

# **FCC TEST REPORT**

FCC ID: 2ANP7MPWH10

On Behalf of

Eggtronic Engineering Srl

Wireless Phone Charger

Model No.: MPWH10, MPBK10, TP10R, LPBK10R, LPBR10R, LVP10R

Prepared for : Eggtronic Engineering Srl

: Via Giorgio Campagna 8 41126, 41126 Modena, Italy Address

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, Address

518103, Shenzhen, Guangdong, China

Report Number : A1908187-C01-R01 Date of Receipt
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Correction August 20, 2019
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Correction August 2019
Correction Augus

: August 20, 2019-August 28, 2019

# **TABLE OF CONTENTS**

Test Result Summary	5
General Information	6
2.1. DESCRIPTION OF DEVICE (EUT)	6
2.2. Accessories of Device (EUT)	7
2.3. TESTED SUPPORTING SYSTEM DETAILS	7
2.4. BLOCK DIAGRAM OF CONNECTION BETWEEN EUT AND SIMULATORS	7
2.5. DESCRIPTION OF TEST MODES	7
2.6. TEST CONDITIONS	7
2.7. TEST FACILITY	8
2.8. MEASUREMENT UNCERTAINTY	8
2.9. TEST EQUIPMENT LIST	9
Test Results and Measurement Data	10
3.1. CONDUCTED EMISSION	10
3.2. RADIATED SPURIOUS EMISSION MEASUREMENT	13
3.3. TEST SPECIFICATION	19
Antenna Requirements	21
4.1. LIMIT	21
4.2. RESULT	21
Photos of test setup	22
Photographs of EUT	24
	General Information  2.1. DESCRIPTION OF DEVICE (EUT)

### TEST REPORT DECLARATION

Applicant : Eggtronic Engineering Srl

Address : Via Giorgio Campagna 8 41126, 41126 Modena, Italy

Manufacturer : Eggtronic Engineering Srl

Address : Via Giorgio Campagna 8 41126, 41126 Modena, Italy

EUT Description : Wireless Phone Charger

(A) Model No. : MPWH10, MPBK10, TP10R, LPBK10R,

LPBR10R, LVP10R

(B) Trademark : EGGTRONIC

#### Measurement Standard Used:

## FCC CFR Title 47 Part 15 Subpart C Section 15.209

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the FCC CFR Title 47 Part 15 Subpart C Section 15.209 requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature)..... Ella Liang

**Project Engineer** 

Approved by (name + signature)......: Simple Guan

**Project Manager** 

Date of issue..... August 29, 2019

# **Revision History**

Revision	Issue Date	Issue Date Revisions					
V0	August 29, 2019	Initial released Issue	Simple Guan				

# 1. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Spurious Emission	§15.209(a)(f)	PASS
Occupied Bandwidth	§15.215 (c)	PASS

#### Note:

- 1. PASS: Test item meets the requirement.
- 2. Fail: Test item does not meet the requirement.
- 3. N/A: Test case does not apply to the test object.
- 4. The test result judgment is decided by the limit of test standard.

## 2. General Information

## 2.1. Description of Device (EUT)

EUT Name : Wireless Phone Charger

Model No. : MPWH10, MPBK10, TP10R, LPBK10R, LPBR10R, LVP10R

All model's the function, software and electric circuit are the

DIFF. same, except the color and model number are different, the

color is divided into black, Rice white and brown. this report

performs the model MPWH10.

