Microtest
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Test Report

Report No.:	MTi230803004-01E2
Date of issue:	2023-09-14
Applicant:	Dongguan Budi Electronic Co.,ltd
Product:	4 IN 1 WIRELESS CHARGER Deformable Multiple Output Charging Station With Night Light
Model(s):	WL4600, WL4600W, WL4600B, WL4600R, WL4600G, WL4600S, WL4600X
FCC ID:	2A2GO-WL4600

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Instructions

1. This test report shall not be partially reproduced without the written consent of the laboratory.

2. The test results in this test report are only responsible for the samples submitted

3. This test report is invalid without the seal and signature of the laboratory.

4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.

5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

Contents

Test Result Certification	
Applicant:	Dongguan Budi Electronic Co.,ltd
Address:	No.3 Xingguang Road,Chongkou Village,Shijie Town,Dongguan ,Guangdong,523000 CHINA
Manufacturer:	Dongguan Budi Electronic Co.,ltd
Address:	No.3 Xingguang Road,Chongkou Village,Shijie Town,Dongguan ,Guangdong,523000 CHINA
Product description	
Product name:	4 IN 1 WIRELESS CHARGER Deformable Multiple Output Charging Station With Night Light
Trademark:	budi
Model name:	WL4600
Series Model:	WL4600W, WL4600B, WL4600R, WL4600G, WL4600S, WL4600X
Standards:	FCC CFR 47 PART 1, § 1.1310
Test method:	KDB 680106 v03r01
Date of Test	
Date of test:	2023-08-17 to 2023-09-14
Test result:	Pass

Test Engineer : Maleah Deng

(Maleah Deng)

Reviewed By: : Leon Chen

(Leon Chen)

Approved By: : Tom Xue

(Tom Xue)

1 General Description

1.1 Description of the EUT

Product name:	4 IN 1 WIRELESS CHARGER Deformable Multiple Output Charging Station With Night Light
Model name:	WL4600
Series Model:	WL4600W, WL4600B, WL4600R, WL4600G, WL4600S, WL4600X
Model difference:	All the models are the same circuit and module, except the model name and color.
Electrical rating:	Input: DC 5V2.4A, 9V3A Phone Output: 15W/10W/7.5W/5W Watch Output: 2.5W Earphone Output: 2.5W Total Output: 20W
Accessories:	Cable: USB-C to USB-C cable
Hardware version:	V1.0
Software version:	V1.0
Test sample(s) number:	MTi230803004-01S1001
RF specification:	
Operation frequency:	Transmitter 1(Phone): 115KHz-205Khz Transmitter 2(Phone): 115KHz-205KHz Transmitter 3(Phone & Earphone & Watch): 115KHz-350KHz Transmitter 4(Phone & Earphone & Watch): 115KHz-350KHz
Modulation type:	ASK
Antenna type:	Coil Antenna

1.2 Description of test modes

All the test modes were carried out with the EUT in normal operation, the final test mode of the EUT was the worst test mode for emission test, which was shown in this report and defined as:

No.	Emission test modes
Mode1	Wireless Output(5W(Coil 1))
Mode2	Wireless Output(7.5W(Coil 1))
Mode3	Wireless Output(10W(Coil 1))
Mode4	Wireless Output(15W(Coil 1))
Mode5	Wireless Output(5W(Coil 1)+ 5W(Coil 2))
Mode6	Wireless Output(5W(Coil 1)+ 7.5W(Coil 2))
Mode7	Wireless Output(5W(Coil 1)+ 10W(Coil 2))
Mode8	Wireless Output(5W(Coil 1)+ 15W(Coil 2))
Mode9	Wireless Output(5W(Coil 1)+ 5W(Coil 3))
Mode10	Wireless Output(5W(Coil 1)+ 7.5W(Coil 3))
Mode11	Wireless Output(5W(Coil 1)+ 10W(Coil 3))

