Report No.: DDT-R22101308-1E02

Issued Date: Nov. 01, 2022

RF EXPOSURE REPORT

FOR

Applicant	:	Shenzhen Yongdongke Innovation Technology Co.,Ltd
Address	:	3-B03, Building A, Qingchuang City, Zhangkeng Complex, Minzhi Street, Longhua District, Shenzhen, China
Equipment under Test	:	Magnetic Wireless Power Bank
Model No.	:	NQ-WB-02
Trade Mark	:	NewQ
FCC ID	:	2A39NNQWB02
Manufacturer	:	Shenzhen Yongdongke Innovation Technology Co.,Ltd
Address	:	3-B03, Building A, Qingchuang City, Zhangkeng Complex, Minzhi Street, Longhua District, Shenzhen, China

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

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REPORT

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Test Report Declare

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Address	:	3-B03, Building A, Qingchuang City, Zhangkeng Complex, Minzhi Street, Longhua District, Shenzhen, China

Assess Standard Used: FCC CFR 47 part1, 1.1307(b), 1.1310; KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

We Declare:

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No.:	DDT-R22101308-1E02		
Date of Receipt:	Oct. 17, 2022	**Date of Test:**	Oct. 17, 2022 ~ Nov. 01, 2022

Prepared By: ***Approved By:***

Sanvin Zheng

Sanvin Zheng /Engineer ***Damon Hu/EMC Manager***

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Nov. 01, 2022	

1. General Information

1.1. Description of equipment

EUT* Name	:	Magnetic Wireless Power Bank
Model Number	:	NQ-WB-02
EUT function description	:	Please reference user manual of this device
Power Supply	:	Type-C Input: 5V⎓3A / 9V⎓2A Type-C output: 5V⎓3A / 9V⎓2A / 12V⎓1.5A Type-A output: 5V⎓3A / 9V⎓2A / 12V⎓1.5A Wireless Tx output: 5W / 7.5W / 10W / 15W Wireless Watch output: 5W Max Total output: 15W Max
Wireless charging Operation frequency	:	115 kHz – 205 kHz, 325.12 kHz
Antenna Type	:	Inductive loop coil antenna
Sample Number	:	S22101308-01

Note: EUT is the abbreviation of equipment under test.

Frequency(kHz)	
Dummy load (Front)	Watch
148.23	325.12

1.2. Accessories of EUT

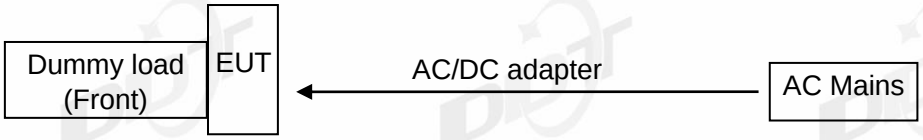
Description of Accessories	Manufacturer	Model number	Description	Remark
N/A	N/A	N/A	N/A	N/A

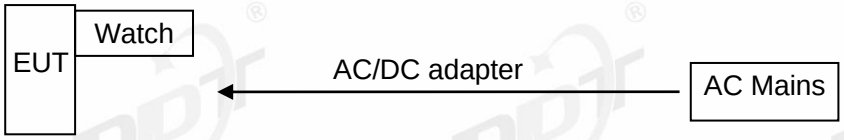
1.3. Assistant equipment used for test

Description of Accessories	Manufacturer	Model number	Serial No.	Other
Dummy load	N/A	N/A	N/A	N/A
Watch	HUAWEI	GT3	N/A	N/A
AC Adapter	UGREEN	CD137	N/A	Input: 100-240V~ 50/60Hz, Output: 5V/3A or 9V/2.22A or 12V/1.67A

1.4. Block diagram of EUT configuration for test

For mode 1: Tx mode:





For mode 2: Standby mode:

Note: Scan with mode 1 and mode 2, the worst case is mode 1 Tx mode and recorded in this report.

1.5. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Electric field strength(V/m)	3.02 dB
Uncertainty for Magnetic field strength(A/m)	3.00 dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.6. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2. Equipment Used During Test

