FCC TEST REPORT

For

Wintop Electronics Co., Limited

Wireless Charger

Model No.: YM-C18, YM-C15, YM-C16,YM-C17, MA-SBW002-A, YM-C20

Prepared For	:	Wintop Electronics Co., Limited
Address	:	Unit 04 7/F, Bright Way Tower 33, Mong Kok RD, KL, Hong Kong
Prepared By	:	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.518102 Tel: (86) 755-26066440 Fax: (86) 755-26014772
Report Number	:	SZAWW181018011-02
Date of Test	:	Oct. 18, 2018
Date of Test	:	Oct. 18~Nov. 26, 2018
Date of Report	:	Nov. 27, 2018

Contents

TEST REPORT

Applicant	:	Wintop Electronics Co., Limited
Manufacturer	:	Shenzhen Wintop Electronics Co., Ltd
Product Name	:	Wireless Charger
Model No.	:	YM-C18, YM-C15, YM-C16,YM-C17, MA-SBW002-A, YM-C20
Trade Mark	:	N.A.
Rating(s)	:	Input: DC 5V, 2A / 9V, 1.67A Output: 10W MAX
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 Test: Oct. 18~Nov. 26, 2018

Prepared By: (Engineer / Oliay Yang)

Reviewer: (Supervisor / Snowy Meng)

Approved & Authorized Signer: (Manager / Sally Zhang)

1. General Information

1.1. Client Information

Applicant	:	Wintop Electronics Co., Limited
Address	:	Unit 04 7/F, Bright Way Tower 33, Mong Kok RD, KL, Hong Kong
Manufacturer	:	Shenzhen Wintop Electronics Co., Ltd
Address	:	No.46 Xinhe Road, Shangmugu Pinghu Town, Longgang District, Shenzhen, China
Factory	:	Shenzhen Wintop Electronics Co., Ltd
Address	:	No.46 Xinhe Road, Shangmugu Pinghu Town, Longgang District, Shenzhen, China

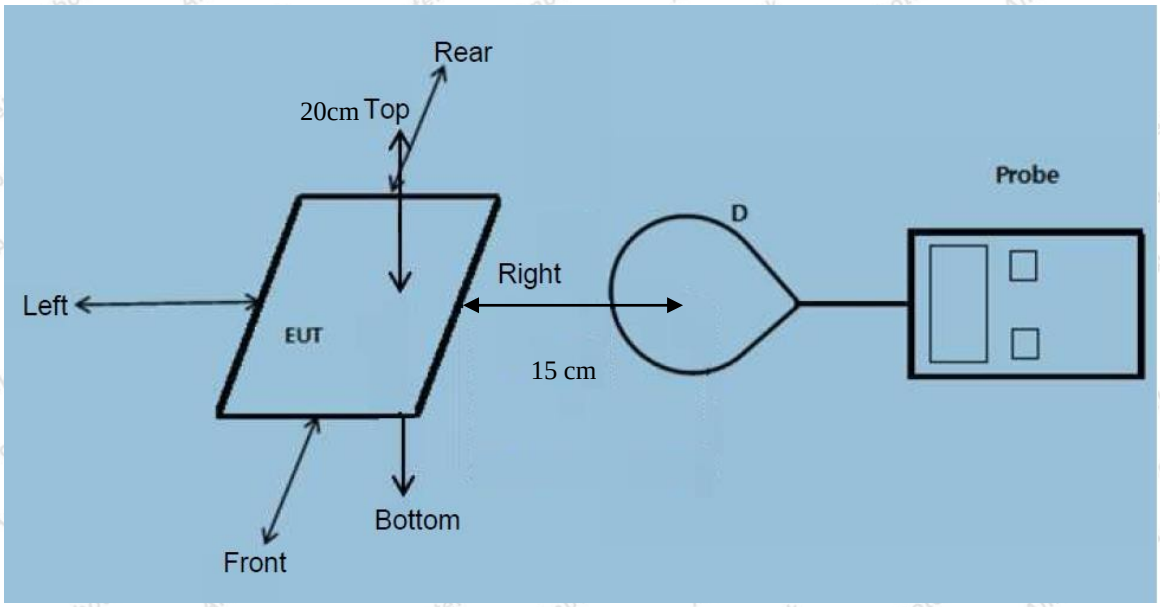
1.2. Description of Device (EUT)

