



MPE TEST REPORT

Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 1 of 11

Applicant : Shanghai HUVITZ Co., Ltd.
Address of Applicant : Building 1, No. 150, Renjie Road, Fengxian, Shanghai

Product Name : Automatic Visual Acuity Tester
Model No. : CDC-1,SB-404
Brand Name : CHAROPS, Specsavers
Sample No. : E21120035-02#01
FCC ID : 2AT8E-CDC1

Standards : FCC Part 2.1091
OET Bulletin 65 Edition 97-01 June 2001

Date of Receipt : 2021-12-10
Date of Test : 2021-12-10 ~ 2022-03-08
Date of Issue : 2022-03-09

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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Jennifer Zhou

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Approved by:

Guoyou Chi

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MPE TEST REPORT

Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 2 of 11

Contents

1	GENERAL INFORMATION.....	3
1.1	TESTING LABORATORY.....	3
1.2	ENVIRONMENTAL CONDITIONS.....	3
1.3	DETAILS OF APPLICATION.....	3
1.4	DETAILS OF EUT.....	4
2	MAXIMUM PERMISSIBLE EXPOSURE (MPE).....	5
2.1	LIMITS.....	5
2.2	ASSESSMENT METHODS.....	5
2.3	TEST RESULT.....	6
2.4	CONCLUSION.....	6
3	APPENDIXES.....	7
3.1	SAMPLE PHOTOGRAPH.....	7



MPE TEST REPORT

Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 3 of 11

1 General Information

1.1 Testing Laboratory

Company Name	ICAS Testing Technology Services (Shanghai) Co., Ltd.
Address	No.1298 Pingan Rd, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Environmental conditions

Temperature (°C)	18-25
Humidity (%RH)	40-65
Barometric Pressure (mbar)	960-1060
Ambient noise & Reflection (W/kg)	< 0.012

1.3 Details of Application

Company Name	Shanghai HUVITZ Co., Ltd.
Address	Building 1, No. 150, Renjie Road, Fengxian, Shanghai
Contact Person	Jiaqiang.zhuo
Telephone	18621890304
Email	jiaqiang.zhuo@aliyun.com
Manufacturer Company Name	Shanghai HUVITZ Co., Ltd.
Address	Building 1, No. 150, Renjie Road, Fengxian, Shanghai
Factory Company Name	Shanghai HUVITZ Co., Ltd.
Address	Building 1, No. 150, Renjie Road, Fengxian, Shanghai



MPE TEST REPORT

Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 4 of 11

1.4 Details of EUT

Product Name	Automatic Visual Acuity Tester
Test Model No.Brand Name	CHAROPS
Series Model No. Brand Name	Specsavers
Test Model No.	CDC-1
Series Model No.	SB-404
Difference Description	The difference between models is for different market sale, the other (hardware and software) was the same as before.
FCC ID	2AT8E-CDC1
Mode of Operation	WLAN 802.11b/g/n(HT20/40); Bluetooth BR/EDR
Frequency Range	2400MHz ~ 2483.5MHz
Modulation Type	DSSS, OFDM GFSK, $\pi/4$ -DQPSK, 8-DPSK
Antenna Type	Internal Antenna
Antenna Gain	2dBi

Note(s):

All applicable tests as described in test case and measurement sections were performed on model CDC-1.



MPE TEST REPORT

Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 5 of 11

2 Maximum Permissible Exposure (MPE)

2.1 Limits

According to FCC Part 1.1307, systems operating under the provisions of this section shall be operated in a manner the ensures that the public is not exposed to radio frequency energy level in excess of the commission's guidelines.

TABLE 1—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 Exposure				
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			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

2.2 Assessment methods

Calculation Formula from FCC OET 65:

$$S = \frac{P * G}{4 * \pi * R^2}$$

Where:

S = Power Density (mW/cm²)

P = Input Power of the Antenna (mW)

G = Antenna Gain Relative to an Isotropic Antenna

R = Distance from the Antenna to the Point of Investigation (cm)



MPE TEST REPORT

Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 6 of 11

2.3 Test Result

Operation Mode	Frequency Range (MHz)	Max Conducted Power (dBm)	Antenna Gain (dBi)	Max EIRP (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
WLAN 2.4GHz	2400 ~ 2483.5	14.96	2.00	49.66	0.0099	1.0
Bluetooth	2400 ~ 2483.5	2.37	2.00	2.74	0.0005	1.0

Note(s):

1. The device can not transmit with WIFI and BT simultaneously, so MPE is not evaluated in this configuration.
2. For 300 – 1,500MHz: Power Density limit is $f/1500$ mW/cm²
3. For 1,500 – 100,000MHz: Power Density limit is 1.0 mW/cm²

2.4 Conclusion

The Power Density at the position which is 20 cm far from the EUT is smaller than the General Population/Uncontrolled Exposure limit.



