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# **FCC TEST REPORT**

Client Name : Dongguan Tyjin Electronics Co., Ltd.

Address Shitouling Industrial Zone, Wulian Village, Fenggang

Town, Dongguan, China 523690

Product Name : Wireless Charging Pad

Date : Jun. 18, 2019

## **Shenzhen Anbotek Compliance Laboratory Limited**



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## TEST REPORT

Applicant : Dongguan Tyjin Electronics Co., Ltd.

Manufacturer : Dongguan Tyjin Electronics Co., Ltd.

Product Name : Wireless Charging Pad

Model No. : BRQI1000, C-098

Trade Mark : N.A.

Rating(s) Input: DC 5V, 2A

Output: 5W

Test Standard(s) : FCC Part 1.1310, 1.1307(b)

Test Method(s) : KDB680106 D01 RF Exposure Wireless Charging Apps v03

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	May 06, 2019
Date of Test Compliance	May 06~Jun. 06, 2019
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*Approved*	(Engineer / Oliay Yang)
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	Snavy Meng
Reviewer	Anbo An An Anbo
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	ootek Anbote And Mek Anbotek Anbot Ar
And otek Appotek Anbot Al	Sally Zhong
Approved & Authorized Signer	Aur K Potek No. By Pok Poten
	(Manager / Sally Zhang)

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### 1. General Information

## 1.1. Client Information

Applicant	Dongguan Tyjin Electronics Co., Ltd.
Address	Shitouling Industrial Zone, Wulian Village, Fenggang Town, Dongguan, Chin 523690
Manufacturer	Dongguan Tyjin Electronics Co., Ltd.
Address	Shitouling Industrial Zone, Wulian Village, Fenggang Town, Dongguan, Chin 523690
Factory	Dongguan Tyjin Electronics Co., Ltd.
Address	Shitouling Industrial Zone, Wulian Village, Fenggang Town, Dongguan, Chin 523690

### 1.2. Description of Device (EUT)

Product Name	:	Wireless Charging Pad	K Anbotek Anbotek Anbotek An
Model No.	:	BRQI1000, C-098 (Note: All samples are the san "BRQI1000" for test only.)	ne except the model number, so we prepare
Trade Mark	:	N.A. Anbotek	Anbotek Anbotek Anbotek Anbotek
Test Power Supply	:	AC 120V, 60Hz for adapter	Anbotek Anbotek Anbot An
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(I	Engineering Sample)
		Operation Frequency:	110.1-205KHz
Product		Modulation Type:	ASK Anbote And Anbotek
Description	:	Antenna Type:	Inductive loop coil Antenna
		Antenna Gain(Peak):	0 dBi

Remark: 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

#### 1.3. Auxiliary Equipment Used During Test

Adapter	:	Manufacturer: Samsung M/N: ETA-U90CBC S/N: RT6FB17ZS/B-E Input: 100-240V~ 50-60Hz, 0.35A Output: DC 5V, 2A	An An
		Anbore And Notek Anborek Anborek Anborek Anborek	N.
Mobile Phone	:	iPhone And	Je.

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#### 1.4. Test Equipment List

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

#### 1.5. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)	Auport Ar	anbotek Ar	ipotek An
P		Ur = 3.8 dB (Vertical)	Anboatek	nbotek	Anbote
		ek abotek Anbotek	k Anbo	Anbotek	Anbore
Conduction Uncertainty	:	Uc = 3.4 dB	re. Yup	ek Anbotek	Anboro

#### 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, July 31, 2017.

#### ISED-Registration No.: 8058A-1

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-1, June 13, 2016.

#### **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

Hotline 400–003–0500 www.anbotek.com



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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.

Limits For Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	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 <sup>2</sup> )	6						
30-300	61.4	0.163	1.0	6						
300-1500	1	1	f/300	6						
1500-100,000	1	1	5	6						
	(B) Limits for Genera	l Population/Uncontrolle	ed Exposure							
0.3-1.34	614	1.63	*(100)	30						
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30						
30-300	27.5	0.073	0.2	30						
300-1500	1	1	f/1500	30						
1500-100,000	/	/	1.0	30						

F=frequency in MHz

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).