Product Name	:	Wireless Charger	
Model No.	:	YM-C18, YM-C15, YM-C16,YM-C17, MA-SBW002-A, YM-C20 (Note: All samples are the same except the appearance, so we prepare "YM-C18" for test only.)	
Trade Mark	:	N.A.	
Test Power Supply	:	AC 120V, 60Hz for adapter	
Test Sample No.	:	S1(Normal Sample), S2(Engineering Sample)	
Product Description	:	Operation Frequency:	111~205KHz
		Modulation Type:	MSK
		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	:	Model: HA612 Input: 100-240V 50-60Hz 0.5A Output: 5V⎓ 2.5A/ 9V⎓ 2A/ 12V⎓ 1.5A
Mouse	:	Model: WM-799W

1.4. Description Of Test Setup



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device

1.5. Test Equipment List

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

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

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)

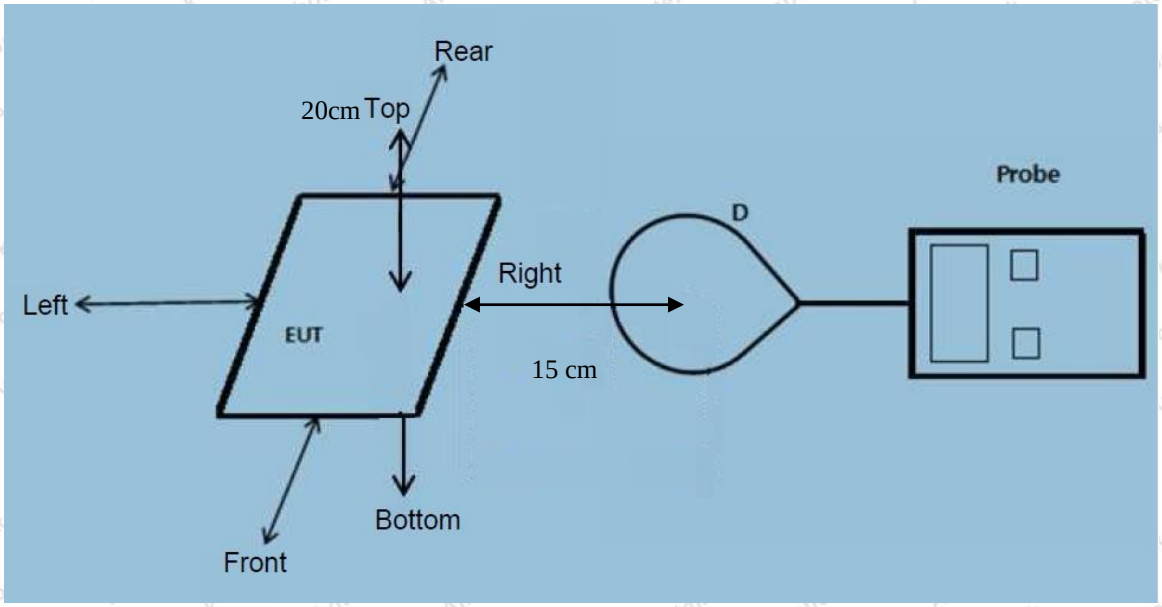
6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Limits For Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	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	*($900/f^2$)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	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	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

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).

2.2. Test Setup



Note:Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device

2.3. Test Procedure

1) The RF exposure test was performed in anechoic chamber.
2) The measurement probe was placed at test distance (15 ㎝) 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 111~205KHz

2) Output power from each primary coil is less than 15 watts

- The maximum output power of the primary coil is 10W.

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.

- The EUT E-Field Strength levels at 15 cm & The EUT H-Field Strength levels at 15 cm are less than 50% the MPE limit.

