HUAK TESTING

RF TEST REPORT

ETSI EN 303 417 V1.1.1 (2017-09)

Prepared for :

Product Name:	LIGHT UP LOGO WIRELESS CHARGING PEN HOLDER
Model No.:	CD-1057
Date of Test:	Jun. 14, 2019 – Jun. 26, 2019
Date of Report:	Jun. 26, 2019
Report Number:	HK1905241145-2ER

Prepared By :

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TEST RESULT CERTIFICATION

Applicant's name ..... :

Address ..... :

Manufacture's Name ..... :

Address ..... :

Product description

Product name	:	LIGHT UP LOGO WIRELESS CHARGING PEN HOLDER
Trademark	:	N/A
Model and/or type reference	:	CD-1057
Serial Model:		N/A
Rating(s)	:	Input: DC 5V/3A USB output 1: 5V/1A USB output 2: 5V/1A Wireless output: 5V/1A, 5W
Standards	:	ETSI EN 303 417 V1.1.1 (2017-09)

This device described above has been tested by Shenzhen HUAK Testing Technology Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the 2014/53/EU requirements. And it is applicable only to the tested sample identified in the report.
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Date of Test	:	
Date (s) of performance of tests	:	Jun. 14, 2019 – Jun. 26, 2019
Date of Issue	:	Jun. 26, 2019
Test Result	:	**Pass**

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Contents

1 General Information

1.1 General Description of E.U.T.

Product Name:	LIGHT UP LOGO WIRELESS CHARGING PEN HOLDER
Model No.:	CD-1057
Serial No.:	N/A
Model differences:	N/A
Operation Frequency:	110-205KHz
Power supply:	Input: DC 5V/3A USB output 1: 5V/1A USB output 2: 5V/1A Wireless output: 5V/1A, 5W
Hardware status:	V2.0
Software:	V2.0

1.2 Description of Support Units

The EUT was test as an independent unit

1.3 Deviation from Standards

Biconical, log.per. antenna and horn antenna were used instead of dipole antenna.

1.4 Other Information Requested by the Customer

None.

1.5 Measurement Uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %, U=2xUc(y)

RF frequency	1 x 10-7
RF power, conducted	± 1.0 dB
Conducted emission of receivers	± 1 dB
Radiated emission of transmitter	± 6 dB
Radiated emission of receiver	± 6 dB
Temperature	±1 degree
Humidity	± 5 %

2 Test Instruments list

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	N9020A	HKE-048	2018.12.27	2019.12.26	1 year
2	Test Receiver	R&S	ESCI-7	HKE-010	2018.12.27	2019.12.26	1 year
3	Broadband antenna	Schwarzbeck	VULB 9163	HKE-012	2018.12.27	2019.12.26	1 year
4	Spectrum Analyzer	R&S	FSP40	HKE-025	2018.12.27	2019.12.26	1 year
5	Horn antenna	Schwarzbeck	9120D	HKE-013	2018.12.27	2019.12.26	1 year
7	Preamplifier	Schwarzbeck	BBV 9743	HKE-006	2018.12.27	2019.12.26	1 year
8	Loop Antenna	ARA	PLA-2030/B	1029	2018.12.27	2019.12.26	1 year
9	RF automatic control unit	Tonscend	JS0806-2	HKE-060	2018.12.27	2019.12.26	1 year
10	Power meter	Agilent	E4419B	HKE-085	2018.12.27	2019.12.26	1 year
11	Power Sensor	Agilent	E9300A	HKE-086	2018.12.27	2019.12.26	1 year
12	Signal generator	Agilent	N5183A	HKE-071	2018.12.27	2019.12.26	1 year
13	Temperature and humidity meter	Boyang	HTC-1	HKE-076	2018.12.27	2019.12.26	1 year

3 Test Summary

Relationship between the present document and the essential requirements of Directive 2014/53/EU

Harmonised Standard ETSI EN 303 417			
No	Description	Clause No	Results
Transmitter Parameters			
1	Permitted range of operating frequencies	4.3.2	PASS
2	Operating frequency ranges	4.3.3	PASS
3	H-field requirements	4.3.4	PASS
4	Transmitter spurious emissions	4.3.5	PASS
5	Transmitter out of band (OOB) emissions	4.3.6	PASS
6	WPT system unwanted conducted emissions	4.3.7	N/A
7	Receiver blocking	4.3.2	N/A
Note: N/A is an abbreviation for Not Applicable and means this test item is not applicable for this device according to the technology characteristic of device.			

Remark:

1. N/A: not applicable. Refer to the relative section for the details.
2. The EUT does not have receive function.
3. For the test methods, according to the present document the uncertainty figures is calculated according to the methods described in TR 100 028 and correspond to an expansion factor (coverage factor) k=2 (which provide confidence levels of respectively 95 %).
4. Tx: In this whole report Tx (or tx) means Transmitter.
5. Rx: In this whole report Rx (or rx) means Receiver.
6. RF: In this whole report RF means Radio Frequency.

4 RF Requirements

4.1 Normal Test Conditions:

Ambient Condition: 22 °C , 55 %RH

4.2 Extreme Test Conditions:

Extreme Temperature: -20°C to +55°C;
Extreme Power Source Voltages:

1). Mains voltage

The extreme test voltage for equipment to be connected to an AC mains source shall be the nominal mains voltage±10 %.

2). Lead-acid battery power sources used on vehicles

When radio equipment is intended for operation from the usual type of alternator fed lead-acid battery power source used on vehicles, then extreme test voltage shall be 1,3 and 0,9 times the nominal voltage of the battery (6 V, 12 V, etc.).

3). Power sources using other types of batteries

The Low extreme test voltages for equipment with power sources using the following types of battery shall be:
• for the Leclanché or lithium type battery: 0,85 times the nominal voltage of the battery;
• for the mercury or nickel-cadmium type of battery: 0,9 times the nominal voltage of the battery.
In both cases, the High extreme test voltage shall be 1,15 times the nominal voltage of the battery.

4). Other power sources

For equipment using other power sources, or capable of being operated from a variety of power sources (primary or secondary), the extreme test voltages shall be those stated by the manufacturer and shall be recorded.
The follow condition is applicable

Test Conditions	Normal	LTLV	LTHV	HTHV	HTLV
Temperature (℃)	22	-20	-20	55	55
Voltage (VAC)	5.0	4.5	5.5	5.5	4.5

4.3 Test Mode

The manufacturer shall provide one or more samples of the WPT system, as appropriate for testing.Standalone WPT systems shall be offered by the manufacturer complete with any ancillary equipment needed for testing.If a WPT system has several optional features, considered not to affect the emission parameters then the tests need only to be performed on the WPT system configured with that combination of features considered to be the most complex, as proposed by the manufacturer and agreed by the test laboratory.The performance of the WPT system submitted for testing shall be representative of the performance of the corresponding production model.

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Test mode	Test frequency
Transmitting	110KHz-205KHz
Receiving	110KHz-205KHz

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4.4 Performance criteria

A WPT system always consists of a base station and a mobile device which are in proximity to each other. The performance of a WPT system is dependent on the related operational mode, see clause 4.2.3 in ESTI 303 417.

