

RF EXPOSURE REPORT

FOR

Applicant	:	OnePlus Technology (Shenzhen) Co., Ltd.
Address	:	18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen P.R.China
Equipment under Test	:	OnePlus Warp Charger 50 Wireless Charger
Model No.	:	C302A
Trade Mark	:	ONEPLUS
FCC ID	:	2ABZ2-C302A
Manufacturer	:	OnePlus Technology (Shenzhen) Co., Ltd.
Address	:	18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen P.R.China

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park,
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Table of Contents

Test report declares.....3

1. General Information 5

1.1. Description of equipment 5

1.2. Assistant equipment used for test..... 5

1.3. Assess laboratory..... 5

2. Equipment used during test 5

3. Method of Measurement 6

3.1. Applicable standard..... 6

3.2. Block diagram of test setup..... 6

3.3. Test procedure 6

3.4. Equipment approval considerations:..... 7

3.5. E and H Field Strength..... 8

Test Report Declare

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Assess Standard Used: FCC CFR 47 part1, 1.1307(b), 1.1310; 680106 D01 RF Exposure Wireless Charging App v03.

We Declare:

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No:	DDT-R21020131-1E1		
Date of Receipt:	Jan. 19, 2021	Date of Test:	Jan. 19, 2021~ Feb. 03, 2021

Prepared By:

Sam Li

Sam Li/Engineer

Approved By:



Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Feb. 03, 2021	

1. General Information

1.1. Description of equipment

EUT* Name	: OnePlus Warp Charger 50 Wireless Charger
Model Number	: C302A
EUT function description	: Please reference user manual of this device
Power supply	: Input: DC5V4A, DC9V2A, DC10V6.5A, DC20V3.25A Max Output: 50W Max
Wireless charging Operation frequency	: 110KHz-148.5KHz
Antenna Type	: Integrated coil antenna
Serial Number	: N/A

Note: EUT is the abbreviation of equipment under test.

1.2. Assistant equipment used for test

Description of Accessories	Manufacturer	Model number	Serial No.	Other
Mobile phone	ONEPLUS	N/A	N/A	N/A

1.3. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd.

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Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com

CNAS Registration No. CNAS L6451; A2LA Certificate Number: 3870.01;

FCC Designation Number: CN1182; FCC Test Firm Registration Number: 540522

Industry Canada Site Registration Number: 10288A

2. Equipment used during test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Electric and Magnetic Field Analyzer	narda	EHP-200A	170WX91016	Jan. 06, 2021	1 Year

3. Method of Measurement

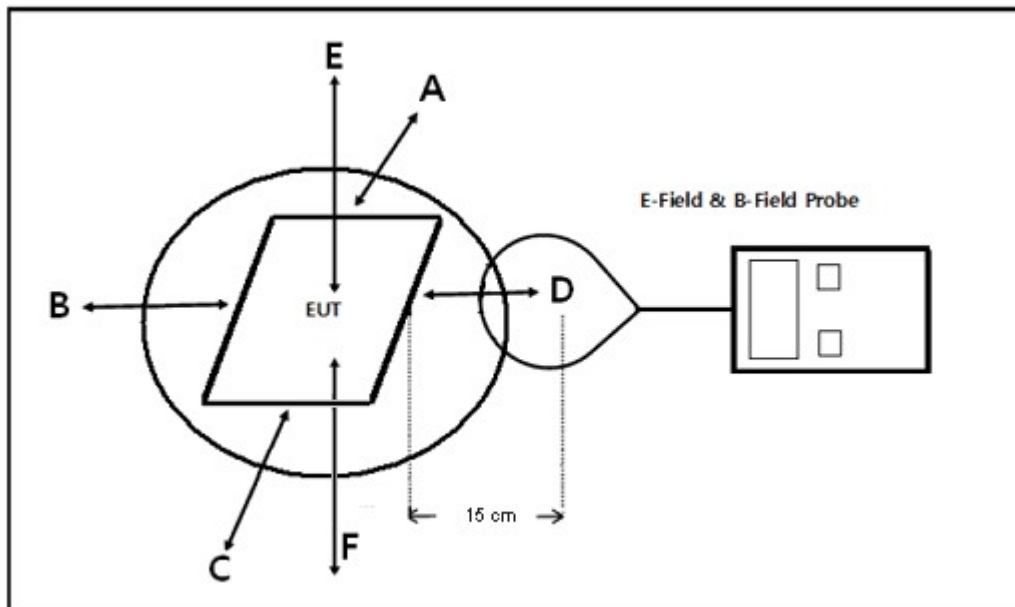
3.1. Applicable standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

According 680106 D01 RF Exposure Wireless Charging App v03.

3.2. Block diagram of test setup



Note: Due to installation limitations no tests from the underside of the charging device (Test Position F) are required.

3.3. Test procedure

- The RF exposure test was performed in shielded chamber.
- The measurement probe was placed at test distance (15 cm from the edges surrounding the EUT and 20 cm Above the top) which is between the edge of the charger and the geometric centre of probe.
- The measurement probe used to search of highest strength.
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of 680106 D01 RF Exposure Wireless Charging App v03.

3.4. Equipment approval considerations:

The EUT does comply with section 5 b) of 680106 D01 RF Exposure Wireless Charging App v03.

(1) Power transfer frequency is less than 1 MHz.

Yes; the device operates in the frequency range from 110KHz-148.5KHz

(2) Output power from each primary coil is less than or equal to 15 watts

No; the maximum output power of the primary coil is 50 W.

(3) The system may consist of more than one source primary coils, charging one or more clients.

If more than one primary coil is present, the coil pairs may be powered on at the same time.

Yes.

(4) Client device is placed directly in contact with the transmitter.

Yes.

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

Yes; the EUT is for mobile exposure conditions only.

(6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.

Yes; the EUT H-field strengths levels are less than 50% of MPE limit.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Per the guidance of KDB 680106, the E-field and H-field limits shown in the table above are extended down to 100kHz.

3.5. E and H Field Strength

Test mode for wireless charger:
Dummy load: Full Load charge mode

E-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (V/m)

Test Position	Probe Measure Result(V/m)	Limits Test (V/m)
A	5.7155	614
B	3.1060	614
C	6.9693	614
D	6.6191	614
E	3.1041	614

H-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (A/m)

Test Position	Probe Measure Result(A/m)	Limits Test (A/m)
A	0.4499	1.63
B	0.3319	1.63
C	0.3918	1.63
D	0.3450	1.63
E	0.4020	1.63

END OF REPORT