The test results please refer to the section 2.4.2

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

Temperature:	23.6° C	Relative Humidity:	53 %
Pressure:	1012 hPa	Test Voltage:	AC 120V, 60Hz for adapter

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

Battery power	Frequency Range (KHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limit (V/m)	Limits Test (V/m)
1%	111~205	0.36	0.27	0.32	0.61	0.45	307	614
50%	111~205	1.94	1.70	1.44	1.66	1.82	307	614
99%	111~205	2.22	2.09	2.90	2.68	2.15	307	614
Stand-by	111~205	0.27	0.73	0.55	0.80	0.64	307	614

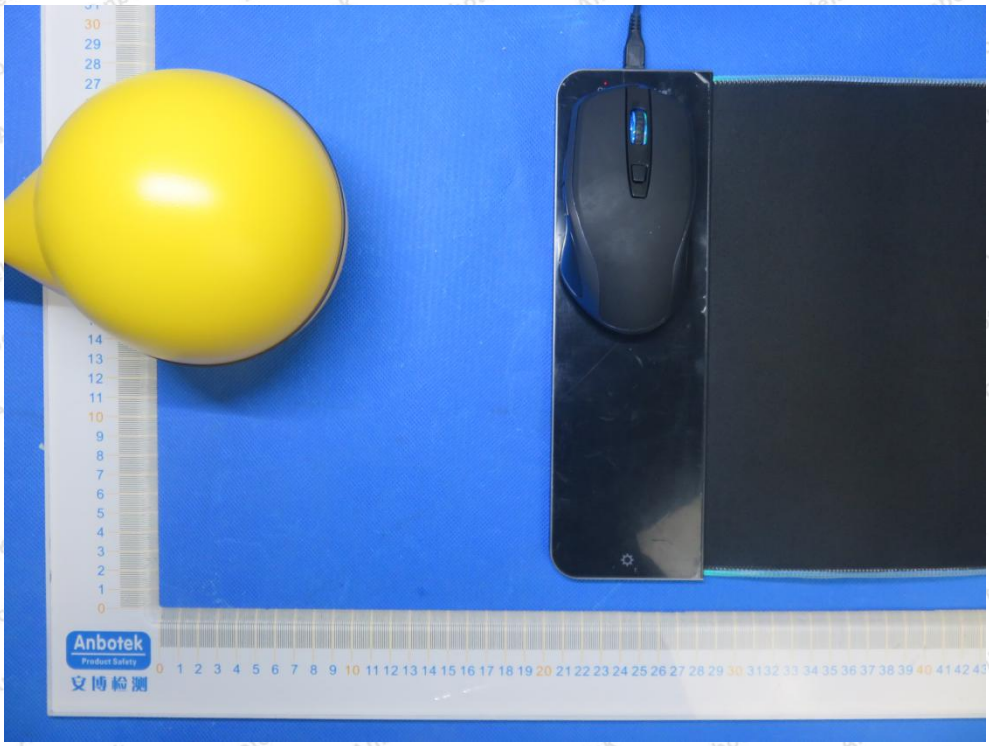
H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

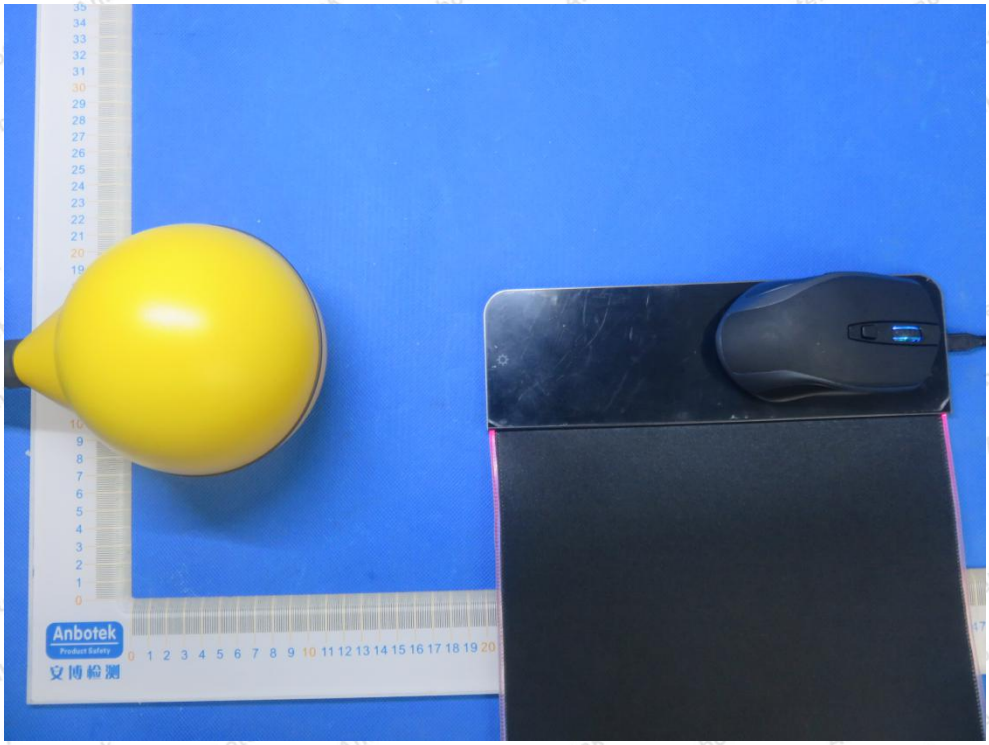
Battery power	Frequency Range (KHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limit (A/m)	Limits Test (A/m)
1%	111~205	0.057	0.058	0.045	0.052	0.099	0.815	1.63
50%	111~205	0.34	0.36	0.51	0.44	0.48	0.815	1.63
99%	111~205	0.28	0.42	0.53	0.36	0.47	0.815	1.63
Stand-by	111~205	0.40	0.47	0.38	0.08	0.32	0.815	1.63