For the purpose of the receiver performance tests, the WPT system shall produce an appropriate output under normal conditions as indicated below:

- use as intended without degradation of performance; or
- a degradation of the performance is indicated by the WPT system as described in the manual

The manufacturer shall declare the performance criteria used to determine the performance of the receiving parts inside the WPT system (related to the mode).

4.5 On-sit testing

In certain cases it may not be possible to provide representative samples of antennas and/or equipment due to physical constraints. In these cases equivalent measurements to the present document shall be made at a representative installation of the equipment (on-site)

5 Permitted range of operating frequencies

5.1 Definition

The operating frequency range is the frequency range over which the WPT system is intentionally transmitting (all operational modes, see clause 4.2.3, Table 2).

The operating frequency range(s) of the WPT system are determined by the lowest (fL) and highest frequency (fH) as occupied by the power envelope.

The WPT system could have more than one operating frequency range.

For a single frequency systems the OFR is equal to the occupied bandwidth (OBW) of the WPT system.

For multi-frequency systems the OFR is described in figures 2 and 3 .

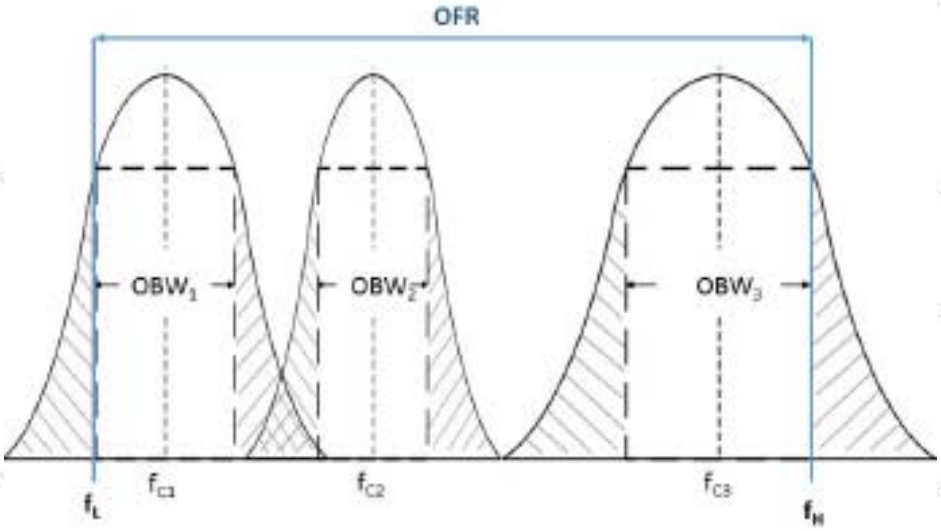

Figure 2: OFR of a multi - frequency WPT system within one frequency range of Table 2 and within one WPT system cycle time

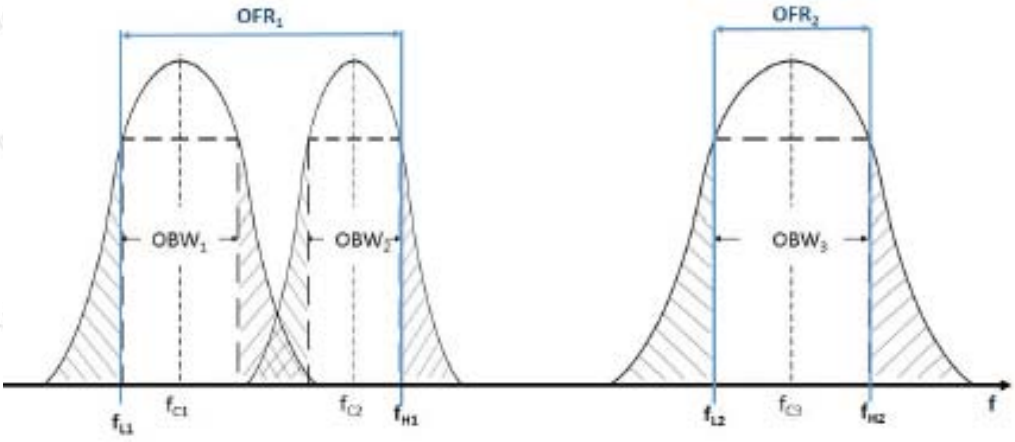

Figure 3: OFR of a multi - frequency WPT system within two frequency ranges of Table 2 and within one WPT system cycle time

5.2 Limit

The operating frequency range for emissions shall be within one of the following limits: 19 - 21 kHz, 59 - 61 kHz, 79 - 90 kHz, 100 - 300 kHz, 6 765 - 6 795 kHz.

5.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

5.4 Test Procedure

1. The occupied bandwidth of the EUT, e.g. the minimum and maximum output frequencies at which the permitted spurious and out-of-band emission levels are exceeded due to intentional emission from the radio transmitter shall be measured using the method shown in below figure.
2. The measuring receiver was a spectrum analyser which was appropriate to perform the intended measurement of the EUT.

5.5 Tset Setup

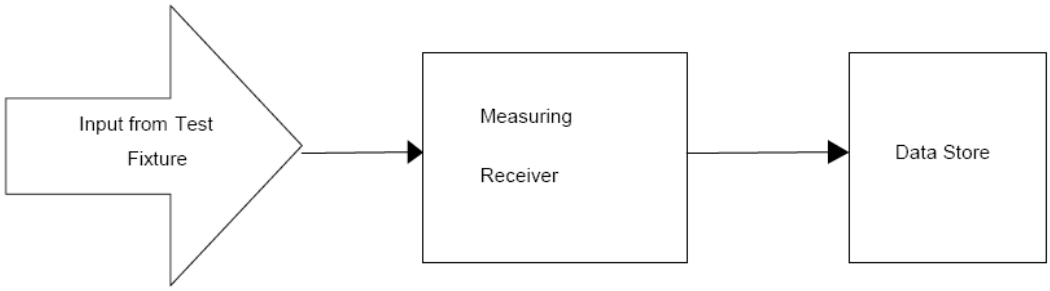

Figure 1: Test set-up for measuring the operating frequency range

5.6 Test Result :

The operating frequency of the EUT is 125KHz , it is within the permitted frequency rang 104 kHz to 211kHz. Outside the permitted range the unintentional emissions was reduced to the spurious emission limits. Refer to RSE test data for further details.

6 H-field requirements

6.1 Definition

The radiated H-field is defined in the direction of maximum field strength under specified conditions of measurement .

6.2 Limit

The H-field limits are provided in Table 3.

They have been specified for control of any radiated emissions within the OFR originating from the WPT system (power transmission and accompanying data communication).

The H-field limits in Table 3 are EU wide harmonised according to EC Decision 2013/752/EU [i.2]. Further information is available in ERC/REC 70-03 [i.1].

