

RF Exposure Evaluation Report

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
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

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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 2.4GHz Wi-Fi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz 5GHz Wi-Fi: U-NII-1: 5180-5240MHz; U-NII-3: 5745-5825MHz

4.3 Product Specification subjective to this standard

Frequency Range:	Bluetooth : 2402-2480MHz 2.4GHz Wi-Fi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz 5GHz Wi-Fi: U-NII-1: 5180-5240MHz; U-NII-3: 5745-5825MHz
Modulation Type:	IEEE for 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20): OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE for 802.11ac(VHT20/VHT40/VHT80): OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) Bluetooth:GFSK, $\pi/4$ DQPSK, 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 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:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

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 / cm²

BLE:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	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 ²	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 ²	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 ²	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 ***