

EMC TEST REPORT

For

Wireless charger

Test Model: CD-1030

Additional Model No.: /

Prepared for :
Address :

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : May 17, 2018
Number of tested samples : 1
Serial number : Prototype
Date of Test : May 18, 2018~ May 22, 2018
Date of Report : May 24, 2018



EMC TEST REPORT**Final draft ETSI EN 301 489-3 V2.1.1 (2017-03)**

ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU and the essential requirements of article 6 of Directive 2014/30/EU

Report Reference No. : LCS180517021AEB

Date Of Issue : May 24, 2018

Testing Laboratory Name..... : Shenzhen LCS Compliance Testing Laboratory Ltd.

**Address : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue,
Bao'an District, Shenzhen, Guangdong, China**

**Testing Location/ Procedure..... : Full application of Harmonised standards ☒
Partial application of Harmonised standards ☐
Other standard testing method ☐**

Applicant's Name..... :

Address :

Test Specification

**Standard : ETSI EN 301 489-1 V2.1.1 (2017-02)
Final draft ETSI EN 301 489-3 V2.1.1 (2017-03)**

Test Report Form No. : LCSEMC-1.0

TRF Originator : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF : Dated 2017-06

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Test Item Description. : Wireless charger

Trade Mark : N/A

Test Model : CD-1030

**Ratings..... : Input: 5V, 3A
Output1: 5V, 1A
Output2: 5V, 1A**

Result : Positive

Compiled by:

Peter Xiao

Peter Xiao / File administrators

Supervised by:

Dick Su

Dick Su/ Technique principal

Approved by:



Gavin Liang/ Manager

EMC -- TEST REPORT

Test Report No. : LCS180517021AEBMay 24, 2018
Date of issue

Test Model..... : CD-1030
EUT..... : Wireless charger

Applicant..... :
Address..... :
Telephone..... : /
Fax..... : /

Manufacturer..... :
Address..... :
Telephone..... : /
Fax..... : /

Factory..... :
Address..... :
Telephone..... : /
Fax..... : /

Test Result**Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Revision	Issue Date	Revisions	Revised By
000	May 24,2018	Initial Issue	Gavin Liang

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1. GENERAL INFORMATION

1.1. Product Description for Equipment Under Test (EUT)

EUT	: Wireless charger
Test Model	: CD-1030
List Model No.	: /
Model Declaration	: /
Power Supply	Input: 5V, 3A Output1: 5V, 1A Output2: 5V, 1A
Hardware version	: 1.0
Software version	: 1.0
Operating Frequency	: 110~205KHz
Modulation Type	: FSK
Antenna Description	: Coil Antenna, 0 dBi(Max.)
Product class	: I

1.2. Objective

ETSI EN 301 489-1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU and the essential requirements of article 6 of Directive 2014/30/EU
Final draft ETSI EN 301 489-3	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU

The objective is to determine compliance with ETSI EN 301 489-1 V2.1.1 (2017-02), Final draft ETSI EN 301 489-3 V2.1.1 (2017-03) .

1.3. Related Submittal(s)/Grant(s)

No Related Submittals.

1.4. Test Methodology

All measurements contained in this report were conducted with ETSI EN 301 489-1 V2.1.1 (2017-02), Final draft ETSI EN 301 489-3 V2.1.1 (2017-03).

1.5. Description of Test Facility

FCC Registration Number. is 254912.
Industry Canada Registration Number. is 9642A-1.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001
NVLAP Registration Code is 600167-0

1.6. Support equipment List

Manufacturer	Description	Model	Serial Number	Certificate
--	--	--	--	--

1.7. External I/O

I/O Port Description	Quantity	Cable
USB charge Port	1	N/A

1.8. Measurement Uncertainty

Item	MU	Remark
Uncertainty for Power point Conducted Emissions Test	2.42dB	
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.54dB	Polarize: V
	4.1dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	2.08dB	Polarize: H
	2.56dB	Polarize: V
Uncertainty for radio frequency	0.01ppm	
Uncertainty for conducted RF Power	0.65dB	
Uncertainty for temperature	0.2°C	
Uncertainty for humidity	1%	
Uncertainty for DC and low frequency voltages	0.06%	

1.9. Description Of Test Modes

TM1: TX mode;

TM2: Idle

***Note:

All test modes were tested, but we only recorded the worst case in this report.