Mode12	Wireless Output(5W(Coil 1)+ 15W(Coil 3))
Mode13	Wireless Output(5W(Coil 1))+ Watch(2.5W(Coil 3))
Mode14	Wireless Output(5W(Coil 1))+ Earphone(2.5W(Coil 3))
Mode15	Wireless Output(5W(Coil 1)+ 5W(Coil 4))
Mode16	Wireless Output(5W(Coil 1)+ 7.5W(Coil 4))
Mode17	Wireless Output(5W(Coil 1)+ 10W(Coil 4))
Mode18	Wireless Output(5W(Coil 1)+ 15W(Coil 4))
Mode19	Wireless Output(5W(Coil 1))+ Watch(2.5W(Coil 4))
Mode20	Wireless Output(5W(Coil 1))+ Earphone(2.5W(Coil 4))
Mode21	Wireless Output(7.5W(Coil 1)+ 5W(Coil 2))
Mode22	Wireless Output(7.5W(Coil 1)+ 7.5W(Coil 2))
Mode23	Wireless Output(7.5W(Coil 1)+ 10W(Coil 2))
Mode24	Wireless Output(7.5W(Coil 1)+ 5W(Coil 3))
Mode25	Wireless Output(7.5W(Coil 1)+ 7.5W(Coil 3))
Mode26	Wireless Output(7.5W(Coil 1)+ 10W(Coil 3))
Mode27	Wireless Output(7.5W(Coil 1))+ Watch(2.5W(Coil 3))
Mode28	Wireless Output(7.5W(Coil 1))+ Earphone(2.5W(Coil 3))
Mode29	Wireless Output(7.5W(Coil 1)+ 5W(Coil 4))
Mode30	Wireless Output(7.5W(Coil 1)+ 7.5W(Coil 4))
Mode31	Wireless Output(7.5W(Coil 1)+ 10W(Coil 4))
Mode32	Wireless Output(7.5W(Coil 1))+ Watch(2.5W(Coil 4))
Mode33	Wireless Output(7.5W(Coil 1))+ Earphone(2.5W(Coil 4))
Mode34	Wireless Output(10W(Coil 1)+ 5W(Coil 2))
Mode35	Wireless Output(10W(Coil 1)+ 7.5W(Coil 2))
Mode36	Wireless Output(10W(Coil 1)+ 10W(Coil 2))
Mode37	Wireless Output(10W(Coil 1)+ 5W(Coil 3))
Mode38	Wireless Output(10W(Coil 1)+ 7.5W(Coil 3))
Mode39	Wireless Output(10W(Coil 1)+ 10W(Coil 3))
Mode40	Wireless Output(10W(Coil 1))+ Watch(2.5W(Coil 3))
Mode41	Wireless Output(10W(Coil 1))+ Earphone(2.5W(Coil 3))
Mode42	Wireless Output(10W(Coil 1)+ 5W(Coil 4))
Mode43	Wireless Output(10W(Coil 1)+ 7.5W(Coil 4))
Mode44	Wireless Output(10W(Coil 1)+ 10W(Coil 4))
Mode45	Wireless Output(10W(Coil 1))+ Watch(2.5W(Coil 4))
Mode46	Wireless Output(10W(Coil 1))+ Earphone(2.5W(Coil 4))
Mode47	Wireless Output(15W(Coil 1)+ 5W(Coil 2))
Mode48	Wireless Output(15W(Coil 1)+ 5W(Coil 3))

