

# Radio Frequency Exposure Evaluation Report

**For:**

Continental Automotive Technologies GmbH

**Brand:**

AUMOVIO

**Marketing Name:**

PACCAR Connect Platform

**Model Name:**

SILVERBOX

**Product Description:**

Infotainment controller for truck

**FCC ID:** 2AJW5PCNPSLV

**ISED:** 21979-PCNPSLV

**Applied Rules and Standards:**

CFR Part1 (1.1307 & 1.1310), Part 2 (2.1091 & 2.1093),  
FCC KDB 447498 D01 General RF Exposure Guidance v06  
ISED RSS-102 Issue 6

**REPORT #:** EMC\_CONTM\_003\_25001\_RF\_Exposure\_Rev3

**DATE:** 2026-04-13



**IC recognized #**  
**3462B**

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## **TABLE OF CONTENTS**

|          |                                                                            |           |
|----------|----------------------------------------------------------------------------|-----------|
| <b>1</b> | <b>ASSESSMENT.....</b>                                                     | <b>3</b>  |
| <b>2</b> | <b>ADMINISTRATIVE DATA .....</b>                                           | <b>4</b>  |
| 2.1      | IDENTIFICATION OF THE TESTING LABORATORY ISSUING THE EMC TEST REPORT ..... | 4         |
| 2.2      | IDENTIFICATION OF THE CLIENT .....                                         | 4         |
| 2.3      | IDENTIFICATION OF THE MANUFACTURER.....                                    | 4         |
| <b>3</b> | <b>EQUIPMENT UNDER TEST (EUT).....</b>                                     | <b>5</b>  |
| 3.1      | EUT SPECIFICATIONS .....                                                   | 5         |
| 3.2      | RADIO SPECIFICATIONS .....                                                 | 6         |
| <b>4</b> | <b>RF EXPOSURE EXEMPTION LIMITS FOR FCC AND IC .....</b>                   | <b>7</b>  |
| 4.1      | FCC RULE PART .....                                                        | 7         |
| 4.2      | IC RULE PART .....                                                         | 8         |
| <b>5</b> | <b>EVALUATIONS.....</b>                                                    | <b>9</b>  |
| 5.1      | FCC EXEMPTION.....                                                         | 9         |
| 5.2      | IC EXEMPTION .....                                                         | 10        |
| <b>6</b> | <b>REVISION HISTORY .....</b>                                              | <b>11</b> |

## 1 Assessment

This RF Exposure evaluation report provides evidence for compliance of the below identified device with the RF Exposure limits for mobile devices as defined in FCC CFR Part 1 (1.1307 & 1.1310), Part 2 (2.1091 & 2.1093) and ISED standard RSS-102 issue 6 under worst case conditions (measured or rated RF output power, antenna gain, distance towards human body, multiple transmitter information as presented by the applicant). In addition, maximum antenna gain or minimum distance towards the human body is calculated respectively, where relevant.

The device meets the limits as stipulated by the above given FCC and ISED rule parts based on available specifications for worst-case conditions at more than 20 cm distance to the body.

| Company                                  | Description                       | Model #   |
|------------------------------------------|-----------------------------------|-----------|
| Continental Automotive Technologies GmbH | Infotainment controller for truck | SILVERBOX |

Report Authorized by:

Responsible for testing Laboratory:

| 2026-04-13 | Compliance | Alvin Ilarina<br>(Director of EMC Services) | Alvin<br>ILARINA | Digitally signed by Alvin<br>ILARINA<br>Date: 2026.04.13<br>16:37:17 -07'00' |
|------------|------------|---------------------------------------------|------------------|------------------------------------------------------------------------------|
| Date       | Section    | Name                                        | Signature        |                                                                              |

Responsible for the Report:

| 2026-04-13 | Compliance | Guangcheng Huang<br>(Senior EMC Test Engineer) | Guangcheng<br>Huang | Digitally signed by:<br>Guangcheng Huang<br>DN: CN = Guangcheng<br>Huang email = guangcheng.<br>huang@cetecom.com C =<br>US O = cetecom OU = EMC<br>Date: 2026.04.13 16:32:21 -<br>07'00' |
|------------|------------|------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date       | Section    | Name                                           | Signature           |                                                                                                                                                                                           |

The test results of this test report relate exclusively to the test item specified in Section 3. CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM Inc. USA.

