurious Emission



AC Power Line Conducted Emission



END OF REPORT