

**1 Cover Page*****RF Exposure Evaluation Report***

**Application No.:** SHCR2112000904MI  
**FCC ID:** 2A3VDCTB-485WL  
**Applicant:** Hangzhou Huasu Technology Co Ltd  
**Address of Applicant:** Building 3, 1418-50 Moganshan Road, Hangzhou, Zhejiang, China  
**Manufacturer:** Hangzhou Huasu Technology Co Ltd  
**Address of Manufacturer:** Building 3, 1418-50 Moganshan Road, Hangzhou, Zhejiang, China  
**Factory:** Hangzhou Huasu Technology Co Ltd  
**Address of Factory:** Building 3, 1418-50 Moganshan Road, Hangzhou, Zhejiang, China  
**Equipment Under Test (EUT):**  
**EUT Name:** Wireless Converter  
**Model No.:** CTB-485WL  
**Standard(s) :** FCC Rules 47 CFR §2.1093  
KDB447498 D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2021-12-02  
**Date of Test:** 2021-12-04 to 2021-12-24  
**Date of Issue:** 2021-12-27

<b>Test Result:</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.



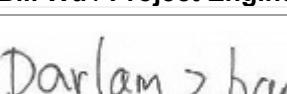
Parlam Zhan  
Laboratory Manager



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Revision Record			
Version	Description	Date	Remark
00	Original	2021-12-27	/

<b>Authorized for issue by:</b>		
	 <hr/>	
	<b>Bill Wu / Project Engineer</b>	
	 <hr/>	
	<b>Parlam Zhan / Reviewer</b>	

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### 3 General Information

#### 3.1 General Description of E.U.T.

Power supply:	DC 12V
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#### 3.2 General Description of E.U.T.

Antenna Gain:	5dBi (Provided by manufacturer)
Antenna Type:	PCB Antenna
Channel Spacing:	5MHz
Modulation Type:	O-QPSK
Number of Channels:	16
Operation Frequency:	2405MHz to 2480MHz

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### 3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

No tests were sub-contracted.

### 3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- CNAS (No. CNAS L0599)

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for competence in the field of testing.

• A2LA (Certificate No. 6332.01)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

- FCC (Designation Number: CN1301)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

- ISED (CAB Identifier: CN0020)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory  
Company Number: 8617A

- VCCI (Member No.: 3061)

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

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## 4 Test Standards and Limits

### 4.1 FCC Radiofrequency radiation exposure limits:

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

$[(\text{max power of channel})/(\text{min test separation distance})] * [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is  $\leq$  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 according to 4.1 f) is applied to determine SAR test exclusion.

For 2.4G band device, the limit of worse case is

$$P_{\text{max}} \leq 3.0 * D_{\text{min}} / \sqrt{f} = 3.0 * 5 / \sqrt{2.480} = 9.525 \text{ mW}$$

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## 5 Measurement and Calculation

### 5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHCR211200090401

Test Mode	Test Channel	Power [dBm]	EIRP [dBm]	EIRP [mW]
ZIGBEE	2405	0.30	5.30	3.39
ZIGBEE	2440	0.25	5.25	3.35
ZIGBEE	2480	0.90	<b>5.90</b>	<b>3.89</b>

### 5.2 MPE Calculation

The Max Peak Output Power is 3.89mW.

According to the formula. calculate the Peak Output Power test result:

The Max Peak Output Power = 3.89mW < 9.525mW

So the SAR report is not required.

**--End of the Report--**

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