Table 3: H-field limits

Frequency range [MHz]	H-field strength limit [dBµA/m at 10 m]	Comments
0,019 ≤ f < 0,021	72	
0,059 ≤ f < 0,061	69,1 descending 10 dB/dec above 0,059 MHz	See note 1
0,079 ≤ f < 0,090	67,8 descending 10 dB/dec above 0,079 MHz	See note 2
0,100 ≤ f < 0,119	42	
0,119 ≤ f < 0,135	66 descending 10 dB/dec above 0,119 MHz	See note 1
0,135 ≤ f < 0,140	42	
0,140 ≤ f < 0,1485	37,7	
0,1485 ≤ f < 0,30	-5	
6,765 ≤ f < 6,795	42	
NOTE 1: Limit is 42 dBµA/m for the following spot frequencies: 60 kHz ± 250 Hz and 129,1 kHz ± 500 Hz. NOTE 2: At the time of preparation of the present document the feasibility of increased limits for high power wireless power transmission systems to charge vehicles [i.4] was prepared. New specific requirements for such systems (e.g. higher H-field emission limits in the 79 - 90 kHz band) will be reflected within a future revision of the present document.		

6.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

6.4 Test Procedure

1. The measurements of the transmitter radiated H-field was made on an semi-anechoic chamber. Any measured values were at least 6 dB above the ambient noise level.
2. The H-field produced by the equipment was measured at standard distance of 10 m.
3. The H-field was measured with a shielded loop antenna connected to a measurement receiver. The measuring bandwidth and detector type of the measurement receiver was in accordance with below table.

Frequency: (f)	Detector type	Measurement receiver bandwidth	Spectrum analyser bandwidth
9 kHz ≤ f < 150 kHz	Quasi Peak	200 Hz	300 Hz
150 kHz ≤ f < 30 MHz	Quasi Peak	9 kHz	10 KHz
30 MHz ≤ f ≤ 1 000 MHz	Quasi Peak	120 kHz	100 kHz
NOTE: For the measurement of the ranges 6,765 MHz ≤ f ≤ 6,795 MHz and 13,553 MHz ≤ f ≤ 13,567 MHz, the measurement bandwidth has to be 200 Hz respectively 300 Hz.			

4. The equipment under test operated with normal modulation
5. The measurements were made under normal and extreme conditions.
6. For measuring equipment calibrated in dBµV/m, the reading should be reduced by 51,5 dB to be converted to dBµA/m.

6.5 Test Procedure

Please see the 6.4 in this report.

6.6 Test Result:

Operating Mode with Modulation			
Frequency	**Measuring Bandwidth**	**H-field Level**	**Limit in Table 5**
125 kHz	9 kHz	-7.64dBμA/m	42 dBμA/m
Standby Mode			
Frequency	**Measuring Bandwidth**	**H-field Level**	**Limit in Table 5**
125 kHz	9 kHz	N/A	42 dBμA/m
N/A, Not applicable, for the ERP level of the EUT was too weak to be detected.			

7 Transmitter Spurious Emissions

7.1 Definition

The transmitter spurious emissions for a single frequency system are to be considered in frequency ranges defined in Figure 4 (f < fSL and f > fSH).

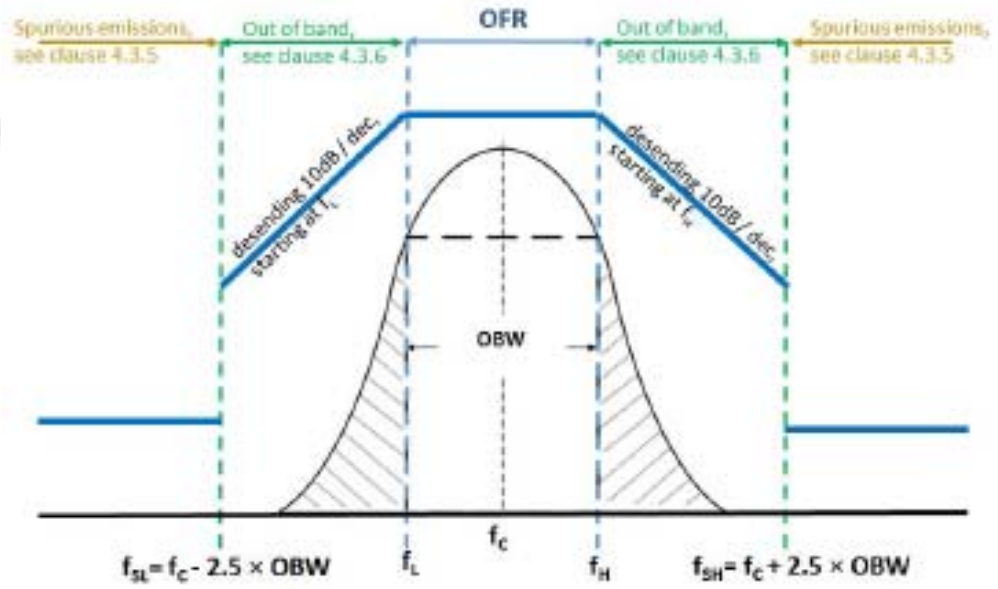

Figure 4: Out of band and spurious domain of a single frequency WPT system

The transmitter spurious emissions for a multi frequency system (within one WPT frequency range from Table 2) are to be considered in frequency ranges defined in Figure 5 (f < fSL and f > fSH).

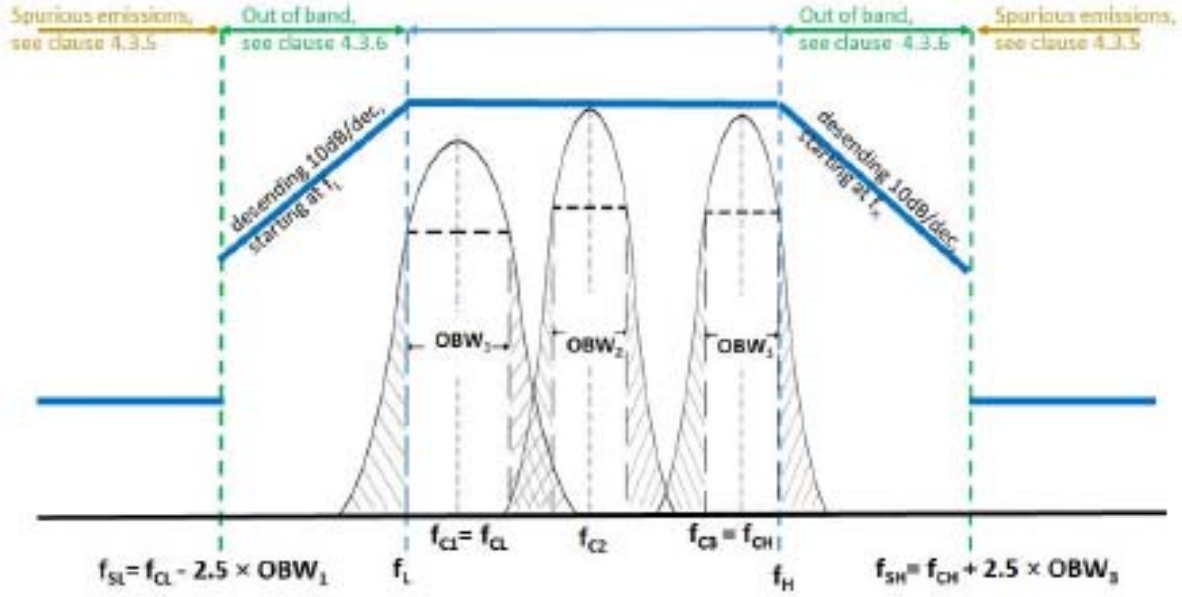

Figure 5: Out of band and spurious domain of a multi - frequency system
(during one WPT system cycle time)

7.2 Limit

The radiated field strength of spurious emissions below 30 MHz shall not exceed the generated H-field given in Table 4.

