

MRT Technology (Suzhou) Co., Ltd Phone: +86-512-66308358

Web: www.mrt-cert.com

Report No.:1904WSU019-U2 Report Version: Issue Date: 08-09-2019

RF Exposure Evaluation Declaration

FCC ID: 2ATJC-95560

Aptiv Electrical Centers (Shanghai) Co.,Ltd **APPLICANT:**

Application Type: Certification

Product: Wireless Charging

Wireless Charging without NFC Model No.:

FCC Classification: Part 15 Low Power Transmitter Below 1705 kHz (DCD)

July 23, 2019 **Test Date:**

Reviewed By:

Approved By:





The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou)

FCC ID: 2ATJC-95560 Page Number: 1 of 13





Revision History

Report No.	Version	Description	Issue Date	Note
1904WSU019-U2	Rev. 01	Initial Report	08-09-2019	Valid

FCC ID: 2ATJC-95560 Page Number: 2 of 13





CONTENTS

Des	scriptior	1	Page
§2.	1033 Ge	eneral Information	4
1.	PROD	UCT INFORMATION	5
	1.1.	Equipment Description	5
	1.2.	Test Mode	5
2.	TEST	EQUIPMENT CALIBRATION DATE	6
3.	RF EX	POSURE EVALUATION	7
	3.1.	Limits	7
	3.2.	EQUIPMENT APPROVAL CONSIDERATIONS ON KDB 680106 D01v03	8
	3.3.	Test Setup	9
	3.4.	Test Result of RF Exposure Evaluation	10
App	endix A	A - Test Setup Photograph	12
Apr	endix I	B - EUT Photograph	13

Report No.: 1904WSU019-U2



§2.1033 General Information

Applicant:	Aptiv Electrical Centers (Shanghai) Co.,Ltd				
Applicant Address:	Zone A, Building 7, No.60, Yuanguo Road, Anting Town, Jiading				
	District, Shanghai, China				
Manufacturer:	Aptiv Electrical Centers (Shanghai) Co.,Ltd				
Manufacturer Address:	Zone A, Building 7, No.60, Yuanguo Road, Anting Town, Jiading				
	District, Shanghai, China				
Test Site:	MRT Technology (Suzhou) Co., Ltd				
Test Site Address:	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development				
	Zone, Suzhou, China				

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Reg. No. 893164) test facility with the site description report on file and has met all the requirements specified in ANSI C63.4-2014.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-20025, G-20034, C-20020, T-20020) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications, Radio and SAR testing.



FCC ID: 2ATJC-95560 Page Number: 4 of 13



1. PRODUCT INFORMATION

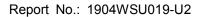
1.1. Equipment Description

Product Name:	Wireless Charging	
Model No.:	Wireless Charging without NFC	
Working Center Frequency:	120KHz for android	
	127.7KHz for IOS	
Modulation Type:	FSK	
Working Voltage:	DC 12V	

1.2. Test Mode

Test Mode	Transmit at 120KHz
	Transmit at 127.7KHz

FCC ID: 2ATJC-95560 Page Number: 5 of 13





2. TEST EQUIPMENT CALIBRATION DATE

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
CARRIES SENSOR	narda	EMR-20	MRTSUE10033	1 year	2020/07/27

FCC ID: 2ATJC-95560 Page Number: 6 of 13



3. RF EXPOSURE EVALUATION

3.1. Limits

§1.1310 Radiofrequency radiation exposure limits.

Below sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (Minutes)			
	(A) Limits for Occupational/ Control Exposures						
0.3-3.0	614	1.63	*100	6			
3.0-30	1842/f	4.89/f	*900/f2	6			
30-300	61.4	0.163	1.0	6			
300-1,500	-	-	f/300	6			
1,500-100,000	00 5		5	6			
	(B) Limits for Gen	eral Population/ Und	controlled Exposures				
0.3-1.34	614	1.63	*100	30			
1.34-30	824/f	2.19/f	*180/f2	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

