FCC TEST REPORT

FCC ID: 2AP2N-SPRING01

On Behalf of

Shenzhen Esorun Technology Co.,LTD

Spring wireless car mount

Model No.: Spring 01, Spring 01S

Prepared for	:	Shenzhen Esorun Technology Co.,LTD
Address	:	101, Dormitory Building, No. 1215, Guihua Community Guanguang Road, Guanlan Street, Longhua District, Shenzhen, China

Prepared By	:	Shenzhen Alpha Product Testing Co., Ltd.
Address	:	Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

Report Number	:	A2010092-C01-R04
Date of Receipt	:	October 23, 2020
Date of Test	:	October 23, 2020–March 10, 2021
Date of Report	:	March 23, 2021
Version Number	:	V0

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TEST REPORT DECLARATION

Applicant	:	Shenzhen Esorun Technology Co.,LTD
Address	:	101, Dormitory Building, No. 1215, Guihua Community Guanguang Road, Guanlan Street, Longhua District, Shenzhen,China
Manufacturer	:	Shenzhen Esorun Technology Co.,LTD
Address	:	101, Dormitory Building, No. 1215, Guihua Community Guanguang Road, Guanlan Street, Longhua District, Shenzhen, China
EUT Description	:	Spring wireless car mount
		(A) Model No. : Spring 01, Spring 01S
		(B) Trademark : **ESORUN**

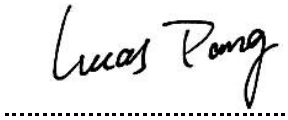
Measurement Standard Used:

FCC CFR Title 47 Part 15 Subpart C

FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness test. Also, this report shows that the EUT is technically compliant with the KDB 680106 D01 requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....…..:	Lucas Pang Project Engineer	
Approved by (name + signature)…....:	Simple Guan Project Manager	
Date of issue…… ……..:	March 23, 2021	

Revision History

Revision	Issue Date	Revisions	Revised By
V0	March 23, 2021	Initial released Issue	Lucas Pang

1. Test Result Summary

Requirement	CFR 47 Section	Result
RF EXPOSURE	§1.1307(b)(1) & KDB680106	PASS

Note:

1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

2. EUT Description

2.1. Description of Device (EUT)

EUT Name	:	Spring wireless car mount
Model No.	:	Spring 01, Spring 01S
DIFF.	:	There is no difference except the name of the model. All tests are made with the Spring 01 model.
Trademark	:	**ESORUN**
Power supply	:	Input : 5V ⎓2A, 9V ⎓2A,12V ⎓2A Output : 5V ⎓1A(5W), 9V ⎓0.83A(7.5W), 9V ⎓1.12A(10W), 9V ⎓1.67A(15W)
Operation frequency	:	112~205KHz
Modulation	:	MSK
Antenna Type	:	Coil Antenna, Maximum Gain is 0dBi (This value is supplied by applicant).
Software version	:	V1.1
Hardware version	:	V1.0
Intend use environment	:	Residential, commercial and light industrial environment

Conditions requirement	Answers
Power transfer frequency is less than 1 MHz.	After measuring the product the transfer frequency is 0.112-0.205KHz
Output power from each primary coil is less than or equal to 15 watts.	After measuring the product the each primary coil power is 10 watts
The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coils present, the coil pairs may be powered on at the same time.	The transfer system includes only single primary.
Client device is placed directly in contact with the transmitter.	Client device is placed directly in contact with the transmitter.
Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	Mobile exposure conditions only.
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.	After measuring the product the Max H-field Strength is 0.807A/m Far less than 50% of the MPE limit.

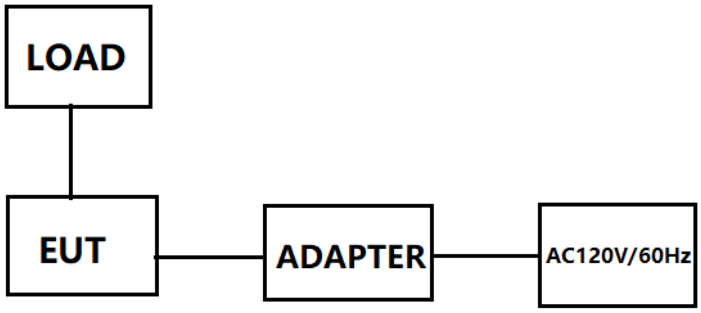
2.2. Accessories of Device (EUT)

Accessories1 : /
Manufacturer : /
Model : /
Ratings : /

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1	Wireless load	--	--	--	--
2	Adapter	--	HNFCQC3024UU	--	--

2.4. Block Diagram of Connection between EUT and Simulators



2.5. Description of Test Modes

Channel	Frequency (KHz)
1	124

2.6. Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	24℃
Humidity range:	25-75%	56%
Pressure range:	86-106kPa	98kPa

2.7. Test Facility

Shenzhen Alpha Product Testing Co., Ltd
Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission
Registration Number: 293961