Trademark : EGGTRONIC

Power supply : Input: 5V/2.0A, 9V/1.67A

Wireless Output: 5W/7.5W/10W

Operation frequency : 125-205KHz

Modulation : MSK

Antenna Type : Coil Antenna

Software version : V1.0

Hardware version : V1.0

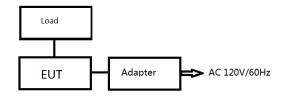
# 2.2. Accessories of Device (EUT)

Accessories1 : /
Manufacturer : /
Model : /
Ratings : /

# 2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification or DOC
1	mobile phone	SAMSUNG	SM-G9350		
2	Adapter				

## 2.4. Block Diagram of connection between EUT and simulators



# 2.5. Description of Test Modes

Channel	Frequency (KHz)	Channel	Frequency (KHz)	Channel	Frequency (KHz)	Channel	Frequency (KHz)
1	125	6	150	11	175	16	200
2	130	7	155	12	180	17	205
3	135	8	160	13	185	18	
4	140	9	165	14	190	19	
5	145	10	170	15	195	20	

## 2.6. Test Conditions

Items	Required	Actual		
Temperature range:	15-35℃	<b>24</b> ℃		
Humidity range:	25-75%	56%		
Pressure range:	86-106kPa	98kPa		

# 2.7. Test Facility

Shenzhen Alpha Product Testing Co., Ltd Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission Registration Number: 293961

July 15, 2019 Certificated by IC Registration Number: CN0085

## 2.8. Measurement Uncertainty

(95% confidence levels, k=2)

Item	MU	Remark
Uncertainty for Conducted Emission Test	2.74dB	
Uncertainty for Radiation Emission test in 3m chamber	2.13 dB	Polarize: V
(below 30MHz)	2.57dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber	3.77dB	Polarize: V
(30MHz to 1GHz)	3.80dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber	4.16dB	Polarize: H
(1GHz to 25GHz)	4.13dB	Polarize: V
Uncertainty for radio frequency	5.4×10 <sup>-8</sup>	
Uncertainty for conducted RF Power	0.37dB	

# 2.9. Test Equipment List

Equipment	Manufacture	Model No.	Serial No.	Last cal.	Cal Interval
9*6*6 anechoic chamber	CHENYU	9*6*6	N/A	2018.09.21	1Year
Spectrum analyzer	ROHDE&SCHW ARZ	FSU	1166.1660.26	2018.09.21	1Year
Spectrum analyzer	Agilent	N9020A	MY499100060	2018.09.11	1Year
Receiver	R&S	ESCI	1166.5950K03-1011	2018.09.21	1Year
Receiver	R&S	ESCI	101202	2018.09.21	1Year
Bilog Antenna	Schwarzbeck	VULB 9168	VULB9168-438	2018.04.13	2Year
Loop Antenna	SCHWARZBEC K	FMZB 1519B	00059	2018.09.26	2Year
Cable	Resenberger	N/A	No.1	2018.09.21	1Year
Cable	SCHWARZBEC K	N/A	No.2	2018.09.21	1Year
Cable	SCHWARZBEC K	N/A	No.3	2018.09.21	1Year
Pre-amplifier	Schwarzbeck	BBV9743	9743-019	2018.09.21	1Year
Pre-amplifier	R&S	AFS33-18002650- 30-8P-44	SEL0080	2018.09.21	1Year
Temperature controller	Terchy	MHQ	120	2018.09.21	1Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	8126466	2018.09.21	1Year
L.I.S.N.#2	ROHDE&SCHW ARZ	ENV216	101043	2018.09.21	1 Year
20db Attenuator	ICPROBING	IATS1	82347	2018.09.21	1 Year

# 3. Test Results and Measurement Data

# 3.1. Conducted Emission

# 3.1.1. Test Specification

Took Dominiment	FOC Do::45 O O = -45	45.007			
Test Requirement:	FCC Part15 C Section	15.207			
Test Method:	ANSI C63.10:2013				
Frequency Range:	150 kHz to 30 MHz				
Receiver setup:	RBW=9 kHz, VBW=30	kHz, Sweep time	=auto		
	Frequency range	Limit (c	dBuV)		
	(MHz)	Quasi-peak	Áverage		
Limits:	0.15-0.5	66 to 56*	56 to 46*		
	0.5-5	56	46		
	5-30	60	50		
	Refere	nce Plane			
Test Setup:	Adapter  Filter AC power  E.U.T Adapter  Filter AC power  EMI Receiver  Remark  E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m				
Test Mode:	Charging + Transmittin	g Mode			
Test Procedure:	<ol> <li>Charging + Transmitting Mode</li> <li>The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li> <li>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 C63.10: 2013 on conducted measurement.</li> </ol>				
Test Result:	PASS				

