

RF EXPOSURE REPORT FOR CERTIFICATION
On Behalf of

Huawei Technologies Co.,Ltd

HUAWEI SuperCharge Wireless Car Charger

Model Number: CP39S

FCC ID: QISCP39S1

Prepared for:	Huawei Technologies Co.,Ltd
	Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
	Bantian, Longgang District,Shenzhen,China
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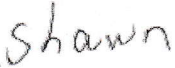
Report Number:	ESTE-R1910065
Date of Test:	Sep. 18, 2019~Jan. 09, 2020
Date of Report:	Jan. 10, 2020

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EST Technology Co., Ltd.

Applicant:	Huawei Technologies Co.,Ltd		
Address:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, China		
Manufacturer:	Huawei Technologies Co.,Ltd		
Address:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, China		
E.U.T:	HUAWEI SuperCharge Wireless Car Charger		
Model Number:	CP39S		
Power Supply:	DC12V,4A or DC24V,4A or Type-C From Car Charger: DC5V,4.5A or DC9V,2A or DC10V,4A		
Trade Name:	HUAWEI	Serial No.:	-----
Date of Receipt:	Sep. 18, 2019	Date of Test:	Sep. 18, 2019~Jan. 09, 2020
Test Specification:	FCC CFR 47 Part 1.1307(b)&1.1310 KDB 680106 D01 RF Exposure Wireless Charging Apps v03		
Test Result:	The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC CFR 47 Part 1.1307(b)&1.1310 requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd.		
Prepared by:		Reviewed by:	
 _____ Ring / Assistant		 _____ Tony / Engineer	
		Date: Jan. 10, 2020  _____ Iceman Hu / Manager	
Other Aspects:			
None.			
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
This test report is based on a single evaluation of one sample of above mentioned products, It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.			

1. SUMMARY OF TEST

1.1. Summary of test result

Report Section	Description of Test Item	FCC Standard Section	Results
3	Maximum Permissible Exposure	Part 1.1307(b)&1.1310	PASS

1.2. Test Mode

Test Item	Test Mode
Maximum Permissible Exposure	Wireless Charging with Empty Load
	Wireless Charging with Half Load
	Wireless Charging with Full Load

1.3. Test Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Exposure Level Tester	Narda	ELT-400	EST-E105	Aug. 21,19	1 Year
B-Field Probe	Narda	ELT Probe	EST-E106	Aug. 30,19	1 Year

2. MAXIMUM PERMISSIBLE EXPOSURE

2.1. Limit

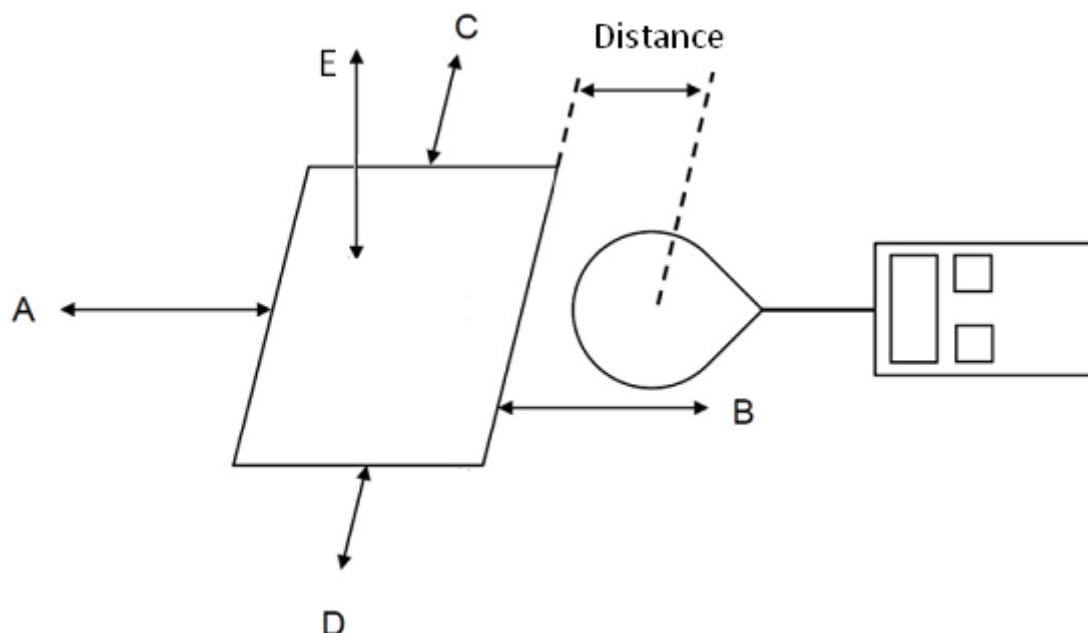
Limits for Maximum Permissible Exposure (MPE)

