

Report No.: 18220WC00010802FCC ID: 2AAC4-CMPOWERDISCPage 1 of 13

FCC TEST REPORT

Client Name : Case-Mate.Inc. Address : 7000 Central Pkwy., Ste. 1050 Atlanta GA 30328-4590

Product Name : Power Disc Wireless Charger

United States

Date : Apr. 13, 2020



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

Code:AB-RF-05-a



FCC ID: 2AAC4-CMPOWERDISC Page 2 of 13

Contents

1. (General Information	4
	1.1. Client Information	. 4
	1.2. Description of Device (EUT)	4
	1.3. Auxiliary Equipment Used During Test	. 5
	1.4. Test Equipment List	5
	1.5. Measurement Uncertainty	5
	1.6. Description of Test Facility	.5
2. 1	Measurement and Result	. 6
	2.1. Requirements	6
	2.2. Test Setup	7
	2.3. Test Procedure	7
	2.4. Test Result	. 7
	2.4.1. Equipment Approval Considerations item 5.b of KDB 680106 D01 v03	.7
	2.4.2. Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b),
	1.1310	. 9
AP	PENDIX I TEST SETUP PHOTOGRAPH	11

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

Code:AB-RF-05-a



FCC ID: 2AAC4-CMPOWERDISC Page 3

TEST REPORT

Applicant :	Case-Mate.Inc.
Manufacturer :	Dongguan Tyjin Electronics Co., Ltd.
Product Name :	Power Disc Wireless Charger
Model No. :	CM042200, C-077, C-129
Trade Mark :	
	Input: DC 5V, 2A/DC 12V, 1.5A(via adapter input:AC
Rating(s) :	100~240V,50/60Hz ,0.5A;output:12V 1.5A)
	Wireless output: 5W/7.5W/10W
Test Standard(s) :	FCC Part 1.1310, 1.1307(b)

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 Date of Test

Prepared By

Reviewer

Feb. 28, 2020 Feb. 28~Mar. 16, 2020

rie C wa

(Engineer / Dolly Mo)

15th Thank

(Supervisor / Bibo Zhang)

Ch

(Manager / Tom Chen)

Shenzhen Anbotek Compliance Laboratory Limited

Approved & Authorized Signer

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 Code:AB-RF-05-a



Report No.: 18220WC00010802 FCC ID: 2AAC4-CMPOWERDISC Page 4 of 13

1. General Information

1.1. Client Information

Ņ	Applicant	:	Case-Mate.Inc.
,0	Address	:	7000 Central Pkwy., Ste. 1050 Atlanta GA 30328-4590 United States
þ	Manufacturer	•	Dongguan Tyjin Electronics Co., Ltd.
	Address	•	Shitouling Industrial Zone, Wulian Village, Fenggang Town, Dongguan, China
K-	Factory	••	Dongguan Tyjin Electronics Co., Ltd.
o	Address	•	Shitouling Industrial Zone, Wulian Village, Fenggang Town, Dongguan, China

1.2. Description of Device (EUT)

Product Name	:	Power Disc Wireless Char	ger Anborek Anborek Anborek Anborek
Model No.	-	CM042200, C-077, C-129 (Note: All samples are the prepare "CM042200" for te	same except the model appearance, so we est only.)
Trade Mark	:	CASE	
Test Power Supply	:	AC 120V, 60Hz for adapte	Anbotek Anbotek Anbotek Anbotek Anbote
Test Sample No.	:	1-2-1(Normal Sample), 1-2	2-1(Engineering Sample)
		Operation Frequency:	110.1-205KHz
Product		Modulation Type:	ASK
Description	•	Antenna Type:	Inductive loop coil Antenna
		Antenna Gain(Peak):	0 dBi

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

Code:AB-RF-05-a



1.3. Auxiliary Equipment Used During Test

Adapter	: Tyjin
	M/N: C-040
	S/N: 201202102100876
	Input: 100-240V~ 50/60Hz, 0.5A
c	Output: DC 3.6-6V, 3A/DC 6-9V, 2A/DC 9-12V, 1.5A