#### 3.1.2. Test data

#### Please refer to following diagram for individual

Report No.: A1908187-C01-R01

Test Mode : Full Load, Half Load, Empty Load

Test Results : PASS

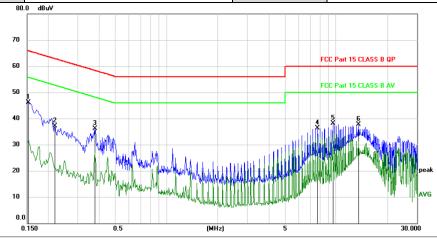
Note: The test results are listed in next pages.

This mode is worst case mode, so this report only reflected the worst mode.

If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out.

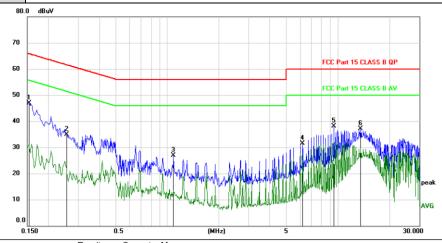
If the limits for the measurement with the average detector are met when using a receiver with a quasi-peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

<b>EUT Description</b>	Wireless Phone Charger	Model No.	MPWH10
Temperature	<b>24</b> °C	Humidity	56%
Pol	Line	Test date	2019/8/22
Test Voltage	AC 120V/60Hz	Test mode	Full Load



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margii	า	
	MHz	dBuV	dB	dBu∀	dBuV	dB	Detector	Comment
1 *	0.1530	36.50	9.63	46.13	65.84	-19.71	peak	
2	0.2190	27.47	9.65	37.12	62.86	-25.74	peak	
3	0.3780	26.41	9.67	36.08	58.32	-22.24	peak	
4	7.7970	26.10	10.12	36.22	60.00	-23.78	peak	
5	9.5760	28.02	10.14	38.16	60.00	-21.84	peak	
6	13.5840	27.56	10.11	37.67	60.00	-22.33	peak	

#### Pol Neutral



No.	Mk.	Freq.	Reading Level	Correct	Measure- ment	Limit	Margir	ı	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1539	37.21	9.63	46.84	65.79	-18.95	peak	
2		0.2562	25.19	9.66	34.85	61.55	-26.70	peak	
3		1.0830	17.09	9.74	26.83	56.00	-29.17	peak	
4		6.2130	21.43	10.12	31.55	60.00	-28.45	peak	
5		9.4650	28.05	10.13	38.18	60.00	-21.82	peak	
6		13.5600	26.91	10.11	37.02	60.00	-22.98	peak	

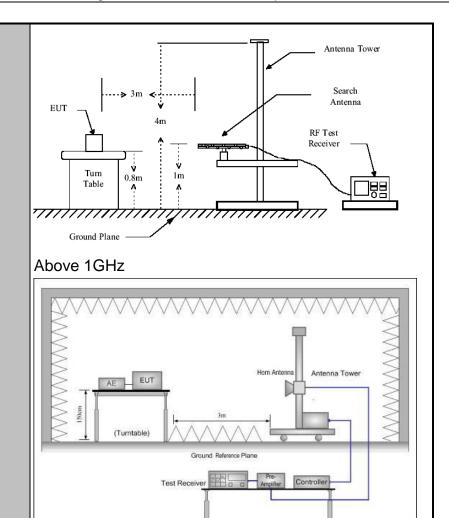
<sup>\*:</sup>Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