## 2 **Administrative Data**

### 2.1 Identification of the Testing Laboratory Issuing the EMC Test Report

|                         |                    |
|-------------------------|--------------------|
| <b>Company Name:</b>    | CETECOM Inc.       |
| <b>Department:</b>      | Compliance         |
| <b>Street Address:</b>  | 411 Dixon Landing  |
| <b>City/Zip Code</b>    | Milpitas, 95035 CA |
| <b>Country</b>          | USA                |
| <b>Telephone:</b>       | + 1 (408) 586 6200 |
| <b>Fax:</b>             | + 1 (408) 586 6299 |
| <b>EMC Lab Manager:</b> | Alvin Ilarina      |
| <b>Project Manager:</b> | Ruby Hall          |

### 2.2 Identification of the Client

|                        |                                          |
|------------------------|------------------------------------------|
| <b>Client's Name:</b>  | Continental Automotive Technologies GmbH |
| <b>Street Address:</b> | Heinrich-Hertz-Straße 45                 |
| <b>City/Zip Code</b>   | 78052                                    |
| <b>Country</b>         | Germany                                  |

### 2.3 Identification of the Manufacturer

|                               |                                           |
|-------------------------------|-------------------------------------------|
| <b>Manufacturer's Name:</b>   | Continental Automotive Guadalajara Mexico |
| <b>Manufacturers Address:</b> | Camino a la Tijera 3                      |
| <b>City/Zip Code</b>          | 45647                                     |
| <b>Country</b>                | Mexico                                    |

### 3 **Equipment Under Test (EUT)**

#### 3.1 EUT Specifications

|                                                      |                                   |
|------------------------------------------------------|-----------------------------------|
| <b>Model No:</b>                                     | SILVERBOX                         |
| <b>Marketing Name:</b>                               | PACCAR Connect Platform           |
| <b>HW Version:</b>                                   | AAA2425110200                     |
| <b>SW Version:</b>                                   | EBS.A.C.2025-03-07                |
| <b>FCC ID:</b>                                       | 2AJW5PCNPSLV                      |
| <b>ISED:</b>                                         | 21979-PCNPSLV                     |
| <b>FWIN:</b>                                         | -                                 |
| <b>HVIN:</b>                                         | AAA26838                          |
| <b>PMN:</b>                                          | -                                 |
| <b>Product Description:</b>                          | Infotainment controller for truck |
| <b>Power Supply / Rated operating Voltage Range:</b> | 9 V to 16 V                       |
| <b>Operating Temperature Range</b>                   | -40°C to 85°C                     |
| <b>Sample Revision</b>                               | production                        |
| <b>EUT Dimensions</b>                                | 194 mm X 140 mm X 87.15 mm        |
| Note: All information provided by the client.        |                                   |

### 3.2 Radio Specifications

|                                               |                                                                                                                                                                                       |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Embedded Radio Technologies</b>            | AM/FM, SDARS, WLAN, BT, GNSS                                                                                                                                                          |
| <b>Frequency Range / number of channels:</b>  | WLAN 5GHz, UNII-1 (5150 - 5250 MHz), UNII-3 (5725 - 5850 MHz) / 36, 38, 40, 42, 44, 46, 48, 149, 151, 153 155, 157, 159, 161<br>BT CLASS 2 (2400-2483.5 MHz)<br>BLE (2400-2483.5 MHz) |
| <b>Antenna Type / Gain</b>                    | See following table of antenna gain                                                                                                                                                   |
| <b>Modes of Operation</b>                     | Either BT or BLE can transmit simultaneously with WLAN 5 GHz                                                                                                                          |
| Note: All information provided by the client. |                                                                                                                                                                                       |

| 2.4 GHz band (dBi) (only use AT400/chain2) |       |       |                       |
|--------------------------------------------|-------|-------|-----------------------|
| RF chain                                   | AT400 | AT401 |                       |
| In-band Max.                               | 2.8   | 1.9   |                       |
| 5 GHz band, U-NII-1 subband (dBi)          |       |       |                       |
| RF chain                                   | AT400 | AT401 | MIMO directional gain |
| In-band Max.                               | 2.4   | 2.4   | 5.41                  |
| 5 GHz band, U-NII-3 subband (dBi)          |       |       |                       |
| RF chain                                   | AT400 | AT401 | MIMO directional gain |
| In-band Max.                               | 5.5   | 4.7   | 8.12                  |

Note: MIMO directional gain calculated per formula (40) from ANSI C63.10-2020.

