



**ELEMENT MATERIALS TECHNOLOGY,
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**RF EXPOSURE EVALUATION
Maximum Permissible Exposure (MPE)**

Applicant Name:

Applied Information, Inc.
3000 Summit PI suite 150
Alpharetta, GA 30009
United States

Date of Testing:

8/6/2026-8/27/2026

Test Report Issue Date:

9/30/2026

Test Site/Location:

Element lab., Columbia, MD, USA

Test Report Serial No.:

1M2607220068-03-R3.2BHCM

FCC ID:

2BHCM-500-065-02

APPLICANT:

Applied Information, Inc.

Application Type:

Certification

Model:

500-065-02

EUT Type:

CV2X OBU

FCC Classification:

Part 95L On-board Unit

FCC Rule Part:

FCC Part 1 (§1.1310) and Part 2 (§2.1091)

Test Procedure(s):

KDB 447498 D01 v06

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC KDB 447498 D01. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N: 1M2607220068-03-R3.2BHCM) supersedes and replaces all previously issued test reports on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

**RJ Ortanez
Executive Vice President**



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TEST REPORT REVISION HISTORY

Rev. No.	Description	Issue Date	Revised By
-	Initial Release	9/1/2026	WKR0000005826
1	Addressed comments from TCB Reviewer	9/16/2026	WKR0000005826
2	Addressed comments from TCB Reviewer	9/16/2026	WKR0000005826
3	Addressed comments from manufacturer	9/30/2026	WKR0000005826

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1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2 Element Test Location

These measurement tests were conducted at the Element laboratory located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4:2014.

1.3 Test Facility / Accreditations

Measurements were performed at Element lab located in Columbia, MD 21046, U.S.A.

- Element Washington DC LLC is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISSED Standards (RSS).
- Element Washington DC LLC facility is a registered test laboratory with the site description on file with ISSED (Wireless Test Lab number 2451B) and FCC (Designation Number US1113).
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISSED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

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2.0 RF EXPOSURE EVALUATION – MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 Scope

This document is prepared to show compliance with the RF Exposure requirements as required in §1.1310 of the FCC Rules and Regulations and RSS-102 of Industry Canada.

The limit for Maximum Permissible Exposure (MPE), specified in FCC §1.1310, is listed in Table 2-1. According to FCC §1.1310 and RSS-102: the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b).

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 (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	...	...	f/300	6
1500-100,000	...	...	5.0	6
(B) Limits For General Population / Uncontrolled Exposure (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

Table 2-1. Limits for Maximum Permissible Exposure (MPE)

2.2 EUT Description

The **Applied Information CV2X On-board Unit FCC ID: 2BHCM-500-065-02** is an enclosed roadside unit used for intelligent transportation services. The unit is powered by a 24VDC power supply.

2.3 Antenna Description

The manufacturer has declared that the following antenna will be used with this device:

C-V2X/LTE Antenna

Antenna Part No: AL1G1W1

Antenna Description: Combo Antenna 3-In-1 LTE MIMO + GPS + 5.9GHz

C-V2X Antenna Gain: 3dBi

LTE Antenna Gain: 2dBi

900MHz Antenna

Antenna Part No: A9O3NMO

Antenna Description: 900MHz Omnidirectional Antenna

Antenna Gain: 2.5dBi

BLE Antenna

Antenna Part No: NINA-B112

Antenna Description: Integrated PIFA Antenna

Antenna Gain: 3dBi

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2.4 Procedure

The procedure used to determine the RF power density was based upon a calculation for determining compliance with the MPE requirements.

The power generated by each transmitter used in this product was initially measured by a power meter or spectrum analyzer and the powers were recorded. Through use of the Friis transmission formula and knowledge of the maximum antenna gain to be used, the power density level is calculated at a distance of 20cm.

Friis Transmission Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4\pi r^2)$

Where,

P_d = Power Density (mW/cm²)

π = 3.1416

P_{out} = output power to antenna (mW)

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

G = gain of antenna in linear scale

Calculated MPE

The power density limit for General Population/Uncontrolled Exposure at each frequency is determined based on the information in Table 2-1.

There is no co-location between the electric fields of any two transmitters therefore following power densities are calculated for each individual transmitter by frequency at 20cm spacing:

Frequency	5915	MHz
FCC Limit	1.000	mW/cm ²
Distance	20	cm
Max Power	21.32	dBm
Max FCC Tx Ant Gain	3.00	dBi
FCC Power Density	0.054	mW/cm ²

Table 2-2. Calculated MPE Data for CV2X

Frequency	698	MHz
FCC Limit	0.465	mW/cm ²
Distance	20	cm
Max Power	25.00	dBm
Max FCC Tx Ant Gain	5.00	dBi
FCC Power Density	0.199	mW/cm ²

Table 2-3. Calculated MPE Data for LTE

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Frequency	2400	MHz
FCC Limit	1.000	mW/cm ²
Distance	20	cm
Max Power	4.00	dBm
Max FCC Tx Ant Gain	3.00	dBi
FCC Power Density	0.001	mW/cm ²

Table 2-4. Calculated MPE Data for BLE

Frequency	902	MHz
FCC Limit	0.601	mW/cm ²
Distance	20	cm
Max Power	27.71	dBm
Max FCC Tx Ant Gain	2.00	dBi
FCC Power Density	0.186	mW/cm ²

Table 2-5. Calculated MPE Data for 900MHz

	Power Density (mW/cm ²)	Limit (mW/cm ²)	Percent MPE Used (%)
C-V2X	0.054	1.000	5.40
LTE b12	0.199	0.465	42.80
BLE	0.001	1.000	0.10
900M	0.186	0.601	30.95
Total			79.24

Table 2-6. Calculated MPE for Simultaneous Transmission

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3.0 CONCLUSION

The device meets the mobile RF exposure limit at a 20cm separation distance as specified in §2.1091 of the FCC Rules. An appropriate RF exposure compliance statement will be placed in the user's manual.

- END OF TEST REPORT -

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