Table 4

State (see note)	Frequency 9 kHz ≤ f < 10 MHz	Frequency 10 MHz ≤ f < 30 MHz
Operating	27 dBµA/m at 9 kHz descending 10 dB/dec	-3,5 dBµA/m
Standby	5,5 dBµA/m at 9 kHz descending 10 dB/dec	-25 dBµA/m
NOTE: "Operating" means mode 2, 3 and 4 according to Table 2; "standby" means mode 1 according to Table 2.		

The power of any radiated spurious emission between 30 MHz and 1 GHz shall not exceed the values given in Table 5.

Table 5

State (see note)	47 MHz to 74 MHz 87,5 MHz to 118 MHz 174 MHz to 230 MHz 470 MHz to 790 MHz	Other frequencies between 30 MHz to 1 000 MHz
Operating	4 nW	250 nW
Standby	2 nW	2 nW
NOTE: "Operating" means mode 2, 3 and 4 according to Table 2; "standby" means mode 1 according to Table 2.		

7.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

7.4 Test Procedure

Substitution method was performed to determine the actual spurious emission levels of the EUT.
The following test procedure as below:
1) 9 kHz to 30MHz test procedure:

1. The field strength was measured for frequencies below 30 MHz. The equipment under test was measured at a distance of 10 m on a semi-anechoic. The test antenna was a calibrated shielded magnetic field antenna.
2. The equipment under test was switched on with normal modulation. The characteristics of the modulation signal used was stated on the test report. The measuring receiver was tuned over the frequency range 9 kHz to 30 MHz, except for the frequency band on which the transmitter was intended to operate.
3. At each frequency at which a relevant spurious signal was detected the equipment under test and the test antenna was rotated until maximum field strength was indicated on the measuring receiver. This level was noted.
4. The measurements were repeated in the standby mode.
5. For measuring equipment calibrated in dBµV/m, the reading should was reduced by 51,5 dB to be converted to dBµA/m.

2) 30 MHz to 1GHz test procedure:

6. On the test site as test setup graph above, the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider.
7. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the test frequency of the transmitter. The output of the test antenna shall be connected to the measuring receiver.
8. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the test frequency of the transmitter under test.
9. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
10. Repeat step 4 for test frequency with the test antenna polarized horizontally.
11. Remove the transmitter and replace it with a substitution antenna (the antenna should be half-wavelength for each frequency involved). The center of the substitution antenna should be approximately at the same location as the center of the transmitter. At the lower frequencies, where the substitution antenna is very long, this will be impossible to achieve when the antenna is polarized vertically. In such case the lower end of the antenna should be 0.3 m above the ground.
12. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.
13. Repeat step 7 with both antennas horizontally polarized for each test frequency.
14. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

ERP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBd)

where:
Pg is the generator output power into the substitution antenna.

