



Test Report

Report No.: RKEYS250805707

Date: Sep.15, 2025

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RF EXPOSURE EVALUATION REPORT

for

Product: WIRELESS PORTABLE CHARGER

Model: W21

FCC ID:2BRTH-W21

Report No.: RKEYS250805707

Issued for

DONGGUAN Hi-Tech Electronic Industrial Co.,Ltd

NO.1,TianSha Road,TangXia Town,DongGuan City,China

Issued by

Guangdong KEYS Testing Technology Co., Ltd.

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1. TEST CERTIFICATION

Product: WIRELESS PORTABLE CHARGER

Trade mark: /

FCC ID: 2BRTW-W21

Model: W21

Model List(s): /

Applicant : DONGGUAN Hi-Tech Electronic Industrial Co.,Ltd

Address: NO.1,TianSha Road,TangXia Town,DongGuan City,China

Manufacturer: DONGGUAN Hi-Tech Electronic Industrial Co.,Ltd

Address: NO.1,TianSha Road,TangXia Town,DongGuan City,China

Applicable Standards: CFR 47, FCC Part 2.1093
KDB 680106 D01

The above equipment has been tested by Guangdong KEYS Testing Technology Co., Ltd. and found compliance with the requirements in the technical standards mentioned above. The test results presented in this report only relate to the product/system tested. The other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.



Prepared by:

Livia Yang / Engineer



Approved by:

Bruce Zhang / Manager

2. GENERAL INFORMATION

2.1. General Description of E.U.T.

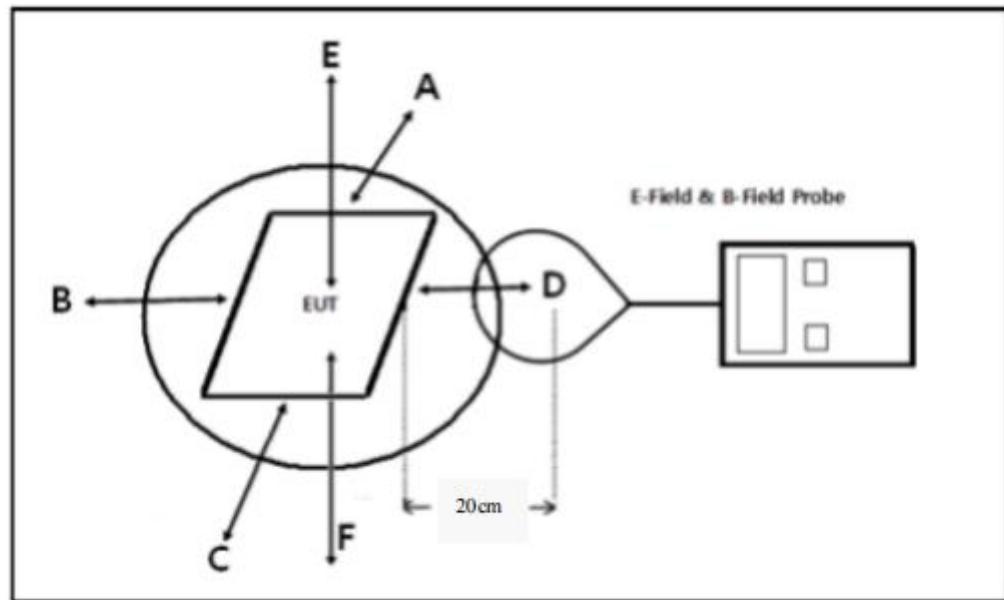
Product Name	:	WIRELESS PORTABLE CHARGER
Model Name	:	W21
Operating frequency	:	Coil 1(Phone):115-205kHz Coil 2(Watch):322-324kHz
Antenna installation	:	Coil Antenna
Antenna Gain	:	0dBi
Type of Modulation	:	ASK