# 3.2. Radiated Spurious Emission Measurement

# 3.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.209						
Test Method:	ANSI C63.10	): 20	13				
Frequency Range:	9 kHz to 25 (	ЭHz					
Measurement Distance:	3 m						
Antenna Polarization:	Horizontal &	Vert	ical				
Operation mode:	Refer to item	4.1					
	Frequency 9kHz- 150kHz	Qua	tector si-peak		VBW 1kHz	Quas	Remark si-peak Value
Receiver Setup:	150kHz- 30MHz	Qua	si-peak	k 9kHz	30kHz	Quas	si-peak Value
·	30MHz-1GHz	Qua	si-peak	( 100KHz	300KHz	Quas	si-peak Value
	Above 1GHz		eak	1MHz	3MHz		eak Value
		F	eak	1MHz	10Hz	Ave	erage Value
	Frequency			Field Stre	meter)	Measurement Distance (meters)	
	0.009-0.490			2400/F(k	,	300	
	0.490-1.705			24000/F(KHz)		30	
	1.705-30 30-88			30 100		30 3	
	88-216			150		3	
Limit:	216-960			200		3	
	Above 96	60		500		3	
	Frequency	.,		d Strength ovolts/meter)	Measure Distan (meter	се	Detector
	Above 1GHz			500	3		Average
			5000		3		Peak
	For radiated	emis	ssions	s below 30	MHz		
	Distance = 3m						
	Pre -Amplifier						
Test setup:	EUT Turn table						Receiver
			G	round Plane	_ <u></u>	r	- Coccivei
	30MHz to 1G	SHz	<u> </u>	- and a raile			



## Test Procedure:

1. For the radiated emission test below 1GHz: The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. 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. For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT. depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which

	maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.  2. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level  3. For measurement below 1GHz, 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.  4. Use the following spectrum analyzer settings:  (1) Span shall wide enough to fully capture the emission being measured;  (2) Set RBW=100 kHz for f < 1 GHz; VBW 承BW; Sweep = auto; Detector function = peak; Trace = max hold;  (3) Set RBW = 1 MHz, VBW= 3MHz for f □ 1 GHz for peak measurement.  For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent. VBW ≥1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Test mode:	Refer to section 4.1 for details
Test results:	PASS

#### 3.2.2. Test Data

#### Please refer to following diagram for individual

Frequency : 9KHz~30MHz

Test Mode : TX: channel low, channel mid, channel high (Full Load)

Test Results : PASS

Note: 1. The test results are listed in next pages.

2. This mode is worst case mode, so this report only reflected the worst mode.

3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.

Freq.	Reading	Antenna Factor	Cable loss	Amp Factor	Result	Limit	Margin	Detect	State
(MHz)	(dBuV/m)	dB/m	dB	dB	(dBuV/m)	(dBuV/m) at 3 m	(dB)	or	P/F
0.125	44.82	48.34	0.16	29.87	63.45	126.77	-63.32	PK	PASS
0.125	33.26	48.34	0.16	29.87	51.89	106.77	-54.88	AV	PASS
0.175	44.30	48.34	0.16	29.87	62.93	122.95	-60.02	PK	PASS
0.175	36.09	48.34	0.16	29.87	54.72	102.95	-48.23	AV	PASS
0.205	45.84	48.38	0.17	29.89	64.50	120.76	-56.26	PK	PASS
0.205	35.30	48.38	0.17	29.89	53.96	100.76	-46.80	AV	PASS
0.35	41.12	48.44	0.19	29.89	59.86	117.78	-57.92	PK	PASS
0.35	33.91	48.44	0.19	29.89	52.65	97.78	-45.13	AV	PASS
0.45	40.31	48.47	0.19	29.89	59.08	115.35	-56.27	PK	PASS
0.45	31.85	48.47	0.19	29.89	50.62	95.35	-44.73	AV	PASS
1.928	17.51	49.12	0.2	29.94	36.89	60	-23.11	QP	PASS
1.920	22.07	49.12	0.2	29.94	41.45	60	-18.55	QP	PASS

Frequency : 30MHz~1000MHz

Test Mode : Full Load, Half Load, Empty Load

Test Results : PASS

Note: 1. The test results are listed in next pages.