2. SUMMARY OF TEST RESULTS

Rule	Description of Test Items	Result
§7.1	Reference to clauses EN 301 489-1 §8.4 AC mains power input/output ports	Compliant
§7.1	Reference to clauses EN 301 489-1 §8.3 DC power input/output ports	N/A
§7.1	Reference to clauses EN 301 489-1 §8.2 Enclosure of ancillary equipment measured on a stand alone basis	Compliant
§7.1	Reference to clauses EN 301 489-1 §8.5 Harmonic current emissions (AC mains input port)	N/A
§7.1	Reference to clauses EN 301 489-1 §8.6 Voltage fluctuations and flicker (AC mains input port)	N/A
§7.1	Reference to clauses EN 301 489-1 §8.7 Telecommunication ports	N/A
§7.2	Reference to clauses EN 301 489-1 §9.3 Electrostatic discharge (EN 61000-4-2)	Compliant
§7.2	Reference to clauses EN 301 489-1 §9.2 Radio frequency electromagnetic field (80 MHz to 6 000 MHz)(EN 61000-4-3)	Compliant
§7.2	Reference to clauses EN 301 489-1 §9.4 Fast transients, common mode (EN 61000-4-4)	N/A
§7.2	Reference to clauses EN 301 489-1 §9.8 Surges (EN 61000-4-5)	N/A
§7.2	Reference to clauses EN 301 489-1 §9.5 Radio frequency, common mode (EN 61000-4-6)	N/A
§7.2	Reference to clauses EN 301 489-1 §9.6 Transients and surges in the vehicular environment (ISO 7637-2)	N/A
§7.2	Reference to clauses EN 301 489-1 §9.7 Voltage dips and interruptions (EN 61000-4-11)	N/A

3. LINE CONDUCTED EMISSION

3.1. Conducted Emission Limit

ETSI EN 301 489-1 V2.1.1 (2017-02)/EN 55032

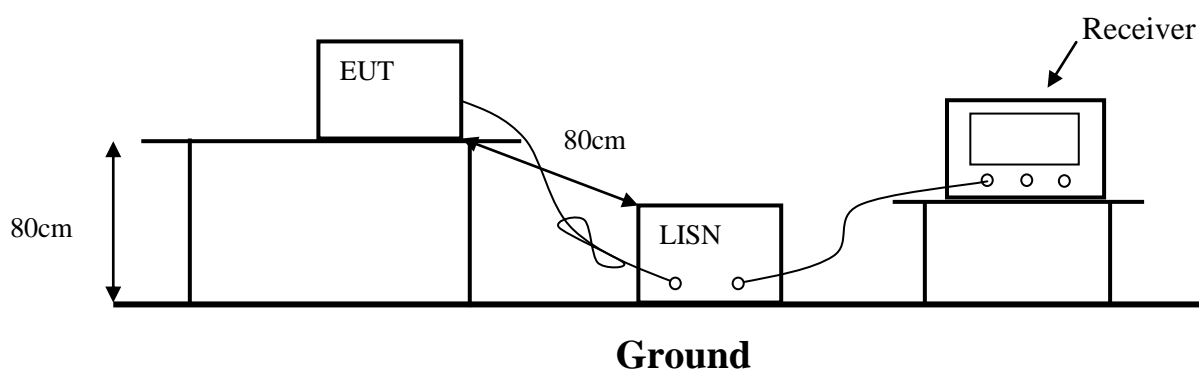
Limits for Line Conducted Emission

Frequency (MHz)	Limit (dB μ V)	
	Quasi-peak Level	Average Level
0.15~0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50~5.00	56.0	46.0
5.00~30.00	60.0	50.0

NOTE1-The lower limit shall apply at the transition frequencies.

NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

3.2. Test Configuration



The setup of EUT is according with per Draft ETSI EN 301 489-1 measurement procedure. The specification used was with the Draft ETSI EN 301 489-1 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.

The EUT received DC 5V charging power from the Adapter which received power through a LISN supplying power of AC 230V/50Hz.

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

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	30MHz~1000MHz
(IF)RB	9kHz

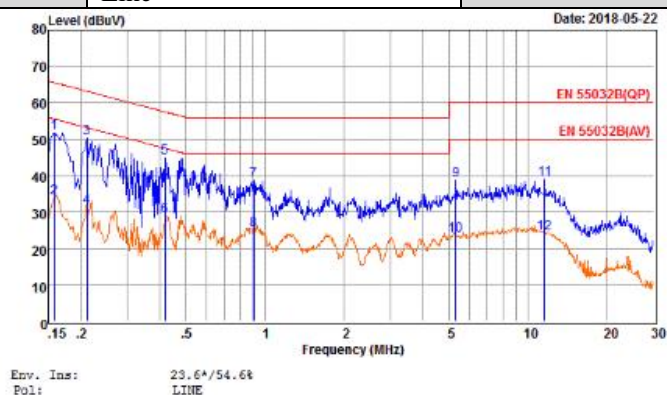
All data was recorded in the Quasi-peak and average detection mode.

Marked on both the 6 highest Quasi-Peak & 6 highest Average emissions points of the EUT.