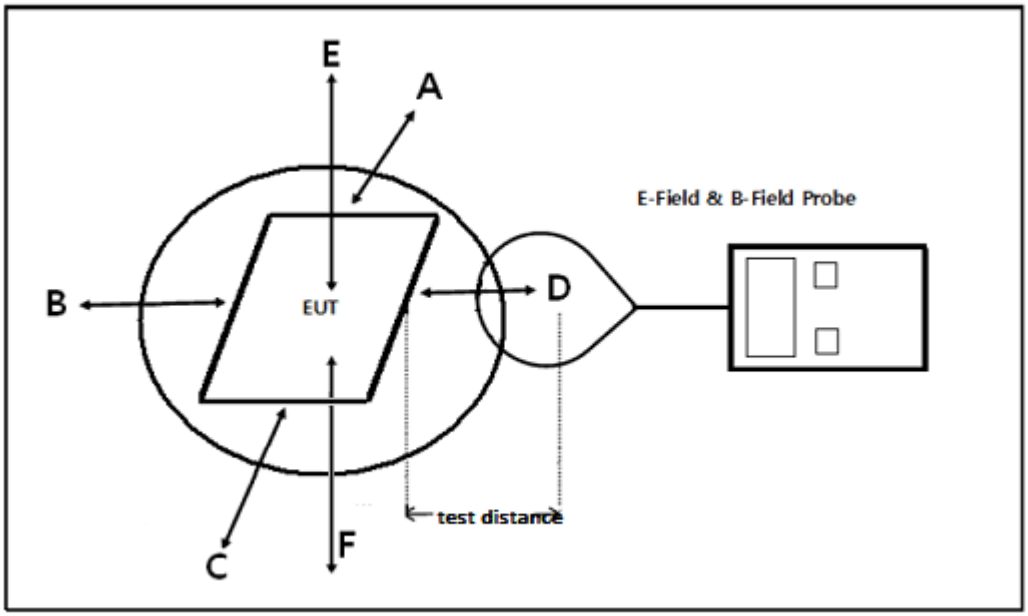
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Electric and Magnetic Field Analyzer	Narda	EHP-200A	170WX91016	Sep. 1, 2022	1 Year

3. Method of Measurement

3.1. Applicable standard

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 §2.1091 RF exposure is calculated.
According KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

3.2. Block diagram of test setup



Note: Due to installation limitations no tests from the underside of the charging device (Test Position F) are required.

3.3. Test procedure

a) The RF exposure test was performed in shielded chamber.

b) The measurement probe was placed at test distance 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit.

c) The measurement probe used to search of highest strength.

d) The highest emission level was recorded and compared with limit as soon as measurement of each points(A, B, C, D, E) were completed.

e) The EUT were measured according to the dictates of KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

3.4. Equipment approval considerations:

The EUT does comply with section 5 b) of KDB 680106 D01 RF Exposure Wireless Charging App v03r01.
(1) Power transfer frequency is less than 1 MHz.
Yes; the device operates in the frequency range from 115 kHz – 205 kHz and 325.12 kHz.

(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 15 W.

(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.

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

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
Yes; the EUT is a Mobile device.

(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; EUT was evaluated as above.

TABLE 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)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f2	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			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/f2	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

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

3.5. E and H Field Strength

Test mode for wireless charger:
Dummy load (Front): 15W Load, 10W Load, 5W Load and 7.5W Load mode
Watch has been charged at 10%, 50% and 90% battery electric quantity

Note:
1. This product has two working modes, the first mode is the Portable device mode, the second mode is the Mobile device mode.
2. The portable device mode is only working in Dummy load (Front) mode. Mobile device mode is the other case (including Dummy load + Watch working mode, only Watch working mode and No-load mode)
3. All test modes were pre-tested, but we only recorded the worst case in this report.

Portable device mode:

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	0	A	0.7385	0.4132	0.5432	0.815
		B	0.6357	0.4938	0.6969	0.815
		C	0.5910	0.4914	0.5104	0.815
		D	0.5175	0.3375	0.4265	0.815
		E	0.4304	0.5683	0.3866	0.815
		F	0.5944	0.5868	0.5287	0.815

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	0	A	14.970	9.3112	13.087	307
		B	18.770	15.646	18.723	307
		C	17.387	14.726	16.283	307
		D	7.7541	4.8163	6.7684	307
		E	17.220	13.303	14.225	307
		F	17.678	14.885	15.838	307

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	2	A	0.6070	0.4309	0.4107	0.815
		B	0.4891	0.3074	0.2496	0.815
		C	0.5859	0.3900	0.5049	0.815
		D	0.4036	0.3067	0.3747	0.815
		E	0.3422	0.4054	0.2933	0.815
		F	0.6208	0.2982	0.4934	0.815

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	2	A	12.079	9.0831	10.246	307
		B	15.767	13.169	14.591	307
		C	15.039	12.762	13.477	307
		D	6.3181	4.6641	5.1032	307
		E	17.788	13.552	14.512	307
		F	15.634	11.425	14.211	307

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	4	A	0.2649	0.1828	0.1485	0.815
		B	0.3880	0.3546	0.4227	0.815
		C	0.3033	0.2323	0.2138	0.815
		D	0.2816	0.2505	0.2719	0.815
		E	0.3500	0.3930	0.3154	0.815
		F	0.5686	0.3370	0.3368	0.815

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	4	A	10.371	7.6265	9.0575	307
		B	12.556	10.444	11.822	307
		C	12.538	10.055	9.9080	307
		D	5.6583	3.3311	3.8353	307
		E	17.356	13.627	14.940	307
		F	13.359	9.9108	12.807	307

