FCC TEST REPORT

FCC ID: 2BC8J-PS-B003WS

On Behalf of

SHENZHEN SNAPPER TECHNOLOGY CO., LTD

Universal Power Charger

Model No.: PS-B003WS, TTUNITPWRBA-BLA, TTUNITPWRBA-WHI, TTUNITPWRBA

Prepared for	:	SHENZHEN SNAPPER TECHNOLOGY CO., LTD
Address	:	F4, BldgE, Fenghuang third Industrial area, Tengfeng Road, Fuyong, Baoan, Shenzhen

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	:	A2308285-C01-R05
Date of Receipt	:	September 11, 2023
Date of Test	:	September 11, 2023- October 18, 2023
Date of Report	:	October 19, 2023
Version Number	:	V0

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TEST REPORT DECLARATION

Applicant	:	SHENZHEN SNAPPER TECHNOLOGY CO., LTD
Address	:	F4, BldgE, Fenghuang third Industrial area, Tengfeng Road, Fuyong, Baoan, Shenzhen
Manufacturer	:	SHENZHEN SNAPPER TECHNOLOGY CO., LTD
Address	:	F4, BldgE, Fenghuang third Industrial area, Tengfeng Road, Fuyong, Baoan, Shenzhen
EUT Description	:	Universal Power Charger
	(A) Model No.	: PS-B003WS, TTUNITPWRBA-BLA, TTUNITPWRBA-WHI, TTUNITPWRBA
	(B) Trademark	: N/A

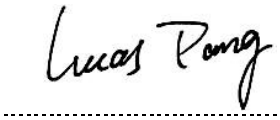
Measurement Standard Used:

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)…....:	Reak Yang Project Manager	
Date of issue……..:	October 19, 2023	

Revision History

Revision	Issue Date	Revisions	Revised By
V0	October 19, 2023	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.

5. Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.

2. EUT Description

2.1. Description of Device (EUT)

EUT Name	:	Universal Power Charger
Model No.	:	PS-B003WS, TTUNITPWRBA-BLA, TTUNITPWRBA-WHI, TTUNITPWRBA
DIFF.	:	There is no difference except the name of the model. All tests are made with the PS-B003WS model.
Power supply	:	AC Input: 100~240VAC 50/60Hz 0.3A Max Type-C Input: DC 5V~12V PD18W Max Type-C Output: DC 5V~12V PD20W Max Type-C cable output: DC 5V~12V 20W PD Max USB-A Output: 5V⎓ 3A, 9V⎓ 2A, 12V⎓ 1.5A 18W Max Wireless output: 15W Max Adaptor Mode Output:10W Max Total Sharing Output: 5V⎓ 3A Battery: 10000mAh@ 3.7V 37Wh
Radio Technology	:	Wireless power transmission systems
Operation frequency	:	115-205KHz
Modulation	:	MSK
Antenna Type	:	Coil Antenna, Maximum Gain is 0dBi (This value is supplied by applicant).
Connector cable loss	:	0.5dB (This value is supplied by applicant).
Software version	:	V1.0
Hardware version	:	V1.0

Conditions requirement	Answers
Power transfer frequency is less than 1MHz.	After measuring the product the transfer frequency is 115-205KHz
Output power from each primary coil is less than or equal to 15 watts.	After measuring the product the each primary coil power is 15 watts
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.	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 0.715A/m and the Max E-field Strength is 9.18V/m Far less than 50% of the MPE limit.

2.2. Accessories of Device (EUT)

Accessories	:	/
Manufacturer	:	/
Model	:	/
Ratings	:	/

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1	Wireless charging load	Huoniu	HNFCQC3024UU	N/A	N/A
2	Load	N/A	N/A	N/A	N/A
3	Load	N/A	N/A	N/A	N/A
4	Load	N/A	N/A	N/A	N/A

