MPE TEST REPORT

Report No:STS2104011H01

Issued for

Shenzhen Joway Power Supply Co., Ltd.

Floor 1-5 of Bldg 10th and Bldg 11th, Antuoshan High-Tech Industrial Park, Sha'er Community, Shajing Street, Bao'an District, Shenzhen

Product Name:	Wireless Charger
Brand Name:	Joway
Model Name:	JW33
Series Model:	N/A
FCC ID:	2AEZ4JW33
Test Standard:	FCC CFR 47 part 1, 1.1310

Shenzhen STS Test Services Co., Ltd.
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TEST RESULT CERTIFICATION

Applicant's Name .....:	Shenzhen Joway Power Supply Co., Ltd.
Address.....:	Floor 1-5 of Bldg 10th and Bldg 11th, Antuoshan High-Tech Industrial Park, Sha'er Community, Shajing Street, Bao'an District, Shenzhen
Manufacturer's Name .....:	Shenzhen Joway Power Supply Co., Ltd.
Address.....:	Floor 1-5 of Bldg 10th and Bldg 11th, Antuoshan High-Tech Industrial Park, Sha'er Community, Shajing Street, Bao'an District, Shenzhen

Product Description

Product Name .....:	Wireless Charger
Brand Name .....:	Joway
Model Name.....:	JW33
Series Model .....:	N/A
Standards.....:	FCC CFR 47 part 1, 1.1310
Test Procedure .....:	680106 D01 RF Exposure Wireless Charging Apps v03r01

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Date of Test.....:	
Date of receipt of test item.....:	02 Apr. 2021
Date of performance of tests ..:	02 Apr. 2021 ~ 12 Apr. 2021
Date of Issue.....:	12 Apr. 2021
Test Result .....:	**Pass**

Testing Engineer : 

(Chris Chen)

Technical Manager : 

(Sean She)

Authorized Signatory : 

(Vita Li)

Table of Contents **Page**

Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	12 Apr. 2021	STS2104011H01	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v03

FCC CFR 47			
Standard Section	Test Item	Judgment	Remark
FCC CFR 47 part1, 1.1310 KDB680106 D01v03	Electric Field Strength (E) (V/m)	PASS	
	Magnetic Field Strength (H) (A/m)	PASS	

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
FCC test Firm Registration Number: 625569
IC test Firm Registration Number: 12108A
A2LA Certificate No.: 4338.01

1.2 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	Uncertainly
1	H-filed	±1.2μT
2	E-filed	±16%

1.3 GENERAL DESCRIPTION OF THE EUT

Product Name	Wireless Charger
Trade Name	Joway
Model Name	JW33
Series Model	N/A
Model Difference	N/A
Equipemnt Category	Non-ISM frequency
Antenna Type	Please refer to the Note 2.
Operating frequency	110.5-205KHz
Modulation Type	ASK
Power Rating	Input: 5V⎓2A，9V⎓2A Output: 15W/10W/7.5W/5W
Hardware version number	N/A
Software version number	N/A
Connecting I/O Port(s)	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	NOTE
1	Joway	JW33	Coil	N/A	Antenna

The EUT antenna is Coil Antenna. No antenna other than that furnished by the responsible party shall be used with the device.

1.4 EQUIPMENTS LIST FOR ALL TEST ITEMS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Electromagnetic field strength analyzer	Coliy Technology GmbH	E300	13945	2010.10.19	2021.10.18
Three-dimensional omnidirectional electric field probe	Coliy Technology GmbH	EP0650	N/A	2010.10.19	2021.10.18
Three-dimensional omnidirectional magnetic field probe	Coliy Technology GmbH	HP0350	N/A	2010.10.19	2021.10.18
Three-dimensional omnidirectional electric and magnetic field combo probe	Coliy Technology GmbH	EHP150	N/A	2010.10.19	2021.10.18

Note:
1. The Three-dimensional omnidirectional electric field probe frequency rang is 100 KHz - 6.5 GHz, the Three-dimensional omnidirectional magnetic field probe frequency rang is 100 KHz - 35 MHz, and the Three-dimensional omnidirectional electric and magnetic field combo probe frequency rang is 5 Hz - 150 KHz, their selectable resolution bandwidth (RBW) is 1Hz/10Hz/30Hz.
2. The isotropic probes mean deviation response is not greater than 1 dB.

1.5 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
N/A	N/A	N/A	N/A	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
/	Mobile Phone	Apple	iPhone 8	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
(2) “YES” is means “with core”; “NO” is means “without core”.

2. MAXIMUM PERMISSIBLE EXPOSURE

2.1 MAXIMUM PERMISSIBLE EXPOSURE

Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180 / f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	30