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	6	A	0.2303	0.1738	0.1988	0.815
		B	0.1393	0.1144	0.1203	0.815
		C	0.1141	0.1260	0.1165	0.815
		D	0.1412	0.1030	0.1229	0.815
		E	0.3233	0.3192	0.2997	0.815
		F	0.3057	0.2681	0.2701	0.815

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	6	A	7.4636	5.2193	6.0934	307
		B	10.903	7.6057	8.9919	307
		C	9.4699	7.2565	8.1855	307
		D	4.5072	2.3577	3.1989	307
		E	16.992	13.361	14.678	307
		F	11.254	9.4818	9.5854	307

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	8	A	0.1588	0.1759	0.1622	0.815
		B	0.1746	0.1532	0.1608	0.815
		C	0.1703	0.1226	0.1769	0.815
		D	0.1556	0.0878	0.0928	0.815
		E	0.3483	0.3098	0.3115	0.815
		F	0.1928	0.1540	0.1731	0.815

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	8	A	4.9648	3.5689	4.0323	307
		B	5.4494	3.9149	4.6255	307
		C	5.2657	3.7678	4.2047	307
		D	4.0178	1.7953	2.2927	307
		E	17.008	13.487	14.371	307
		F	5.7364	4.4389	5.1462	307

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	10	A	0.1024	0.0945	0.0899	0.815
		B	0.1068	0.1237	0.1259	0.815
		C	0.0920	0.1222	0.1285	0.815
		D	0.0868	0.0604	0.0912	0.815
		E	0.3383	0.2931	0.3380	0.815
		F	0.1499	0.1366	0.1373	0.815

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	10	A	3.9057	1.8271	3.1017	307
		B	4.5147	2.9549	3.6694	307
		C	4.3164	2.5819	3.4511	307
		D	2.290	1.1664	1.8857	307
		E	17.010	13.504	14.494	307
		F	4.4757	3.4555	3.9357	307

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	15	A	0.1383	0.0727	0.1531	0.815
		B	0.1251	0.0685	0.1335	0.815
		C	0.1222	0.0695	0.1167	0.815
		D	0.0590	0.0606	0.0626	0.815
		F	0.1462	0.1205	0.1612	0.815

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50% Limit (A/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	20	E	0.1061	0.0716	0.1073	0.815

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	15	A	1.2648	0.7558	0.9553	307
		B	1.3003	0.9168	1.1347	307
		C	1.2978	0.8876	1.0503	307
		D	0.8498	0.5627	0.6711	307
		F	1.5054	1.1342	1.4784	307

Operation mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limit (V/m)
			15W load	5W load	7.5W load	
Dummy load (Front)	20	E	1.0790	0.6254	0.6668	307

Mobile device mode:

1) Dummy load + Watch working mode

E-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (V/m)

Test Position	Probe Measure Result(V/m)			Limits Test (V/m)
	15W load+10% charge	5W load+90% charge	7.5W load+50% charge	
A	3.1445	2.2349	2.6576	614
B	3.5634	1.8548	2.5110	614
C	3.0915	1.7434	2.4926	614
D	2.5439	1.3823	1.7590	614
E-20cm	1.7282	0.7503	1.1103	614

H-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (A/m)

Test Position	Probe Measure Result(A/m)			Limits Test (A/m)
	15W load+10% charge	5W load+90% charge	7.5W load+50% charge	
A	0.3218	0.2907	0.2866	1.63
B	0.1261	0.0952	0.0991	1.63
C	0.1348	0.0953	0.1037	1.63
D	0.3491	0.3040	0.3547	1.63
E-20cm	0.2630	0.0925	0.2192	1.63

2) Watch working mode

E-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (V/m)

Test Position	Probe Measure Result(V/m)			Limits Test (V/m)
	10% charge	90% charge	50% charge	
A	0.5166	0.4029	0.4403	614
B	0.4222	0.3678	0.4403	614
C	0.3808	0.3959	0.4059	614
D	0.4219	0.4341	0.3937	614
E-20cm	0.5610	0.3834	0.4219	614

H-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (A/m)

Test Position	Probe Measure Result(A/m)			Limits Test (A/m)
	10% charge	90% charge	50% charge	
A	0.0563	0.0553	0.0600	1.63
B	0.0553	0.0626	0.0569	1.63
C	0.0575	0.0554	0.0553	1.63
D	0.0614	0.0580	0.0553	1.63
E-20cm	0.0569	0.0564	0.0569	1.63

3) No-load mode

E-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (V/m)

Test Position	Probe Measure Result(V/m)	Limits Test (V/m)
A	0.4447	614
B	0.4703	614
C	0.3906	614
D	0.5116	614
E-20cm	0.3830	614

H-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (A/m)

Test Position	Probe Measure Result(A/m)	Limits Test (A/m)
A	0.0549	1.63
B	0.0590	1.63
C	0.0564	1.63
D	0.0590	1.63
E-20cm	0.0578	1.63