2. This mode is worst case mode, so this report only reflected the worst mode.

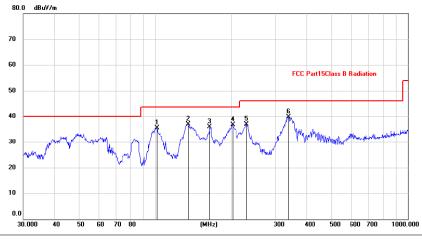
3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.

Frequency Range	:	Above 1GHz			
EUT	:	/	Test Date	:	/
M/N	:	/	Temperature	:	/
Test Engineer	:	/	Humidity	:	/
Test Mode	:	/			
Test Results	:	N/A			
·					

Note:

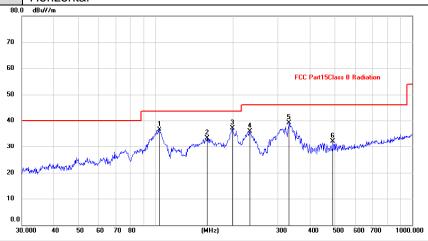
1. The highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. So the frequency rang above 1GHz radiation test not applicable.

<b>EUT Description</b>	Wireless Phone Charger	Model No.	MPWH10
Temperature	<b>24</b> °C	Humidity	56%
Pol	Vertical	Test date	2019/8/23
Test Voltage	AC 120V/60Hz	Test mode	Full Load



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		101.2885	24.51	10.98	35.49	43.50	-8.01	peak			
2		135.0318	23.01	13.95	36.96	43.50	-6.54	peak			
3		164.3301	21.20	14.62	35.82	43.50	-7.68	peak			
4		202.8103	25.73	10.95	36.68	43.50	-6.82	peak			
5		229.2931	24.65	12.27	36.92	46.00	-9.08	peak			
6	*	336.0351	24.79	14.98	39.77	46.00	-6.23	peak			

Pol Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	,	103.0800	25.43	11.15	36.58	43.50	-6.92	peak			
2	,	158.6677	18.27	15.04	33.31	43.50	-10.19	peak			
3	* '	198.5879	26.04	10.98	37.02	43.50	-6.48	peak			
4	- 2	232.5318	23.48	12.37	35.85	46.00	-10.15	peak			
5	(	331.3546	24.31	14.85	39.16	46.00	-6.84	peak			
6	4	490.7447	14.01	18.09	32.10	46.00	-13.90	peak			

<sup>\*:</sup>Maximum data x:Over limit !:over margin

 $Note: Measurement=Reading\ Level+Correc\ Factor. \quad Factor=(LISN\ or\ ISN\ or\ PLC\ or\ Current\ Probe) Factor+Cable$ 

# 3.3. Test Specification

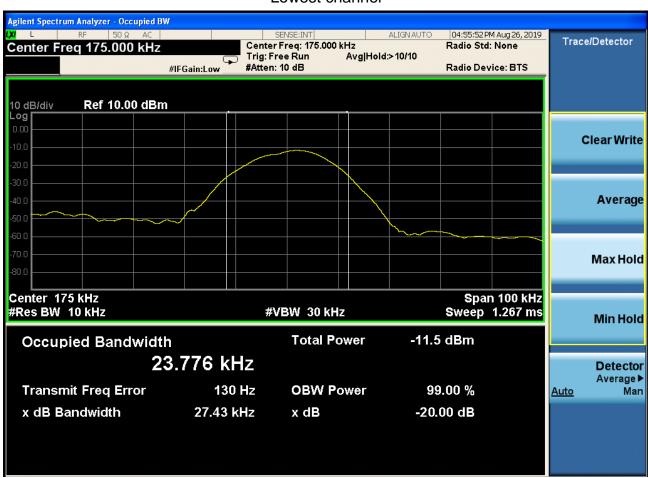
Test Requirement:	FCC Part15 C Section 15.215(c)
Test Method:	ANSI C63.10: 2013
Limit:	N/A
Test Procedure:	<ol> <li>According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Use the following spectrum analyzer settings for 20dB Bandwidth measurement.         Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW &gt; 1% of the 20 dB bandwidth; VBW &gt; RBW; Sweep = auto; Detector function = peak; Trace = max hold.     </li> <li>Measure and record the results in the test report.</li> </ol>
Test setup:	Spectrum Analyzer EUT
Test Mode:	Refer to section 4.1 for details
Test results:	PASS

