

RF EVALUATION TEST REPORT

Applicant..... : Power System Electronic Technology Co., Ltd.
Address..... : No.1 Shangbian Road, Puxin Industrial District, Shipai Town, Dongguan City,
Guangdong, China
Manufacturer..... : Power System Electronic Technology Co., Ltd.
Address..... : No.1 Shangbian Road, Puxin Industrial District, Shipai Town, Dongguan City,
Guangdong, China
Factory..... : Power System Electronic Technology Co., Ltd.
Address..... : No.1 Shangbian Road, Puxin Industrial District, Shipai Town, Dongguan City,
Guangdong, China
EUT : 3 in 1 Magnetic Wireless Charger & Portable Power Bank
FCC ID..... : 2AQTM-PS325M1
Brand Name..... : N/A
Model No. : PS-325M+325A
Measurement : 47 CFR PART 2, Section 2.1091& 2.1093
Standard..... KDB 680106 D01 RF Exposure Wireless Charging App v03r01
Receipt Date of Samples.... : August 27, 2021
Date of Tested..... : October 28, 2021 to February 11, 2022
Date of Report..... : February 19, 2022

This report shows that above equipment is technically compliant with the requirements of the standards above. All test results in this report apply only to the tested sample(s). Without prior written approval of Dongguan Nore Testing Center Co., Ltd, this report shall not be reproduced except in full.



Prepared by

Breeze Jiang / Project Engineer



Approved by

Iori Fan / Authorized Signatory

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Revision History

Report Number	Description	Issued Date
NTC2108555FV00-1	Initial Issue	2022-02-19

1. General Description of EUT

Product Information	
Product name:	3 in 1 Magnetic Wireless Charger & Portable Power Bank
Main Model Name:	PS-325M+325A
Additional Model Name:	N/A
Model Difference:	N/A
S/N:	2108-4790
Brand Name:	N/A
Hardware version:	N/A
Software version:	N/A
Temperature Range:	0 to 40°C (Declared by manufacturer)
Rating:	<p>PS-325M:</p> <p>USB-C1 Input: PD 18W (Compatible with QC3.0), Wireless 1 Output:5W/7.5W/10W, Wireless 2 Output:5W, USB-C2 Output: DC5V 1A, Total Output: 15W Max</p> <p>PS-325A:</p> <p>USB-C3 Input / Output: PD 18W (DC5V 3A, DC9V 2A, DC12V 1.5A) Capacity: 3.7V/5500mAh/20.35Wh</p>
I/O Port:	Refer to the User's Manual
Accessories Information	
Adapter:	N/A
Cable:	N/A
Other:	N/A
Additional information	
Note:	N/A
Remark:	All the information above are provided by the manufacturer. More detailed feature of the EUT please refers to the user manual.

Technical Specification	
Frequency Range:	110.5-205KHz
Modulation Type:	FSK
Antenna Type:	Coil Antenna
Number of Primary Coil:	2 (Primary Coil A = 5W) (Primary Coil B = 5/7.5/10W)
Remark:	The information above are provided by the manufacturer. More detailed feature of the EUT please refers to the user manual.

2. Test Facility and Location

Test Site	:	Dongguan Nore Testing Center Co., Ltd. (Dongguan NTC Co., Ltd.)
Accreditations and Authorizations	:	<p>The Laboratory has been assessed and proved to be in compliance with CNAS/CL01</p> <p>Listed by CNAS, August 13, 2018</p> <p>The Certificate Registration Number is L5795.</p> <p>The Certificate is valid until August 13, 2024</p> <p>The Laboratory has been assessed and proved to be in compliance with ISO17025</p> <p>Listed by A2LA, November 01, 2017</p> <p>The Certificate Registration Number is 4429.01</p> <p>The Certificate is valid until December 31, 2021</p> <p>Listed by FCC, November 06, 2017</p> <p>Test Firm Registration Number: 907417</p> <p>Listed by Industry Canada, June 08, 2017</p> <p>The Certificate Registration Number. Is 46405-9743A</p>
Test Site Location	:	Building D, Gaosheng Science and Technology Park, Hongtu Road, Nancheng District, Dongguan City, Guangdong Province, China

