

## FCC Test Report

Product Name	WIRELESS POWER CHARGER UNIT
Model No.	NMOK-401W
FCC ID	2AV76-NMOK-401W

Applicant	NIDEC MOBILITY KOREA CORPORATION
Address	790-12, Bogaewonsam-ro, Bogae-myeon, Anseong-si, Gyeonggi-do, Republic of Korea

Date of Receipt	Jun. 11, 2021
Issued Date	Aug. 11, 2021
Report No.	2160470R-E3032110103
Report Version	V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF or any agency of the government.

The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

# Test Report

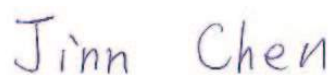
Issued Date: Aug. 11, 2021

Report No.: 2160470R-E3032110103



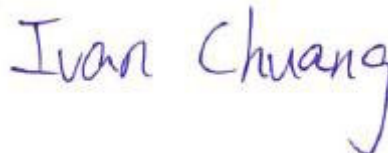
Product Name	WIRELESS POWER CHARGER UNIT
Applicant	NIDEC MOBILITY KOREA CORPORATION
Address	790-12, Bogaewonsam-ro, Bogae-myeon, Anseong-si, Gyeonggi-do, Republic of Korea
Manufacturer	NIDEC MOBILITY KOREA CORPORATION
Model No.	NMOK-401W
FCC ID.	2AV76-NMOK-401W
EUT Rated Voltage	DC 12V Power by Battery
EUT Test Voltage	DC 12V Power by Battery
Trade Name	NIDEC MOBILITY KOREA
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By :



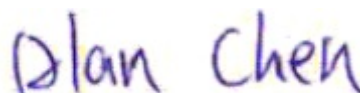
( Supervisor / Jinn Chen )

Tested By :



( Senior Engineer / Ivan Chuang )

Approved By :



( Senior Engineer / Alan Chen )

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## Revision History

<b>Report No.</b>	<b>Version</b>	<b>Description</b>	<b>Issued Date</b>
2160470R-E3032110103	V1.0	Initial issue of report.	Aug. 11, 2021

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	WIRELESS POWER CHARGER UNIT
Trade Name	NIDEC MOBILITY KOREA
Model No.	NMOK-401W
FCC ID	2AV76-NMOK-401W
Frequency Range	13.56MHz
Modulation	ASK
Antenna Type	Loop Antenna

Frequency of Each Channel:

Channel	Frequency
Channel 1:	13.56 MHz

Note:

1. This device is a WIRELESS POWER CHARGER UNIT with a built-in 13.56MHz transceiver.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.225.
3. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit
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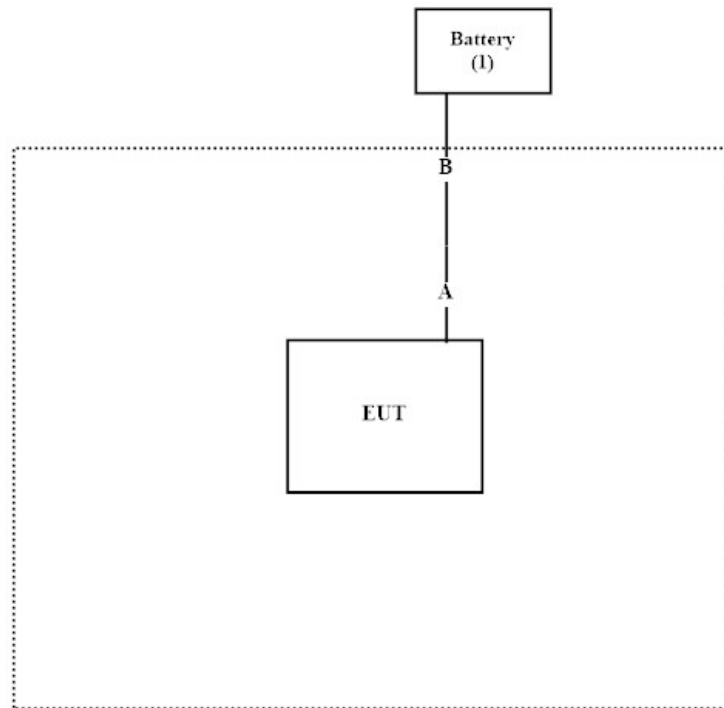
### 1.2. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
(1)	Battery	YUASA	55B24L-CMF II	N/A	N/A

Signal Cable Type	Signal cable Description
A	Power Cable
B	Power Cable

### 1.3. Configuration of tested System



### 1.4. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.3
- (2) Turn on the power of all equipment.
- (3) Verify that the EUT works properly.

## 1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Radiated Emission	Temperature (°C)	10~40 °C	24 °C
	Humidity (%RH)	10~90 %	62 %

**USA : FCC Registration Number: TW0033**

**Canada : IC Registration Number: 26930**

Site Description : Accredited by TAF  
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd  
Address : No. 26, Huaya 1st Rd., Guishan Dist.,  
Taoyuan City 333411, Taiwan, R.O.C.

Phone number : +886-3-275-7255

Fax number : +866-3-327-5505

Email address : [info.tw@dekra.com](mailto:info.tw@dekra.com)

Website : <http://www.dekra.com.tw>

## 1.6. List of Test Equipment

### For Conduction measurements /SH1

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
	EMI Test Receiver	R&S	ESR7	101601	2021.01.04	2022.01.03
	Two-Line V-Network	R&S	ENV216	101306	2021.04.08	2022.04.07
	Two-Line V-Network	R&S	ENV216	101307	2020.05.04	2022.05.03
	Coaxial Cable	DEKRA	RG400_BNC	RF001	2021.05.24	2022.05.23

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with "X" are used to measure the final test results.
3. Test Software version : DEKRA Testing System V2.0

### For Conducted measurements /SH3

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Temperature Chamber	KSON	THS-D4T-100	A0606	2021.05.18	2022.05.19
X	Spectrum Analyzer	R&S	FSV40	101149	2021.02.04	2022.02.03

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with "X" are used to measure the final test results.

### For Radiated measurements /966-3

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
X	Loop Antenna	AMETEK	HLA6121	56736	2021.04.14	2022.04.13
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-678	2020.09.04	2021.09.03
	Horn Antenna	ETS-Lindgren	3117	00201259	2020.10.23	2021.10.22
	Horn Antenna	Com-Power	AH-840	101087	2020.06.08	2021.06.07
X	Pre-Amplifier	EMCI	EMC001330	980302	2021.07.08	2022.07.07
	Pre-Amplifier	EMCI	EMC051835SE	980313	2020.11.25	2021.11.24
	Pre-Amplifier	EMCI	EMC05820SE	980362	2021.06.20	2022.06.19
	Pre-Amplifier	EMCI	EMC184045SE	980314	2021.06.10	2022.06.09
	Filter	MICRO TRONICS	BRM50702	G251	2020.09.17	2021.09.16
	Filter	MICRO TRONICS	BRM50716	G188	2020.09.17	2021.09.16
X	EMI Test Receiver	R&S	ESR	102793	2020.12.17	2021.12.16
X	Spectrum Analyzer	R&S	FSV3044	101113	2021.02.03	2022.02.02

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with "X" are used to measure the final test results.
3. Test Software version : DEKRA Testing System V2.0



## 1.7. Uncertainty

Uncertainties have been calculated according to the DEKRA internal document, and is described in each test chapter of this report.