# Frequency(KHz) 20dB Occupy Bandwidth (kHz) 175.0 20dB Occupy Limit (kHz) Conclusion PASS

Page 20 of 28

Test plots as follows:

#### Lowest channel



# 4. Antenna Requirements

## **4.1. Limit**

15.203 requirement:

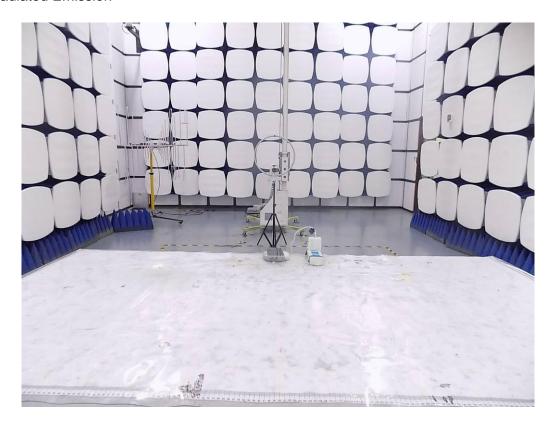
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit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

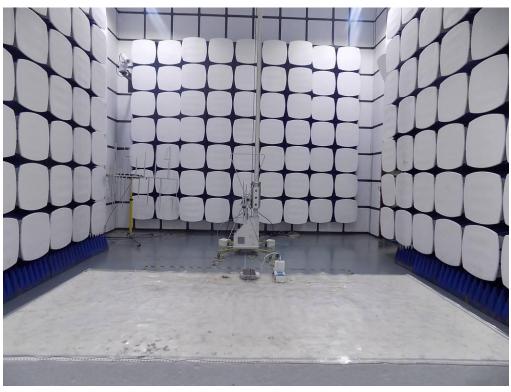
## 4.2. Result

The antenna is coil antenna which permanently attached. It complies with the standard requirement.