1.4. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1 nb	Magnetic field meter	NARDA	ELT-400	423623	Dec. 23, 2019	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	otek p	Inpore An-	abotek Ar	poter
		Ur = 3.8 dB (Vertical)	Anbotek	Anbors P	abotek	Anbote
N.		inbote. And hotek	Anbotek	Anbo, stek		Anto
Conduction Uncertainty	:	Uc = 3.4 dB	Anbotel	Anbo	Anbotek	p

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

Shenzhen Anbotek Compliance Laboratory Limited

Code:AB-RF-05-a

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



FCC ID: 2AAC4-CMPOWERDISC Page 6 of 13

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)	Electric field strength (V/m)	Magnetic field strength (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- 1 500	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 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).

Shenzhen Anbotek Compliance Laboratory Limited

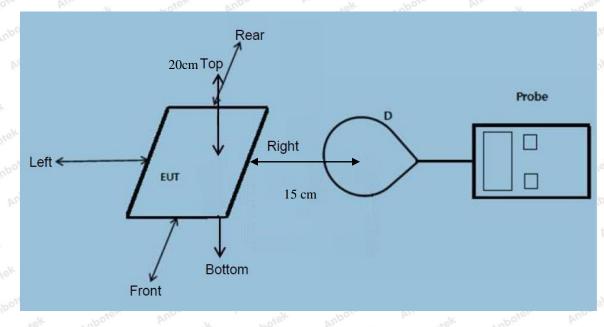
Code:AB-RF-05-a

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

Anbotek Product Safety

Report No.: 18220WC00010802FCC ID: 2AAC4-CMPOWERDISCPage 7 of 13

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.

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

Code:AB-RF-05-a



FCC ID: 2AAC4-CMPOWERDISC Page 8 of 13

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 two primary coils is to detect and allow only between individual pairs of coils.Only one coil works at a time.

- 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 Power Disc 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

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

Code:AB-RF-05-a



Report No.: 18220WC00010802 FCC ID: 2AAC4-CMPOWERDISC Page 9 of 13

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

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

1010	DUN	1.94	100	19 Ber	- 32	0101	102	-01
Anb	Frequency	Test	Test	Jest 💦	Test	Test	Reference	Limits
Battery	Range	Position	Position	Position	Position	Position	Limit	Test
power	(KHz)	A	on ^{elle} B pr	С	D	ArEotek	(V/m)	(V/m)
tek Anb	oten Anbo	otek p	nbotek	Anboratek	Anbotek	Anbor	Anto bo	ek Ar
1%	110.1~205	0.39	0.33	0.24	0.42	0.96	307	614
nbotek	Anbote	Ant hotek	Anbotek	Anbo	tek no	potek	inbote, Ar	hotek
h. hotek	Anbore	Ansbotel	Anbot	an Anb	otek	Anbotek	Anbore	
50%	110.1~205	1.53	1.37	1.28	1.39	1.57	307	614
ek nob	rek Anbor	Ann	hotek	Anbotek	Anbo	h. nbote	Anbore	Ant
stek N	tbotek Ant	poto p	hotek	Anbotek	Anbo	ex mab	otek Anbor	
99%	110.1~205	2.25	2.19	2.13	2.27	2.09	307	614
Anbor	An	Anboten	And	K Anbo	rek Ant	por p	abotek	
Anbo	Anbotek	Anbore	Anu	otek A	ibotek	Anbo	Anbotek	Anbore
Stand-by	110.1~205	0.49	0.32	0.79	0.42	0.53	307	614
ek Anbo	tek pi	otek pr	poter	Lotek	Anbotek	Anbor	rek anbote	K Ant

