

Report No.: SZAWW190902002-02 FCC ID: 2ARI5-AT1004C Page 1 of 17

FCC TEST REPORT

Client Name	: Shenzhen Lingyi Innovation Tech Co., Ltd.
Address	12 F, Block C, Central Avenue Building, Xixiang BLVD West, Baoan District, Shenzhen, China
Product Name	: Wireless charger

Date : Nov. 08, 2019

Shenzhen Anbotek Compliance Laboratory Limited

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F., Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China. Tel:(86) 755–26066440 Fax: (86) 755–26014772 Email: service@anbotek.com

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TEST REPORT

Applicant	boto	Shenzhen Lingyi Innovation Tech Co., Ltd.
Manufacturer	Anbote	Shenzhen Lingyi Innovation Tech Co., Ltd.
Product Name	Anb	Wireless charger
Model No.	: P	AT1004C, AT1004L
Trade Mark	ek	N.A.
		Input: DC 15V, 3.5A
Rating(s)	abotek	Wireless Output: 5W/7.5W/10W
r tatilig(0)		Apple Watch Output: 5W
		Type C Output: DC 5V, 3A, DC 9V, 2A, DC 12V, 1.5A

Test Standard(s)	×- :	FCC Part 1.1310, 1.1307(b)	
Test Method(s)	. K	KDB680106 D01 RF Exposure Wireless Charging Apps v03	0

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 1.1307 & KDB680106 D01 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt Sept. 02, 2019 Date of Test Sept. 02~Oct. 31, 2019 compliance Prepared By Anbotek otek (Engineer / Dolly Mo) the than Approved Reviewer (Supervisor / Bibo Zhang) Sally zhang Approved & Authorized Signer (Manager / Sally Zhang)

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1. General Information

1.1. Client Information

Applicant	:	Shenzhen Lingyi Innovation Tech Co., Ltd.
Address	:	12 F, Block C, Central Avenue Building, Xixiang BLVD West, Baoan District, Shenzhen, China
Manufacturer	:	Shenzhen Lingyi Innovation Tech Co., Ltd.
Address	:	12 F, Block C, Central Avenue Building, Xixiang BLVD West, Baoan District, Shenzhen, China
Factory	:	Shenzhen Lingyi Innovation Tech Co., Ltd.
Address	:	12 F, Block C, Central Avenue Building, Xixiang BLVD West, Baoan District, Shenzhen, China

1.2. Description of Device (EUT)

Product Name	:	Wireless charger					
Model No.	:	AT1004C, AT1004L (Note: All samples are the "AT1004C" for test only.)	same except the appearance, so we prepare				
Trade Mark	:	N.A. Moster Moster	Anbotek Anbotek Anbotek Anbotek				
Test Power Supply	:	AC 120V, 60Hz for adapter					
Test Sample No.	:	1-2-1(Normal Sample), 1-2-1(Engineering Sample)					
		Operation Frequency:	Conventional wireless charging: 110.1-205KHz Apple Watch wireless charging: 550KHz				
Product		Modulation Type:	QI Anbotek Anbotek Anbotek Anbotek				
Description		Antenna Type:	Inductive loop coil Antenna				

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1.3. Auxiliary Equipment Used During Test

Adapter	:	Model: A653-1503500I	Anbo	botek	Anboro	Amb
		Input: 100-240V ~50-60Hz	1.5A			Anbu
		Output: 15V== 3500mA				Anbore

1.4. Test Equipment List

	Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Þ.,	Dote	Magnetic field meter	NARDA	ELT-400	423623	Dec. 24, 2018	1 Year
	2	E-Field Probe	Narda	EF0391	Q15221	Nov.17, 2017	3 Year
×4	3	H-Field Probe	Narda	HF3061	Q15835	Nov.17, 2017	3 Year

1.5. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)	Anbotek	Anbois An An
		Ur = 3.8 dB (Vertical)	Anbotek	Anbo, tek Anbotek
		otek Anbote And And	Anbotek	Anbo otek Anbote
Conduction Uncertainty	:	Uc = 3.4 dB	K AUPO	ier Anbo

1.6. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, September 27, 2019.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A, March 07, 2019.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited. 1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China. 518102

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2. Measurement and Result

2.1. Requirements

According to the item 5.b) 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) Power transfer frequency is less that 1 MHz

2) Output power from each primary coil is less than or equal to 15 watts.