# 5. Photos of test setup

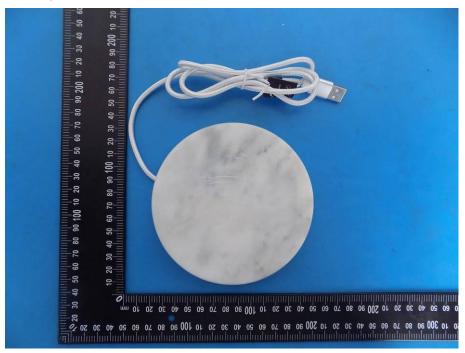
Radiated Emission

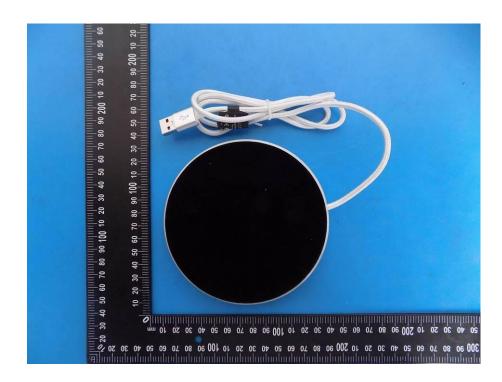


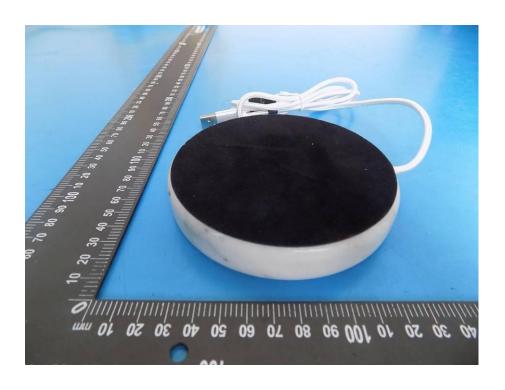


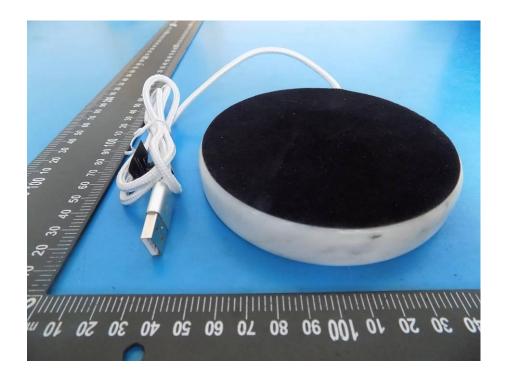


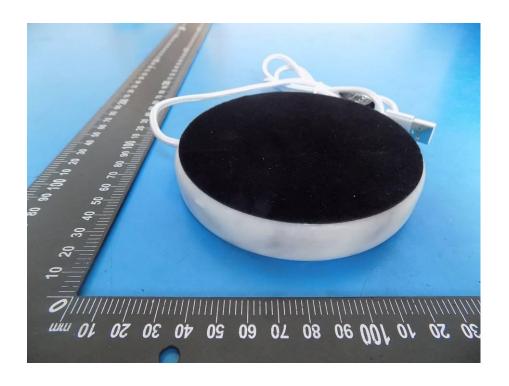
# 6. Photographs of EUT

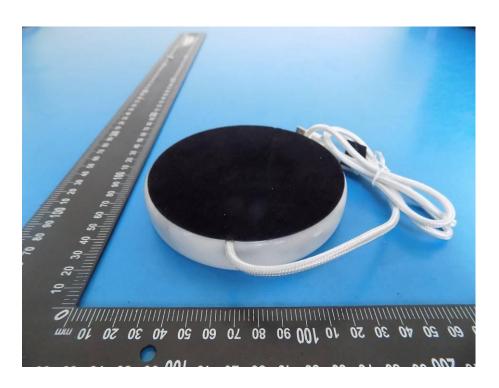


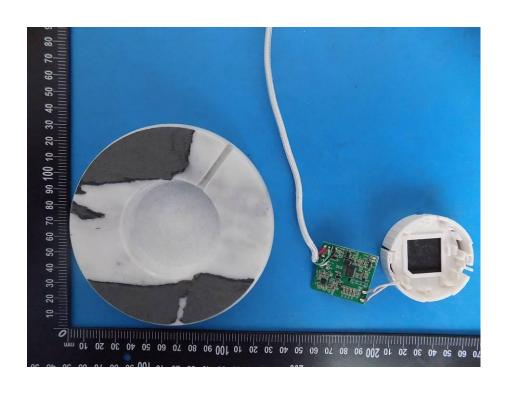




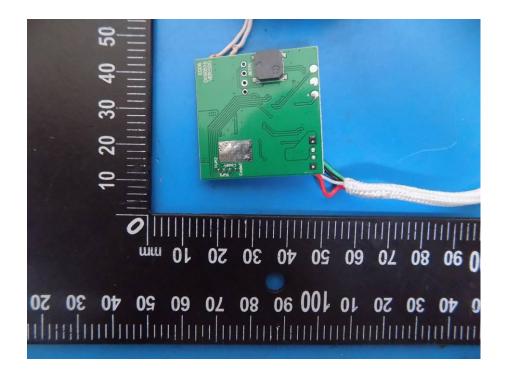












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