# RF Exposure Evaluation Report

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|---|---|---|
| **Product** | : | Video Conferencing Bar |
| **Trade mark** | : | ROMTOK |
| **Model/Type reference** | : | CN1000 |
| **Test Model No.** | : | CN1000 |
| **Serial Number** | : | N/A |
| **Report Number** | : | EED32N81108705 |
| **FCC ID** | : | 2AXTSCN1000 |
| **Date of Issue** | : | Dec. 14, 2021 |
| **Test Standards** | : | 47 CFR Part 1.1307<br>47 CFR Part 2.1093<br>KDB447498D01 General RF Exposure Guidance v06 |
| **Test result** | : | PASS |

Prepared for:

**Hangzhou Sairobo Network Technology Co.,Ltd**
**Room 801,BLD 6,No.1818-2 Wenyi West Road,Yuhang District,Hangzhou City,Zhejiang Prov,China**

Prepared by:

**Centre Testing International Group Co., Ltd.**
**Hongwei Industrial Zone, Bao'an 70 District,**
**Shenzhen, Guangdong, China**
**TEL: +86-755-3368 3668**
**FAX: +86-755-3368 3385**

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|---|---|---|---|
| Compiled by: | mark.chen. | Reviewed by: | Aaron Ma |
| | Mark Chen | | Aaron Ma |
| Approved by: | David Wang | Date: | Dec. 14, 2021 |
| | David Wang | | |

Check No.:5622281021

## 2 Version

| Version No. | Date | Description |
|---|---|---|
| 00 | Dec. 14, 2021 | Original |
| | | |
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# 4 General Information

## 4.1 Client Information

| | |
|---|---|
| Applicant: | Hangzhou Sairobo Network Technology Co.,Ltd |
| Address of Applicant: | Room 801,BLD 6,No.1818-2 Wenyi West Road,Yuhang District,Hangzhou City, Zhejiang Prov,China |
| Manufacturer: | Hangzhou Sairobo Network Technology Co.,Ltd |
| Address of Manufacturer: | Room 801,BLD 6,No.1818-2 Wenyi West Road,Yuhang District,Hangzhou City, Zhejiang Prov,China |
| Factory: | Guandong taide zhilian technology co.,Ltd |
| Address of Factory: | Building 3,no.8,huangdong lingnan 2nd road,fenggang town,dongguan city,Guangdong province,China |

## 4.2 General Description of EUT

| | |
|---|---|
| Product Name: | Video Conferencing Bar |
| Mode No.: | CN1000 |
| Test Mode No.: | CN1000 |
| Trade mark: | ROMTOK |
| EUT Supports Radios application: | Operation Frequency: 2402-2480MHz<br>2.4GHz Wi-Fi:<br>IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz<br>5GHz Wi-Fi:<br>U-NII-1: 5180-5240MHz; U-NII-3: 5745-5825MHz |

## 4.3 Product Specification subjective to this standard

| | |
|---|---|
| Frequency Range: | Bluetooth : 2402-2480MHz<br>2.4GHz Wi-Fi:<br>IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz<br>5GHz Wi-Fi:<br>U-NII-1: 5180-5240MHz; U-NII-3: 5745-5825MHz |
| Modulation Type: | IEEE for 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM)<br>IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK)<br>IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK)<br>IEEE for 802.11n(HT20): OFDM (BPSK, QPSK, 16QAM, 64QAM)<br>IEEE for 802.11ac(VHT20/VHT40/VHT80): OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)<br>Bluetooth:GFSK, π/4DQPSK, 8DPSK |
| Test Power Grade: | Default |
| Test Software of EUT: | Ampak RFTestTool |
| Antenna Type (Bluetooth): | PIFA Antenna |
| Antenna Gain (Bluetooth): | 2.4dBi |

| | | |
|---|---|---|
| Antenna Type (Wi-Fi): | PIFA Antenna | |
| Antenna Gain (Wi-Fi): | 2.4dBi | |
| Function (Wi-Fi): | ☒ SISO ☒ 2x2 MIMO ☐ 3x3 MIMO ☐ 4x4MIMO | |
| Power Supply: | AC/DC ADAPTER | Model:J651-1205000D Input:100-240V~50/60Hz 2A<br>Output:PD:12V⎓5000mA |
| Max Conducted Peak Output Power: | BT:6.04dBm, BLE: 5.08dBm, 2.4G WIFI:16.60dBm; 5G WIFI:12.99dBm | |
| | The Max Conducted Peak Output Power data refer to the report EED32N81108701, EED32N81108702, EED32N81108703, EED32N81108704 | |
| Sample Received Date: | Nov. 02, 2021 | |
| Sample tested Date: | Nov. 02, 2021 to Dec. 13, 2021 | |
| Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified. | | |

## 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 RF Exposure Evaluation

## 5.1 RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$ **Equation 1**

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm$^2$

## 5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using d = 20 cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / $cm^2$

**BLE:**

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm | Limit (mW/$cm^2$) |
|---|---|---|---|---|---|---|
| 39 | 2440 | 3.221 | 1.738 | 20 | 0.0011 | 1 |

**BT Classic:**

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm | Limit (mW/$cm^2$) |
|---|---|---|---|---|---|---|
| 78 | 2480 | 4.018 | 1.738 | 20 | 0.0014 | 1 |

**2.4G WIFI:**

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm | Limit (mW/$cm^2$) |
|---|---|---|---|---|---|---|
| 11 | 2462 | 45.709 | 1.738 | 20 | 0.0158 | 1 |

**5G WIFI:**

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm | Limit (mW/$cm^2$) |
|---|---|---|---|---|---|---|
| 48 | 5240 | 19.907 | 1.74 | 20 | 0.0069 | 1 |

**For BT and WIFI**

BT and WIFI can not transmit simultaneously.

# PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32N81108701 for EUT external and internal photos.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***