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

Note:

1. f = frequency in MHz * = Plane-wave equivalent power density.
2. For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

2.2. Test Setup



2.3. Test Procedure

- a. The test was performed on turn table in anechoic chamber with a dummy load.
- b. The dummy load must be placed horizontal of the EUT at the top (Parallel to the coil).
- c. The probe was placed at 15 cm surrounding the device and 20 cm above the top of the charger and the geometric centre of the probe.
- d. The highest emission level was recorded and compared with limit as soon as measurement of each point; A, B, C, D, E were completed.

2.4. Equipment Approval Considerations

Inductive wireless power transfer applications with supporting field strength results and meeting all of the following requirements are not required to submit a KDB inquiry for devices approved using SDoC or a PAG for equipment approved using certification to address RF exposure compliance.

1	Power transfer frequency is less than 1 MHz
	YES; the device operated in the frequency range from 110.5-205KHz.
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 27W.
3	The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
	YES; the transfer system includes only single primary and secondary coils.
4	Client device is placed directly in contact with the transmitter.
	YES; Client device is placed directly in contact with the transmitter.
5	Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
	YES.
6	The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
	YES; The EUT field strength levels are 50% x MPE limits.

2.5. Test Result

E-Field Test Result

10W	Test Mode	Full Load	Half Load	Empty Load
	Frequency range (kHz)	110.5 to 205 kHz		
	Position A(V/m)	3.231	3.025	2.963
	Position B(V/m)	3.456	2.968	2.914
	Position C(V/m)	3.425	3.124	2.563
	Position D(V/m)	3.785	2.963	2.465
	Position E(V/m)	4.111	3.457	3.175
	Limits (V/m)	614		
	50% Limits(V/m)	307		

27W	Test Mode	Full Load	Half Load	Empty Load
	Frequency range (kHz)	110.5 to 205 kHz		
	Position A(V/m)	3.452	3.058	2.945
	Position B(V/m)	4.045	3.164	3.002
	Position C(V/m)	5.075	3.865	2.643
	Position D(V/m)	4.316	3.054	2.754
	Position E(V/m)	4.089	3.963	2.998
	Limits (V/m)	614		
	50% Limits(V/m)	307		

H-Field Test Result

10W	Test Mode	Full Load	Half Load	Empty Load
	Frequency range (kHz)	110.5 to 205 kHz		
	Position A(A/m)	0.312	0.258	0.215
	Position B(A/m)	0.311	0.261	0.209
	Position C(A/m)	0.309	0.265	0.211
	Position D(A/m)	0.315	0.259	0.218
	Position E(A/m)	0.321	0.268	0.221
	Limits (A/m)	1.63		
	50% Limits (A/m)	0.815		

27W	Test Mode	Full Load	Half Load	Empty Load
	Frequency range (kHz)	110.5 to 205 kHz		
	Position A(A/m)	0.311	0.265	0.212
	Position B(A/m)	0.309	0.256	0.225
	Position C(A/m)	0.321	0.255	0.219
	Position D(A/m)	0.315	0.260	0.215
	Position E(A/m)	0.311	0.259	0.223
	Limits (A/m)	1.63		
	50% Limits (A/m)	0.815		