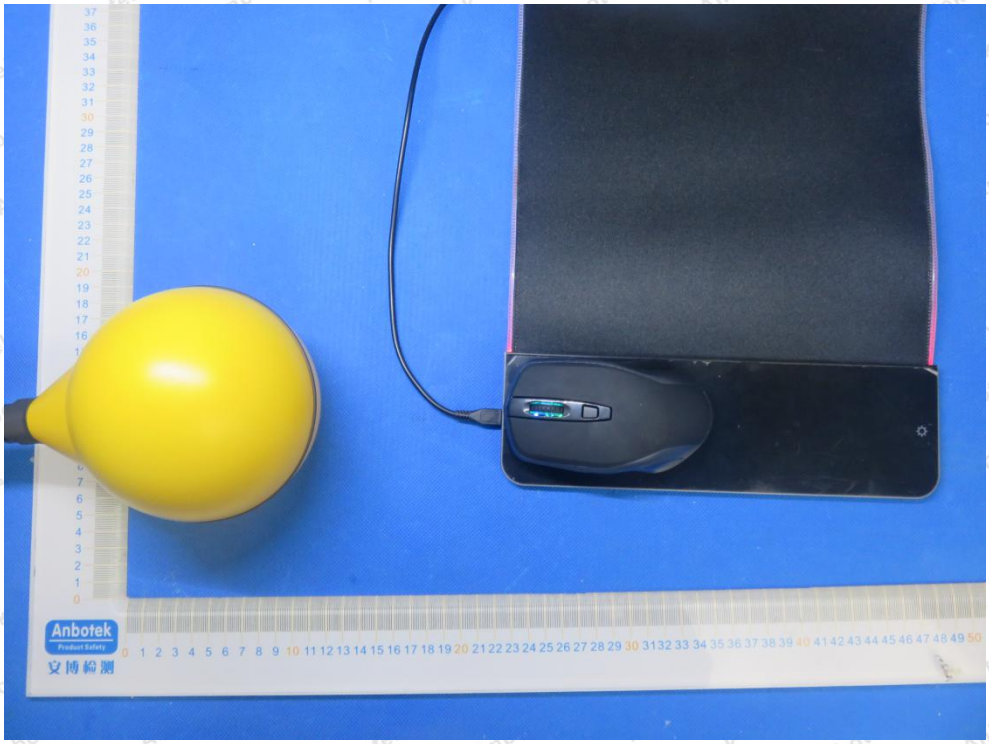
Remark: All the conditions have been tested. It is found that 10W is the worst mode, and the data in the report only reflects the worst mode.