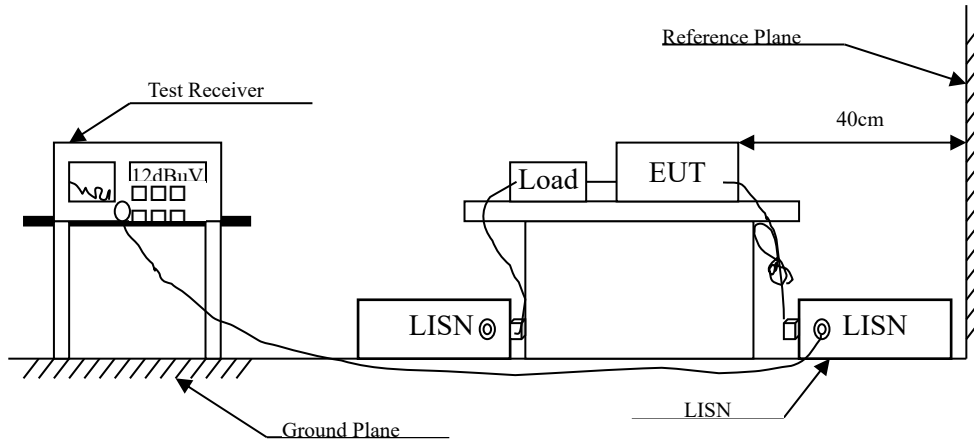
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

<b>Test item</b>	<b>Uncertainty</b>	
Conducted Emission	±3.42 dB	
Radiated Emission	Under 1GHz ±4.06 dB	Above 1GHz ±3.73 dB
Band Edge	Under 1GHz ±4.06 dB	Above 1GHz ±3.73 dB
Frequency Tolerance	±682.83 Hz	

## 2. Conducted Emission

### 2.1. Test Setup



### 2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56 <sup>(註)</sup>	56-46 <sup>(註)</sup>
0.50-5.0	56	46
5.0 - 30	60	50

### 2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

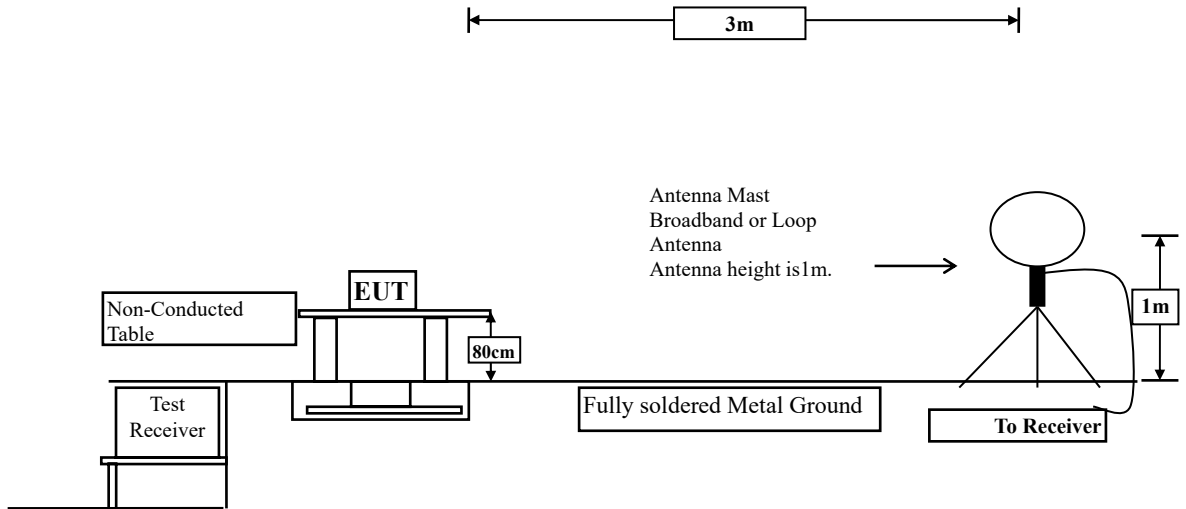
## **2.4. Test Result of Conducted Emission**

Owing to the DC operation of EUT, this test item is not performed.

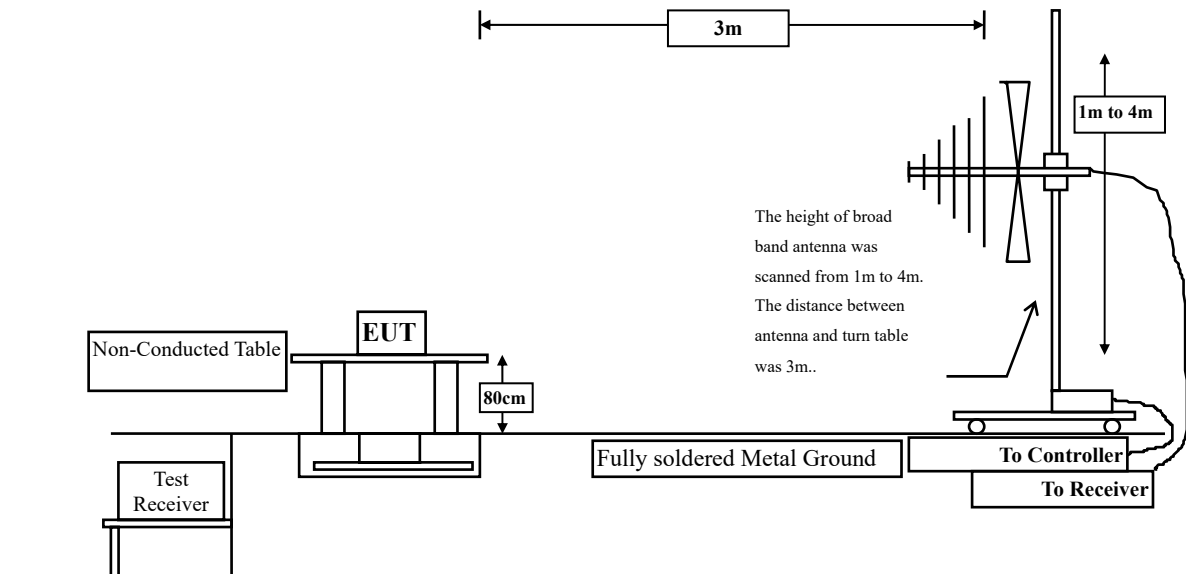
### 3. Radiated Emission

#### 3.1. Test Setup

Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



### 3.2. Limits

➤ Fundamental electric field strength Limit

<b>FCC Part 15 Subpart C Paragraph 15.225 Limits</b>				
Fundamental Frequency MHz	Field strength of fundamental			
	uV/m	Distance (meter)	dBuV/m	Distance (meter)
13.553 – 13.567	15848	30	124	3
13.410 – 13.553 and 13.567 – 13.710	334	30	90.47	3
13.110 – 13.410 and 13.710 – 14.010	106	30	80.50	3
Outside of the 13.110 – 14.010	See 15.209 Limits			

Remarks :

1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. The emission limit in this paragraph is based on measurement instrumentation employing an quasi-peak detector.