3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils

4) Client device is inserted in or placed directly in contact with the transmitter

5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion)

6) 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.

Frequency range (MHz)	range Electric field strength Magnetic field strength) (V/m) (A/m)		Power density (mW/cm ²)	Averaging time (minutes)
	(A) Limits for Occ	upational/Controlled Ex	posures	
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	1	/	f/300	6
1500-100,000	1	1	5	6
	(B) Limits for Genera	l Population/Uncontrolle	d 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	1	1	f/1500	30
1500-100,000	1	/	1.0	30

Limits For Maximum Permissible Exposure (MPE)

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).

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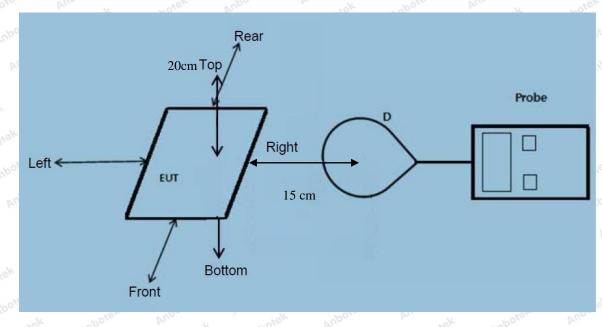
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2.2. Test Setup



Note: Measurements should be made at 15 cm surrounding the EUT and 20cm above the top surface of the EUT.

2.3. Test Procedure

1) The RF exposure test was performed in anechoic chamber.

2) The measurement probe was placed at required test distance 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) were completed.(A is the right, B is the back, C is the left, D is the front, and E is the top.)4) The EUT was measured according to the dictates of KDB 680106 D01 v03.

Remark;

The EUT's test position A, B, C, D and E is valid for the E and H field measurements

2.4. Test Result

2.4.1. Equipment Approval Considerations item 5.b of KDB 680106 D01 v03.

- 1) Power transfer frequency is less that 1 MHz
 - The device operate in the frequency range 110.1~205KHz
- 2) Output power from each primary coil is less than 15 watts
- The maximum output power of the primary coil is 10W.

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3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils

- The transfer system including a charging system with only single primary coils is to detect and allow only between individual pairs of coils.

- 4) Client device is inserted in or placed directly in contact with the transmitter
- Client device is placed directly in contact with the transmitter.

5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion)The EUT is a Mobile Power Pack with Wireless Charger

6) 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.
Conducted the measurement with the required distance and the test results please refer to the section 2.4.2

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2.4.2. Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310

Temperature:	23.8°C	Relative Humidity:	54%
Pressure:	1012 hPa	Test Voltage:	AC 120V, 60Hz for adapter

Note: The three coils can only work with one coil at a time, and only the worst mode (middle coil) is recorded in the report.

Conventional wireless charging:

E-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Dat			0	1.1	1.0 ¹	Dec.	101	
Potton	Frequency	Test	Test 📈	Test	Test	Test	Reference	Limits
Battery	Range	Position	Position	Position	Position	Position	Limit	Test
power	(KHz)	A	В	Crek	D	e ^k E	ov ^{or} (V/m)	(V/m)
Noo. P	nbotek	Anboton	Anumotek	Anbore	Anbo	-sek	nbotek pr	boton
1%	110.1~205	0.37	0.32	0.29	0.43	0.94	307	614
Anbor		Anbote	Anb	otek	nbotek	Anbois	Au	Anboten
Aupor	tek abot	sk Anbr	You An	hotek	Anbotek	Anbo	L photokek	Anbo
50%	110.1~205	1.56	1.25	1.31	1.28	1.40	307	614
botek A		obotek	Anboten	And	Anbot	ek Anb	rek pin	potek
Anbotek	Anbou	abotek	Anboro	K Arnu	rek An	potek p	upo, by	nbotek
99%	110.1~205	2.25	2.04	2.13	2.37	2.09	307	614
Anbotek		K abo	lek Ant	oten Al	hotek	Anbotek	Anboic	Annabot
ak Anbo	ek Anbo.	stek pr	potek	nboton	Annotek	Anbotet	Anbo	N pol
Stand-by	110.1~205	0.44	0.35	0.76	0.43	0.57	307	614
hotek		mbo, stek	Anbotek	Anboten	Ano	otek A	ibotek Ant	o. stek

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Battery power	Frequency Range (KHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limit (A/m)	Limits Test (A/m)
tek Ant	lotek Aupr	Nox.	abotek	Anboto	Andhotek	Anbote	Aupo	.ek
1%	110.1~205	0.047	0.046	0.054	0.039	0.051	0.815	1.63
hos hotek	Anbotek	Anbore	Allenobotek	Anbote	K AND	Lotek D	nbotek pr	borc sek
Andewotek	Anbotek	Anbor	K	rek Anb	A No	hotek	Anbotek	Anbo
50%	110.1~205	0.23	0.52	0.36	0.40	0.48	0.815	1.63
And	otek Anbo	ek Aup	Nor Pi	obotek	Anboten	Anbework	Anbotek	Anb
en Ann	Lotek Ar	potek I	inbo, sek	phi obotek	Anbote	Ann No	rek Anbot	ek l
99%	110.1~205	0.35	0.58	0.47	0.36	0.54	0.815	1.63
	Anov	Anbotek	Anbois	ek sto	stek Ar	poten Ar	10 - otek	Anbotek
Anboton	And	Anbotel	Aupo	stell put	obotek	Anboron	Anotok	Anbotel
Stand-by	110.1~205	0.16	0.15	0.23	0.35	0.30	0.815	1.63
K Anbc	ten Aupo	dek .	nbotek	Anbor	All hotek	Anboten	Ano	X.

H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Remark: All the conditions have been tested. It is found that 10W is the worst mode, and the data in the report only reflects the worst mode.

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Apple Watch wireless charging:

F-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

	10,00		-	14	0.00		1001	
Battery	Frequency	Test	Test	Test	Test	Test	Reference	Limits
power	Range	Position	Position	Position	Position	Position	Limit	Test
power	(KHz)	A	В	C	D	E	(V/m)	(V/m)
-sek	nbotek A	ibote.	und hotek	Anbotek	Aupo	iek na	potek Anbr	No. Pr
1%	110.1~205	0.35	0.30	0.27	0.45	0.92	307	614
Anbo, tek	Anobotek	Anboten	Ano	ek Ant	otek Al	100' stek	Anbotek	Anbote.
Anbo	k obotek	Anboto	Bup	hotek	nbotek	Anbo	Anbotek	Anboro
50%	110.1~205	1.54	1.23	1.31	1.26	1.44	307	614
tek Anb	rek ri	potek p	nbote	Anu hotek	Anbotek	Anbo.	tek pobo	lek Art
hotek p	nbo. w	anbotek	Anboro	Annote	L Anbo	ek Ant	dek pr	botek
99%	110.1~205	2.23	2.02	2.19	2.33	2.08	307	614
Anbotek	Anbor	A. nbotel	Anbot	er Anu	hotek	Anbotek	Anbor	A. nbotek
Anbotel	Anbo	ek nobe	tek An	port p	botek	Anbotek	Anbo	h hnbots
Stand-by	110.1~205	0.42	0.37	0.74	0.41	0.59	307	614
hotek A	hotek Ant	notek h	anbotek	Anbore	An	ek Anb	otek Anbo	ntek M