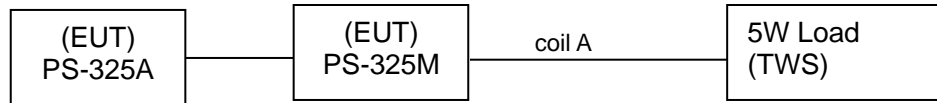
3. Test Modes Detail

Test Mode	Test Setup Configuration	Remark
1	Coil A + 5W Load	Powered by external power bank (PS-325A)
2	Coil B + 5W Load	
3	Coil B + 10W Load	
4	Coil A / 5W Load + Coil B / 10W Load	
5	Coil A + 5W Load	Powered by external PD Adapter
6	Coil B + 5W Load	
7	Coil B + 10W Load	
8	Coil A / 5W Load + Coil B / 10W Load	

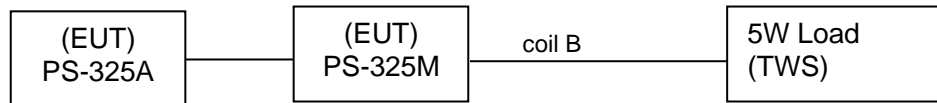
Note: Only the worst case was recorded in the report.

4. Configuration of EUT

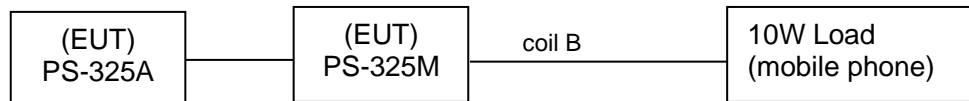
Mode 1



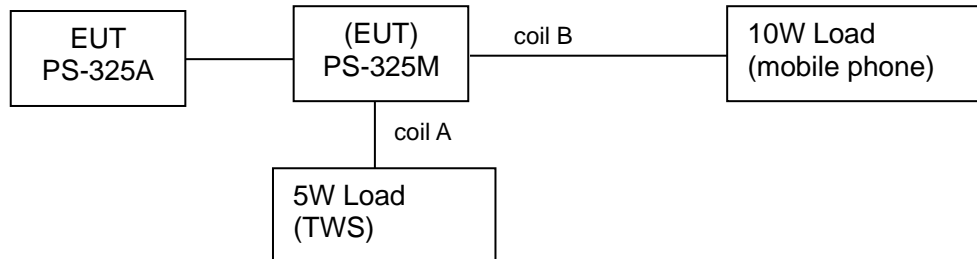
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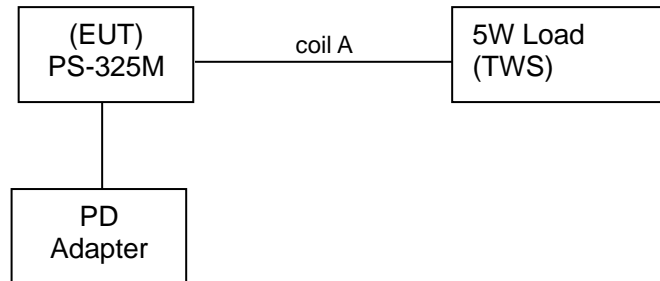
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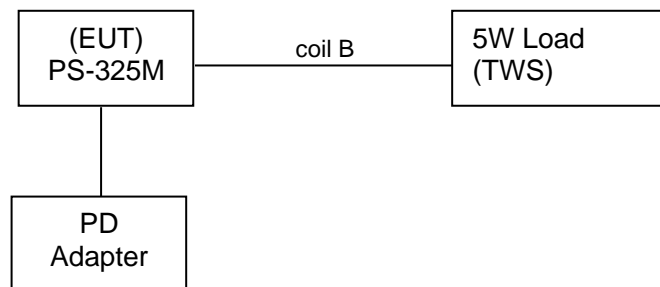
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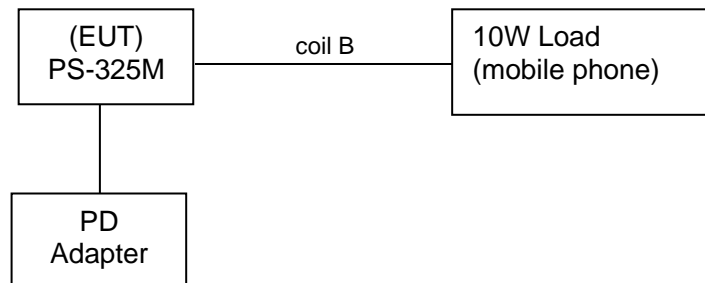
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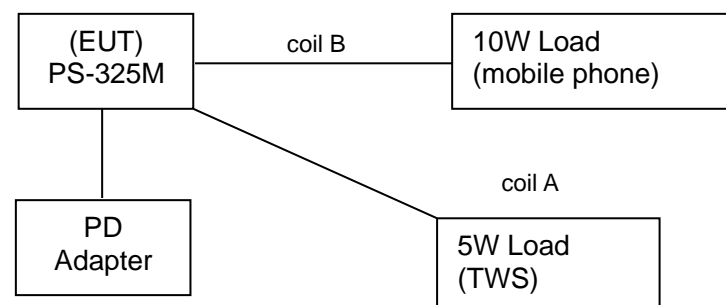
Mode 6