7.5 Test Setup

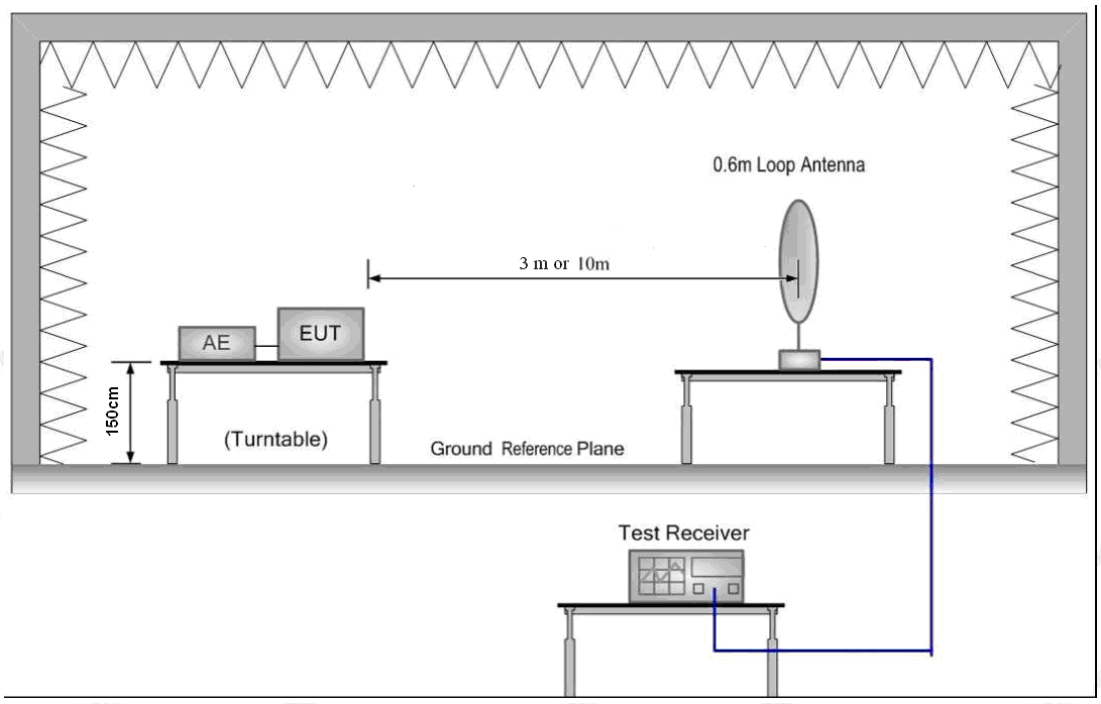

Figure: 9 kHz to 30 MHz

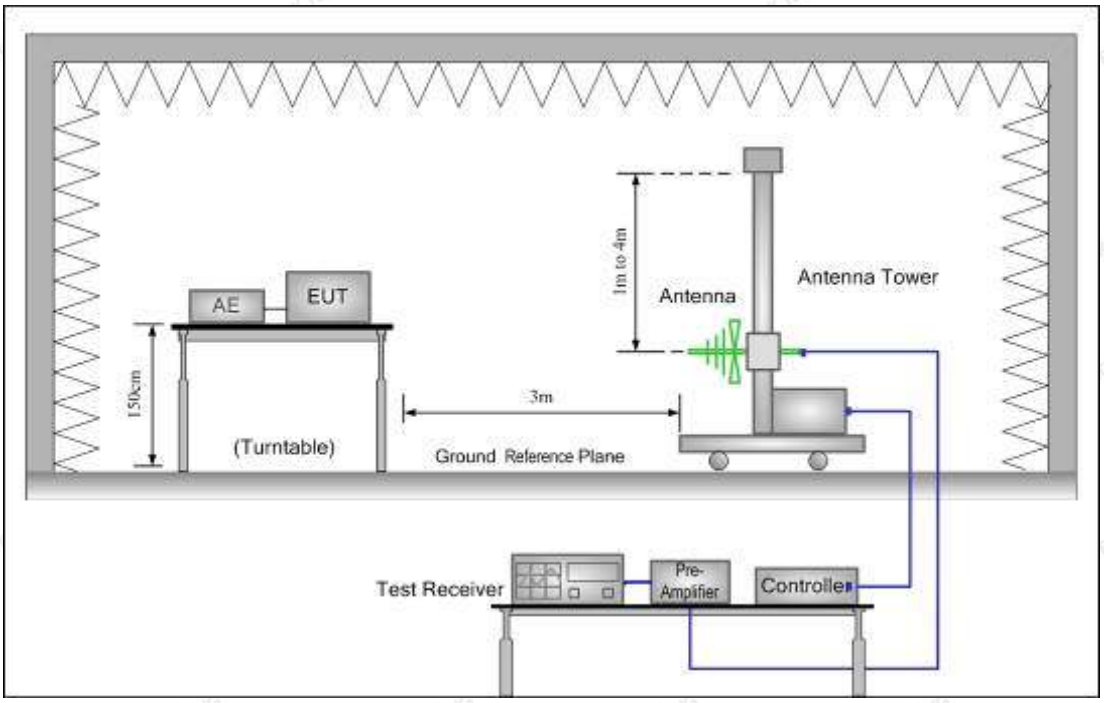

Figure: 30 MHz to 1 GHz

7.6 Test Result

9 kHz to 30 MHz

Maximum Frequency	Spurious Emission polarization and Level		Limit of Table 1	Over Limit
MHz	polarization	dB μ A/m	dB μ A/m	dB
0.5426	Vertical	2.57	8.39	-5.82
1.7169	V	-6.71	2.66	-9.37
6.1536	V	-17.6	-1.62	-15.98
15.2986	V	-24.75	-3.50	-21.25
22.4712	V	-30.29	-3.50	-26.79
0.8369	Horizontal	-0.71	5.96	-6.67
3.9142	H	-13.12	1.36	-14.48
8.5296	H	-16.47	-3.22	-13.25
12.8143	H	-26.57	-3.50	-23.07
23.6039	H	-31.98	-3.50	-28.48
Tx in standby mode				
N/A: Not applicable, since the spurious emission of the EUT is too weak to be detected.(≤-50 dBμA/m)				

30 MHz to 1 GHz

Tx in operation mode				
Maximum Frequency	**Spurious Emission polarization and Level**		**Limit of Table 2**	**Over Limit**
MHz	**polarization**	**dBm**	**dBm**	**dB**
195.8017	Vertical	-60.14	-54.00	-6.14
264.9918	V	-63.09	-36.00	-27.09
421.1135	V	-57.21	-36.00	-21.21
497.6251	V	-64.72	-54.00	-10.72
533.1192	V	-59.09	-54.00	-5.09
753.8254	V	-60.83	-54.00	-6.83
157.1033	Horizontal	-53.48	-36.00	-17.48
245.4758	H	-60.14	-36.00	-24.14
313.6734	H	-53.99	-36.00	-17.99
438.5214	H	-53.69	-36.00	-17.69
496.7315	H	-71.26	-54.00	-17.26
586.5104	H	-61.57	-54.00	-7.57
Tx in standby Mode				
N/A: Not applicable, since the spurious emission of the EUT is too weak to be detected.(≤-70dBm)				

8 Transmitter out of band (OOB) emissions

8.1 Definition

The WPT system out of band emissions are to be considered in frequency ranges defined in Figure 4 and Figure 5 (between fSL and fL and between fH and fSH).

8.2 Limit

The OOB limits are visualized in figures 4 and 5; they are descending from the intentional limits from Table 3 at fH/fL with 10 dB/decade

8.3 EUT Operation Condition

The EUT was programmed to be in continuously receiving mode.

8.4 Test Procedure

Methods of measurement (< 30 MHz)

This applies to all Product Classes.

The field strength shall be measured for frequencies below 30 MHz. The equipment under test shall be measured at a distance of 10 m on an outdoor test site. The test antenna shall be a calibrated shielded magnetic field antenna. The equipment under test and test antenna shall be arranged as stated in clause A.1.

For Product Class 3 the transmitter antenna connector of the equipment under test shall be connected to an artificial antenna (see clause 6.2) and the output connector terminated.

The equipment under test shall be switched on with normal modulation. The characteristics of the modulation signal used shall be stated on the test report. The measuring receiver shall be tuned over the frequency range 9 kHz to 30 MHz, except for the frequency band on which the transmitter is intended to operate.

At each frequency at which a relevant spurious signal is detected the equipment under test and the test antenna shall be rotated until maximum field strength is indicated on the measuring receiver. This level shall be noted.

If the transmitter can be operated in the standby mode, then the measurements shall be repeated in the standby mode.

For measuring equipment calibrated in dBμV/m, the reading should be reduced by 51,5 dB to be converted to dBμA/m.

Methods of measurement (≥ 30 MHz)

This method applies to all Product Classes.

On an appropriate test site selected from annex A, the equipment shall be placed at the specified height on a non-conducting support and in the position closest to normal use as declared by the provider.

For Product Class 3 the transmitter antenna connector shall be connected to an artificial antenna (see clause 6.2).

The test antenna shall be oriented for vertical polarization. The output of the test antenna shall be connected to a measuring receiver.

The transmitter shall be switched on with normal modulation, and the measuring receiver shall be tuned over the frequency range 30 MHz to 2 000 MHz.

At each frequency at which a relevant spurious component is detected, the test antenna shall be raised and lowered through the specified range of heights until a maximum signal level is detected on the measuring receiver.

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The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
The maximum signal level detected by the measuring receiver shall be noted.
The substitution antenna shall be oriented for vertical polarization and calibrated for the frequency of the spurious component detected.
The frequency of the calibrated signal generator shall be set to the frequency of the spurious component detected. The input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver, if necessary.
The test antenna shall be raised and lowered through the specified range of heights to ensure that the maximum signal is received.
When a test site according to clause A.1.1 is used, there is no need to vary the height of the antenna.
The input signal to the substitution antenna shall be adjusted until an equal or a known related level to that detected from the transmitter is obtained on the measuring receiver.
Please see the 6.4 in this report.

8.5 Test Result:

Pass

9 WPT system unwanted conducted emissions

9.1 Definition

WPT system unwanted conducted emissions are based on the emissions of the unwanted common mode current on the cable between the off board power supply and the primary coil seen as a monopole radiator driven against the power supply.

9.2 Limit

The common mode current (ICM) between 1 MHz and 30 MHz shall not exceed the following limit:

$$ICM = 47 - 8 \times \log(f)\ dB\mu A$$

NOTE: f is the frequency in MHz

9.3 Test Procedure

Please see the 6.4 in this report.

9.4 Test Result:

N/A

10 Receiver blocking(Receiver Conformance requirements)

10.1 Definition

Blocking is a measure of the capability of the receiver to receive a wanted signal without exceeding a given degradation due to the presence of an unwanted input signal at any frequencies other than those of the receiver spurious responses.

The test shall be performed in the relevant operational modes (see clause 4.2.3).

The wanted performance criteria from clause 4.2.2 shall be used as criterion for the receiver blocking tests.