➤ Spurious electric field strength Limit

<b>FCC Part 15 Subpart C Paragraph 15.209 Limits</b>		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks :

1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

### 3.3. Test Procedure

Fundamental electric field strength:

The EUT and its simulators are 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 electric field strength.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna which is 1 meter above ground. All X-axis, Y-axis and Z-axis polarization of the antenna are set on measurement.

Spurious electric field strength:

The EUT and its simulators are 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 antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

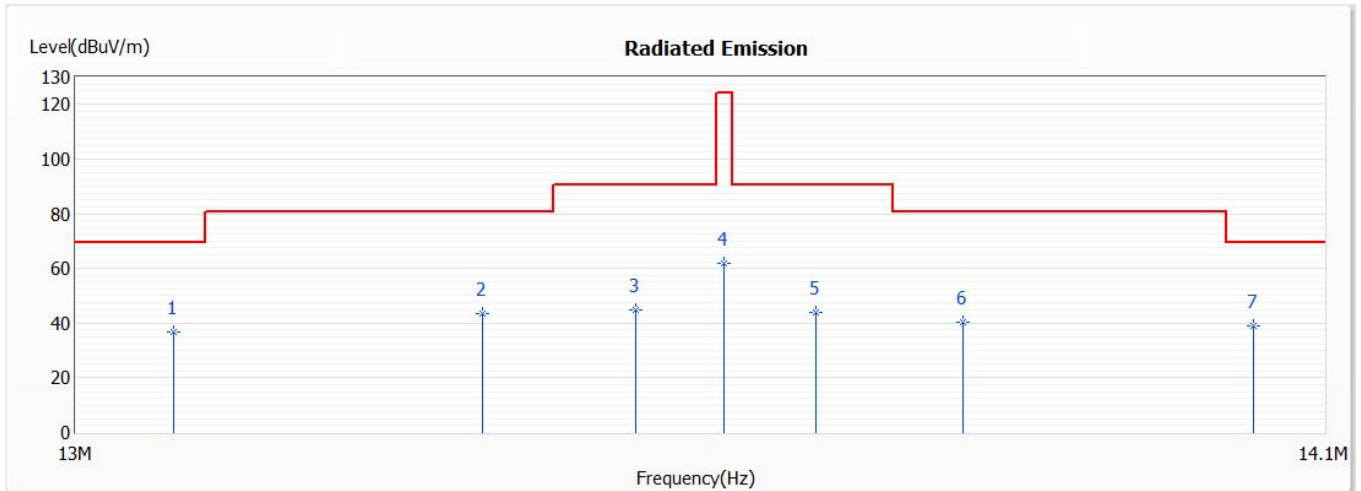
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The bandwidth below 30MHz setting on the field strength meter is 9kHz and above 30MHz is 120kHz. The frequency range from 9kHz to 10th harmonics is checked.

### 3.4. Test Result of Radiated Emission

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Fundamental Radiated Emission  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

#### Horizontal\_X-axis



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	13.083	36.85	69.50	-32.65	16.52	20.33	QP
2	13.349	43.56	80.50	-36.94	23.34	20.22	QP
3	13.482	44.71	90.47	-45.76	24.54	20.17	QP
4	13.560	61.79	124.00	-62.21	41.65	20.14	QP
5	13.641	44.05	90.47	-46.42	23.95	20.10	QP
6	13.772	40.56	80.50	-39.94	20.51	20.05	QP
* 7	14.035	38.81	69.50	-30.69	18.85	19.96	QP

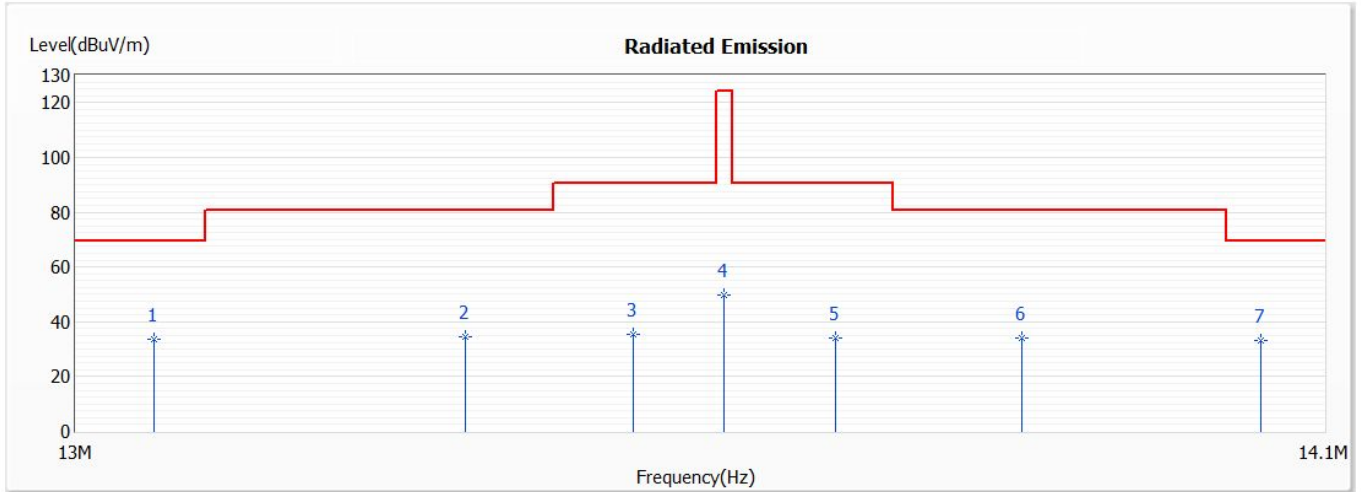
Note:

1. Fundamental Limit=84dBuV/m + 40\*Log (30(m)/3(m))=124dBuV/m
2. All Readings below 1GHz are Quasi-Peak, above are average value.
3. “ \* ” means the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.



Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Fundamental Radiated Emission  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Vertical\_X-axis**



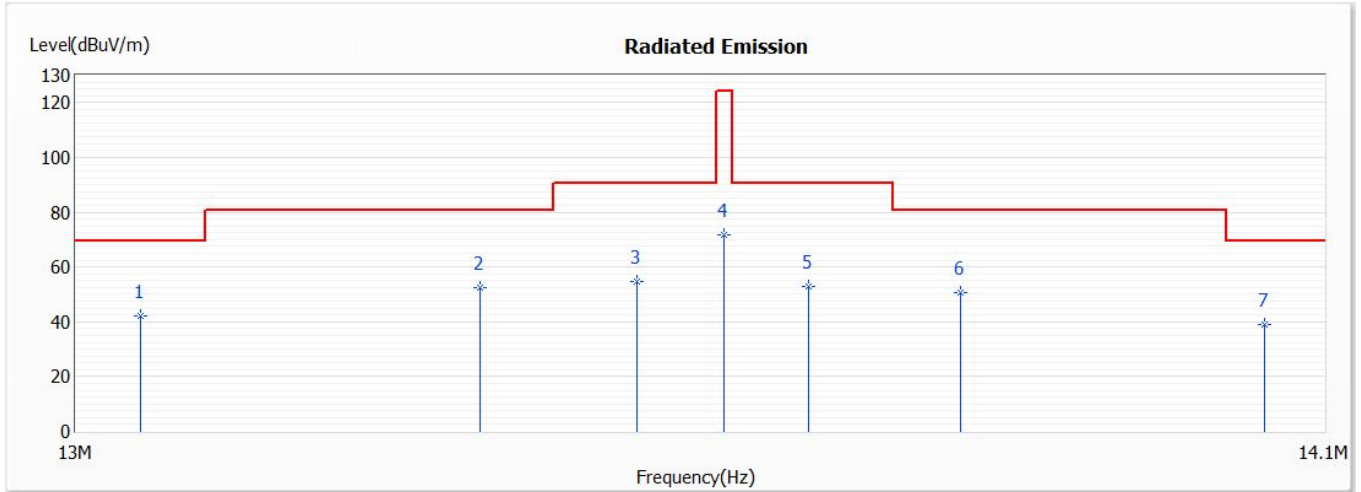
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	13.066	33.80	69.50	-35.70	13.47	20.33	QP
2	13.334	34.58	80.50	-45.92	14.35	20.23	QP
3	13.480	35.56	90.47	-54.91	15.39	20.17	QP
4	13.560	49.72	124.00	-74.28	29.58	20.14	QP
5	13.659	33.91	90.47	-56.56	13.81	20.10	QP
6	13.825	33.94	80.50	-46.56	13.91	20.03	QP
7	14.042	33.35	69.50	-36.15	13.39	19.96	QP

Note:

1. Fundamental Limit=84dBuV/m + 40\*Log (30(m)/3(m))=124dBuV/m
2. All Readings below 1GHz are Quasi-Peak, above are average value.
3. “ \* ” means the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Fundamental Radiated Emission  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Horizontal\_Y-axis**



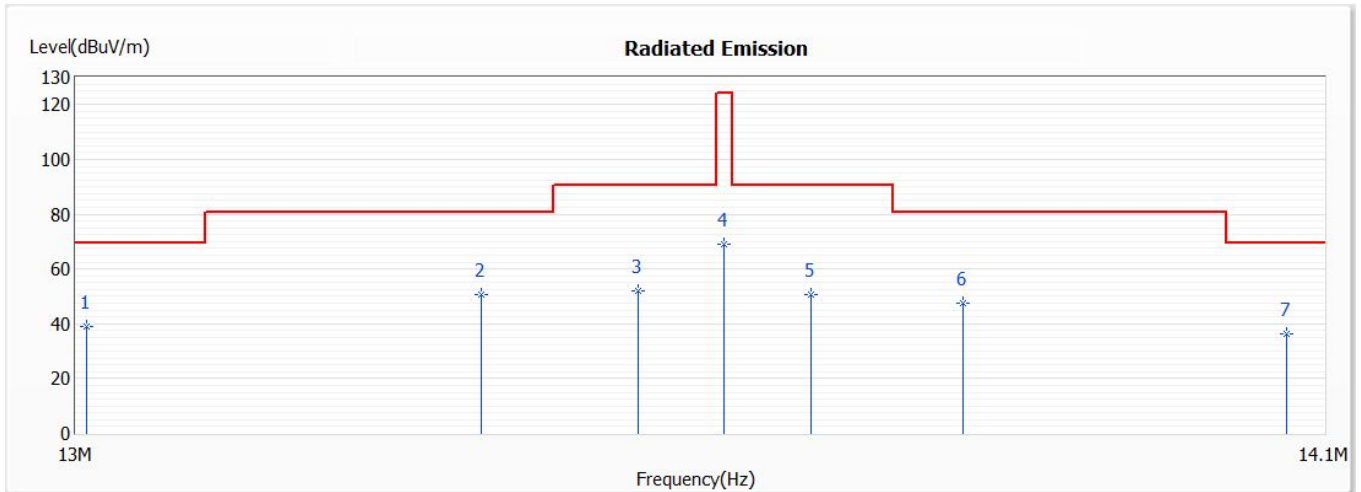
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	13.055	41.99	69.50	-27.51	21.65	20.34	QP
2	13.347	52.58	80.50	-27.92	32.36	20.22	QP
3	13.483	54.53	90.47	-35.94	34.36	20.17	QP
4	13.560	71.89	124.00	-52.11	51.75	20.14	QP
5	13.635	52.97	90.47	-37.50	32.86	20.11	QP
6	13.770	50.75	80.50	-29.75	30.70	20.05	QP
7	14.045	38.98	69.50	-30.52	19.02	19.96	QP

Note:

1. Fundamental Limit=84dBuV/m + 40\*Log (30(m)/3(m))=124dBuV/m
2. All Readings below 1GHz are Quasi-Peak, above are average value.
3. “ \* ” means the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Fundamental Radiated Emission  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Vertical\_Y-axis**



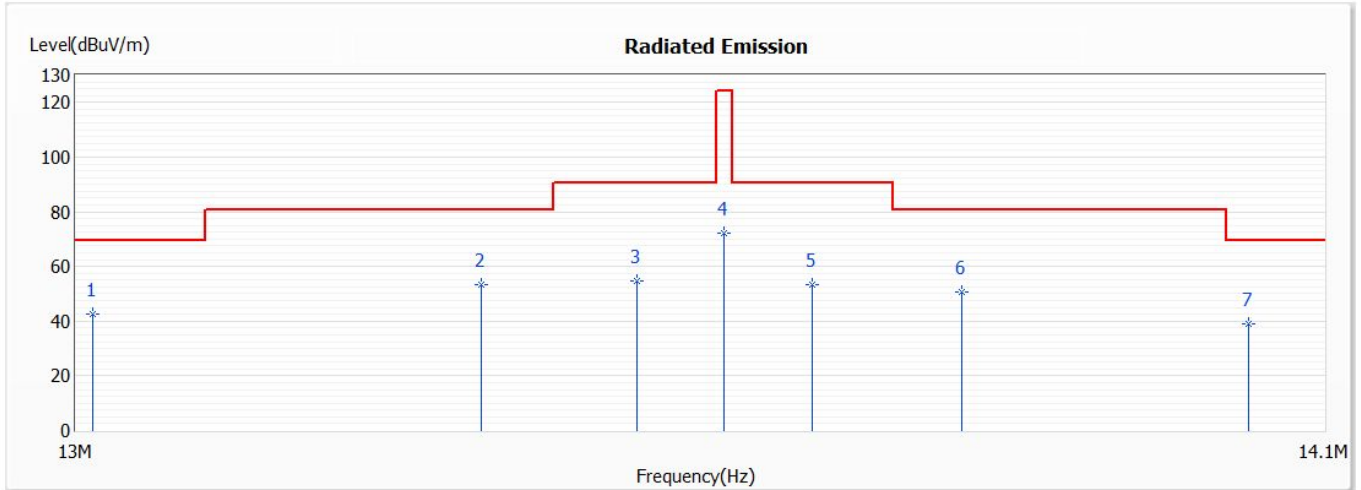
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	13.009	38.86	69.50	-30.64	18.50	20.36	QP
* 2	13.348	50.70	80.50	-29.80	30.48	20.22	QP
3	13.484	51.91	90.47	-38.56	31.74	20.17	QP
4	13.560	68.90	124.00	-55.10	48.76	20.14	QP
5	13.637	50.76	90.47	-39.71	30.65	20.11	QP
6	13.772	47.72	80.50	-32.78	27.67	20.05	QP
7	14.065	36.23	69.50	-33.27	16.27	19.96	QP