MPE TEST REPORT

Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 7 of 11

3 Appendixes

3.1 Sample Photograph



All of the sample



Front of the sample



MPE TEST REPORT

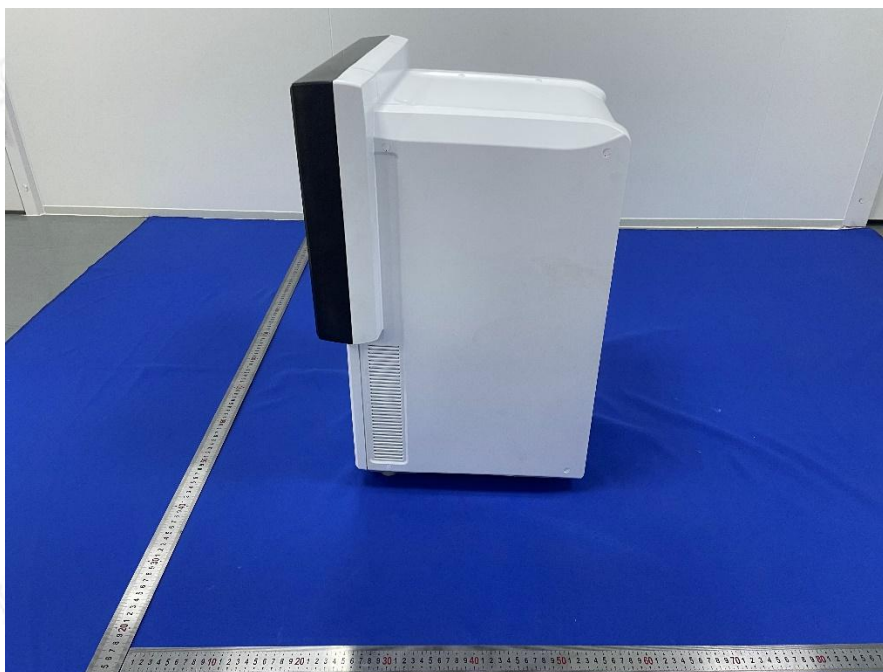
Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 8 of 11