3. RF EXPOSURE EVALUATION

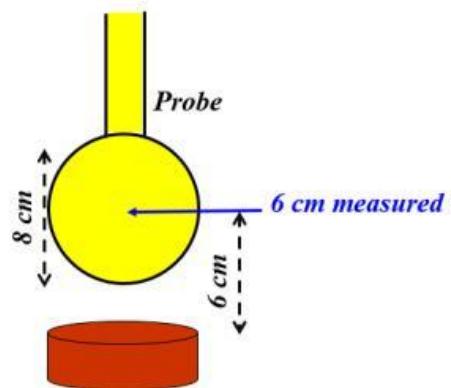
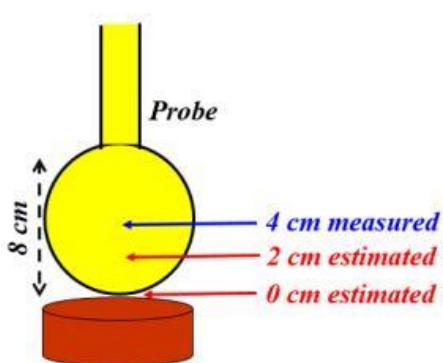
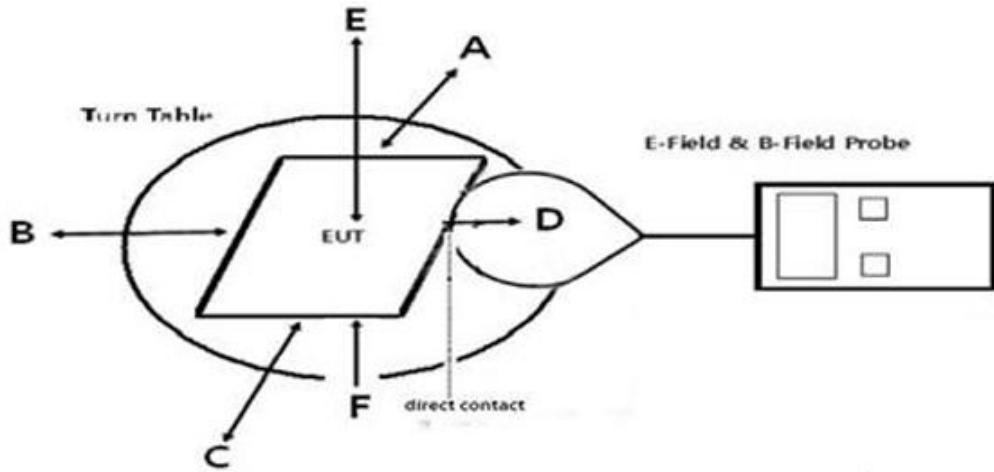
3.1. Test Specification

Test Requirement:	FCC Rules and Regulations KDB680106 D01v04																																																																	
Test Method:	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 S2.1093 RF exposure is calculated. According to KDB680106 D01: KDB 680106 D01 Wireless Power Transfer v03.																																																																	
Limit:	<p>According to the item 3 of KDB 680106 D01v03: Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting an RF exposure evaluation.(1)Mobile Device and Portable Device Configurations(2)Equipment Authorization Procedures for Devices Operating at Frequencies Below MHz(3)The aggregate H-field strengths anywhere at (15cm & 20cm) surrounding the device six surfaces.</p> <p>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) Limits for Maximum Permissible Exposure(MPE)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Electric field strength (V/m)</th> <th>Magnetic field strength (A/m)</th> <th>Power density (mW/cm²)</th> <th>Averaging time (minutes)</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="text-align: center;">(A) Limits for Occupational/Controlled Exposures</td> </tr> <tr> <td>0.3-3.0</td> <td>614</td> <td>1.63</td> <td>*(100)</td> <td>6</td> </tr> <tr> <td>3.0-30</td> <td>1842/f</td> <td>4.89/f</td> <td>*(900/f²)</td> <td>6</td> </tr> <tr> <td>30-300</td> <td>61.4</td> <td>0.163</td> <td>1.0</td> <td>6</td> </tr> <tr> <td>300-1500</td> <td>/</td> <td>/</td> <td>f/300</td> <td>6</td> </tr> <tr> <td>1500-100,000</td> <td>/</td> <td>/</td> <td>5</td> <td>6</td> </tr> <tr> <td colspan="5" style="text-align: center;">(B) Limits for General Population/Uncontrolled Exposure</td> </tr> <tr> <td>0.3-1.34</td> <td>614</td> <td>1.63</td> <td>*(100)</td> <td>30</td> </tr> <tr> <td>1.34-30</td> <td>824/f</td> <td>2.19/f</td> <td>*(180/f²)</td> <td>30</td> </tr> <tr> <td>30-300</td> <td>27.5</td> <td>0.073</td> <td>0.2</td> <td>30</td> </tr> <tr> <td>300-1500</td> <td>/</td> <td>/</td> <td>f/1500</td> <td>30</td> </tr> <tr> <td>1500-100,000</td> <td>/</td> <td>/</td> <td>1.0</td> <td>30</td> </tr> </tbody> </table> <p>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).</p>	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	1500-100,000	/	/	1.0	30
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Test Setup																																																																		

