

RF Exposure Evaluation Report

Product : AI Dash Camera
Trade mark : 
Model/Type reference : VT-DCAI-02
Serial Number : N/A
Report Number : EED32P81173403
FCC ID : 2BB6C-VT-DCAI-02
Date of Issue : Aug. 28, 2023
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

Velocitor Solutions

851 Blairhill Rd Charlotte, NC 28217 United States

Prepared by:

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2 Version

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4 General Information

4.1 Client Information

Applicant:	Velocitor Solutions
Address of Applicant:	851 Blairhill Rd Charlotte, NC 28217 United States
Manufacturer:	Velocitor Solutions
Address of Manufacturer:	851 Blairhill Rd Charlotte, NC 28217 United States

4.2 General Description of EUT

Product Name:	AI Dash Camera
Model No.(EUT):	VT-DCAI-02
Trade Mark:	
EUT Supports Radios application:	2.4GHz Wi-Fi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz LTE: B2,B4,B5,B12,B13,B66,B71

4.3 Product Specification subjective to this standard

Frequency Range:	2.4GHz Wi-Fi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz LTE: B2: 1850-1910MHz, B4: 1710-1755MHz, B5: 824-849MHz, B12: 699-716MHz, B13: 777-787MHz, B66: 1710-1780MHz, B71: 663-698MHz
Modulation Type:	2.4GHz Wi-Fi: IEEE for 802.11b:DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g:OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20): OFDM (64QAM, 16QAM,QPSK,BPSK) LTE: QPSK,16QAM
Test Power Grade:	Default
Antenna Type (Wi-Fi):	FPC antenna
Antenna Gain (Wi-Fi):	-0.37dBi
Antenna Type (LTE):	FPC antenna
Antenna Gain (LTE):	LTE Band 5 & Band 12 & Band 13 & Band 71: 7.98dBi; LTE Band 2 & Band 4 & Band 66: 2.88dBi

Function (Wi-Fi):	☒ SISO ☐ 2x2 MIMO ☐ 3x3 MIMO ☐ 4x4MIMO
Function (LTE):	☒ SISO ☐ 2x2 MIMO ☐ 3x3 MIMO ☐ 4x4MIMO
Power Supply:	9-36V  2A
Max Conducted Peak Output Power:	2.4G WiFi:13.72dBm, LTE: B2: 23.84dBm, B4: 23.72dBm, B5: 24.19dBm, B12: 23.74dBm, B13: 23.85dBm, B66: 23.82dBm, B71: 23.47dBm The Max Conducted Peak Output Power data refer to the report EED32P81173401,EED32P81173402,R2007A0434-R1,R2007A0434-R2,R2007A0434-R3. (LTE module's FCC ID:XMR202008EC25AFXD.) and R1907A0408-R1,R1907A0408-R2,R1907A0408-R3 (LTE module's FCC ID:XMR201909EC25AFX.)
Sample Received Date:	Aug. 03, 2022
Sample tested Date:	Aug. 03, 2022 to Aug. 12, 2022
Remark: 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 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation

For Stand alone:

For 2.4G WiFi:

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	Max. Conducted Output power (mW)	Limit (mW)	MPE ratio	Result
2437	13.72	-0.37	11.20	23.5505	3060	0.0077	PASS

Note :

- ① The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW);
- ② The data refer to the report EED32P81173401;
- ③ The separation distance is 20cm.

For LTE:

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio	Result
844	24.19	7.98	30.02	1004.6158	1721.7600	0.5835	PASS

Note:

- ① The data refer to the report EED32P81173402,R2007A0434-R1,R2007A0434-R2,R2007A0434-R3. Only the worst case was recorded in the report.(LTE module's FCC ID:XMR202008EC25AFXD.)
- ② The separation distance is 20cm.

For Simultaneous Transmission:

As MPE ratio (2.4G WiFi+LTE)=0.0077+0.5835=0.5912 < 1, it's deemed to fulfil the RF exposure requirement.

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*** End of Report ***