3.3. Test Data

For pre-scan, the worst test case is TM1, and the test data was show as follow:

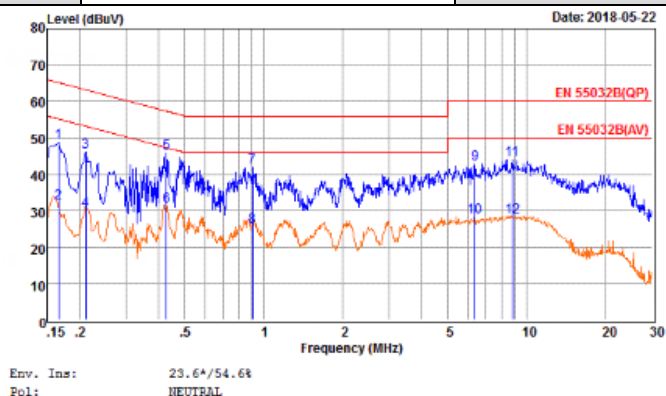
Model No.	CD-1030	Test Mode	TM1
Environmental Conditions	23.6°C, 54.6% RH	Test Engineer	Tom Liu
Pol	Line		



	Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.16	32.16	9.58	0.02	10.00	51.76	65.56	-13.80	QP
2	0.16	14.40	9.58	0.02	10.00	34.00	55.55	-21.55	Average
3	0.21	30.55	9.63	0.03	10.00	50.21	63.18	-12.97	QP
4	0.21	11.49	9.63	0.03	10.00	31.15	53.18	-22.03	Average
5	0.42	25.34	9.62	0.04	10.00	45.00	57.51	-12.51	QP
6	0.42	9.12	9.62	0.04	10.00	28.78	47.50	-18.72	Average
7	0.90	19.12	9.63	0.05	10.00	38.80	56.00	-17.20	QP
8	0.90	5.32	9.63	0.05	10.00	25.00	46.00	-21.00	Average
9	5.30	19.01	9.66	0.06	10.00	38.73	60.00	-21.27	QP
10	5.31	3.70	9.66	0.06	10.00	23.42	50.00	-26.58	Average
11	11.56	19.22	9.70	0.09	10.00	39.01	60.00	-20.99	QP
12	11.56	4.32	9.70	0.09	10.00	24.11	50.00	-25.89	Average

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Model No.	CD-1030	Test Mode	TM1
Environmental Conditions	23.6°C, 54.6% RH	Test Engineer	Tom Liu
Pol	Neutral		



	Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.17	28.97	9.66	0.02	10.00	48.65	65.16	-16.51	QP
2	0.17	12.56	9.66	0.02	10.00	32.24	55.16	-22.92	Average
3	0.21	26.59	9.59	0.03	10.00	46.21	63.18	-16.97	QP
4	0.21	10.39	9.59	0.03	10.00	30.01	53.18	-23.17	Average
5	0.43	26.10	9.61	0.04	10.00	45.75	57.33	-11.58	QP
6	0.43	11.62	9.61	0.04	10.00	31.27	47.33	-16.06	Average
7	0.90	22.34	9.63	0.05	10.00	42.02	56.00	-13.98	QP
8	0.90	6.03	9.63	0.05	10.00	25.71	46.00	-20.29	Average
9	6.35	23.21	9.68	0.07	10.00	42.96	60.00	-17.04	QP
10	6.35	8.61	9.68	0.07	10.00	28.36	50.00	-21.64	Average
11	8.82	24.37	9.71	0.08	10.00	44.16	60.00	-15.84	QP
12	8.82	8.53	9.71	0.08	10.00	28.32	50.00	-21.68	Average

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Note: For conducted emission and radiated emission test, a power supply of 230VAC and 120VAC was used for testing respectively, and only recorded the worst case of 230VAC.

4. RADIATED DISTURBANCE

4.1. Radiated Emission Limit

ETSI EN 301 489-1 V2.1.1 (2017-02)/EN 55032 Class B

Limits for radiated disturbance Blow 1GHz

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dBμV/m)
30 ~ 230	3	40
230 ~ 1000	3	47

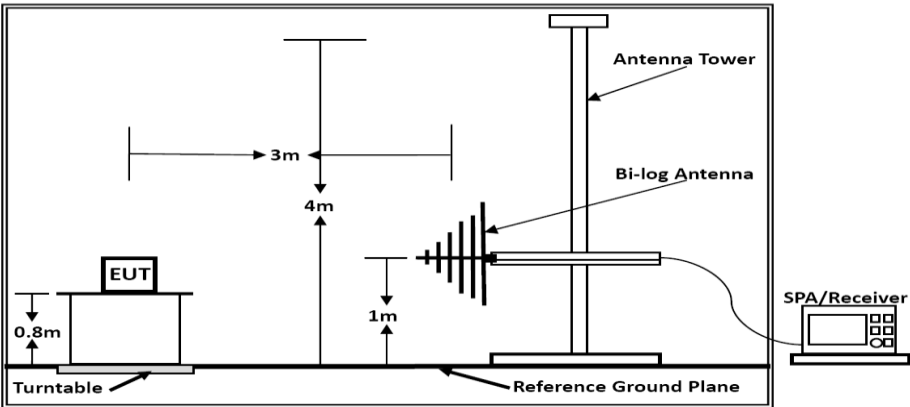
Note: (1) The smaller limit shall apply at the combination point between two frequency bands. (2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