2.4. Block Diagram of connection between EUT and simulators

2.5. Description of Test Modes

Mode	Test mode description
1	Discharging(Wireless output: 15W)
2	Discharging(Wireless output: 10W)
3	Discharging(Wireless output: 5W)
4	Charging(AC IN)
5	No Load
6	Discharging Type-C(DC 5V/3A)
7	Discharging Type-C(DC 9V/2A)
8	Discharging Type-C(DC 12V/1.67A)
9	Discharging Type-C Wire(DC 5V/2.4A)
10	Discharging Type-C Wire(DC 9V/2A)
11	Discharging Type-C Wire(DC 12V/1.5A)
12	Discharging USB-A(DC 5V3A)
13	Discharging USB-A(DC 9V/2A)
14	Discharging USB-A(DC 12V/1.5A)
15	Discharging Type-C(DC 5V/1A) and USB-A(DC 5V/1A) and Type-C Wireless(5W)
16	Discharging Type-C(DC 5V/1A) and USB-A(DC 5V/1A) and Type-C Wire(DC 5V/1A)
17	Charging(Type-C Port In)
18	Charging(Type-C Port In) and Discharging Type-C Wire(DC 5V/1A)
19	Charging(Type-C Port In) and Discharging USB-A(DC 5V1A)
20	Charging(Type-C Port In) and Wireless(5W)
Note: 1. This report conducted transmission tests on the antenna, reflecting the worst mode data.	

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: 12135A

2.8. Measurement Uncertainty

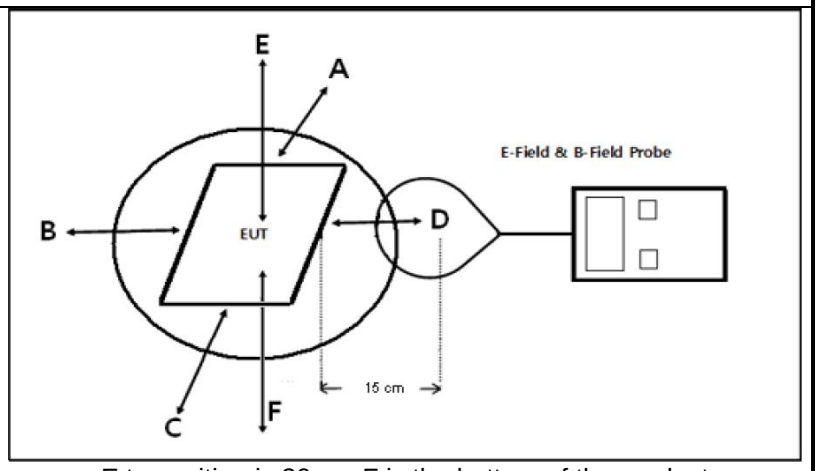
(95% confidence levels, k=2)

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°C
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, F is the bottom of the product
Test Mode:	Transmitting Mode
Test Procedure:	1. The RF exposure test was carried out on a non-metallic table top 80cm high in the shielding darkroom. 2. The measurement probe was placed at test distance (0cm, 2cm, 4cm, 6cm, 8cm, 10cm, 15 cm or 20 cm for Top side) which is between the edge of the charger and the geometric centre of probe. 3. The test time is maintained for more than one minute. 4. The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed. 5. The EUT were measured according to the dictates of KDB 680106 D01v03r01. 6. H-field strengths levels should less than 50% of MPE limit. 7. Mobile phone will been charge at zero charge, intermediate charge, and full charge.
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	2023.08.22	1 Year
2	Magnetic field probe 100cm2	narda	ELT probe 100cm2	M0675	2023.08.22	1 Year
3	Isotropic Electric Field Probe	narda	EP-601	511WX60706	2023.08.16	1 Year

3.1.3. Test data

For test mode: Wireless charging mode with phone (15W)

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			10% charge	50% charge	90% charge	
0.115-0.205	0	A	0.682	0.682	0.683	0.815
		B	0.697	0.697	0.710	0.815
		C	0.693	0.693	0.693	0.815
		D	0.705	0.705	0.664	0.815
		E	**0.715**	0.714	0.700	0.815
		F	0.670	0.670	0.668	0.815

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			10% charge	50% charge	90% charge	
0.115-0.205	2	A	0.682	0.655	0.664	0.815
		B	0.684	0.679	0.684	0.815
		C	0.683	0.694	0.656	0.815
		D	0.682	0.661	0.652	0.815
		E	0.706	0.678	0.670	0.815
		F	0.668	0.643	0.644	0.815