Mode 7



Mode 8



No modifications are made to the EUT during all test items.

5. Description of Support Device

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Equipment	Brand	M/N	S/N	Cable Specification	Remarks
1.	65W PD Adapter	HUAWEI	HW-200325CP0	N/A	---	---
2.	Mobile Phone	XiaoMi	Mi11	45621b29	---	---
3.	TWS	ML	MLO6	N/A	---	---

6. Deviations and Abnormalities from Standard Conditions

No additions, deviations and exclusions from the standard.

7. Applicable Standards and References

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

Test Standards:

47 CFR Part 1, 1.1307(b) and 1.1310

KDB 680106 D01v03

8. Equipment approval considerations

No.	Requirements	Conditions of the EUT
1.	Power transfer frequency is less than 1MHz	Yes, the operated frequency range is 110.5-205KHz.
2.	Output power from each primary coil is less than or equal to 15 watts	Yes, the maximum output power of the primary coil is 10W
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	Yes; the transfer system includes one source primary coils pairs.
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 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.	Yes

Remark:

- ☐ need PAG process
☒ no need PAG process
☐ Portable RF exposure evaluation process
☒ Mobile RF exposure evaluation process

9. Measurement Uncertainty

No.	Test Item	Uncertainty	Remarks
1.	Magnetic Field Emissions	± 0.15 dB	---
2.	Electric Field Emissions	± 0.36 dB	
Note: 1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.			

10. Maximum Permissible Exposure

LIMIT

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 Exposures				
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
300-1500	/	/	f/300	6
1500-100,000	/	/	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
300-1500	/	/	f/1500	30
1500-100,00	/	/	1.0	30

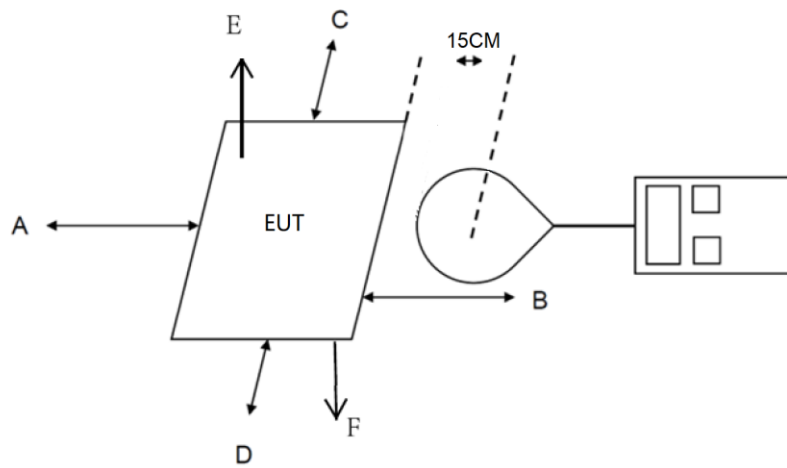
F=frequency in MHz

*=Plane-wave equivalent power density

RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz: 614V/m,1.63A/m).

Per KDB 680106 D01 v03 r01, RF exposure evaluation at 15cm surrounding the device and 20cm above the top surface. Emission between 50 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 1.63/Am and aggregate H-field strengths from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

BLOCK DIAGRAM OF TEST SETUP



Note: The distance of the points A/B/C/D are 15cm and E is 20cm.