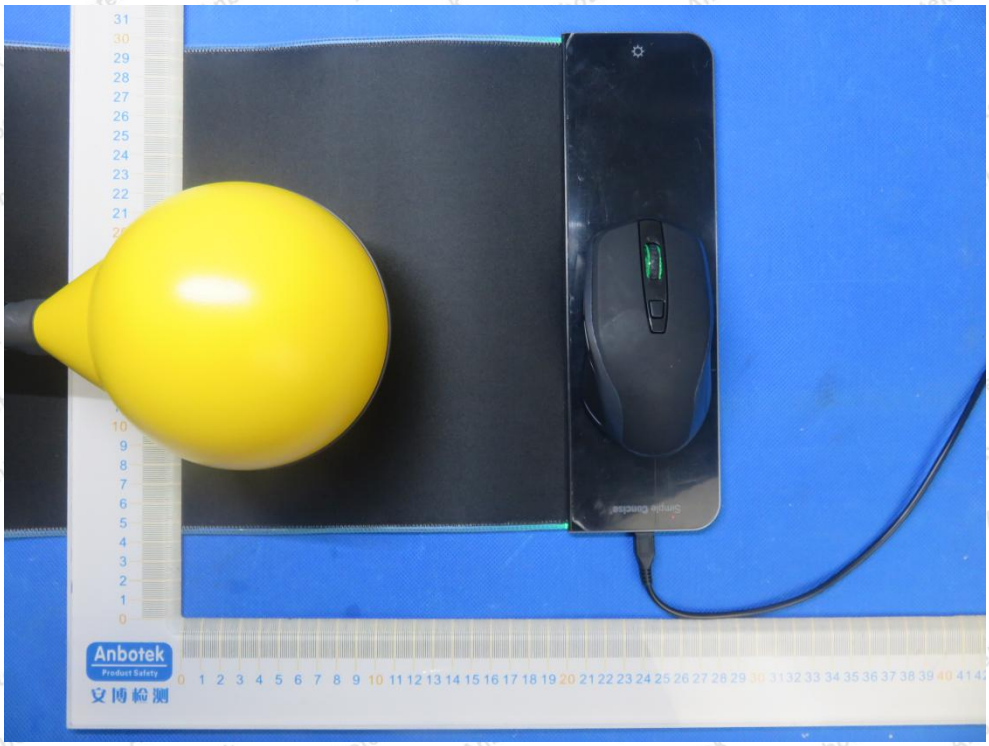
APPENDIX I -- TEST SETUP PHOTOGRAPH

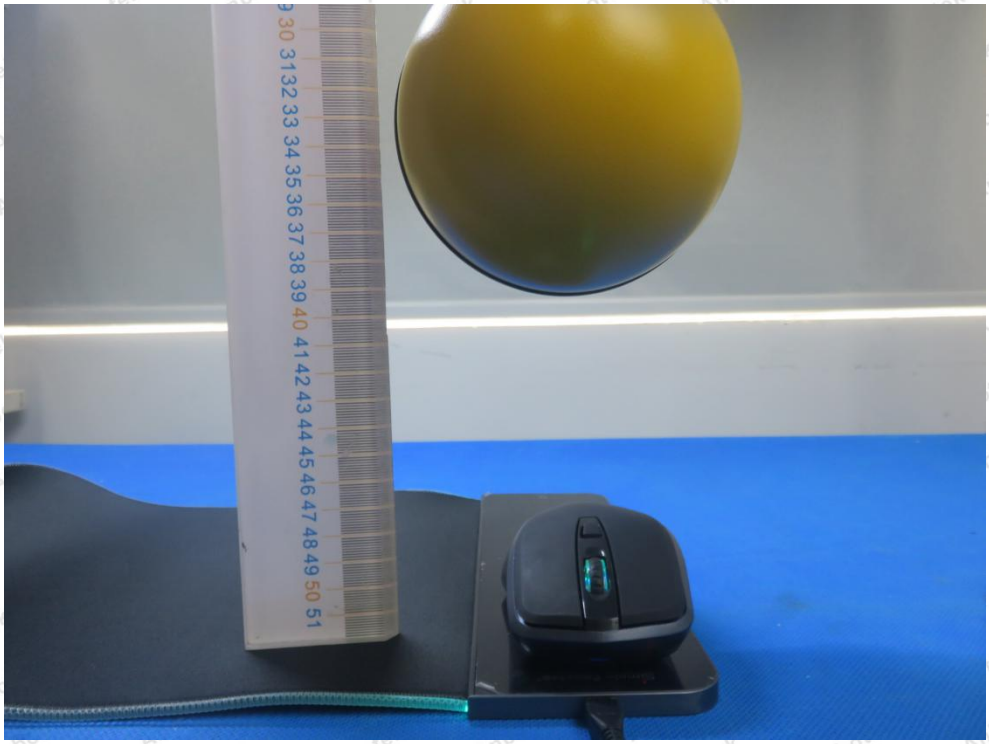
Photo of MPE Measurement






Anbotek
安博检测


Anbotek
安博检测



---------- End of Report ----------