Mode49	Wireless Output(15W(Coil 1))+ Watch(2.5W(Coil 3))
Mode50	Wireless Output(15W(Coil 1))+ Earphone(2.5W(Coil 3))
Mode51	Wireless Output(15W(Coil 1)+ 5W(Coil 4))
Mode52	Wireless Output(15W(Coil 1))+ Watch(2.5W(Coil 4))
Mode53	Wireless Output(15W(Coil 1))+ Earphone(2.5W(Coil 4))
Mode54	Wireless Output(5W(Coil 2))
Mode55	Wireless Output(7.5W(Coil 2))
Mode56	Wireless Output(10W(Coil 2))
Mode57	Wireless Output(15W(Coil 2))
Mode58	Wireless Output(5W(Coil 2)+5W(Coil 3))
Mode59	Wireless Output(5W(Coil 2)+7.5W(Coil 3))
Mode60	Wireless Output(5W(Coil 2)+10W(Coil 3))
Mode61	Wireless Output(5W(Coil 2)+15W(Coil 3))
Mode62	Wireless Output(5W(Coil 2)+Earphone(2.5W(Coil 3))
Mode63	Wireless Output(5W(Coil 2)+Watch(2.5W(Coil 3))
Mode64	Wireless Output(5W (Coil 2)+5W(Coil 4))
Mode65	Wireless Output(5W(Coil 2)+7.5W(Coil 4))
Mode66	Wireless Output(5W(Coil 2)+10W(Coil 4))
Mode67	Wireless Output(5W(Coil 2)+15W(Coil 4))
Mode68	Wireless Output(5W(Coil 2)+Watch(2.5W(Coil 4))
Mode69	Wireless Output(5W(Coil 2)+Earphone(2.5W(Coil 4))
Mode70	Wireless Output(7.5W(Coil 2) +5W(Coil 3))
Mode71	Wireless Output(7.5W(Coil 2) +7.5W(Coil 3))
Mode72	Wireless Output(7.5W(Coil 2) +10W(Coil 3))
Mode73	Wireless Output(7.5W(Coil 2))+Earphone(2.5W(Coil 3))
Mode74	Wireless Output(7.5W(Coil 2))+Watch(2.5W(Coil 3))
Mode75	Wireless Output(7.5W(Coil 2) +5W(Coil 4))
Mode76	Wireless Output(7.5W(Coil 2)+7.5W(Coil 4))
Mode77	Wireless Output(7.5W(Coil 2) +10W(Coil 4))
Mode78	Wireless Output(7.5W(Coil 2))+ Watch(2.5W(Coil 4))
Mode79	Wireless Output(7.5W(Coil 2))+ Earphone(2.5W(Coil 4))
Mode80	Wireless Output(10W(Coil 2)+5W(Coil 3))
Mode81	Wireless Output(10W(Coil 2)+7.5W(Coil 3))
Mode82	Wireless Output(10W(Coil 2)+10W(Coil 3))
Mode83	Wireless Output(10W(Coil 2))+Earphone(2.5W(Coil 3))
Mode84	Wireless Output(10W(Coil 2))+Watch(2.5W(Coil 3))
Mode85	Wireless Output(10W(Coil 2)+5W(Coil 4))

Mode86	Wireless Output(10W(Coil 2)+7.5W(Coil 4))
Mode87	Wireless Output(10W(Coil 2)+10W(Coil 4))
Mode88	Wireless Output(10W(Coil 2))+Earphone(2.5W(Coil 4))
Mode89	Wireless Output(10W(Coil 2))+Watch(2.5W(Coil 4))
Mode90	Wireless Output(15W(Coil 2)+5W(Coil 3))
Mode91	Wireless Output(15W(Coil 2)+Earphone(2.5W(Coil 3))
Mode92	Wireless Output(15W(Coil 2)+Watch(2.5W(Coil 3))
Mode93	Wireless Output(15W(Coil 2)+5W(Coil 4))
Mode94	Wireless Output(15W(Coil 2)+Earphone(2.5W(Coil 4))
Mode95	Wireless Output(15W(Coil 2)+Watch(2.5W(Coil 4))
Mode96	Wireless Output(5W(Coil 3))
Mode97	Wireless Output(7.5W(Coil 3))
Mode98	Wireless Output(10W(Coil 3))
Mode99	Wireless Output(15W(Coil 3))
Mode100	Watch (2.5W(Coil 3))
Mode101	Earphone (2.5W(Coil 3))
Mode102	Wireless Output(5W(Coil 3)+5W(Coil 4))
Mode103	Wireless Output(5W(Coil 3)+7.5W(Coil 4))
Mode104	Wireless Output(5W(Coil 3)+10W(Coil 4))
Mode105	Wireless Output(5W(Coil 3)+15W(Coil 4))
Mode106	Wireless Output(5W(Coil 3)+Earphone(2.5W(Coil 4))
Mode107	Wireless Output(5W(Coil 3)+Watch(2.5W(Coil 4))
Mode108	Wireless Output(7.5W(Coil 3)+5W(Coil 4))
Mode109	Wireless Output(7.5W(Coil 3)+7.5W(Coil 4))
Mode110	Wireless Output(7.5W(Coil 3)+10W(Coil 4))
Mode111	Wireless Output(7.5W(Coil 3))+Earphone(2.5W(Coil 4))
Mode112	Wireless Output(7.5W(Coil 3))+Watch(2.5W(Coil 4))
Mode113	Wireless Output(10W(Coil 3)+5W(Coil 4))
Mode114	Wireless Output(10W(Coil 3)+7.5W(Coil 4))
Mode115	Wireless Output(10W(Coil 3)+10W(Coil 4))
Mode116	Wireless Output(10W(Coil 3))+Earphone(2.5W(Coil 4))
Mode117	Wireless Output(10W(Coil 3))+Watch(2.5W(Coil 4))
Mode118	Wireless Output(15W(Coil 3)+5W(Coil 4))
Mode119	Wireless Output(15W(Coil 3))+Earphone(2.5W(Coil 4))
Mode120	Wireless Output(15W(Coil 3))+Watch(2.5W(Coil 4))
Mode121	Watch (2.5W(Coil 3))+ Wireless Output(5W(Coil 4))
Mode122	Watch (2.5W(Coil 3))+ Wireless Output(7.5W(Coil 4))