Limits for radiated disturbance Above 1GHz

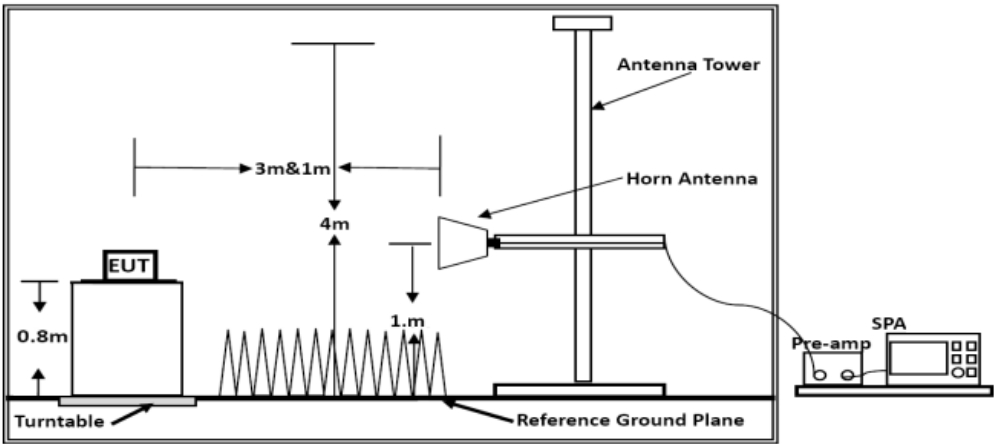
FREQUENCY (MHz)	DISTANCE (Meters)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)
1000-3000	3	50	70
3000-6000	3	54	74

Note: The lower limit applies at the transition frequency.

4.2. Test Configuration



Below 1GHz



Above 1GHz
Above 1000MHz

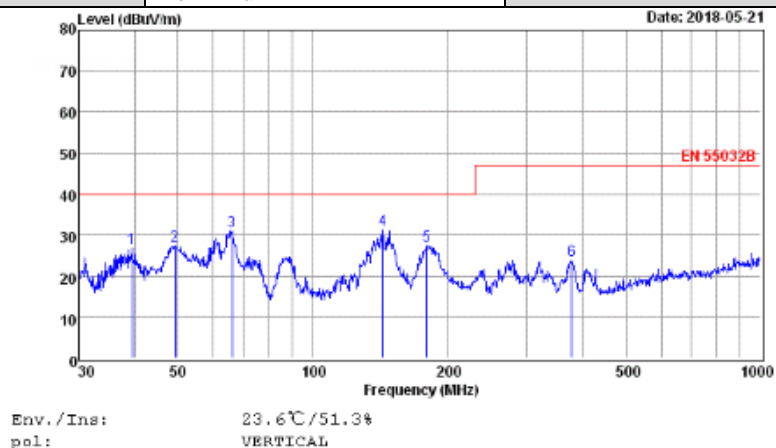
4.3. Test Procedure

Please refer to Draft ETSI EN 301 489-1 Clause 8.2.3 and EN 55032 Annex A.2 for the measurement methods.

4.4. Test Data

The worst test mode of the EUT was TM1, and its test data was showed as the follow:

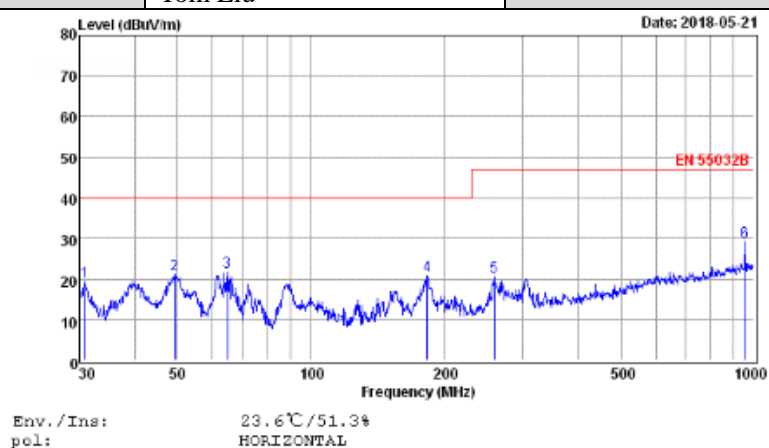
Model No.	CD-1030	Test Mode	TM1
Environmental Conditions	23.6°C, 51.3% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Tom Liu		