**Note:**

1. Fundamental Limit=84dBuV/m + 40\*Log (30(m)/3(m))=124dBuV/m
2. All Readings below 1GHz are Quasi-Peak, above are average value.
3. “ \* ” means the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Fundamental Radiated Emission  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Horizontal\_Z-axis**



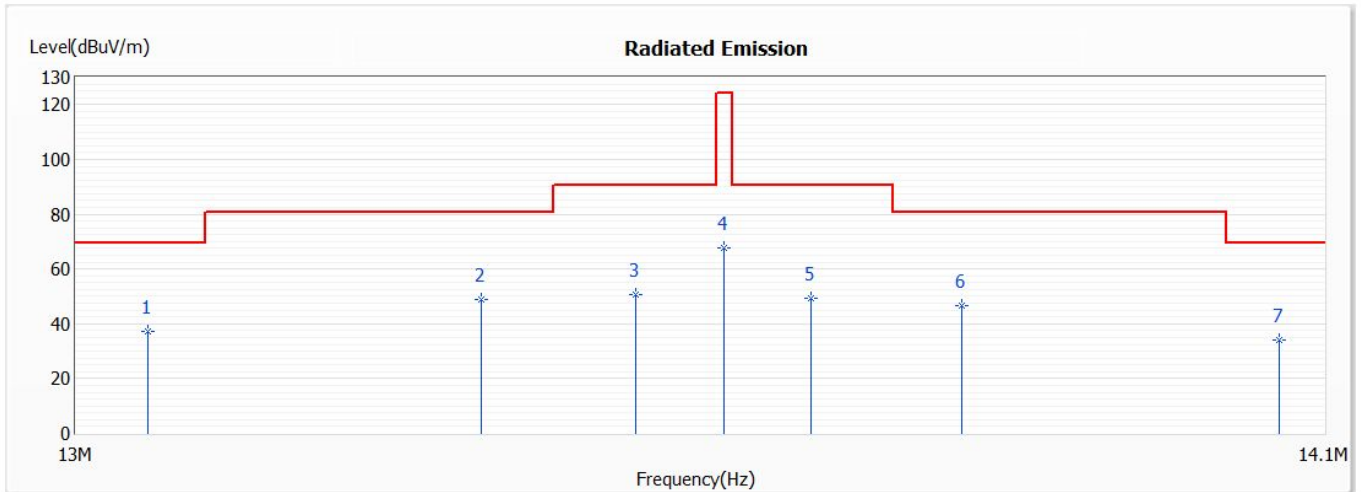
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	13.015	42.63	69.50	-26.87	22.28	20.35	QP
2	13.348	53.30	80.50	-27.20	33.08	20.22	QP
3	13.483	54.56	90.47	-35.91	34.39	20.17	QP
4	13.560	72.22	124.00	-51.78	52.08	20.14	QP
5	13.638	53.56	90.47	-36.91	33.46	20.10	QP
6	13.771	50.71	80.50	-29.79	30.66	20.05	QP
7	14.031	38.91	69.50	-30.59	18.95	19.96	QP

Note:

1. Fundamental Limit=84dBuV/m + 40\*Log (30(m)/3(m))=124dBuV/m
2. All Readings below 1GHz are Quasi-Peak, above are average value.
3. “ \* ” means the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Fundamental Radiated Emission  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Vertical\_Z-axis**



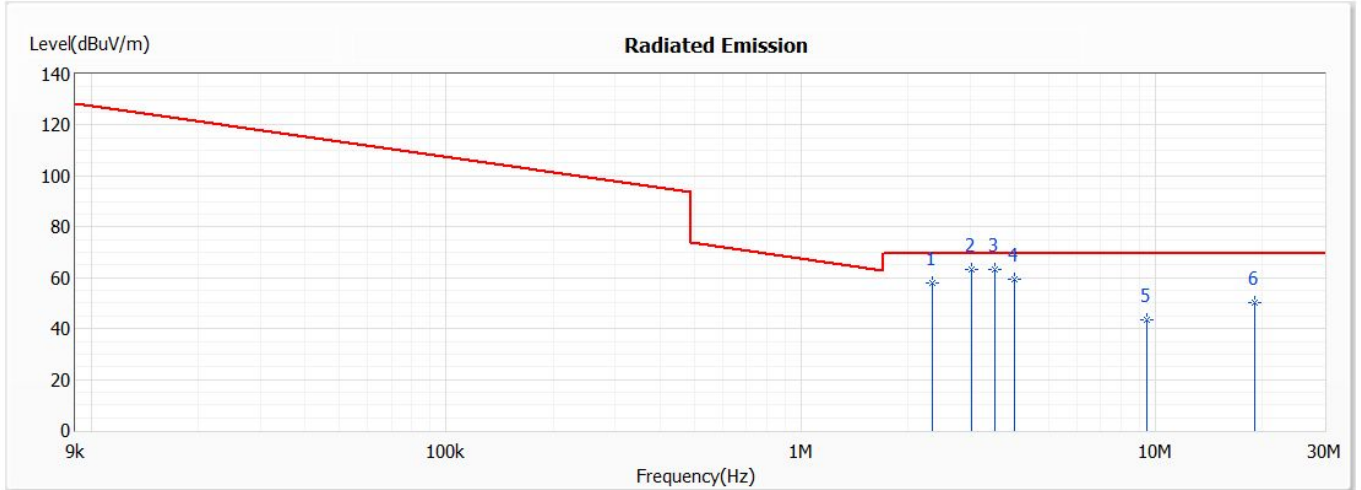
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	13.061	37.31	69.50	-32.19	16.97	20.34	QP
* 2	13.348	49.08	80.50	-31.42	28.86	20.22	QP
3	13.482	50.64	90.47	-39.83	30.47	20.17	QP
4	13.560	67.87	124.00	-56.13	47.73	20.14	QP
5	13.637	49.31	90.47	-41.16	29.20	20.11	QP
6	13.771	46.66	80.50	-33.84	26.61	20.05	QP
7	14.059	34.25	69.50	-35.25	14.29	19.96	QP

