TCT 通测检测 TESTING CENTRE TECHNOLOGY

EN IEC 62311:2020 Report

Test Report No..... :	TCT230508E003	
Date of issue..... :	May 25, 2023	
Testing laboratory ..... :	Shenzhen TCT Testing Technology Co., Ltd.	
Testing location/ address:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
Applicant's name..... :	LINKCOM MANUFACTURING CO., LTD	
Address..... :	Building 1, No.21 Huanqi Avenue, Qishi Town Dongguan Guangdong Sheng China	
Manufacturer's name ... :	LINKCOM MANUFACTURING CO., LTD	
Address..... :	Building 1, No.21 Huanqi Avenue, Qishi Town Dongguan Guangdong Sheng China	
Standard(s) ..... :	EN IEC 62311:2020	
Product Name..... :	wireless charging pad	
Trade Mark ..... :	N/A	
Model/Type reference..... :	OPP130, OPP002	
Rating(s)..... :	DC 5V(Adapter input AC 230 V/ 50 Hz)	
Date of receipt of test item ..... :	May 08, 2023	
Date (s) of performance of test..... :	May 08, 2023 - May 25, 2023	
Tested by (+signature) ... :	Rleo LIU	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

General disclaimer:

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TABLE OF CONTENTS

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

1. General Product Information

1.1. EUT description

Product Name.....:	wireless charging pad
Model/Type reference.....:	OPP130
Operation Frequency.....:	115.38kHz – 150.64kHz
Test Frequency.....:	137.60kHz
Modulation.....:	Load modulation
Operational Mode.....:	Mode 4: energy transmission
Antenna Type.....:	Inductive loop coil Antenna
Rating(s).....:	DC 5V(Adapter input AC 230 V/ 50 Hz)

1.2. Model(s) list

None.

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2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25ºC
Voltage	DC 5V(Adapter input AC 230 V/ 50 Hz)
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Operational Mode	Mode 4: energy transmission

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
Adapter	EP-TA200	R37M4PR3QD1SE3	/	SAMSUNG
Mobile Phone	SM-G9350	R28HA2ER3GT	/	SAMSUNG

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

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2.3. Test Instruments List

Conducted Emission				
Name	**Model No.**	**Manufacturer**	**Date of Cal.**	**Due Date**
Electric and Magnetic field probe-analyzer	EHP-200A	Narda	Dec. 19, 2022	Dec. 18, 2023

3. Facilities and Accreditations

3.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

  SHENZHEN TONGCE TESTING LAB

  Designation Number: CN1205

  The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

  SHENZHEN TONGCE TESTING LAB

  CAB identifier: CN0031

  The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

3.2. Location

Shenzhen TCT Testing Technology Co., Ltd.

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: +86-755-27673339

3.3. Measurement Uncertainty

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Temperature	±0.1℃
2	Humidity	±1.0 %
3	Spurious Emissions, Conducted	±1 dB
4	All emissions, radiated(<1 GHz)	± 4.56 dB
5	All emissions, radiated(1 GHz - 18 GHz)	± 4.22 dB

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4. Technical Requirements Specification in EN IEC 62311

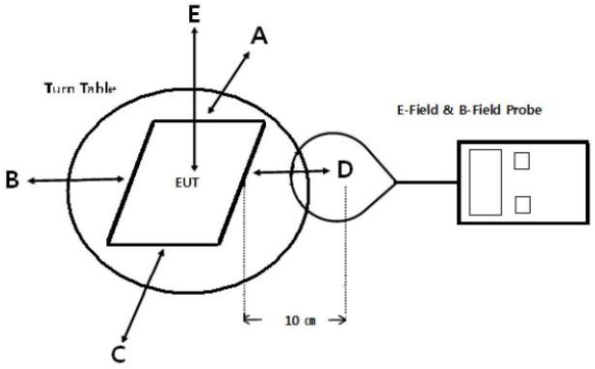
Test Requirement:	EN IEC 62311
Limit:	Reference levels for electric, magnetic and electromagnetic fields (0 Hz to 300 GHz, unperturbed rms values)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density S_{eq} (W/m²)
0-1 Hz	—	$3,2 \times 10^4$	4×10^4	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	4 000/f	5 000/f	—
0,025-0,8 kHz	250/f	4/f	5/f	—
0,8-3 kHz	250/f	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	0,73/f	0,92/f	—
1-10 MHz	$87/f^{1/2}$	0,73/f	0,92/f	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375\ f^{1/2}$	$0,0037\ f^{1/2}$	$0,0046\ f^{1/2}$	f/200
2-300 GHz	61	0,16	0,20	10

Notes:

1. *ƒ as indicated in the frequency range column.*
2. *For frequencies between 100 kHz and 10 GHz, Seq, E2, H2, and B2 are to be averaged over any six-minute period.*
3. *For frequencies exceeding 10 GHz, Seq, E2, H2, and B2 are to be averaged over any 68/ƒ1.05 -minute period (ƒ in GHz).*
4. *No E-field value is provided for frequencies < 1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.*

Test Setup:



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 10cm measured from the center of the probe(s) to the edge of the device.

Test Procedure

1. The RF exposure test was performed in anechoic chamber.
2. The measurement probe was placed at test distance (10cm) which is between the edge of the charger and the geometric center of probe.
3. The highest emission level was recorded and

	compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
Test Instrument:	Refer to section 2.3 for details
Test Mode:	Refer to section 2.1 for details
Test Results:	PASS

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4.1.1. Test Data

H-Filed Strength at 10 cm from the edges surrounding the EUT (A/m)

Frequency Range (KHz)	Test Position D (A/m)	Test Position B (A/m)	Test Position E (A/m)	Test Position A (A/m)	Test Position C (A/m)	Result (A/m)	Limits Test (A/m)
137.60	0.07	0.06	0.09	0.08	0.07	0.139	5

H = $\sqrt{D^2 + E^2 + A^2}$ = $\sqrt{0.07^2 + 0.09^2 + 0.08^2}$ A/m= 0.139A/m

Limit =5A/m

Note: All test modes have been tested and only record the worst result.

********END OF REPORT********

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