Mode123	Watch (2.5W(Coil 3))+ Wireless Output(10W(Coil 4))
Mode124	Watch (2.5W(Coil 3))+ Wireless Output(15W(Coil 4))
Mode125	Watch (2.5W(Coil 3))+Earphone(2.5W(Coil 4))
Mode126	Watch (2.5W(Coil 3))+Watch(2.5W(Coil 4))
Mode127	Earphone (2.5W(Coil 3))+ Wireless Output(5W(Coil 4))
Mode128	Earphone (2.5W(Coil 3))+ Wireless Output(7.5W(Coil 4))
Mode129	Earphone (2.5W(Coil 3))+ Wireless Output(10W(Coil 4))
Mode130	Earphone (2.5W(Coil 3))+ Wireless Output(15W(Coil 4))
Mode131	Earphone (2.5W(Coil 3))+ Earphone(2.5W(Coil 4))
Mode132	Earphone (2.5W(Coil 3))+ Watch(2.5W(Coil 4))
Mode133	Wireless Output(5W(Coil 4))
Mode134	Wireless Output(7.5W(Coil 4))
Mode135	Wireless Output(10W(Coil 4))
Mode136	Wireless Output(15W(Coil 4))
Mode137	Watch (2.5W(Coil 4))
Mode138	Earphone (2.5W(Coil 4))
Mode139	Stand by
The test data only show worst test mode: Mode 36	

1.3 Description of support units

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.

Support equipment list			
Description	Model	Serial No.	Manufacturer
Mobile phone	iPhone	/	APPLE
MI CHARGE	MDY-08-EH	YJ2808215006999	MI
Support cable list			
Description	Length (m)	From	To
/	/	/	/

2 Measurement uncertainty

Parameter	Expanded Uncertainty
Magnetic field measurement (9kHz~30MHz)	±18.6%
Electric field measurements (9kHz~30MHz)	±18.6%

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3 Test facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTi-E115	Electric and Magnetic Field Probe – Analyzer	Narda	EHP-200A	101166	2023/08/14	2024/08/13

5 Test result

5.1.1 Requirement

§1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter.