E-Filed

Output POWER	Test distance (cm)	Position A (V/m)	Position B (V/m)	Position C (V/m)	Position D (V/m)	Position E (V/m)	Limits (V/m)
10W	1	12.354	12.328	12.418	12.462	13.078	614
	2	12.012	12.052	11.396	12.045	13.052	614
	3	10.354	11.147	10.289	10.998	11.307	614
	4	9.354	9.268	9.342	9.458	10.021	614
	5	7.358	7.356	7.123	7.546	7.976	614
	6	5.369	6.328	5.935	6.078	6.347	614
	7	5.021	5.305	5.369	4.986	5.087	614
	8	4.215	4.685	4.963	4.756	4.378	614
	9	3.985	3.967	3.469	3.087	4.025	614
	10	3.453	3.647	3.756	3.145	3.647	614

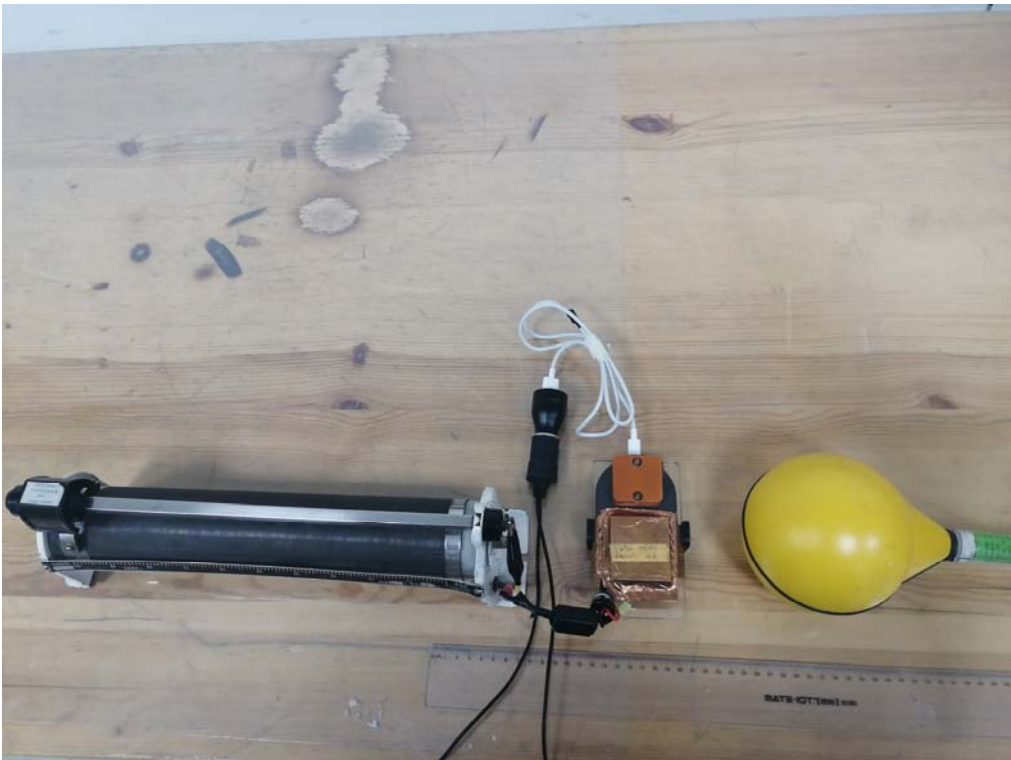
Output POWER	Test distance (cm)	Position A (V/m)	Position B (V/m)	Position C (V/m)	Position D (V/m)	Position E (V/m)	Limits (V/m)
27W	1	13.452	13.245	12.963	13.452	13.045	614
	2	12.078	12.963	12.087	12.947	12.998	614
	3	9.358	10.256	10.347	9.867	10.348	614
	4	8.325	8.364	8.364	7.687	8.634	614
	5	7.367	7.058	7.698	7.642	7.085	614
	6	5.396	5.768	5.289	6.054	6.354	614
	7	5.325	5.087	5.364	5.078	5.934	614
	8	4.028	4.687	4.256	4.257	4.358	614
	9	4.001	3.985	3.457	3.579	4.312	614
	10	3.687	3.764	3.623	3.452	3.457	614

