

## 1 Cover Page

# ***RF Exposure Evaluation Report***

**Application No.:** SHEM2107008380CR  
**FCC ID:** 2ARYN-MAX-S  
**Applicant:** Shenzhen Trifo Technology Co., Ltd.  
**Address of Applicant:** Room 201, Building A, No.1, Qianwan Road 1, Qianhai Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China  
**Manufacturer:** Shenzhen Trifo Technology Co., Ltd.  
**Address of Manufacturer:** Room 201, Building A, No.1, Qianwan Road 1, Qianhai Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China  
**Factory:** Flextronics computing (Suzhou) Co., Ltd.  
**Address of Factory:** No.1 Guanpu Road, Guoxiang Street, WuZhong District, Suzhou, Jiangsu, China  
**Equipment Under Test (EUT):**  
**EUT Name:** AI Home Robot  
**Model No.:** OLL-U  
**Add Model No.:** OLL-P, OLL-M, OLL-S  
**Trade Mark:** Trifo  
**Standard(s) :** FCC Rules 47 CFR §2.1091  
 KDB447498 D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2021-07-28  
**Date of Test:** 2021-08-03 to 2021-09-07  
**Date of Issue:** 2021-09-08

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

*Parlan Zhan*

Parlan Zhan  
Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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Revision Record			
Version	Description	Date	Remark
00	Original	2021-09-08	/

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



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### 3 General Information

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

Power supply:	DC 14.4V 5200mAh rechargeable battery Charging adapter: Model: SUN-INTE-267 Input:100-240V~50/60Hz Output:20V 2000mA
Antenna Gain:	3.3dBi (Provided by manufacturer)
Antenna Type:	PCB Antenna
Channel Spacing:	5MHz
Data Rate:	802.11b:1/2/5.5./11Mbps 802.11g:6/9/12/18/24/36/48/54Mbps 802.11n:MCS0-MCS7
Modulation Type	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels	802.11b/g/n(HT20):11 802.11n(HT40):7
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz



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### 3.2 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.

### 3.3 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 the 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:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm <sup>2</sup> )	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

## 5 Measurement and Calculation

### 5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM191001797002

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	13.46	22.18
11B	2442	Ant1	15.34	34.20
11B	2462	Ant1	16.24	42.07
11G	2412	Ant1	11.37	13.71
11G	2442	Ant1	13.35	21.63
11G	2462	Ant1	14.52	28.31
11N20SISO	2412	Ant1	11.10	12.88
11N20SISO	2442	Ant1	13.07	20.28
11N20SISO	2462	Ant1	14.38	27.42
11N40SISO	2422	Ant1	10.40	10.96
11N40SISO	2437	Ant1	11.28	13.43
11N40SISO	2452	Ant1	12.09	16.18



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## 5.2 MPE Calculation

According to the formula  $S=P/4\pi R^2$ , we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) MPE limit = 1mW/cm<sup>2</sup>

The max. antenna gain is 3.3 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
42.07	2.138	20	0.01789	1	Pass

So the device is exclusion from SAR test.

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