Note:

1. Fundamental Limit=84dBuV/m + 40\*Log (30(m)/3(m))=124dBuV/m
2. All Readings below 1GHz are Quasi-Peak, above are average value.
3. “ \* ” means the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : General Radiated Emission Data (below 30MHz)  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Horizontal**



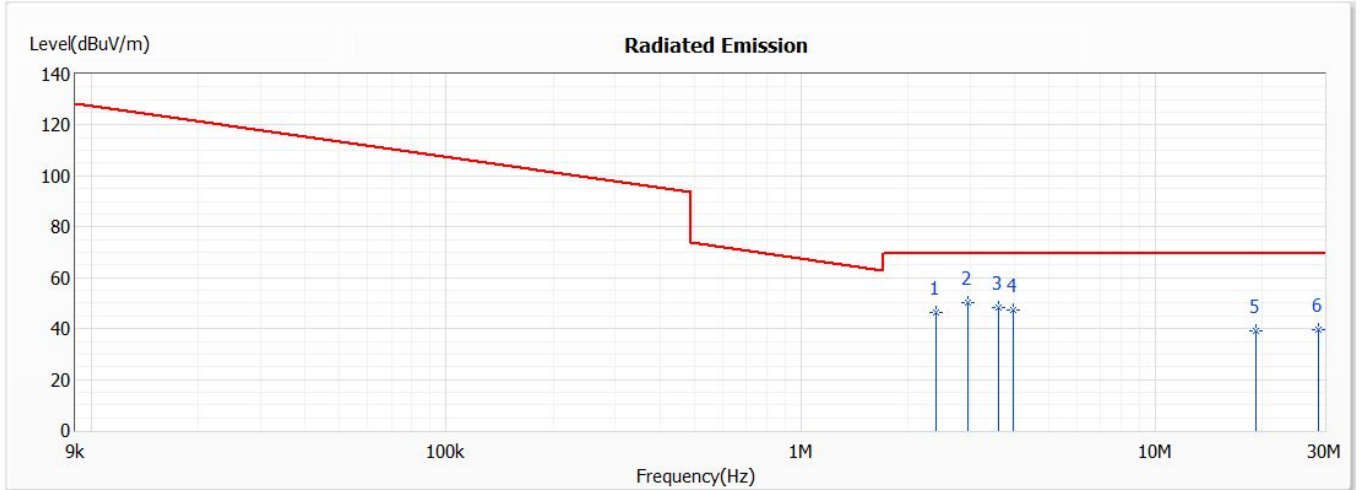
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2.348	57.74	69.54	-11.80	37.64	20.10	QP
* 2	3.038	63.31	69.54	-6.23	43.20	20.11	QP
3	3.518	63.19	69.54	-6.35	43.06	20.13	QP
4	3.998	59.18	69.54	-10.36	39.03	20.15	QP
5	9.486	43.39	69.54	-26.15	23.31	20.08	QP
6	19.083	50.38	69.54	-19.16	30.57	19.81	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : General Radiated Emission Data (below 30MHz)  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Vertical**



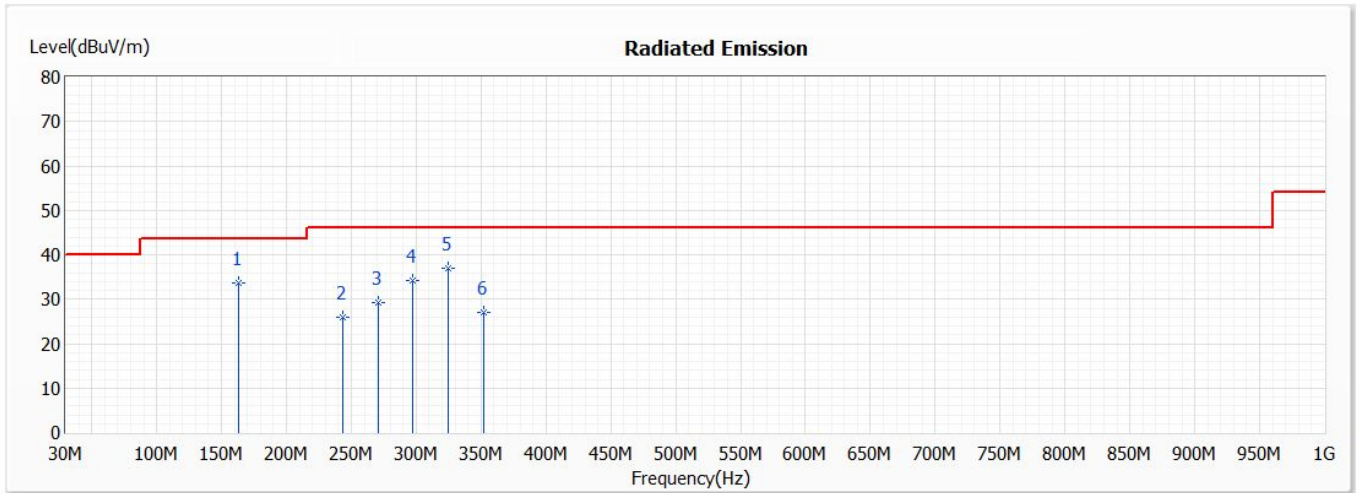
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2.408	46.54	69.54	-23.00	26.44	20.10	QP
* 2	2.948	50.04	69.54	-19.50	29.93	20.11	QP
3	3.608	48.40	69.54	-21.14	28.27	20.13	QP
4	3.968	47.55	69.54	-21.99	27.40	20.15	QP
5	19.173	39.08	69.54	-30.46	19.28	19.80	QP
6	28.890	39.68	69.54	-29.86	19.66	20.02	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : General Radiated Emission Data (above 30MHz)  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Horizontal**



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	162.890	33.78	43.50	-9.72	52.73	-18.95	QP
2	243.400	25.82	46.00	-20.18	45.91	-20.09	QP
3	270.560	29.20	46.00	-16.80	48.44	-19.24	QP
4	297.720	34.32	46.00	-11.68	52.62	-18.30	QP
* 5	324.880	37.05	46.00	-8.95	54.62	-17.57	QP
6	352.040	27.05	46.00	-18.95	44.02	-16.97	QP