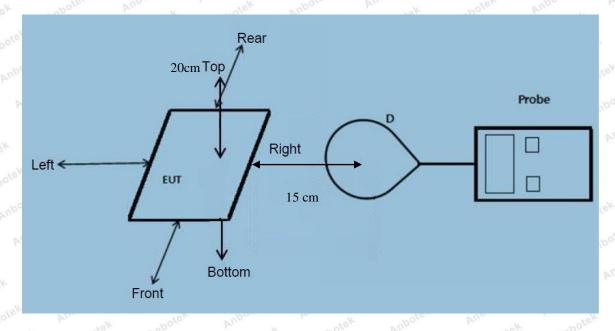
400-003-0500

<sup>=</sup>Plane-wave equivalent power density



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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

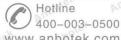
- 1) The RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed at required test distance which is between the edge of the charger and the geometric center of probe.
- 3) The highest emission level was recorded and compared with limit as soon as measurement of each 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 5W.

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

Temperature:	23.9°C	Relative Humidity:	54 %
Pressure:	1012 hPa	Test Voltage:	AC 120V, 60Hz for adapter

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

10		N.	1-0-	13.1	1.72	- 101	10.	5.7
Battery	Frequency Range	Test Position	Test Position	Test Position	Test Position	Test Position	Reference Limit	Limits Test
power	(KHz)	Arek	B	C	Hek D MI	otek E P	(V/m)	(V/m)
Anbore	Ans	Anbote	Anbo	otek by	nbotek	Anbote	Ann	Anbotek
1%	110.1-205	0.32	0.36	0.27	0.47	0.82	307	614
lek Aup	Die Vun	otek A	obotek	Anbo	Anbotek	Anbote	Y And	K AU
botek P		abotek	Anbotek	Anbo	A. Anbot	K Anbr	ye. Aug	otek
50%	110.1-205	1.44	1.22	1.24	1.31	1.64	307	614
Anbotek	Anbore	Anshotek	Anboth	y Aupo	rek K.	abotek	Anbote.	And watek
Anbotek		V	lek Ant	lotek A	bostek	anbotek.	Anbote	Anb
99%	110.1-205	2.26	2.14	2.44	2.32	2.54	307	614
stek by	botek Ant	ofe, Vi	notek.	Anbotek	Aupor	k Woo	lek Aupote	Aup Aup
Ctond b		Anbole ok	Anthotek	Anbotek	Anbos	rek bu	botek Anb	ore, b
Stand-b y	110.1-205	0.33	0.42	0.53	0.34	0.68	307	614
Anborrek	Anbotek	Anbote.	Anbore Anbore	otek Ar	potek l	upo.	Anabotek	Anboten

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

127		101		14.	1-0	15.5	1.77	- 10
Potton	Frequency	Test	Test	Test	Test	Test	Reference	Limits
Battery	Range	Position	Position	Position	Position	Position	kek Limit noo	Test
power	(KHz)	Anb A Ch	AnB motel	Cambot	K D Anbo	E Ann	(A/m)	(A/m)
Anboundtek	Anbotek	Anbole	K Pur	rek Ant	otek v	loor b	anbotek	Anboter
1%	110.1-205	0.055	0.044	0.058	0.095	0.055	0.815	1.63
Aupor	stek anbi	rek Anl	ofer b	hotek	Anbotek	Anboro	Anabotek	Anb
ten An	otek k	hotek	Anboro	Annabotek	Anbotek	Anbot	lek abot	s <sub>K</sub>
50%	110.1-205	0.25	0.46	0.52	0.34	0.44	0.815	1.63
Anbotek	Anbore	All	Anboter	Anbo	otek pr	potek A	pore An	botek
Anbotek	Anbo	Anbote	k Aupo	re, Yun	hotek	Anbotek	Anbot	An abotel
99%	110.1-205	0.54	0.57	0.45	0.38	0.38	0.815	1.63
cek Ant	otek Anbo	Tek VIII	abotek	Anboten	Anbo	Anbotek	Anbore	K VU
batek	Anbotek Ar	loo.	anbotek	Anbote	And	ek Anbo	ek Anbor	atek A
Stand-b	110.1-205	0.45	0.28	0.37	0.50	0.32	0.815	1.63
Anboy	anbotek	Anbore	K NO	ek Anb	ter An	bo kek	nbotek	Aupote.

Code: AB-RF-05-a

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## **APPENDIX I -- TEST SETUP PHOTOGRAPH**

Photo of MPE Measurement





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