July 15, 2019 Certificated by IC
Registration Number: CN0085

2.8. Measurement Uncertainty

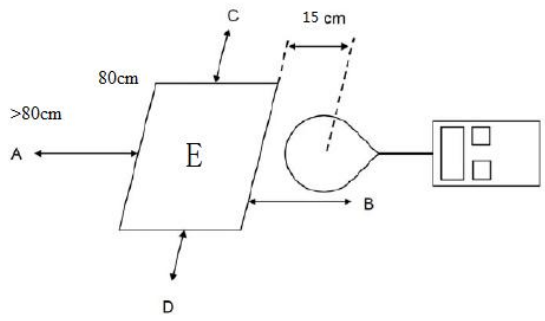
(95% confidence levels, k=2)

Item	Uncertainty
Uncertainty for H-Field	2.39dB
Uncertainty for E-Field	2.45dB
Uncertainty for conducted RF Power	0.65dB
Uncertainty for temperature	0.2℃
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3. Test Results and Measurement Data

3.1. RF Exposure Test

3.1.1. Test Specification

Test Requirement:	**FCC Rules and Regulations KDB680106**
Test Method:	§1.1307(b)(1) & KDB680106
Limits:	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 §2.1093 RF exposure is calculated. According KDB680106 D01v03r01: RF Exposure Wireless Charging.
Test Setup:	 E to position is 20cm.
Test Mode:	Charging + Transmitting Mode
Test Procedure:	1. The RF exposure test was performed on 360 degree turn table in anechoic chamber. 2. The measurement probe was placed at test distance (15cm) which is between the edge of the charger and the geometric centre of probe. 3. The turn table was rotated 360d degree to search of highest strength. 4. The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed. 5. The EUT were measured according to the dictates of KDB 680106D01v03r01.
Test Result:	PASS

3.1.2. Test Instruments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Exposure Level Tester	narda	ELT-400	N-0231	2020.09.02	1 Year
2	Magnetic field probe 100cm2	narda	ELT probe 100cm2	M0675	2020.09.02	1 Year
3	Isotropic Electric Field Probe	narda	EP-601	511WX60706	2020.09.02	1 Year

3.1.3. Test data

For Full load mode:

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.112-0.205	1.714	1.611	1.567	1.548	1.610	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.112-0.205	0.807	0.757	0.734	0.725	0.756	0.815	1.63

For Half load mode:

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.112-0.205	1.695	1.595	1.583	1.567	1.579	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.112-0.205	0.798	0.748	0.742	0.735	0.740	0.815	1.63

For Null load mode:

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.112-0.205	1.662	1.537	1.510	1.547	1.554	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

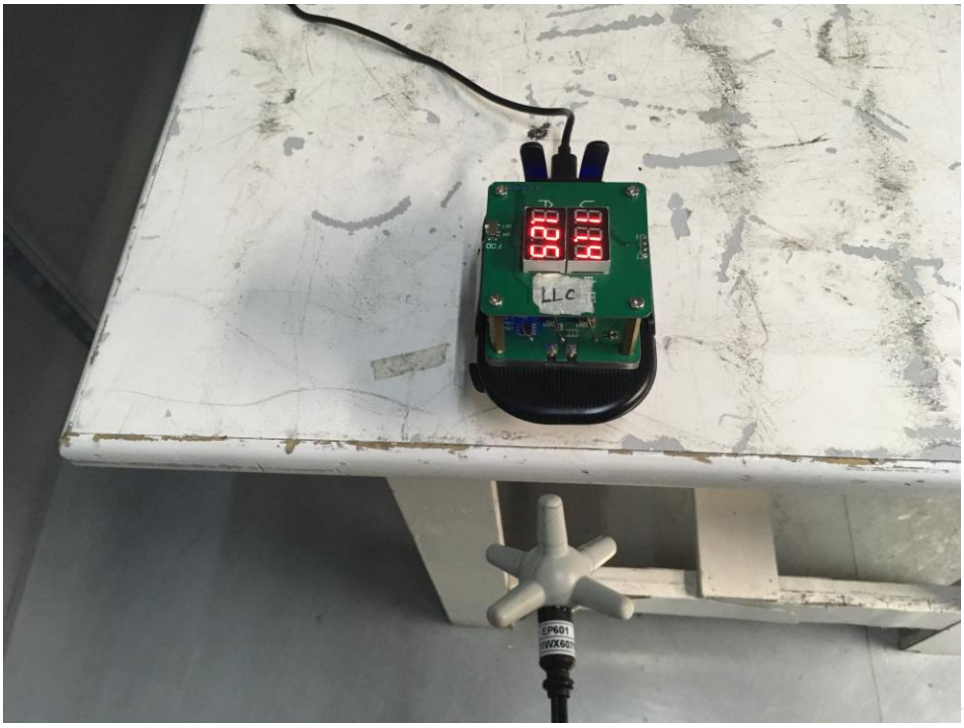
Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.112-0.205	0.782	0.719	0.705	0.724	0.728	0.815	1.63

4. Photos of test setup

For Full load mode

For No load mode

For Full load mode



For No load mode

5. Photographs of EUT

Refer to test report A2010092-C01-R03.

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