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Report No.: 2407TW7401-U5
Report Version: 1.0
Issue Date: 2024-11-25

Maximum Permissible Exposure

FCC ID: 2BMCE- VigilX0001
APPLICANT: Yun-X Tek CO.,LTD.
Application Type: Certification
Product: Non-Contact Edge-AI Fall Detection Camera
Model No.: VX0001
Brand Name: YUN-X
FCC Rule Part(s): Part 2.1091 (Mobile)
Test Date: July 29, 2024

Reviewed By

:

Paddy Chen

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Approved By

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Chenz Ker

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Testing Laboratory
3261

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report. Test results reported herein relate only to the item(s) tested.

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Revision History

Report No.	Version	Description	Issue Date	Note
2407TW7401-U5	1.0	Original Report	2024-11-25	

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Non-Contact Edge-AI Fall Detection Camera
Model No.	VX0001
Brand Name	YUN-X
Supports Radios Spec.	2.4G: 802.11b/g/n-20/n-40 5G: 802.11a/n-20/ac-20/n-40/ac-40/ac-80, Band 1~4 Bluetooth Dual Mode; V5.0
Wi-Fi Specification	802.11a/b/g/n/ac (1TX / 1RX)
Frequency Range	<u>2.4GHz:</u> For 802.11b/g/n-HT20: 2412 ~ 2462 MHz For 802.11n-HT40: 2422 ~ 2452 MHz <u>5GHz:</u> For 802.11a/n-HT20: 5180~5320MHz, 5500~5700MHz, 5745~5825MHz For 802.11n-HT40: 5190~5310MHz, 5510~5670MHz, 5755~5795MHz
Modulation Type	802.11b: DSSS, DBPSK, DQPSK, CCK 802.11g/n-20M/n-40M: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11a/n-20/ac-20/n-40: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)

1.2. Antenna Description

No.	Manufacturer	Part No.	Antenna Type	Mode	Peak Gain
1	Pulse	ANT1608LL14R2455A	Chip	2.4GHz	3.11dBi
2	Pulse	ANT1608LL14R2455A	Chip	5GHz	3.43dBi

2. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1. FCC Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
0.3-1.4	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

Note : (1) f= Frequency in MHz , (2) * = Plane-wave equivalent power density

Calculation Formula:

$$Pd = (Pout \cdot G) / (4 \cdot \pi \cdot r^2)$$

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

r = distance between observation point and center of the radiator in cm

Under normal use condition, is at least 20cm away from the body of the user .

So, this device is classified as **Mobile Device**.

2.2. Test Result

Band (MHz)	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/ cm ²)
Wi-Fi 2.4G	2412 ~ 2462	16.28	42.46	3.11	20	0.017	1
Wi-Fi 5G	5180 ~ 5825	18.69	73.96	3.43	20	0.0324	1

So, device can comply with FCC radiation exposure requirement specified in the FCC Rule 2.1091.

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