10.2 Limit

The receiver blocking limits in Table 6 shall be fulfilled.

Table 6: Receiver blocking limits

	In-band signal	OOB signal	Remote-band signal
Frequency	Centre frequency (f_o) of the WPT system (see clause 4.3.3)	$f = f_o \pm F$ (see note)	$f = f_o \pm 10 \times F$ (see note)
Signal level field strength at the EUT	72 dBµA/m	72 dBµA/m	82 dBµA/m
NOTE: F = OFR see clause 4.3.3.			

The EUT shall achieve the wanted performance criterion, see clause 4.2.2, in the presence of the blocking signal.

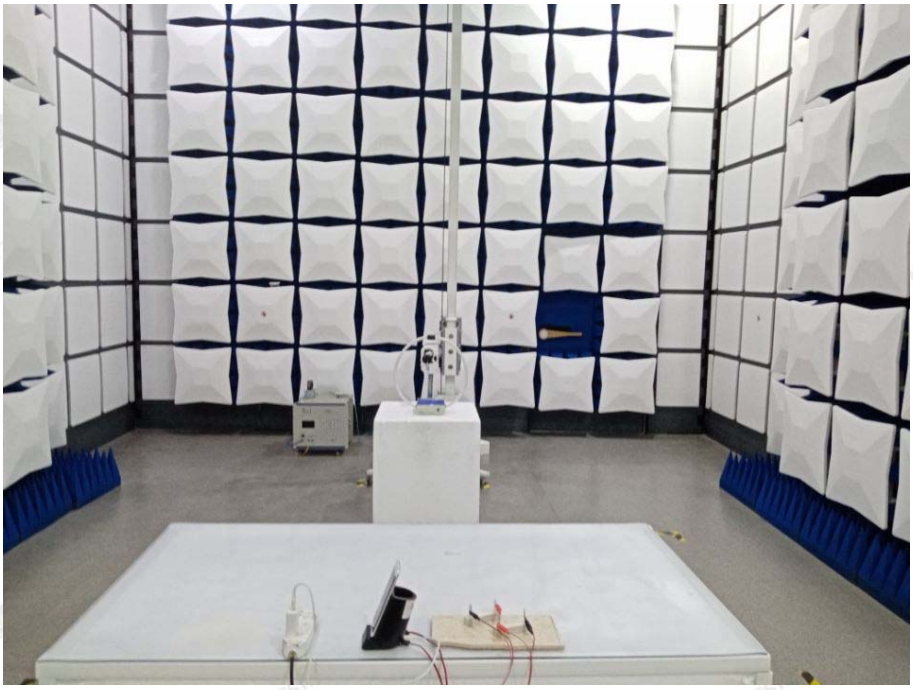
10.3 Test Procedure

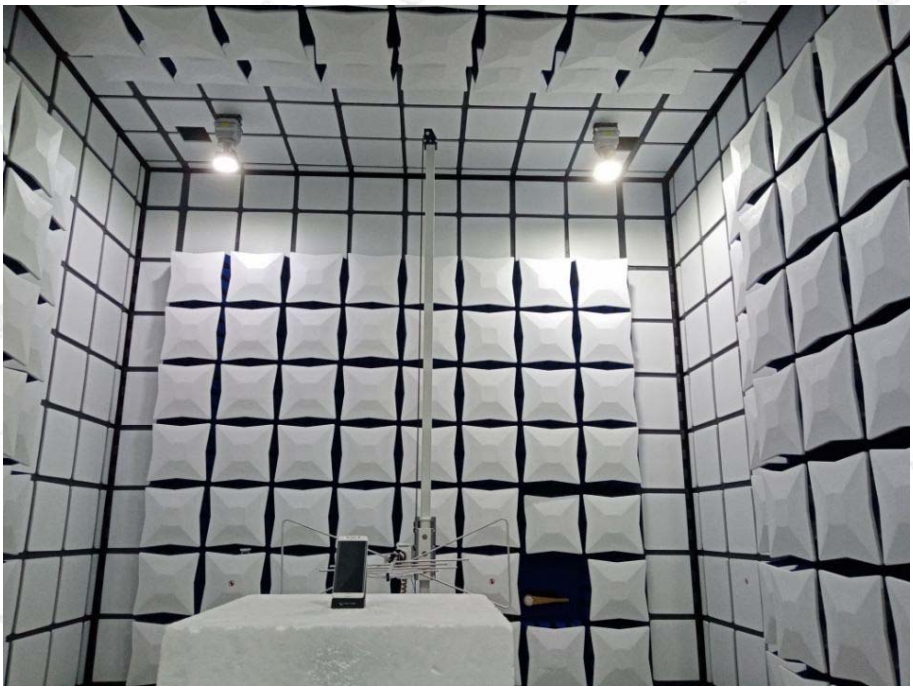
Please see the 6.4 in this report.