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	39.44	13.00	0.38	13.44	26.82	40.00	-13.18	QP
2	49.19	13.78	0.35	13.30	27.43	40.00	-12.57	QP
3	66.03	20.12	0.52	10.28	30.92	40.00	-9.08	QP
4	143.33	22.20	0.71	8.21	31.12	40.00	-8.88	QP
5	179.39	16.85	0.89	9.64	27.38	40.00	-12.62	QP
6	378.58	7.95	1.30	14.58	23.83	47.00	-23.17	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Model No.	CD-1030	Test Mode	TM1
Environmental Conditions	23.6°C, 51.3% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Tom Liu		



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	30.85	6.51	0.39	12.32	19.22	40.00	-20.78	QP
2	49.19	7.56	0.35	13.30	21.21	40.00	-18.79	QP
3	64.89	10.49	0.52	10.75	21.76	40.00	-18.24	QP
4	183.20	10.10	0.70	9.96	20.76	40.00	-19.24	QP
5	259.23	7.38	1.01	12.05	20.44	47.00	-26.56	QP
6	955.44	5.89	1.89	21.45	29.23	47.00	-17.77	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

5. GENERAL PERFORMANCE CRITERIA FOR IMMUNITY TEST

5.1. Performance criteria for Continuous phenomena applied to Transmitter (CT)

For equipment of type II or type III that requires a communication link that is maintained during the test, it shall be verified by appropriate means supplied by the manufacturer that the communication link is maintained during each individual exposure in the test sequence.

Where the EUT is a transmitter, tests shall be repeated with the EUT in standby mode to ensure that any unintentional transmission does not occur.

5.2. Performance criteria for Transient phenomena applied to Transmitter (TT)

For equipment of type II or type III that requires a communication link that is maintained during the test, this shall be verified by appropriate means supplied by the manufacturer during each individual exposure in the test sequence. Where the EUT is a transmitter, tests shall be repeated with the EUT in standby mode to ensure that any unintentional transmission does not occur.

5.3. Performance criteria for Continuous phenomena applied to Receiver (CR)

For equipment of type II or III that requires a communication link that is maintained during the test, it shall be verified by appropriate means supplied by the manufacturer that the communication link is maintained during each individual exposure in the test sequence. Where the EUT is a transceiver, under no circumstances shall the transmitter operate unintentionally during the test.

5.4. Performance criteria for Transient phenomena applied to Receiver (TR)

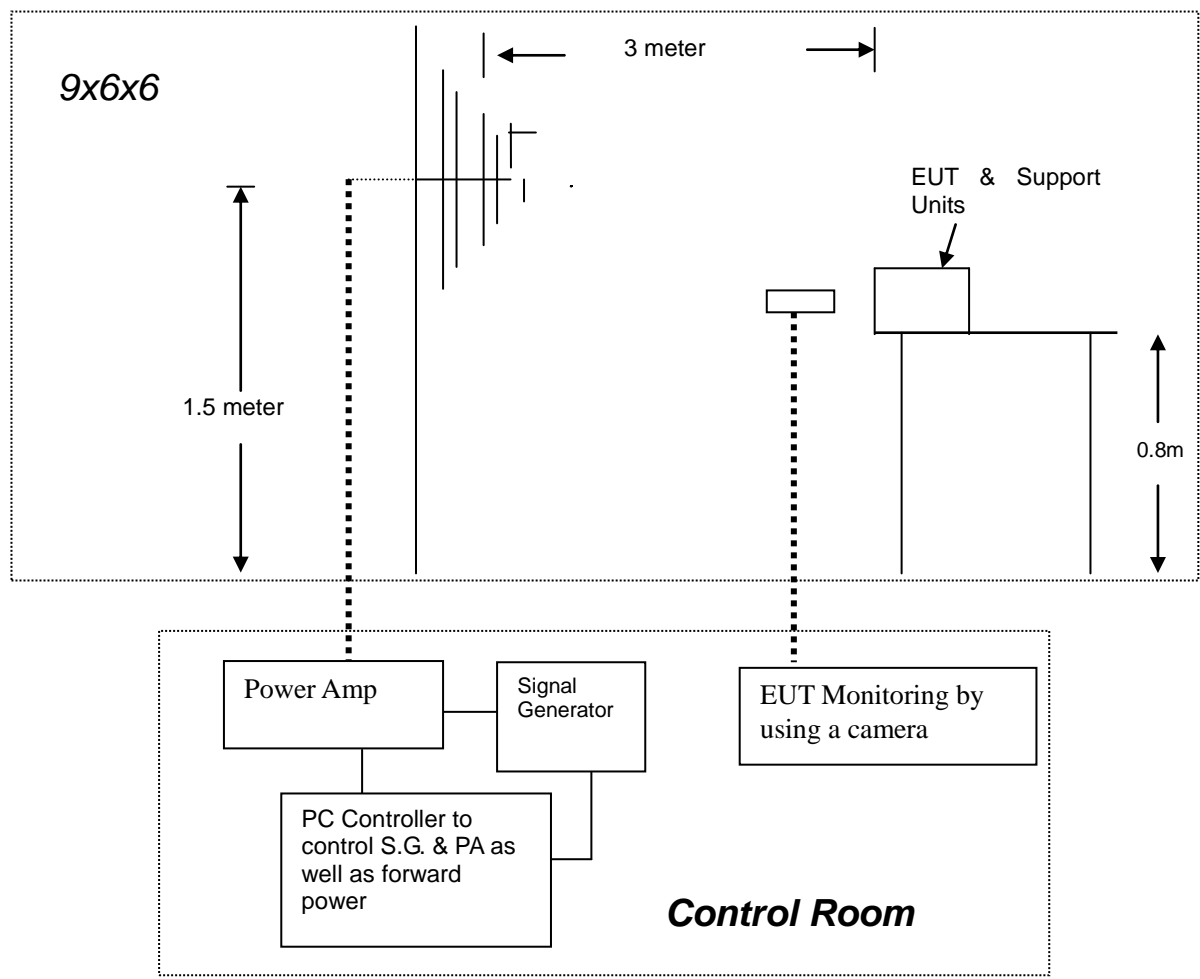
For equipment of type II or type III that requires a communication link that is maintained during the test, this shall be verified by appropriate means supplied by the manufacturer during each individual exposure in the test sequence. Where the EUT is a transceiver, under no circumstances shall the transmitter operate unintentionally during the test.

