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# **FCC TEST REPORT**

Client Name : Shenzhen Minsuo Industrial Co.,Ltd

Address 12th floor, Block B, Tengyao Building, No. 268 Gushu 2nd

road, Xixiang Town, Bao'an Shenzhen, Guangdong China

Product Name : Mouse Pad with Wireless Charger

Date : Jan. 19, 2021

Shenzhen Anbotek Compliance Laboratory Limited

\*Approved \*



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# TEST REPORT

Applicant : Shenzhen Minsuo Industrial Co.,Ltd

Manufacturer : Shenzhen Minsuo Industrial Co.,Ltd

Product Name : Mouse Pad with Wireless Charger

Model No. : CM-002

Trade Mark : N.A.

Rating(s) : Input: 5V/2A; 9V/1.67A

Output: 5W/ 10W

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 Dec. 24, 2020
Date of Test Dec. 24, 2020~Jan. 14, 2021
Yilia Zhong
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Prepared By
(Engineer / Yilia Zhong)
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Reviewer this thang
Reviewer
(Supervisor / Bibo Zhang)
inboth And Andrew Andrew Andrew Andrew Andrew Andrew Andrew
Approved & Authorized Signer
(Manager / Kingkong Jin)

**Shenzhen Anbotek Compliance Laboratory Limited** 





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## 1. General Information

#### 1.1. Client Information

- 00	The state of the s
Applicant	: Shenzhen Minsuo Industrial Co.,Ltd
Address	12th floor, Block B, Tengyao Building, No. 268 Gushu 2nd road,Xixiang Town, Bao'an Shenzhen, Guangdong China
Manufacturer	: Shenzhen Minsuo Industrial Co.,Ltd
Address	12th floor, Block B, Tengyao Building, No. 268 Gushu 2nd road,Xixiang Town, Bao'an Shenzhen, Guangdong China
Factory	: Shenzhen Minsuo Industrial Co.,Ltd
Address	12th floor, Block B, Tengyao Building, No. 268 Gushu 2nd road,Xixiang Town, Bao'an Shenzhen, Guangdong China

# 1.2. Description of Device (EUT)

Product Name	:	Mouse Pad with Wireless (	Charger Market M
Model No.	:	CM-002	otek Aupon Aupotek Aupotek Auf
Trade Mark	:	N.A.	Inboto Ambotek Anbotek Anbotek
Test Power Supply	:	AC 120V, 60Hz for adapter	Ambotek Anbotek Anbotek Anbotek
Test Sample No.	:	1-2-1(Normal Sample), 1-2	-1(Engineering Sample)
		Operation Frequency:	110.1-205KHz
Product		Modulation Type:	FSK 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.



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## 1.3. Auxiliary Equipment Used During Test

Adapter	:	M/N: A2013	Aupor.	hotek	Anboren	Aug
		Input: 100-240V-0.7	A 50-60Hz			
		Output: 3.6-5.5V 3A	/ 6.5-9V 2A / 9	-12V 1.5A		
iPhone 12		k Aupoten Au	otek at	botek Anbor	ek abote	k Anb

# 1.4. Test Equipment List

Item	Equipment	Equipment Manufacturer		Serial No.	Last Cal.	Cal. Interval
1	Magnetic field meter	NARDA	ELT-400	423623	Dec. 24, 2018	3 Year
2	E-Field Probe	Narda	EF0391	Q15221	Nov.17, 2020	3 Year
3	H-Field Probe	Narda	HF3061	Q15835	Nov.17, 2020	3 Year

## 1.5. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)
		Ur = 3.8 dB (Vertical)
		Anbotek Anbotek Anbotek Anbotek Anbotek Anbotek
Conduction Uncertainty	:	Uc = 3.4 dB



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#### 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 30, 2020.

#### 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, September 30, 2020.

#### 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.

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 Occ	cupational/Controlled Ex	posures	
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	I	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 <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	1	1	f/1500	30
1500-100,000	1	1	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).

Shenzhen Anbotek Compliance Laboratory Limited

Code:AB-RF-05-a

Hotline

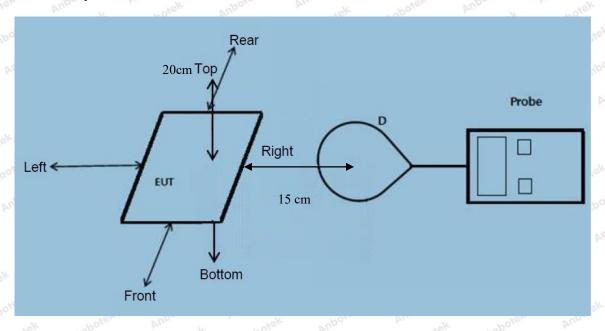
Hotline 400-003-0500 www.anbotek.com

<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 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 Mouse Pad 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 1.1307(b), 1.1310