10.4 Test Result:

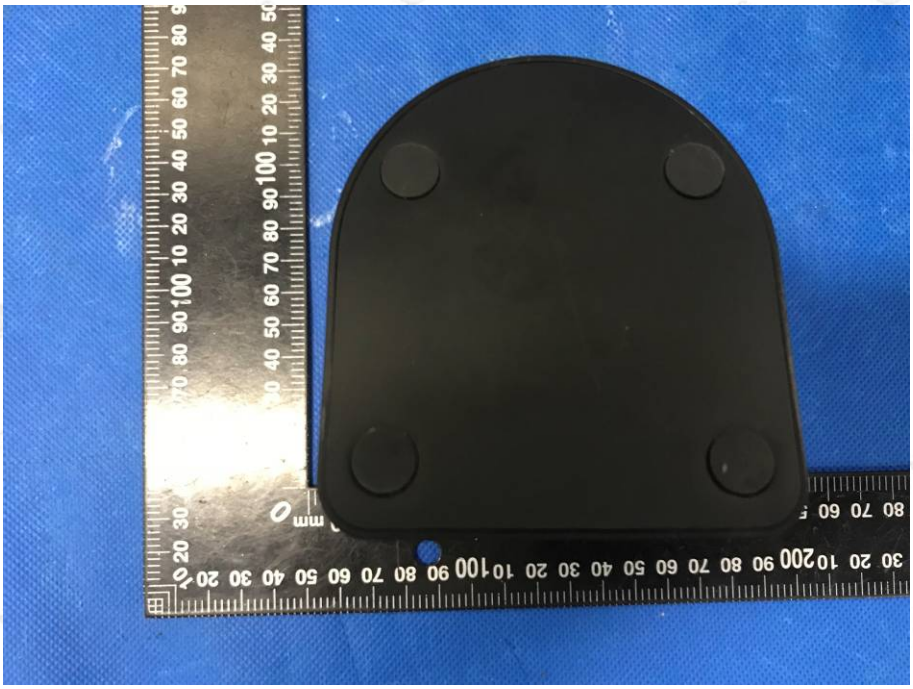
N/A

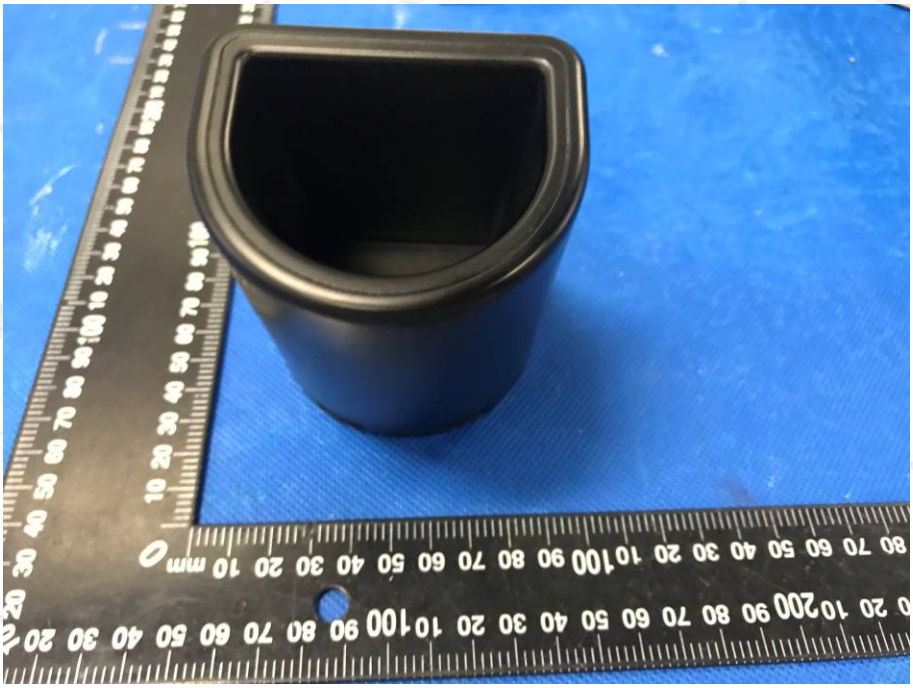
11 Test of Photo

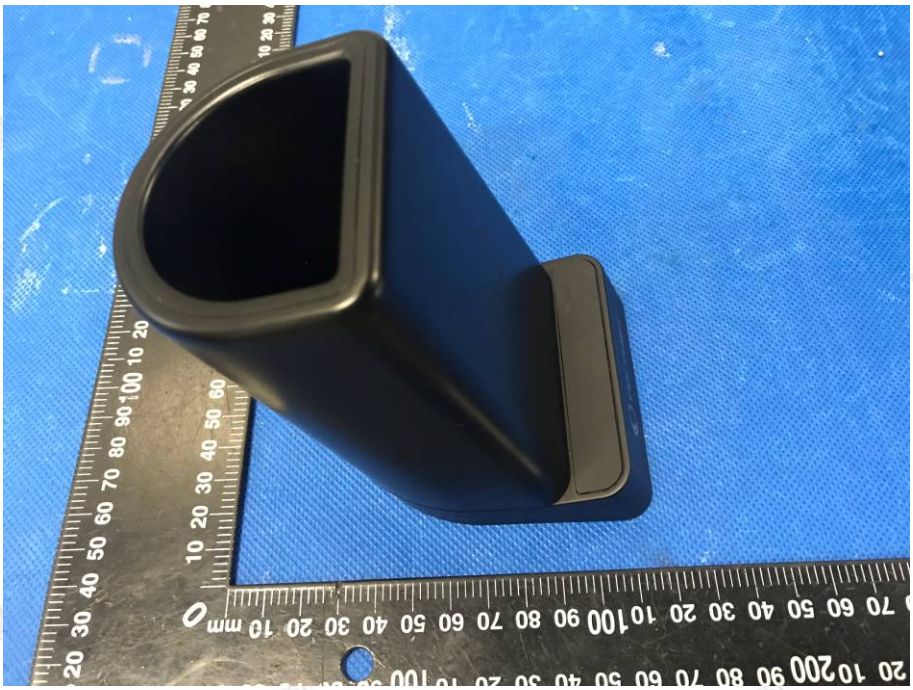


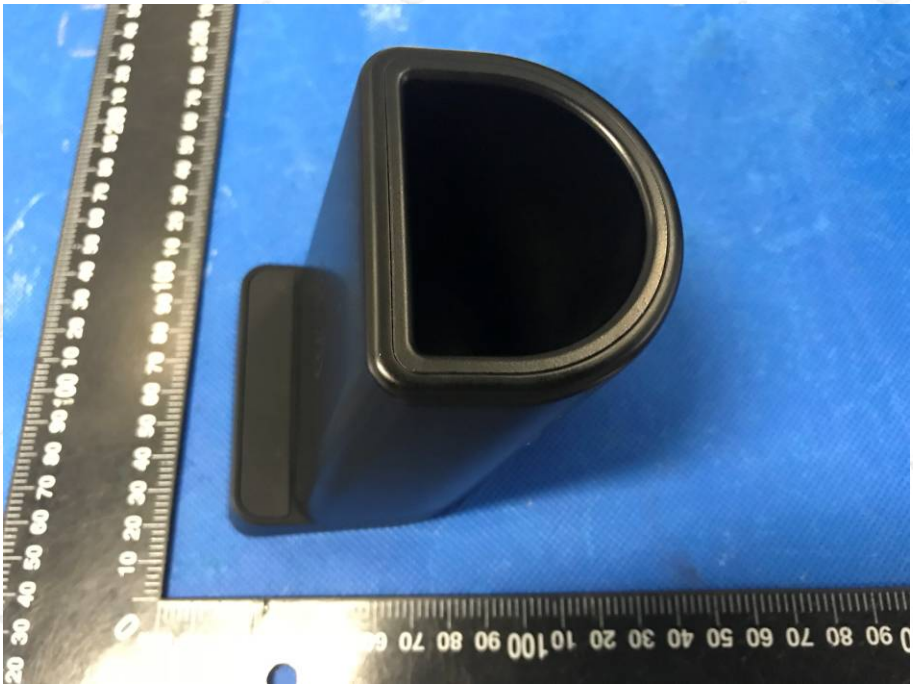


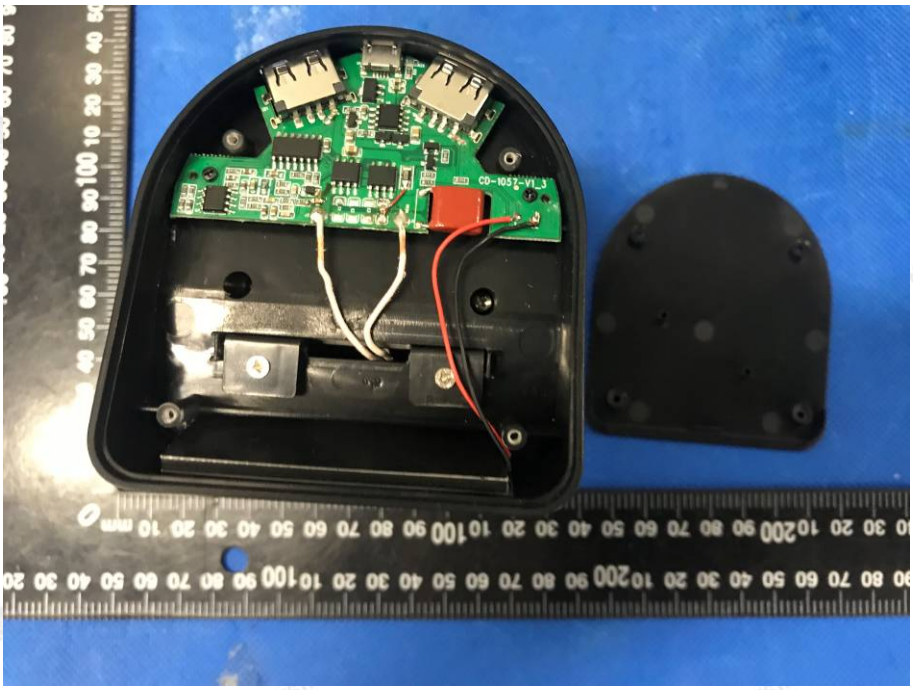