Performance criteria for Final draft ETSI EN 301 489-3 V2.1.1 (2017-03)

Criterion	During test	After test
A	Operate as intended No loss of function No unintentional responses	Operate as intended No loss of function No degradation of performance No loss of stored data or user programmable functions
B	May show loss of function No unintentional responses	Operate as intended Lost function(s) shall be self-recoverable No degradation of performance No loss of stored data or user programmable functions

6. RF ELECTROMAGNETIC FIELD (80 MHZ -6000 MHZ)

6.1. Test Configuration



6.2. Test Standard

ETSI 301 489-1, Final draft ETSI 301 489-3(EN 61000-4-3: 2006+A1: 2008+A2: 2010)

Test level 2 at 3V / m.

6.3. Severity Level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X	Special

Performance criterion: A

6.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. EUT is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD camera is used to monitor EUT screen. All the scanning conditions are as follows:

Condition of Test	Remarks
1. Fielded Strength	3 V/m (Severity Level 2)
2. Radiated Signal	Unmodulated
3. Scanning Frequency	80 - 6000 MHz
4. Dwell time of radiated	0.0015 decade/s
5. Waiting Time	3 Sec.

6.5. Test Result

RF ELECTROMAGNETIC FIELD			
Standard	<input type="checkbox"/> IEC 61000-4-3 <input checked="" type="checkbox"/> EN 61000-4-3		
Applicant			
EUT	Wireless charger	Temperature	23.6℃
M/N	CD-1030	Humidity	51.3%
Test Mode	TM1-TM2	Criterion	B
Test Engineer	Tom Liu		

TX mode Test Result:

EUT Working Mode	Antenna Polarity	Frequency (MHz)	Field Strength (V/m)	Observation	Position	Conclusion
Operating Mode	Vertical	80-6000	3	CT,CR	Front, Right, Left, Back	Pass
	Horizontal	80-6000	3	CT,CR	Front, Right, Left, Back	Pass
Idle	Vertical	80-6000	3	See Note	Front, Right, Left, Back	Pass
	Horizontal	80-6000	3	See Note	Front, Right, Left, Back	Pass

TM2 Test Result:

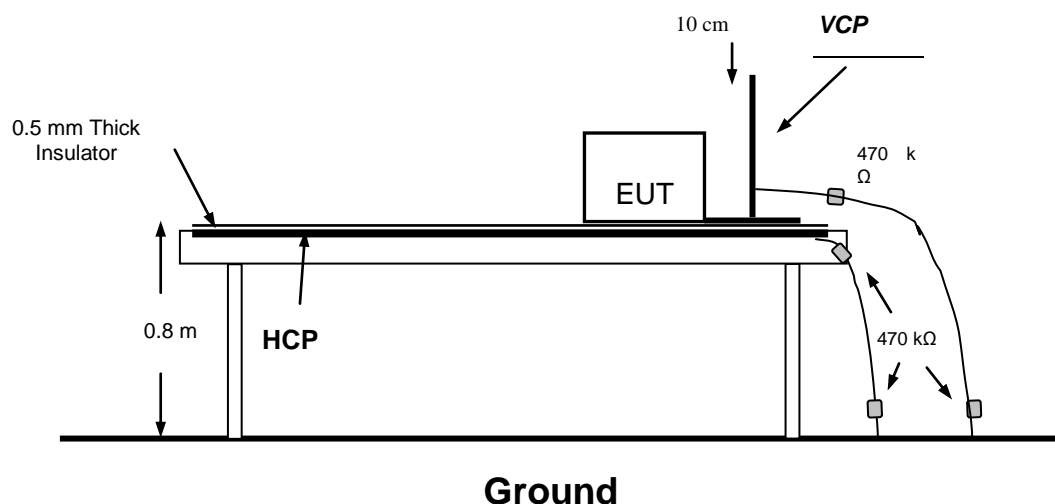
EUT Working Mode	Antenna Polarity	Frequency (MHz)	Field Strength (V/m)	Observation	Position	Conclusion
Operating Mode	Vertical	80-6000	3	See Note	Front, Right, Left, Back	Pass
	Horizontal	80-6000	3	See Note	Front, Right, Left, Back	Pass
Idle	Vertical	80-6000	3	See Note	Front, Right, Left, Back	Pass
	Horizontal	80-6000	3	See Note	Front, Right, Left, Back	Pass

