

RF Exposure Evaluation Report

Product : Vision Screener
Trade mark : CHAROPS
Model/Type reference : CVS-1
Serial Number : N/A
Report Number : EED32L00297003
FCC ID : 2AT8E-CVS1
Date of Issue : May 22, 2020
Test Standards : 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

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May 22, 2020

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Check No.:3970383225



2 Version

Version No.	Date	Description
00	May 22, 2020	Original

3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION.....	2
3 CONTENTS.....	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT.....	4
4.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD.....	4
4.4 TEST LOCATION.....	6
4.5 DEVIATION FROM STANDARDS.....	6
4.6 ABNORMALITIES FROM STANDARD CONDITIONS.....	6
4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	6
5 SAR EVALUATION.....	7
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	7
5.1.1 <i>Standard Requirement</i>	7
5.1.2 <i>Limits</i>	7
5.1.3 <i>EUT RF Exposure</i>	8
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS.....	9

4 General Information

4.1 Client Information

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

4.2 General Description of EUT

Product Name:	Vision Screener
Model No.(EUT):	CVS-1
Trade Mark:	CHAROPS
EUT Supports Radios application	BT 3.0 Single mode, 2402MHz to 2480MHz WIFI: IEEE 802.11 b/g/n(HT20)(HT40): 2412MHz to 2462MHz

4.3 Product Specification subjective to this standard

Frequency Range:	BT:2402MHz to 2480MHz WIFI:2412MHz to 2462MHz	
Modulation Type:	BT:GFSK, $\pi/4$ DQPSK, 8DPSK WIFI:OFDM,DSSS	
Number of Channels:	BT: 79 WIFI: IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels	
Test Power Grade:	Reference Table	
Test Software of EUT:	Default	
Antenna Type:	Omnidirectional Antenna	
Antenna Gain:	2 dBi	
Max Conducted Peak Output Power:	BT: 4.795dBm; 2.4GHz WIFI: 16.31dBm	
	The Max Conducted Peak Output Power data refer to the report EED32L00297001, EED32L00297002	
Power Supply:	AC Adapter	MODEL:MDS-030AAC15 INPUT:100-240V~0.8-0.6V 50-60Hz OUTPUT:15V---2A
Sample Received Date:	Oct. 17, 2019	
Sample tested Date:	Oct. 17, 2019 to Apr.24, 2020	
The tested sample(s) and the sample information are provided by the client.		

Table:

Table 3:

BT				
Mode	Channel	Power Setting		
DH5	LCH	6		
	MCH	6		
	HCH	6		
2DH5	LCH	6		
	MCH	6		
	HCH	6		
3DH5	LCH	6		
	MCH	6		
	HCH	6		
WIFI				
Mode	Channel	Frequency	Data Rate	Power Setting
b	1	2412	11 Mbps	20000
	6	2437		20000
	11	2462		20000
g	1	2412	6 Mbps	11000
	6	2437		11000
	11	2462		11000
n20	1	2412	MCS 0	10000
	6	2437		9000
	11	2462		9000
n40	3	2422	MCS 0	8000
	6	2437		8000
	9	2452		8000

Report No. : EED32L00297003

Page 6 of 9

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$
$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz}$$

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

5.1.3 EUT RF Exposure

The tune-up power is

BT: 4.0 dBm +/- 1.0dB,

2.4G WIFI: 16.0 dBm +/- 0.5dB

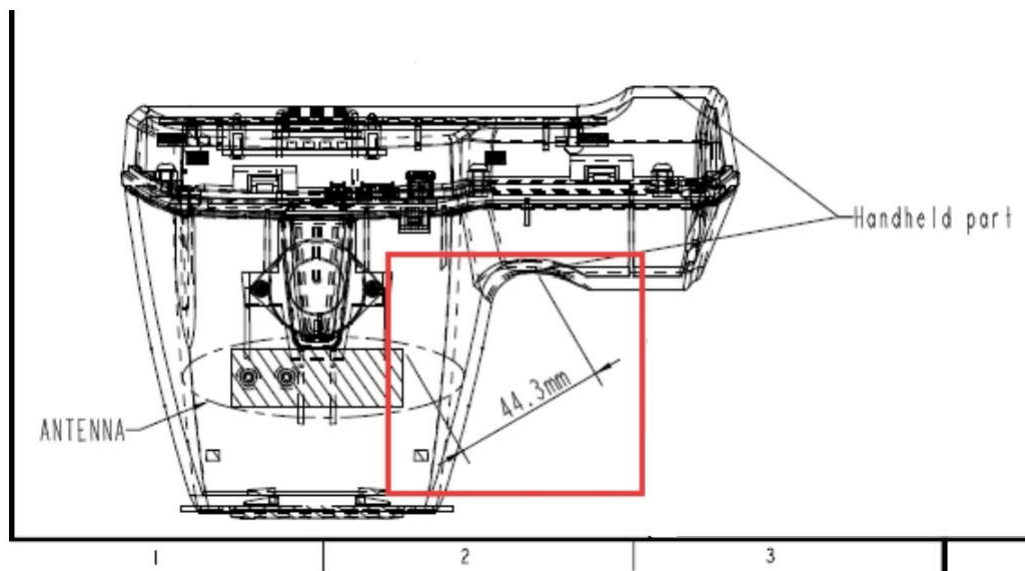
therefore the highest tune-up power is

BT:

5.0 dBm (3.16 mW) @ 2480 MHz

2.4G WIFI:

16.5 dBm (44.67 mW) @ 2437 MHz



When the minimum test separation distance is 44.3 mm, a distance of 40 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

So,

BT:

$$\left(\frac{3.16\text{mW}}{40\text{mm}} \right) * \left(2.480\text{GHz}^{\wedge 0.5} \right) = 0.1$$

2.4G WIFI:

$$\left(\frac{44.67\text{mW}}{40\text{mm}} \right) * \left(2.437\text{GHz}^{\wedge 0.5} \right) = 1.7$$

$$\left[\left(\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right) * \left[\sqrt{f(\text{GHz})} \right] \right] = 1.7 < 3.0$$

Therefore, standalone SAR measurements are not required for both head and body

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00297001 for EUT external and internal photos.

*** End of Report ***

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