TEST PROCEDURES

- a. The EUT was placed on a non-conductive table top of shielding room or anechoic chamber, and the ancillary equipment (e.g., mobile phone, dummy loads) was placed on the EUT for charging.
- b. Maximum E-field and H-field measurements were tested $r+8.8\text{cm}$ for sides A/B/C/D that exhibited on the block diagram of test setup and $r+13.8\text{cm}$ for side E. The radius of H-field probe is 6.2cm.
- c. Along the side of the EUT to the E-field probe and H-field probe were positioned at the location to search maximum field strength and record the results. H-field data are taken along all three axes the device, from 15 cm and 20 cm, with one axis coincident with the axis of the main coil.
- d. Repeat the steps a~c on each test modes and configurations until the end of the test.

TEST RESULTS

PASS

Please refer to the following pages.

Test Mode 5					
Test Distance (cm)	Test Position	Probe Measure Result (V/m)	Probe Measure Result (A/m)	Limit (V/m)	Limit (A/m)
15	Side A	0.577	0.179	614	0.815
	Side B	0.394	0.183	614	0.815
	Side C	0.682	0.187	614	0.815
	Side D	1.142	0.221	614	0.815
20	Side E	0.595	0.182	614	0.815

Test Mode 6					
Test Distance (cm)	Test Position	Probe Measure Result (V/m)	Probe Measure Result (A/m)	Limit (V/m)	Limit (A/m)
15	Side A	0.544	0.185	614	0.815
	Side B	0.340	0.191	614	0.815
	Side C	0.729	0.186	614	0.815
	Side D	1.233	0.234	614	0.815
20	Side E	0.608	0.171	614	0.815

Test Mode 7					
Test Distance (cm)	Test Position	Probe Measure Result (V/m)	Probe Measure Result (A/m)	Limit (V/m)	Limit (A/m)
15	Side A	0.529	0.190	614	0.815
	Side B	0.398	0.184	614	0.815
	Side C	0.772	0.189	614	0.815
	Side D	1.325	0.226	614	0.815
20	Side E	0.622	0.175	614	0.815

Test Mode 8					
Test Distance (cm)	Test Position	Probe Measure Result (V/m)	Probe Measure Result (A/m)	Limit (V/m)	Limit (A/m)
15	Side A	0.537	0.188	614	0.815
	Side B	0.402	0.190	614	0.815
	Side C	0.799	0.195	614	0.815
	Side D	1.391	0.230	614	0.815
20	Side E	0.636	0.181	614	0.815

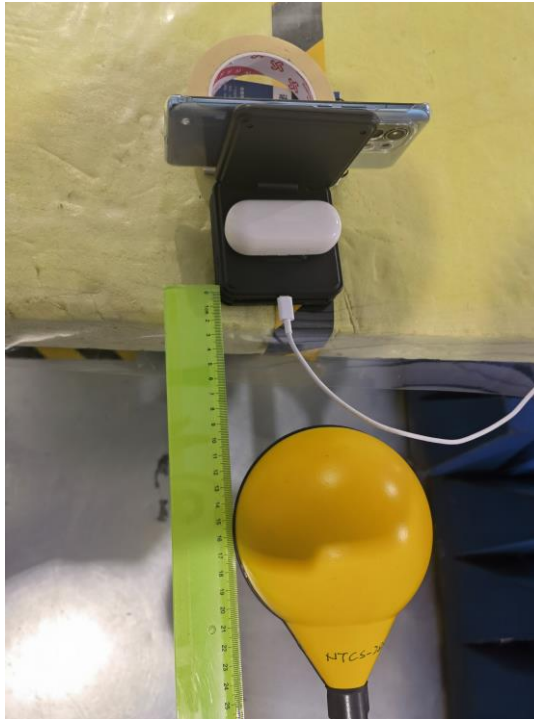
Note: All full, half and empty load status are considered and tested during the pre-testing, and only the worst case (Full load) was recorded in the report.

11. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Magnetic field probe 100cm2	Narda	ETL Probe 1Hz-400KHz (r=6.2cm)	M-1587	June 28,2021	1 Year
2.	E-Field Probe	Narda	EP-601	611WX70729	Mar. 23, 2021	1 Year

12. Test Photos

Side A: Test distance 15cm



Side B: Test distance 15cm



Side C: Test distance 15cm



Side D: Test distance 15cm



Side E: Test distance 20cm



---End---