***Note: Unintentional transmission is not founded from the EUT.

7. ELECTROSTATIC DISCHARGE

Please refer to Draft ETSI EN 301 489-1 and EN 61000-4-2.

7.1. Test Configuration



EN 61000-4-2 specifies that a tabletop EUT shall be placed on a non-conducting table which is 80 centimeters above a ground reference plane and that floor mounted equipment shall be placed on a insulating support approximately 10 centimeters above a ground plane. During the tests, the EUT is positioned over a ground reference plane in conformance with this requirement.

For tabletop equipment, a 1.5 by 1.0-meter metal sheet (HCP) is placed on the table and connected to the ground plane via a metal strap with two 470 k Ohms resistors in series. The EUT and attached cables are isolated from this metal sheet by 0.5-millimeter thick insulating material. A Vertical Coupling Plane (VCP) grounded on the ground plane through the same configuration as in the HCP is used.

7.2. Test Procedure

ETSI EN 301 489-1 V2.1.1 (2017-02)/ EN 61000-4-2: 2009

Test level 3 for Air Discharge at ± 8 kV

Test level 2 for Contact Discharge at ± 4 kV

7.2.1. Air Discharge

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

7.2.2. Contact Discharge

All the procedure shall be same as Section 6.2.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

7.2.3. Indirect Discharge For Horizontal Coupling Plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

7.2.4. Indirect Discharge For Vertical Coupling Plane

At least 10 single discharges (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

7.3. Test Data

PASS.

Electrostatic Discharge Test Results

Standard	<input type="checkbox"/> IEC 61000-4-2 <input checked="" type="checkbox"/> EN 61000-4-2		
Applicant			
EUT	Wireless charger	Temperature	23.6℃
M/N	CD-1030	Humidity	52.3%
Criterion	B	Pressure	1021mbar
Test Mode	TM1-TM2		
Test Engineer	Tom Liu		

TEST RESULT OF TX mode

Test Voltage	Coupling	Observation	Result (Pass/Fail)
±2KV, ±4kV	Contact Discharge	TT, TR	Pass
±2KV, ±4kV, ±8kV	Air Discharge	TT, TR	Pass
±2KV, ±4kV	Indirect Discharge HCP	TT, TR	Pass
±2KV, ±4kV	Indirect Discharge VCP	TT, TR	Pass

TEST RESULT OF TM2

Test Voltage	Coupling	Result (Pass/Fail)
±2KV, ±4kV	Contact Discharge	Pass
±2KV, ±4kV, ±8kV	Air Discharge	Pass
±2KV, ±4kV	Indirect Discharge HCP	Pass
±2KV, ±4kV	Indirect Discharge VCP	Pass

Note: The EUT performance complied with performance criteria for CT&CR to MS Function and there is no any degradation of performance and function.