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03

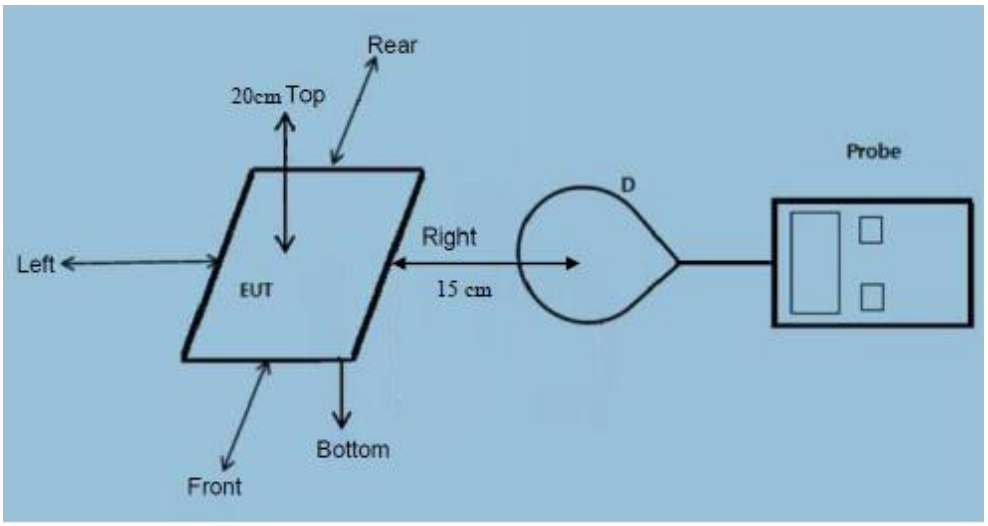
Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: 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.

2.2 TEST PROCEDURE

a. For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 20 cm(Top) and 15cm(Edge). 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 20 cm(Top) and 15cm(Edge) measured from the center of the probe(s) to the edge of the device.

2.3 TEST SETUP



2.4 TEST RESULTS

The EUT does comply with item 5 KDB680106 D01 v03.

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

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

(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.
(Conform)

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

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

(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.
(Conform)

2.5 MAXIMUM PERMISSIBLE EXPOSURE

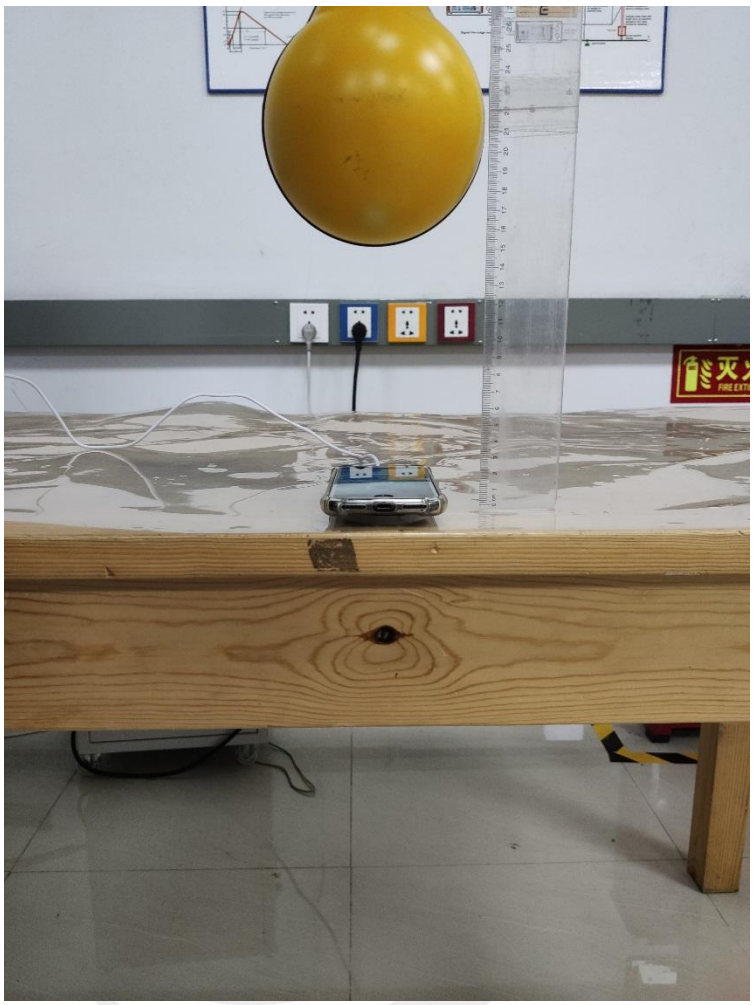
Maximum Permissible Exposure				
Charging	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
< 1% Battery	15cm	Front	4.623	0.248
< 1% Battery	15cm	Rear	4.628	0.243
< 1% Battery	15cm	Left	4.625	0.245
< 1% Battery	15cm	Right	4.621	0.241
< 1% Battery	20cm	Top	4.629	0.246
Limit			614	1.63
Margin Limit (%)			0.75%	15.09%

Maximum Permissible Exposure				
Charging	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
50% Battery	15cm	Front	4.617	0.235
50% Battery	15cm	Rear	4.619	0.236
50% Battery	15cm	Left	4.618	0.235
50% Battery	15cm	Right	4.611	0.234
50% Battery	20cm	Top	4.613	0.239
Limit			614	1.63
Margin Limit (%)			0.75%	14.66%

Maximum Permissible Exposure				
Charging	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
＞99% Battery	15cm	Front	4.601	0.237
＞99% Battery	15cm	Rear	4.613	0.221
＞99% Battery	15cm	Left	4.605	0.237
＞99% Battery	15cm	Right	4.598	0.233
＞99% Battery	20cm	Top	4.623	0.248
Limit			614	1.63
Margin Limit (%)			0.75%	15.21%

Note: We tested for voltage 5V⎓2A and 9V⎓2A, the worst case is 9V⎓2A, this report only show the worst case.

MPE SETUP PHOTO



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