FCC ID: 2ATJC-95560 Page Number: 7 of 13

^{* =} Plane-wave equivalent power density



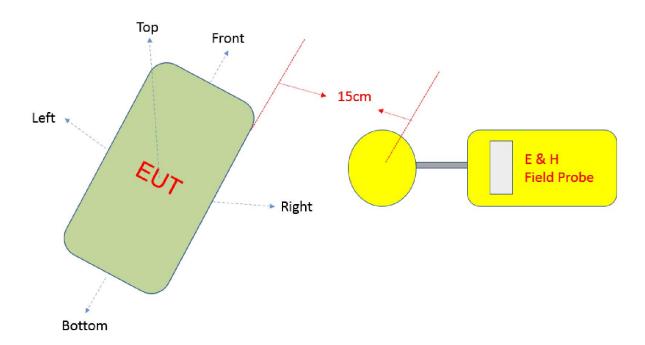
3.2. EQUIPMENT APPROVAL CONSIDERATIONS ON KDB 680106 D01v03

EQ	UIPMENT APPROVAL CONSIDERATIONS	COMPLY
1)	Power transfer frequency is less than 1 MHz	Yes, Wireless operating frequency: 120KHz for
		android, and 127.7KHz for IOS
2)	Output power from each primary coil is less	Yes, Wireless maximum transmitted power: 10W
	than or equal to 15 watts.	
3)	The transfer system includes only single	Yes, We control the 3 coils through the enable
	primary and secondary coils. This includes	signal of coil top, coil center and coil bottom.
	charging systems that may have multiple	Once the cellphone is put on the WPC surface,
	primary coils and clients that are able to	the WPC will detect and then choose only one
	detect and allow coupling only between	coil from 3 coils (top, bottom, center) to charge
	individual pairs of coils.	for cellphone. The selections of coil depend on
		the location of cellphone on WPC surface.
4)	Client device is placed directly in contact	Yes
	with the transmitter.	
5)	Mobile exposure conditions only (portable	Yes
	exposure conditions are not covered by this	
	exclusion).	
6)	The aggregate H-field strengths at 15 cm	Yes
	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.	

FCC ID: 2ATJC-95560 Page Number: 8 of 13



3.3. Test Setup



- 1) According to the requirements of KDB 680106 D01v03.
- 2) The aggregate strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils.

FCC ID: 2ATJC-95560 Page Number: 9 of 13





3.4. Test Result of RF Exposure Evaluation

Product	Wireless Charging
Test Item	RF Exposure Evaluation

Mode 1								
	Electric Field Emissions							
Test	Test Distance	Measure Value	Limit	50% Limit	Result			
Position	(cm)	(V/m)	(V/m)	(V/m)				
Front	15	0.47	614	307	Pass			
Bottom	15	0.74	614	307	Pass			
Left	15	0.58	614	307	Pass			
Right	15	0.64	614	307	Pass			
Тор	15	1.08	614	307	Pass			
		Magnetic Fiel	d Emissions					
Test	Test Distance	Measure Value	Limit	50% Limit	Result			
Position	(cm)	(A/m)	(A/m)	(A/m)				
Front	15	0.0014	1.63	0.815	Pass			
Bottom	15	0.0011	1.63	0.815	Pass			
Left	15	0.0015	1.63	0.815	Pass			
Right	15	0.0019	1.63	0.815	Pass			
Тор	15	0.0030	1.63	0.815	Pass			

FCC ID: 2ATJC-95560 Page Number: 10 of 13



Mode 2								
	Electric Field Emissions							
Test	Test Distance	Measure Value	Limit	50% Limit	Result			
Position	(cm)	(V/m)	(V/m)	(V/m)				
Front	15	0.49	614	307	Pass			
Bottom	15	0.74	614	307	Pass			
Left	15	0.60	614	307	Pass			
Right	15	0.72	614	307	Pass			
Тор	15	1.58	614	307	Pass			
		Magnetic Fie	ld Emissions					
Test	Test Distance	Measure Value	Limit	50% Limit	Result			
Position	(cm)	(A/m)	(A/m)	(A/m)				
Front	15	0.0009	1.63	0.815	Pass			
Bottom	15	0.0017	1.63	0.815	Pass			
Left	15	0.0013	1.63	0.815	Pass			
Right	15	0.0014	1.63	0.815	Pass			
Тор	15	0.0022	1.63	0.815	Pass			

———— The End

FCC ID: 2ATJC-95560 Page Number: 11 of 13

Report No.: 1904WSU019-U2



Appendix A - Test Setup Photograph

Refer to "1904WSU019-UT" file.

FCC ID: 2ATJC-95560 Page Number: 12 of 13

Report No.: 1904WSU019-U2



Appendix B - EUT Photograph

Refer to "1904WSU019-UE" file.

FCC ID: 2ATJC-95560 Page Number: 13 of 13