For mobile exposure conditions



For Portable exposure conditions:



Test Procedure:	1.The RF exposure test was performed in anechoic chamber. 2.The measurement probe was placed at test distance (0cm ~ 20cm) which is between the edge of the charger and the geometric center of probe. 3.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. 4.The EUT was measured according to the dictates of KDB 680106 D01v03
Test Mode:	Mode 1:Adapter + EUT+ Wireless Charging load (5W)+Watch load (2.5W) Mode 2:Adapter + EUT+ Wireless Charging load (7.5W)+Watch load (2.5W) Mode 3:Adapter + EUT+ Wireless Charging load (10W)+Watch load (2.5W) Mode 4:Adapter + EUT+ Wireless Charging load (15W)+Watch load (2.5W) Mode 5: EUT+ Wireless Charging load (5W) Mode 6: EUT+ Wireless Charging load (7.5W) Mode 7: EUT+ Wireless Charging load (10W) Mode 8: EUT+ Wireless Charging load (15W) Mode 9: EUT+ Wireless Charging load (2.5W)
Test Result:	PASS

3.2. Test Result

The probe radius is 6.4 cm.Only the worse mode 4 was record in this report.

Note:All client power has been assessed (1%,50%, 99%), and the 1% battery status of client device was the worst.

H-Filed Strength at 8-20cm from the edges surrounding the EUT.

Test Distance (cm)	Unit	Position A	Position B	Position C	Position D	Position E	Position F	Limit (A/m)	Result
8	uT	0.050	0.113	0.038	0.038	0.138	0.050	--	PASS
	A/m	0.040	0.090	0.030	0.030	0.110	0.040	1.63	PASS
10	uT	0.025	0.041	0.023	0.019	0.066	0.023	--	PASS
	A/m	0.020	0.033	0.018	0.015	0.053	0.018	1.63	PASS
12	uT	0.025	0.040	0.020	0.018	0.064	0.019	--	PASS
	A/m	0.020	0.032	0.016	0.014	0.051	0.015	1.63	PASS
14	uT	0.024	0.038	0.018	0.016	0.060	0.018	--	PASS
	A/m	0.019	0.030	0.014	0.013	0.048	0.014	1.63	PASS
16	uT	0.021	0.035	0.014	0.015	0.056	0.016	--	PASS
	A/m	0.017	0.028	0.011	0.012	0.045	0.013	1.63	PASS
18	uT	0.019	0.031	0.013	0.015	0.051	0.015	--	PASS
	A/m	0.015	0.025	0.010	0.012	0.041	0.012	1.63	PASS
20	uT	0.018	0.030	0.010	0.014	0.046	0.013	--	PASS