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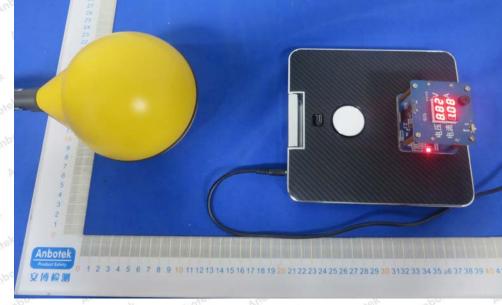
Battery power	Frequency Range (KHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limit (A/m)	Limits Test (A/m)
1%	110.1~205	0.045	0.044	0.056	0.037	0.053	0.815	1.63
50%	110.1~205	0.27	0.50	0.38	0.41	0.42	0.815	1.63
99%	110.1~205	0.33	0.56	0.45	0.34	0.58	0.815	1.63
Stand-by	110.1~205	0.18	half 0.17 An	0.22	0.37	0.32	0.815	1.63

H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

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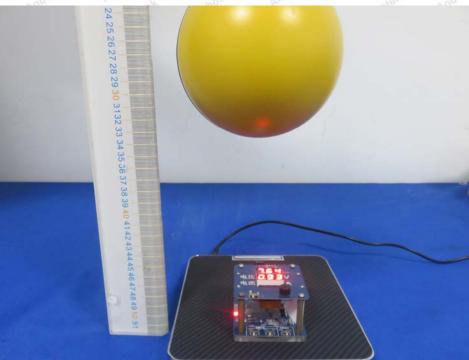


Photo of MPE Measurement (Conventional wireless charging)

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APPENDIX I -- TEST SETUP PHOTOGRAPH

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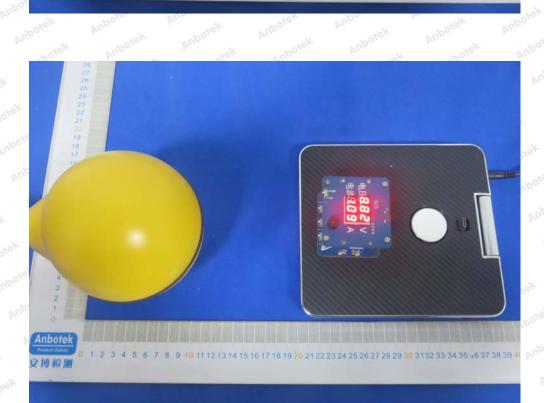


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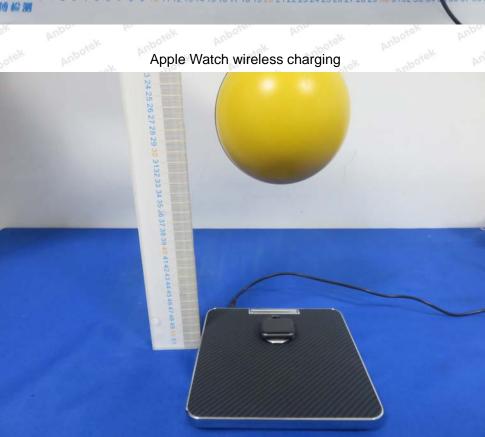
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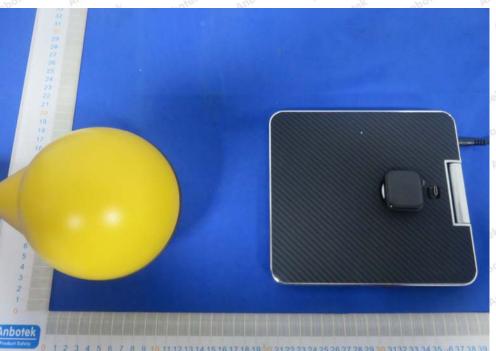
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