Table 1 to §1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

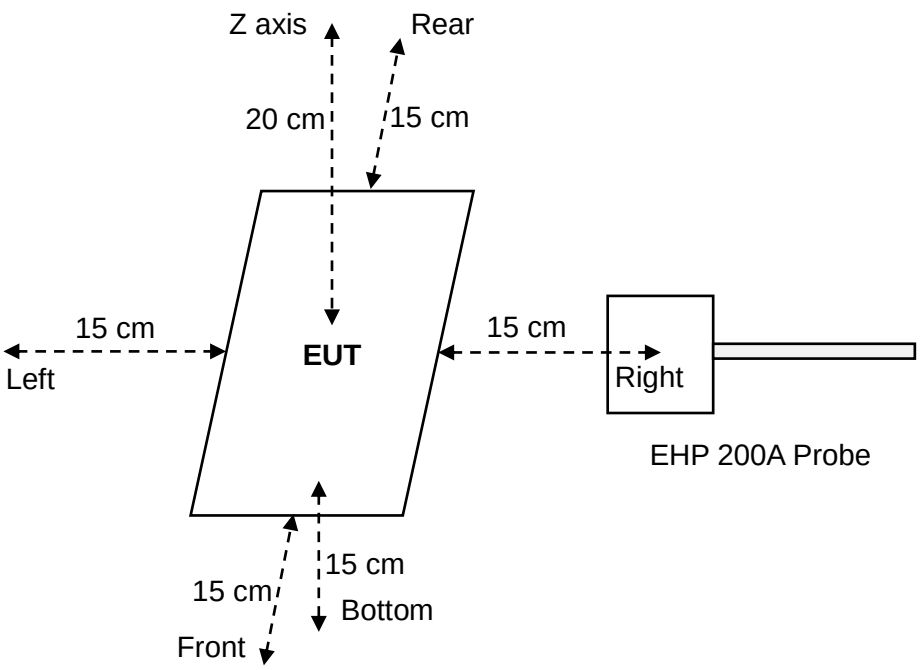
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1500			f/300	<6
1500-100000			5	<6
(ii) 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
1500-100000			1.0	<30

f = frequency in MHz
* = Plane-wave equivalent power density

Note 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Note 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

5.2 Test setup



5.3 Test Procedures

a. The RF exposure test was performed in anechoic chamber.

b. E and H-field measurements should be made with the center of the probe at a distance of 15 cm surrounding the device and 20 cm above the top surface of the primary/client pair.

c. The highest emission level was recorded and compared with limit.

d. The EUT was measured according to the dictates of KDB 680106 v03r01.

5.4 Equipment Approval Considerations item 5 b) of KDB 680106 D01 v03r01

Requirement	Device
1. Power transfer frequency is less than 1 MHz.	Yes. The operating frequencies are: Transmitter 1(Phone): 115KHz-205Khz Transmitter 2(Phone): 115KHz-205KHz Transmitter 3(Phone & Earphone & Watch): 115KHz-350KHz Transmitter 4(Phone & Earphone & Watch): 115KHz-350KHz
2. Output power from each primary coil is less than or equal to 15 watts	Yes. The maximum output power is: 15W
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 EUT has four source primary coil.
4. Client device is placed directly in contact with the transmitter.	Yes. The 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. Mobile exposure conditions only.
6. The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.	Yes. See the test result in item 5.5.

5.5 Test results

Test condition 1: Mode 36 operating mode with client device (1 % battery status of client device)

Probe Position	E –field (V/m)			H–field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	0.9208	614	0.24%	0.0517	1.63	8.81%
Left	1.4608			0.1436		
Right	0.5599			0.0540		
Front	1.2010			0.0495		
Rear	0.9336			0.0521		
Bottom	0.6086			0.0505		

Test condition 2: Mode 36 operating mode with client device (50 % battery status of client device)

Probe Position	E –field (V/m)			H–field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	0.9018	614	0.24%	0.0601	1.63	9.25%
Left	1.4692			0.1507		
Right	0.5402			0.0535		
Front	1.2106			0.0403		
Rear	0.9258			0.0442		
Bottom	0.6218			0.06		

Test condition 3: Mode 36 operating mode with client device (99 % battery status of client device)

Probe Position	E –field (V/m)			H–field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	0.9201	614	0.24%	0.0476	1.63	8.52%
Left	1.4545			0.1388		
Right	0.5421			0.0487		
Front	1.1978			0.0462		
Rear	0.9288			0.0422		
bottom	0.6058			0.0447		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

----End of Report----