3. TEST SETUP PHOTO

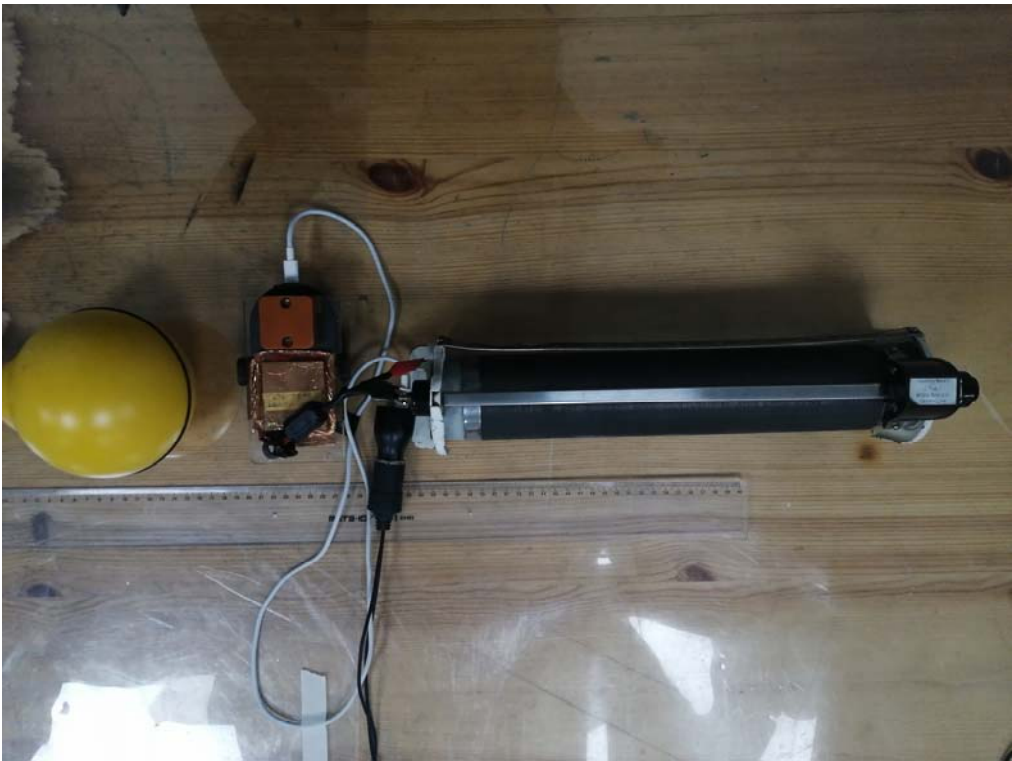
Position A



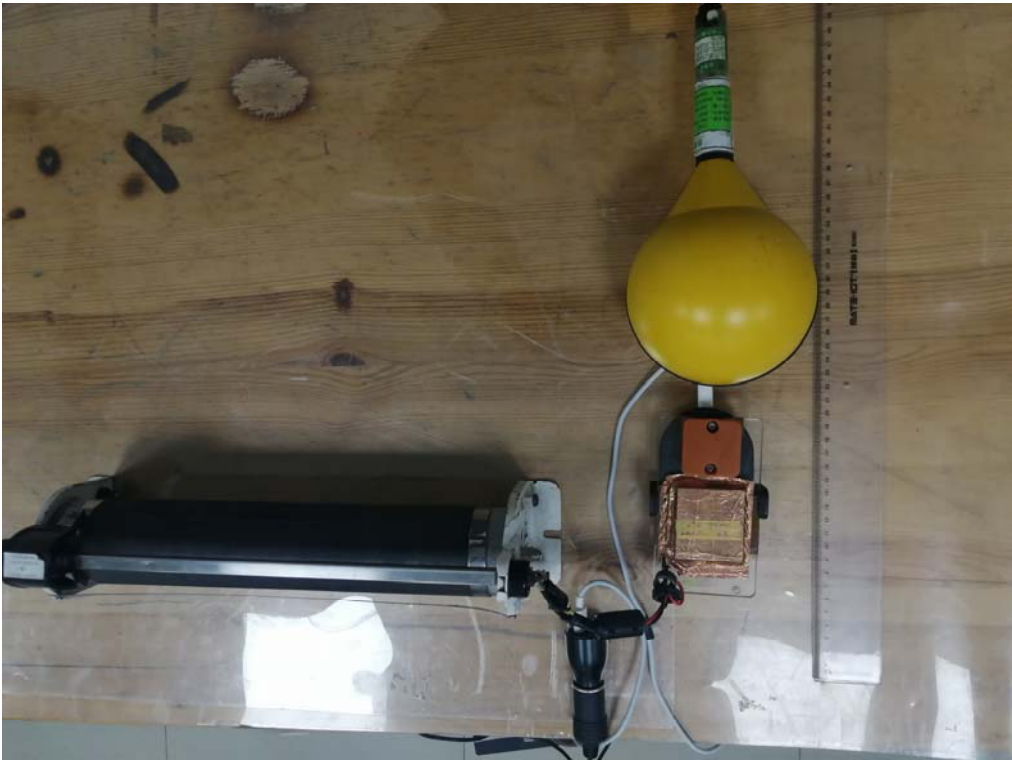