12 Photos of the EUT

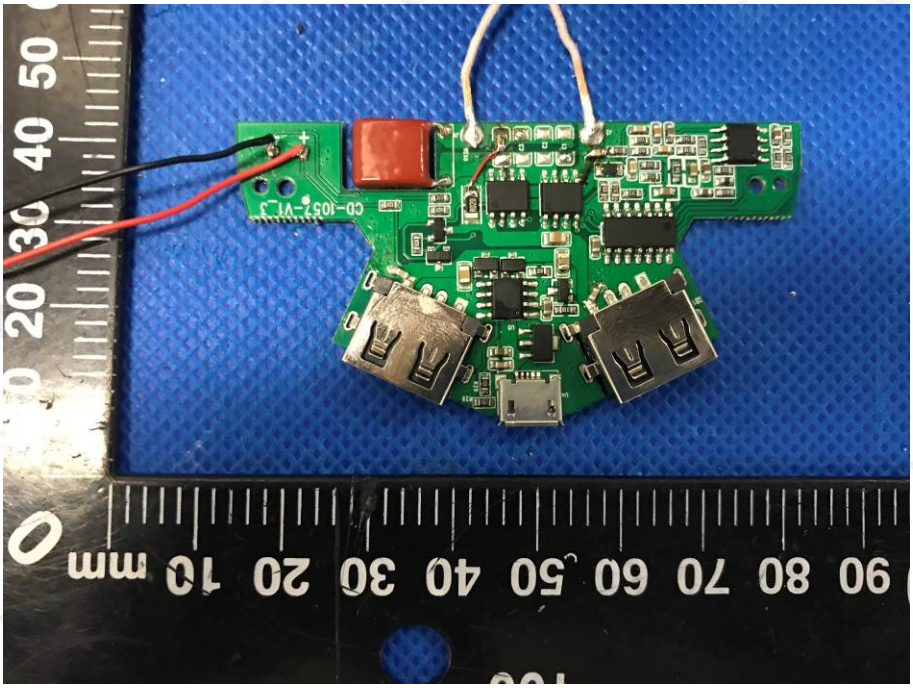


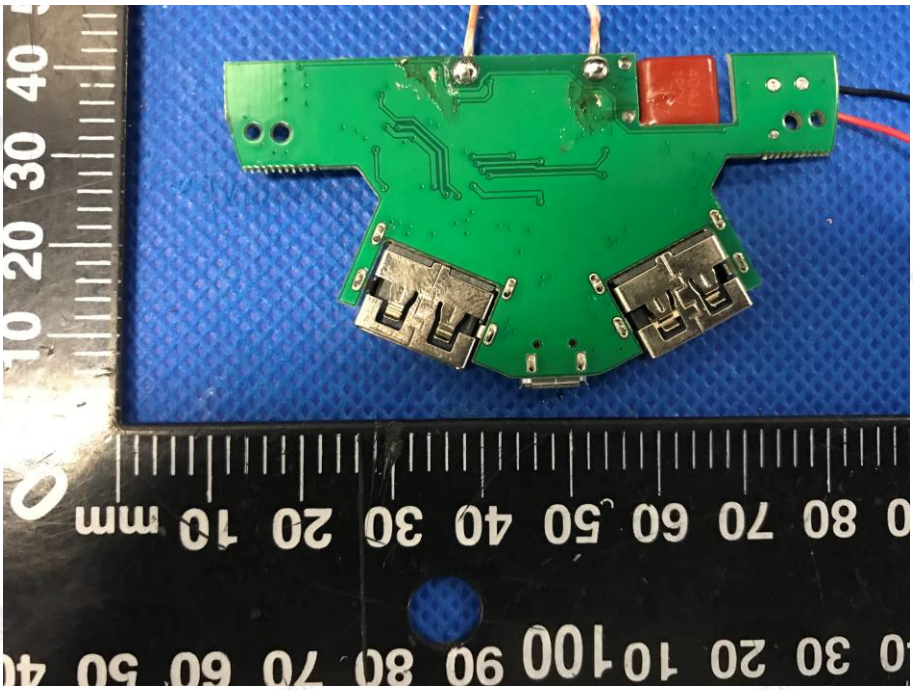


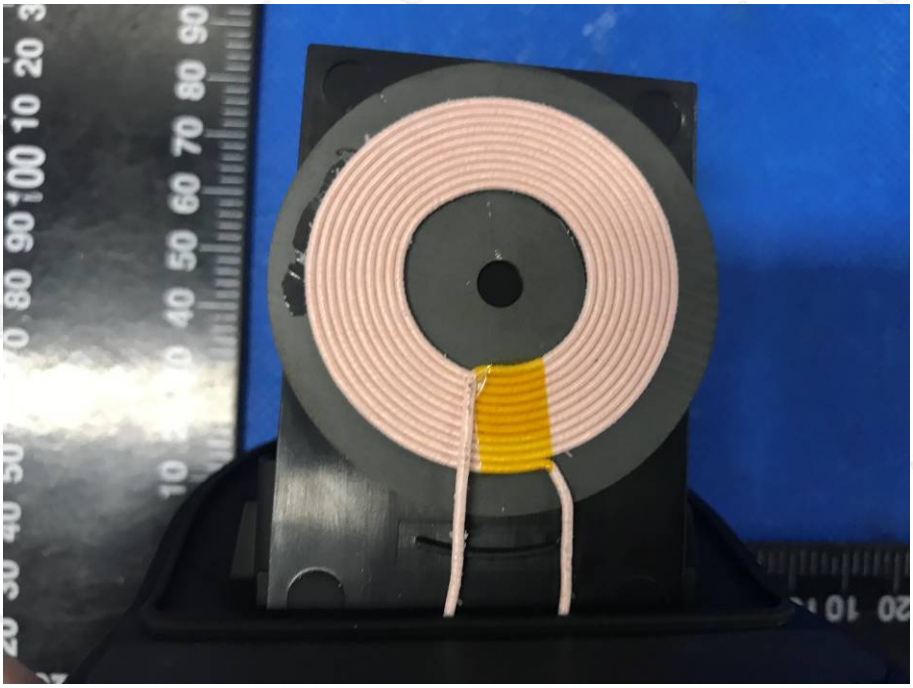












※※※※※ END OF REPORT ※※※※※

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