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

Code:AB-RF-05-a



Report No.: 18220WC00010802 FCC ID: 2AAC4-CMPOWERDISC Page 10 of 13

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 nat	otek Anbe	te. pro	botek	Anbotek	Anbo. otel	Anbote	Anbore	ex No.
1%	110.1~205	0.049	0.052	0.049	0.043	0.067	0.815	1.63
bo	Anbotek	Anbore	Antobotek	Anbote	k Aupr	ntek p	nbotek Ar	botto
Anbo	anbotek	Anboic	K abo	iek Ant	oten p	he wotek	Anbotek	Anbois
50%	110.1~205	0.28	0.53	0.38	0.42	0.43	0.815	1.63
Anb	ptek Anbot	ek Anb	A Yer	abotek	Anboten	Anderbotek	Anbotek	Ant
en Ann	Lotek An	potek P	inbo, sek	A botek	Anbote	Ann No	rek Anbot	ek I
99%	110.1~205	0.44	0.56	0.58	0.32	0.59	0.815	1.63
	Anubotek	Anbotek	Anbor	ek sib	stek pr	poter A	hotek	Anbotek
Anboren	Annotek	Anborel	Aupo	rek bu	obotek	Anboton	Anthotok	Anbote
Stand-by	110.1~205	0.27	0.13	0.8	0.34	0.32	0.815	1.63
K Anbc	ter Anb	otek b	nbotek	Anbors	Antobotek	Anboten	And	K

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.

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

Code:AB-RF-05-a



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

Code:AB-RF-05-a

Hotline 400-003-0500 www.anbotek.com



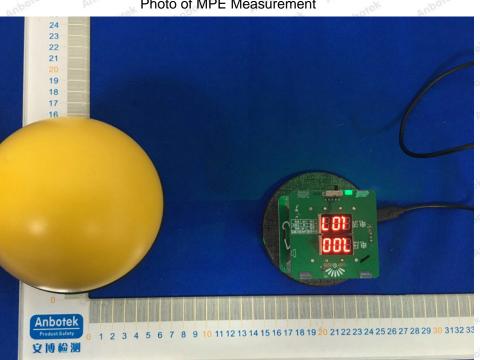


Photo of MPE Measurement

APPENDIX I -- TEST SETUP PHOTOGRAPH

Report No.: 18220WC00010802

Anbotek **Product Safety**

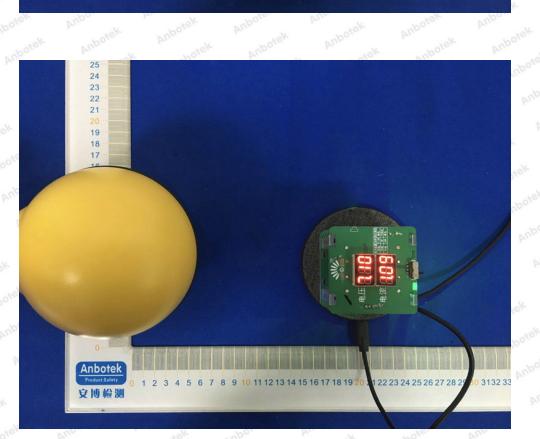
> FCC ID: 2AAC4-CMPOWERDISC Page 11 of 13

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

Code:AB-RF-05-a

Hotline 400-003-0500 www.anbotek.com





Report No.: 18220WC00010802

FCC ID: 2AAC4-CMPOWERDISC Page 12 of 13



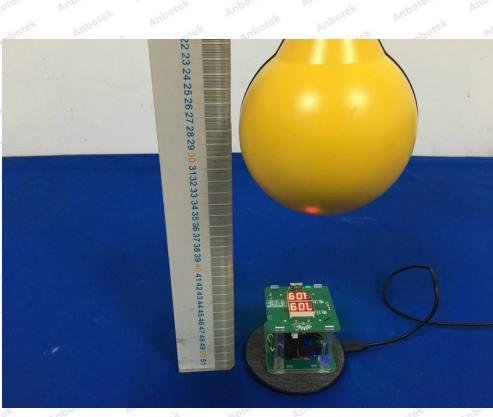


Shenzhen Anbotek Compliance Laboratory Limited

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

Code:AB-RF-05-a

Hotline 400-003-0500 www.anbotek.com



Report No.: 18220WC00010802

FCC ID: 2AAC4-CMPOWERDISC Page 13 of 13