	A/m	0.014	0.024	0.008	0.011	0.037	0.010	1.63	PASS
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Note: Am=uT/1.25

Using Biot-Savart Law, the value of 8cm can be estimated through the test results of 10cm:

Test Distance (cm)	Unit	Position A	Position B	Position C	Position D	Position E	Position F	Limit (A/m)
8	A/m	0.056	0.095	0.038	0.041	0.127	0.049	1.63

Agreement Ratio

Distance:8cm

Test Position	Unit	Position A	Position B	Position C	Position D	Position E	Position F
Measure Value	A/m	0.040	0.090	0.030	0.030	0.110	0.040
Valuation (A/m)	A/m	0.049	0.095	0.038	0.036	0.127	0.049
Agreement Ratio	%	20.63	5.11	24.8	18.64	14.13	20.29
Limit	%	30	30	30	30	30	30
Test result	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Using Biot-Savart Law, the value of 10cm can be estimated through the test results of 12cm:

Test Distance (cm)	Unit	Position A	Position B	Position C	Position D	Position E	Position F	Limit (A/m)
10	A/m	0.026	0.038	0.024	0.021	0.061	0.021	1.63

Agreement Ratio

Distance:10cm

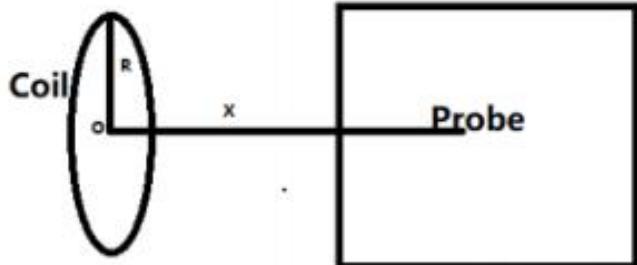
Test Position	Unit	Position A	Position B	Position C	Position D	Position E	Position F
Measure Value	A/m	0.020	0.033	0.018	0.015	0.053	0.018
Valuation (A/m)	A/m	0.023	0.038	0.021	0.019	0.061	0.021
Agreement Ratio	%	13.95	13.94	15.51	24.85	13.79	15.03
Limit	%	30	30	30	30	30	30
Test result	Pass	Pass	Pass	Pass	Pass	Pass	Pass

As the model is sufficient, the value of 6cm can be estimated through the results of 8 cm, the value of 4cm can be estimated through the results of 6 cm, the value of 2cm can be estimated through the results of 4 cm, the value of 0cm can be estimated through the results of 2 cm.

Test Distance (cm)	Unit	Position A	Position B	Position C	Position D	Position E	Position F	Limit (A/m)	Result
0	A/m	0.440	0.350	0.170	0.100	1.540	0.960	1.63	PASS
2	A/m	0.310	0.240	0.150	0.090	0.430	0.430	1.63	PASS
4	A/m	0.160	0.220	0.090	0.070	0.290	0.210	1.63	PASS
6	A/m	0.090	0.160	0.050	0.040	0.210	0.090	1.63	PASS

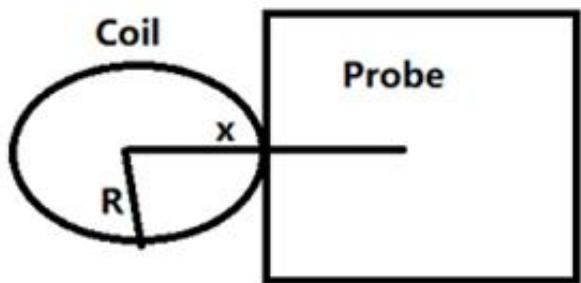
Note: Biot-Savart Law

Top & Bottom Side:



$$B = \frac{\mu_0 * I * N * R^2}{2 * (R^2 + x^2)^{3/2}}$$

Front, left, right & rear Side:



$$B = \frac{\mu_0 * I * N}{2 * x}$$

3.3. Photo of Test Setup



****End of Report****