Position B



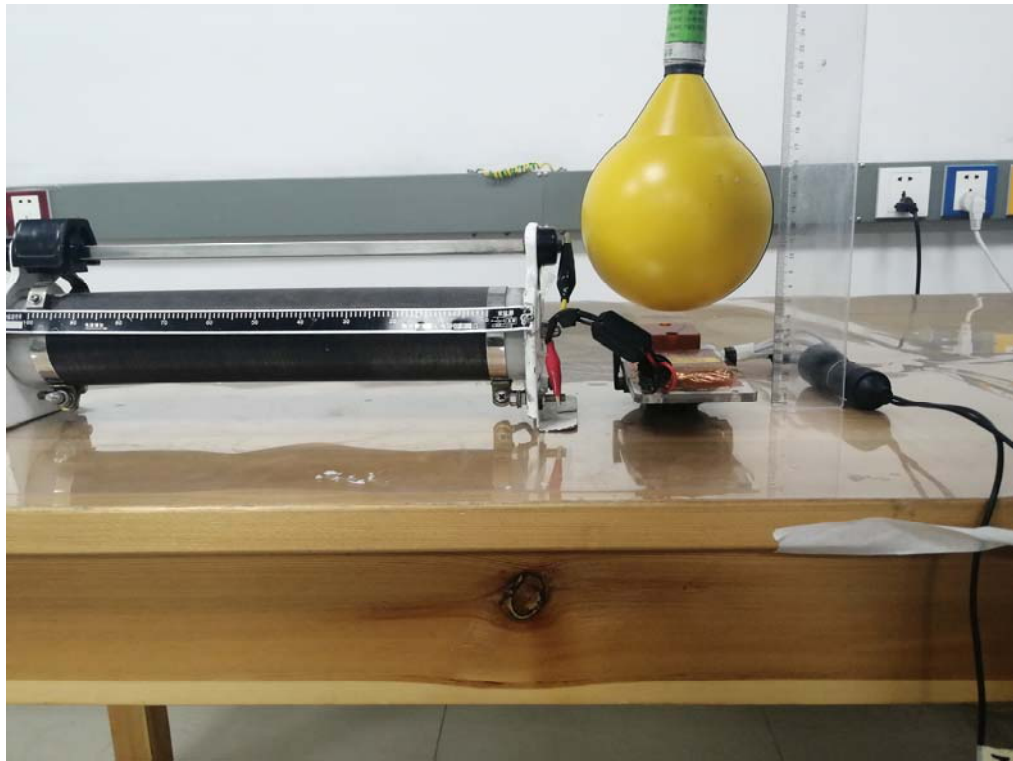
Position C



Position D



Position E



End of Test Report