8. LIST OF MEASURING EQUIPMENT

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1	X-series USB Peak and Average Power Sensor Agilent	Agilent	U2021XA	MY54080022	2017-10-27	2018-10-26
2	4 CH. Simultaneous Sampling 14 Bits 2MS/s	Agilent	U2531A	MY54080016	2017-10-27	2018-10-26
3	Test Software	Ascentest	AT890-SW	20160630	N/A	N/A
4	RF Control Unit	Ascentest	AT890-RFB	N/A	2017-06-17	2018-06-16
5	ESA-E SERIES SPECTRUM ANALYZER	Agilent	E4407B	MY41440754	2017-11-18	2018-11-17
6	MXA Signal Analyzer	Agilent	N9020A	MY49100040	2017-06-17	2018-06-16
7	SPECTRUM ANALYZER	R&S	FSP	100503	2017-06-17	2018-06-16
8	MXG Vector Signal Generator	Agilent	N5182A	MY47071151	2017-11-18	2018-11-17
9	ESG VECTOR SIGNAL GENERATOR	Agilent	E4438C	MY42081396	2017-11-18	2018-11-17
10	PSG Analog Signal Generator	Agilent	E8257D	MY4520521	2017-11-18	2018-11-17
11	Universal Radio Communication Tester	R&S	CMU 200	105788	2017-06-17	2018-06-16
12	WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW 500	103818	2017-06-17	2018-06-16
13	RF Control Unit	Tonscend	JS0806-1	N/A	2017-06-17	2018-06-16
14	DC Power Supply	Agilent	E3642A	N/A	2017-11-18	2018-11-17
15	LTE Test Software	Tonscend	JS1120-1	N/A	N/A	N/A
16	Temperature & Humidity Chamber	GUANGZHOU GOGN WEN	GDS-100	70932	2017-10-11	2018-10-10
17	DC Source	CHROMA	62012P-80-60	34782951	2017-10-11	2018-10-10
18	RF Filter	Micro-Tronics	BRC50718	S/N-017	2017-06-17	2018-06-16
19	RF Filter	Micro-Tronics	BRC50719	S/N-011	2017-06-17	2018-06-16
20	RF Filter	Micro-Tronics	BRC50720	S/N-011	2017-06-17	2018-06-16
21	RF Filter	Micro-Tronics	BRC50721	S/N-013	2017-06-17	2018-06-16
22	RF Filter	Micro-Tronics	BRM50702	S/N-195	2017-06-17	2018-06-16
23	Splitter/Combiner	Micro-Tronics	PS2-15	CB11-20	2017-06-17	2018-06-16
24	Splitter/Combiner	Micro-Tronics	CB11-20	N/A	2017-06-17	2018-06-16
25	Attenuator	Micro-Tronics	PAS-8-10	S/N23466	2017-06-17	2018-06-16
26	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2017-06-17	2018-06-16
27	Positioning Controller	MF	MF-7082	/	2017-06-17	2018-06-16
28	EMI Test Software	AUDIX	E3	N/A	2017-06-17	2018-06-16
29	EMI Test Receiver	R&S	ESR 7	101181	2017-06-17	2018-06-16
30	AMPLIFIER	QuieTek	QTK-A2525G	CHM10809065	2017-11-18	2018-11-17
31	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	00005	2017-06-23	2018-06-22
32	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2018-05-02	2019-05-01
33	Horn Antenna	EMCO	3115	6741	2017-06-23	2018-06-22
34	RF Cable-R03m	Jye Bao	RG142	CB021	2017-06-17	2018-06-16
35	RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	2017-06-17	2018-06-16
36	TEST RECEIVER	R&S	ESCI	101142	2017-06-17	2018-06-16

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37	RF Cable-CON	UTIFLEX	3102-26886-4	CB049	2017-06-17	2018-06-16
38	10dB Attenuator	SCHWARZBECK	MTS-IMP136	261115-001-0032	2017-06-17	2018-06-16
39	Artificial Mains	R&S	ENV216	101288	2017-06-17	2018-06-16
40	Power Analyzer Test System	Voltech	PM6000	20000670053	2017-06-17	2018-06-16
41	ESD Simulator	SCHLODER	SESD 230	604035	2017-06-17	2018-06-16
42	RF POWER AMPLIFIER	OPHIR	5225R	1052	2018-03-22	2019-03-21
43	RF POWER AMPLIFIER	OPHIR	5273F	1019	2018-03-24	2019-03-23
44	Stacked Broadband Log Periodic Antenna	SCHWARZBECK	STLP 9128	9128ES-145	2018-04-28	2019-04-27
45	Stacked Mikrowellen Log.-Per Antenna	SCHWARZBECK	STLP 9149	9149-482	2018-04-28	2019-04-27
46	Electric field probe	Narda S.TS./PMM	EP601	611WX80208	2018-03-26	2019-03-25
47	Power Meter	Agilent	E4419B	MY45104493	2017-06-17	2018-06-16
48	Power Sensor	Agilent	E9301H	MY41495234	2017-06-17	2018-06-16
49	Power Sensor	Agilent	E4412A	MY41500229	2017-06-17	2018-06-16
50	Immunity Simulative Generator	EM TEST	UCS500-M4	0101-34	2017-11-18	2018-11-17
51	Simulator	FRANKONIA	CIT-10	A126A1195	2017-06-17	2018-06-16
52	CDN	FRANKONIA	CDN-M2	5100100100	2017-06-17	2018-06-16
53	CDN	FRANKONIA	CDN-M3	0900-11	2017-06-17	2018-06-16
54	Attenuator	FRANKONIA	ATT6	0010222A	2017-06-17	2018-06-16
55	Infuse tongs	EM TEST	EM-Clamp	0513A031201	2017-06-17	2018-06-16
56	Voltage dips and up generator	3CTEST	VDG-1105G	EC0171014	2017-06-17	2018-06-16

Note: All equipment is calibrated through GUANGZHOU LISAI CALIBRATION AND TEST CO.,LTD.

9. TEST SETUP PHOTOGRAPHS

9.1. Photo of Power Line Conducted Measurement



9.2. Photo of Radiated Emissions Measurement



Below 1G

9.3.Photo of Electrostatic Discharge Test



9.4.Photo of Radio-frequency, Continuous radiated disturbance



-----THE END OF TEST REPORT-----