Temperature:	24.2° 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

750	Jan J	- Van	2000	Par.		70.	30	100
Battery	Frequency	Test	Test	Test	Test	Test	Reference	Limits
by.	Range	Position	Position	Position	Position	Position	Limit	Test
power	(KHz)	Anbote	B Ambe	С	unboteD	AupoE ™	(V/m)	(V/m)
Aupor	*6k "Jpo,	ek Aup	Oser Di	potek	Anbotek	Aupor	k spotek	Anb
1%	110.1~205	0.31	0.26	0.42	0.31	0.71	307	614
	inbore. An	abotek	Anbotek	Anbo	Anbo	ek Aup	ole. Vue	botek
Anbotek	Anbor	anbotek	Anbores	Y Aug	stek Ar	potek	Tupo, by	anbotek
50%	110.1~205	1.59	1.46	0.93	1.48	1.31	307	614
	Anbore	ek vpc	rek An	poten A	nbonotek	Anbotek	Auporg	Air.
ak Anbo	lek Aupo,	rek hi	botek	Anbore	Ann Hotek	Anbote	Anbo.	8/4 /v
99%	110.1~205	2.23	2.23	2.55	2.24	2.85	307	614
	Anbotek	Anbore	Arrabotek	Aupoles	k Anbo	orek p	abotek An	ore
Ansobotek	Anborek	Pupo,	Anbore	k Aupo	te. Vu	botek	Anbotek	Aupo, Otek
Stand-by	110.1~205	0.27	0.15	<sup>36</sup> 0.9 №	0.55	0.65	307	614
K Anb	ek Anbore	k Anbo	*6K VIII	abotek	Anboten	And Potek	Anbotek	Anbo



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

10	original re	Park	arranig til	7.000		1/0.	*POSO P	Ob. 10
Pottony	Frequency	Test	Test	Test	Test	Test	Reference	Limits
Battery	Range	Position	Position	Position	Position	Position	Limit	Test
power	(KHz)	Α	otek B A	hote C	Yupa D'ek	Entek	(A/m)	(A/m)
ek Ant	otek Anbe	rek	nbotek	Anbore	Vunn Potek	Anbote	Aupo,	iek bu
1%	110.1~205	0.79	0.15	0.15	0.59	0.76	0.815	1.63
botek		Anbore	Air	Anbore	K Anbe	notek p	nbotek Ar	porc
Andhotek	Anborek	Aupo,	r nbo	ick but	ore A	hotek	Anborek	Aupo.
50%	110.1~205	0.16	0.58	0.05	0.65	0.22	0.815	1.63
K And		ek Anb	or b	abotek	Anboten	Andskotek	Anbotek	Anb
Arr.	hotek An	potek F	iupo,	Anbotek .	Anbore	ok ho	rek Anbot	Sp.
99%	110.1~205	0.24	0.66	0.19	0.49	0.53	0.815	1.63
Anbotek		Anbotek	Anboro	ek ab	otek pr	poter A	loo otek	anbotek
Anboren	Ana	Anbotel	Anbo	rek bu	obotek	Aupoles	Andhotek	Anbote
Stand-by	110.1~205	0.51	0.79	0.79	0.55	0.66	0.815	1.63
K Pupe		stek h.	obotek	Anbore	An. hotek	Anbotek	Anbo	PK

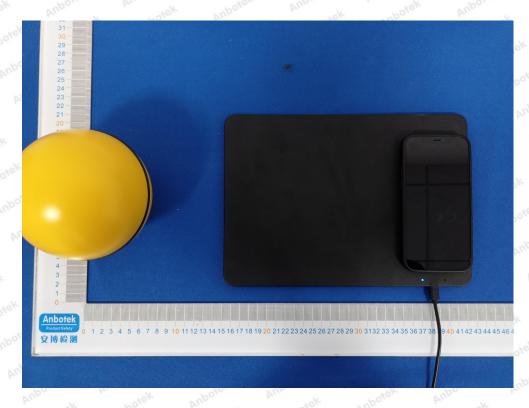
Remark: All the conditions have been tested. It is found that Wireless Output(10W) work simultaneously is the worst mode, and the data in the report only reflects the worst mode.



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

Photo of MPE Measurement

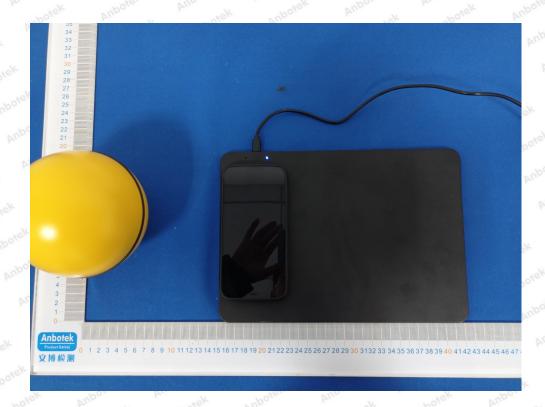


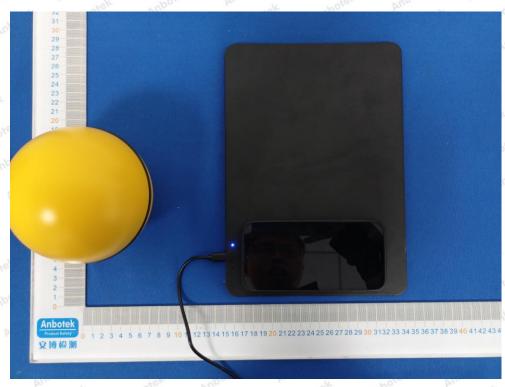


#### **Shenzhen Anbotek Compliance Laboratory Limited**



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End of Report -