Rear of the sample



Left of the sample

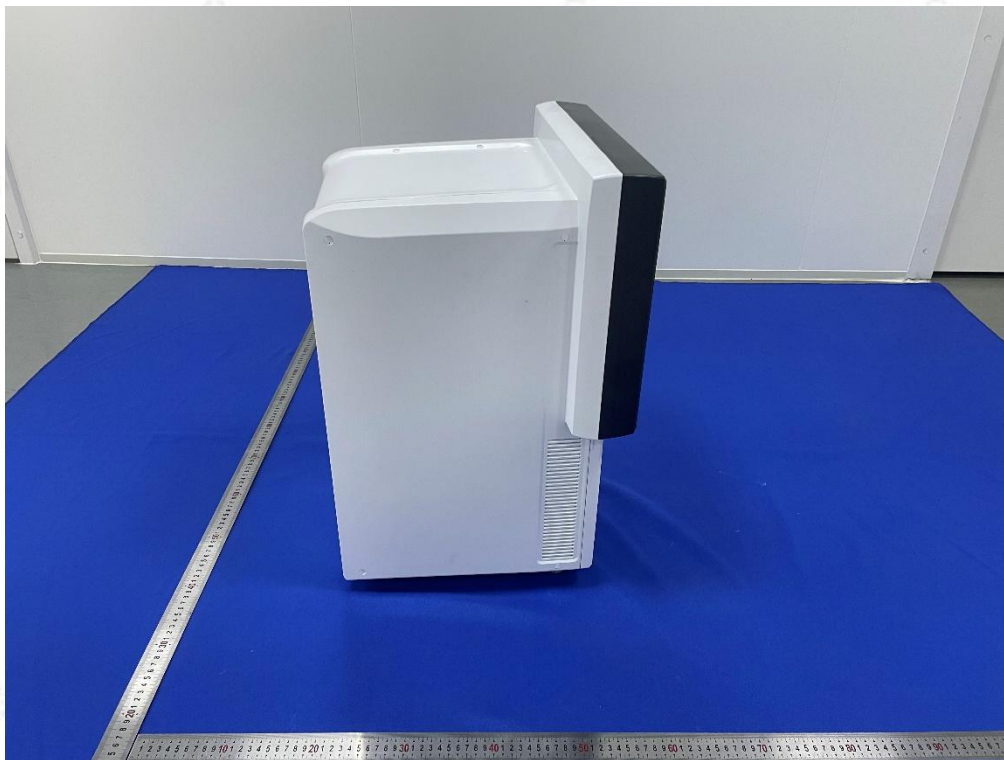


MPE TEST REPORT

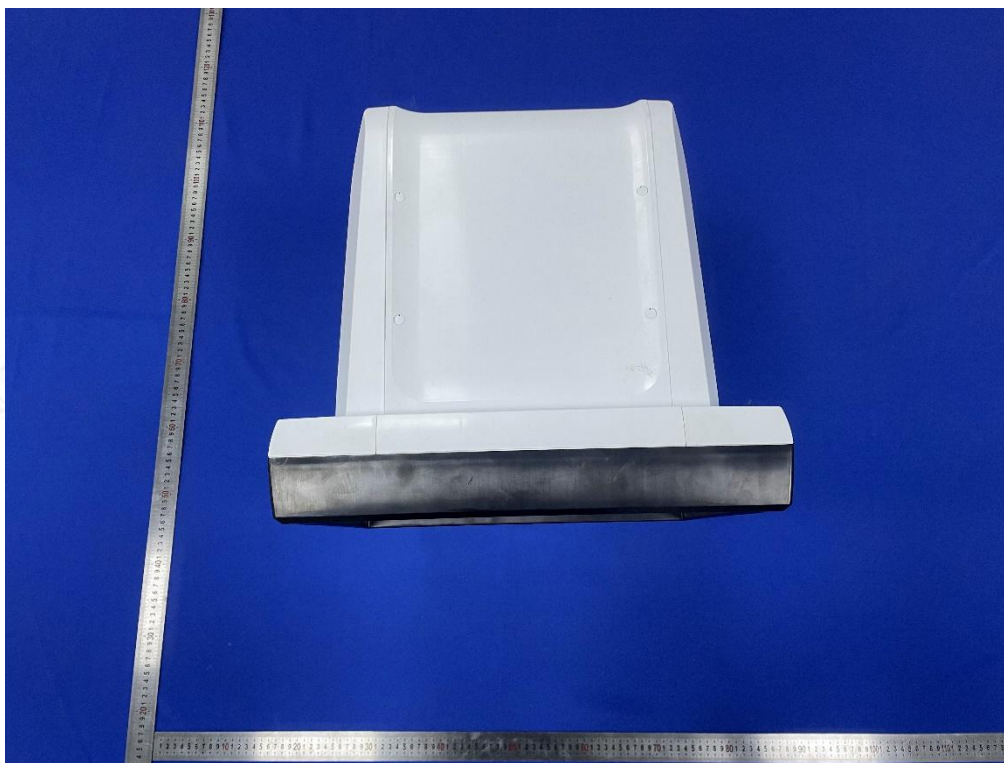
Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 9 of 11



Right of the sample



Top of the sample

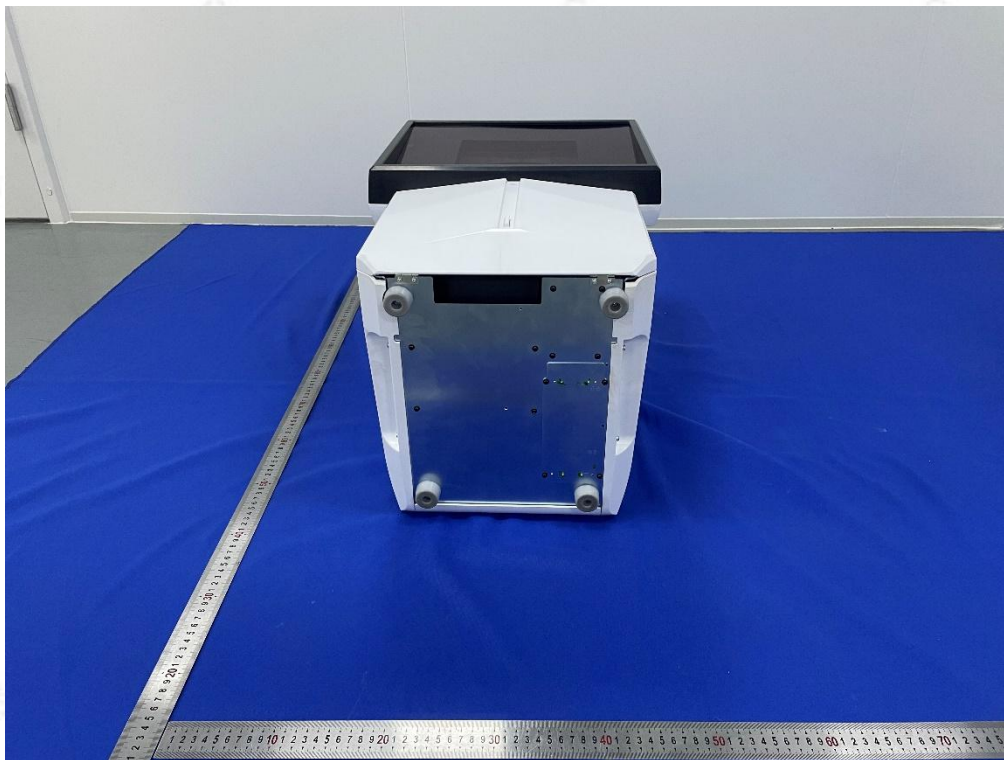


MPE TEST REPORT

Report No.: SHE21120035-02CE

Date: 2022-03-09

Page 10 of 11



Bottom of the sample
End of the report

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