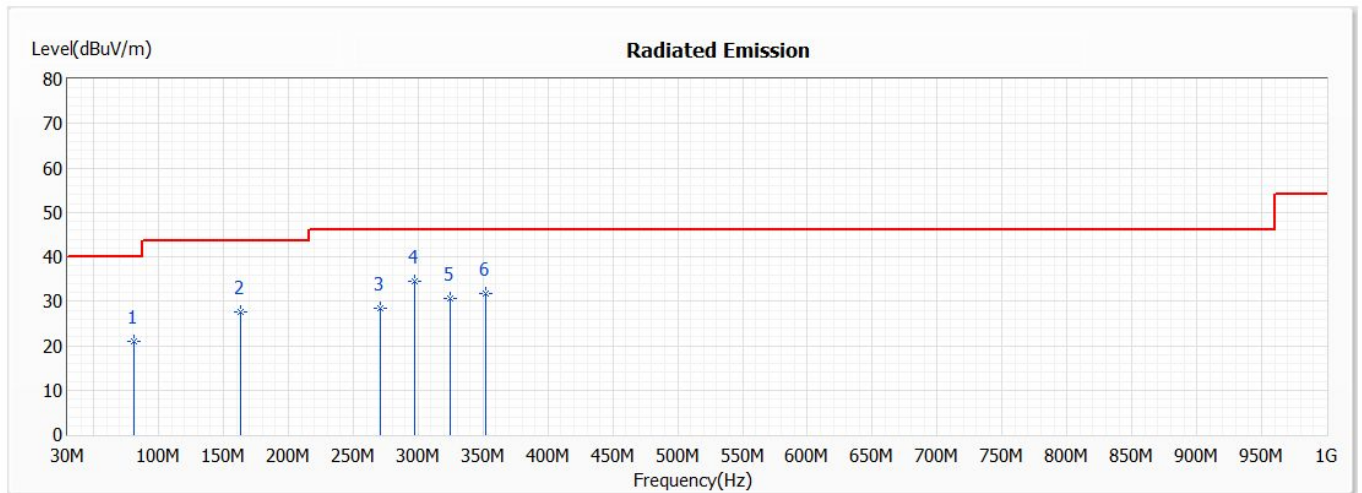
**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Product : WIRELESS POWER CHARGER UNIT  
 Test Item : General Radiated Emission Data (above 30MHz)  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Vertical**



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	81.410	20.88	40.00	-19.12	45.13	-24.25	QP
2	162.890	27.52	43.50	-15.98	46.47	-18.95	QP
3	270.560	28.42	46.00	-17.58	47.66	-19.24	QP
* 4	297.720	34.37	46.00	-11.63	52.67	-18.30	QP
5	324.880	30.51	46.00	-15.49	48.08	-17.57	QP
6	352.040	31.64	46.00	-14.36	48.61	-16.97	QP

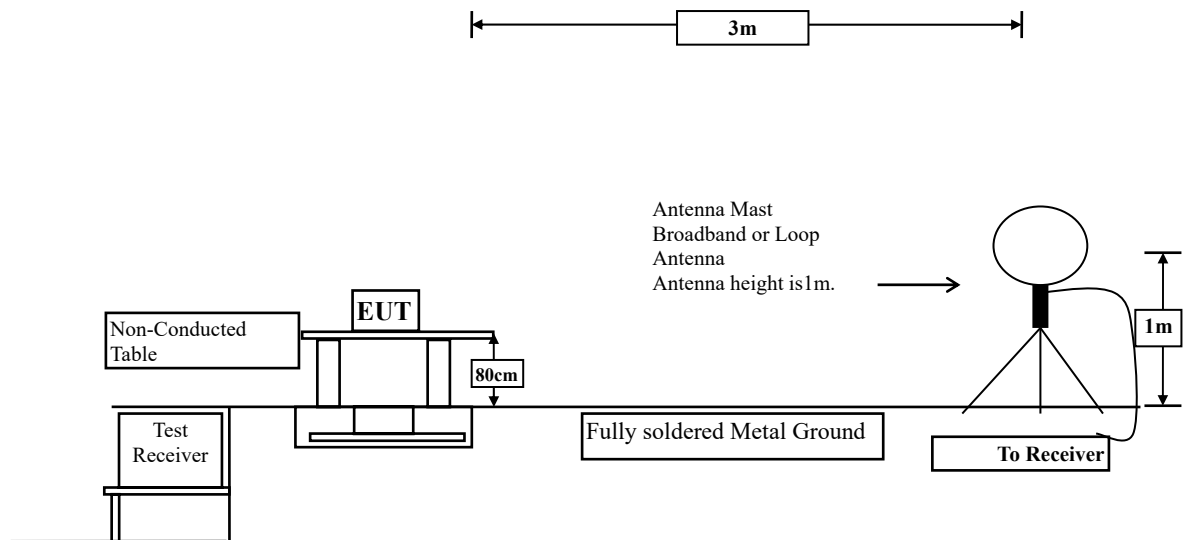
**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

## 4. Band Edge

### 4.1. Test Setup

Radiated Emission Under 30MHz



### 4.2. Limits

The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in Section 15.209. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209

### 4.3. Test Procedure

The EUT and its simulators are 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 antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

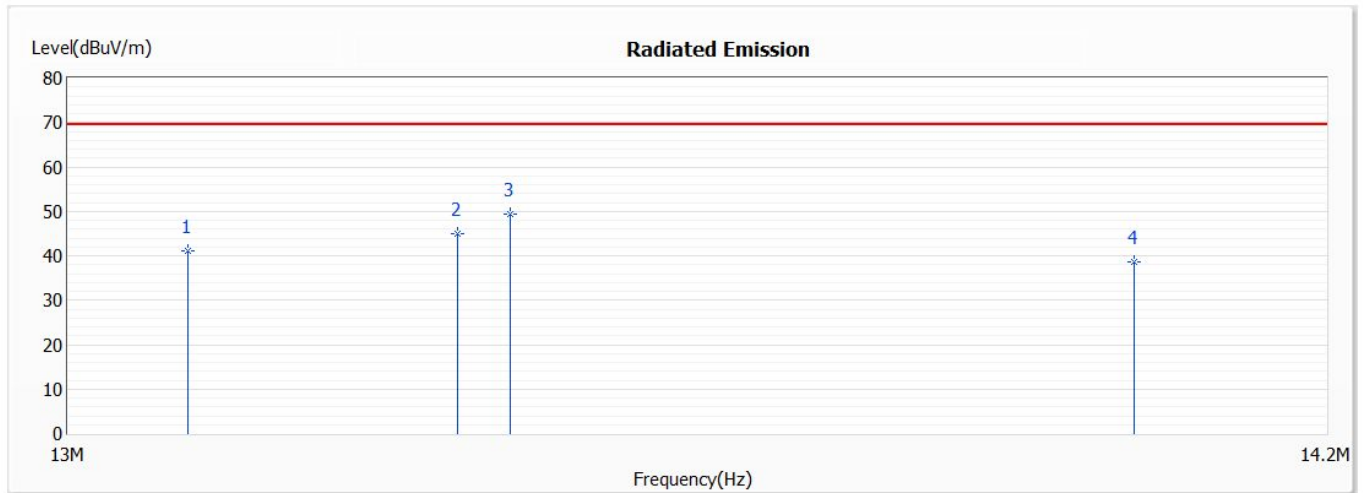
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The bandwidth below 30MHz setting on the field strength meter is 9kHz and above 30MHz is 120kHz.