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			10% charge	50% charge	90% charge	
0.115-0.205	4	A	0.646	0.637	0.623	0.815
		B	0.667	0.667	0.663	0.815
		C	0.673	0.672	0.657	0.815
		D	0.670	0.637	0.624	0.815
		E	0.675	0.666	0.685	0.815
		F	0.635	0.628	0.622	0.815

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			10% charge	50% charge	90% charge	
0.115-0.205	6	A	0.631	0.605	0.629	0.815
		B	0.636	0.638	0.646	0.815
		C	0.635	0.617	0.616	0.815
		D	0.634	0.639	0.608	0.815
		E	0.642	0.629	0.633	0.815
		F	0.619	0.617	0.619	0.815

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			10% charge	50% charge	90% charge	
0.115-0.205	8	A	0.599	0.600	0.590	0.815
		B	0.613	0.596	0.599	0.815
		C	0.602	0.606	0.622	0.815
		D	0.610	0.583	0.573	0.815
		E	0.627	0.622	0.612	0.815
		F	0.593	0.596	0.550	0.815

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			10% charge	50% charge	90% charge	
0.115-0.205	10	A	0.560	0.526	0.528	0.815
		B	0.563	0.559	0.554	0.815
		C	0.569	0.563	0.559	0.815
		D	0.559	0.547	0.549	0.815
		E	0.568	0.551	0.544	0.815
		F	0.538	0.525	0.540	0.815

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			10% charge	50% charge	90% charge	
0.115-0.205	15	A	0.510	0.488	0.469	0.815
		B	0.521	0.506	0.521	0.815
		C	0.512	0.486	0.484	0.815
		D	0.514	0.512	0.492	0.815
		F	0.530	0.530	0.508	0.815

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			10% charge	50% charge	90% charge	
0.115-0.205	20	E	0.459	0.451	0.428	0.815

E-field strengths levels should less than 50% of MPE limit.

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			10% charge	50% charge	90% charge	
0.115-0.205	0	A	8.61	8.61	8.61	307
		B	8.32	8.32	7.98	307
		C	8.58	8.58	8.63	307
		D	8.59	8.59	8.37	307
		E	**9.18**	9.17	9.12	307
		F	8.14	8.14	7.70	307

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			10% charge	50% charge	90% charge	
0.115-0.205	2	A	8.45	8.44	8.43	307
		B	8.24	8.25	8.22	307
		C	8.53	8.52	8.50	307
		D	8.56	8.53	8.56	307
		E	9.16	9.17	9.15	307
		F	7.98	7.99	7.95	307

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			10% charge	50% charge	90% charge	
0.115-0.205	4	A	8.20	8.18	8.17	307
		B	7.99	7.97	7.97	307
		C	8.27	8.28	8.24	307
		D	8.31	8.31	8.29	307
		E	8.90	8.89	8.87	307
		F	7.75	7.71	7.70	307

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			10% charge	50% charge	90% charge	
0.115-0.205	6	A	7.87	7.86	7.82	307
		B	7.64	7.65	7.63	307
		C	7.94	7.91	7.93	307
		D	7.95	7.95	7.97	307
		E	8.55	8.55	8.54	307
		F	7.39	7.38	7.38	307

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			10% charge	50% charge	90% charge	
0.115-0.205	8	A	7.36	7.33	7.34	307
		B	7.15	7.15	7.11	307
		C	7.43	7.42	7.41	307
		D	7.46	7.43	7.44	307
		E	8.06	8.04	8.05	307
		F	6.88	6.87	6.89	307

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			10% charge	50% charge	90% charge	
0.115-0.205	10	A	6.76	6.76	6.73	307
		B	6.55	6.56	6.55	307
		C	6.83	6.83	6.83	307
		D	6.86	6.85	6.84	307
		E	7.46	7.46	7.47	307
		F	6.30	6.29	6.29	307

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			10% charge	50% charge	90% charge	
0.115-0.205	15	A	6.07	6.05	6.07	307
		B	5.85	5.83	5.86	307
		C	6.13	6.10	6.09	307
		D	6.17	6.14	6.15	307
		F	6.77	6.77	6.75	307

Operation frequency(MHz)	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			10% charge	50% charge	90% charge	
0.115-0.205	20	E	5.26	5.26	5.24	307

4. Photos of test setup

H-Filed

E-Filed

-------END OF REPORT-------