#### 4.4. Test Result of Band Edge

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Band Edge Data  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

##### Horizontal



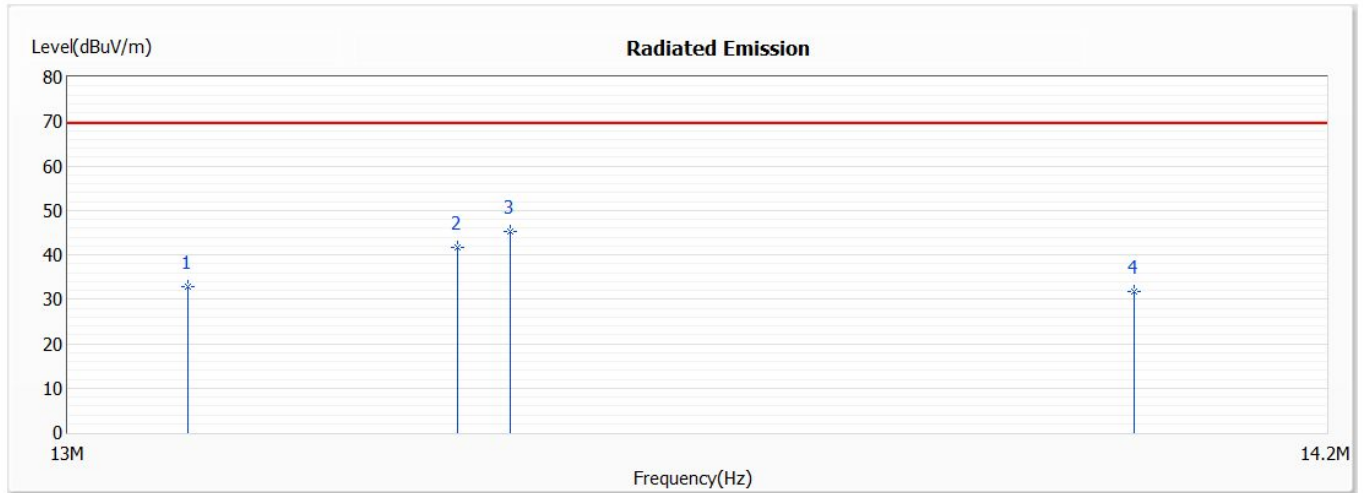
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	13.110	40.97	69.54	-28.57	20.65	20.32	QP
2	13.360	44.91	69.54	-24.63	24.69	20.22	QP
* 3	13.410	49.29	69.54	-20.25	29.09	20.20	QP
4	14.010	38.56	69.54	-30.98	18.60	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Band Edge Data  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/07/23

**Vertical**



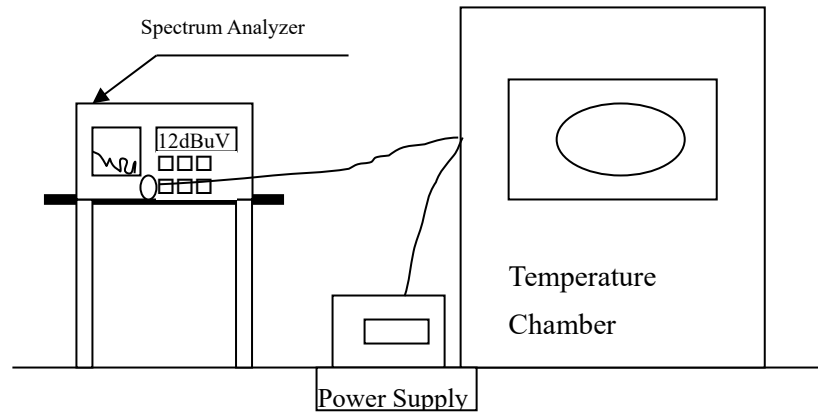
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	13.110	32.81	69.54	-36.73	12.49	20.32	QP
2	13.360	41.69	69.54	-27.85	21.47	20.22	QP
* 3	13.410	45.28	69.54	-24.26	25.08	20.20	QP
4	14.010	31.81	69.54	-37.73	11.85	19.96	QP

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

## 5. Frequency Tolerance

### 5.1. Test Setup



### 5.2. Limits

The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  of the operating frequency.

### 5.3. Test Procedure

The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  of the operating frequency over a temperature variation of  $-20$  degrees to  $+ 50$  degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

#### 5.4. Test Result of Frequency Stability

Product : WIRELESS POWER CHARGER UNIT  
 Test Item : Frequency Tolerance  
 Test Mode : Mode 1: Transmit  
 Test date : 2021/08/05

Temperature (°C)	Voltage (V)	Observe Time	Declared Frequency (MHz)	Read Frequency (MHz)	Tolerance (%)	Limit (%)
20	12	start	13.56	13.56100	0.007375	±0.01%
		2mins	13.56	13.56056	0.004130	
		5mins	13.56	13.56023	0.001696	
		10mins	13.56	13.56011	0.000811	
20	13.8	start	13.56	13.56065	0.004794	±0.01%
		2mins	13.56	13.56094	0.006932	
		5mins	13.56	13.56051	0.003761	
		10mins	13.56	13.56023	0.001696	
20	10.2	start	13.56	13.56016	0.001180	±0.01%
		2mins	13.56	13.56095	0.007006	
		5mins	13.56	13.56055	0.004056	
		10mins	13.56	13.56095	0.007006	
50	12	start	13.56	13.56021	0.001549	±0.01%
		2mins	13.56	13.56062	0.004572	
		5mins	13.56	13.56012	0.000885	
		10mins	13.56	13.56095	0.007006	
40	12	start	13.56	13.56011	0.000811	±0.01%
		2mins	13.56	13.56055	0.004056	
		5mins	13.56	13.56095	0.007006	
		10mins	13.56	13.56099	0.007301	
30	12	start	13.56	13.56052	0.003835	±0.01%
		2mins	13.56	13.56061	0.004499	
		5mins	13.56	13.56062	0.004572	
		10mins	13.56	13.56022	0.001622	

10	12	start	13.56	13.56062	0.004572	± 0.01 %
		2mins	13.56	13.56031	0.002286	
		5mins	13.56	13.56032	0.002360	
		10mins	13.56	13.56095	0.007006	
0	12	start	13.56	13.56132	0.009735	± 0.01 %
		2mins	13.56	13.56121	0.008923	
		5mins	13.56	13.56119	0.008776	
		10mins	13.56	13.56121	0.008923	
-10	12	start	13.56	13.56124	0.009145	± 0.01 %
		2mins	13.56	13.56111	0.008186	
		5mins	13.56	13.56095	0.007006	
		10mins	13.56	13.56031	0.002286	
-20	12	start	13.56	13.56094	0.006932	± 0.01 %
		2mins	13.56	13.56045	0.003319	
		5mins	13.56	13.56065	0.004794	
		10mins	13.56	13.56035	0.002581	



## **6. EMI Reduction Method During Compliance Testing**

No modification was made during testing.