## 4 RF Exposure Exemption Limits for FCC and IC

### 4.1 FCC Rule Part

#### 4.1.1 Single RF source

##### § 2.1091(c)(1) mobile device (to human body >20 cm)

Evaluation of compliance with the exposure limits in § 1.1310 of this chapter, and preparation of an EA if the limits are exceeded, is necessary for mobile devices with single RF sources having either more than an available maximum time-averaged power of 1 mW or more than the ERP listed in Table 1 to § 1.1307(b)(3)(i)(C), whichever is greater.

TABLE 1 TO § 1.1307(b)(3)(i)(C)—SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

| RF Source frequency (MHz) | Threshold ERP (watts) |
|---------------------------|-----------------------|
| 0.3-1.34                  | $1.920 R^2$ .         |
| 1.34-30                   | $3.450 R^2/f^2$ .     |
| 30-300                    | $3.83 R^2$ .          |
| 300-1,500                 | $0.0128 R^2 f$ .      |
| 1,500-100,000             | $19.2 R^2$ .          |

For mobile devices not exempt by § 1.1307(b)(3)(i)(C) at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 of this chapter is necessary if the ERP of the device is greater than  $ERP_{20\text{cm}}$  in the formula below. If the ERP of a single RF source at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP) in comparison with the following formula only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of  $\lambda/4$  or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

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

##### § 2.1093(c)(1) portable device (to human body <20 cm)

The following formula shall only be used in conjunction with portable devices not exempt by § 1.1307(b)(3)(i)(C) at distances from 0.5 centimeters to 20 centimeters and frequencies from 0.3 GHz to 6 GHz

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

## 4.1.2 Multiple RF sources

### § 1.1307(b)(3)(ii)(A)

Exempt, if the available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required).

### § 1.1307(b)(3)(ii)(B)

Exempt, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

## 4.2 IC Rule Part

### 4.2.1 Exemption limits for routine evaluation on SAR, RSS-102 i6, cl.6.3

| Frequency (MHz) | ≤ 5 mm (mW) | 10 mm (mW) | 15 mm (mW) | 20 mm (mW) | 25 mm (mW) | 30 mm (mW) | 35 mm (mW) | 40 mm (mW) | 45 mm (mW) | > 50 mm (mW) |
|-----------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|
| ≤ 300           | 45          | 116        | 139        | 163        | 189        | 216        | 246        | 280        | 319        | 362          |
| 450             | 32          | 71         | 87         | 104        | 124        | 147        | 175        | 208        | 248        | 296          |
| 835             | 21          | 32         | 41         | 54         | 72         | 96         | 129        | 172        | 228        | 298          |
| 1900            | 6           | 10         | 18         | 33         | 57         | 92         | 138        | 194        | 257        | 323          |
| 2450            | 3           | 7          | 16         | 32         | 56         | 89         | 128        | 170        | 209        | 245          |
| 3500            | 2           | 6          | 15         | 29         | 50         | 72         | 94         | 114        | 134        | 158          |
| 5800            | 1           | 5          | 13         | 23         | 32         | 41         | 54         | 74         | 102        | 128          |

### 4.2.2 Exemption limits for routine evaluation on field reference level exposure according to RSS-102 i6, cl.6.6

| Frequency [MHz] | Time-averaged EIRP [W]                |
|-----------------|---------------------------------------|
| Below 20        | 1                                     |
| 20-48           | $4.49/f^{0.5}$                        |
| 48-300          | 0.6                                   |
| 300-6000        | $1.31 \cdot 10^{-2} \cdot f^{0.6834}$ |
| Above 6000      | 5                                     |

## 5 Evaluations

### Analysis of RF Exposure for simultaneous transmission

- Radiation source to human body distance: min. 20 cm.
- Evaluations are based on ERP/EIRP calculated from
  - o given antenna gain (provided by applicant) and
  - o conducted output power (measurement).
- RF related information provided by applicant
  - o Two TX antennas can be utilized either
    - BT/BLE + Wi-Fi 5 GHz SISO, or
    - Wi-Fi 5 GHz MIMO
  - o BT and BLE share the same transmission chain, hence, no BT+BLE co-transmission.
  - o Wi-Fi: no U-NII-1 & 3 co-transmission
- Thus, worst case of multiple radiation sources that transmit simultaneously: Wi-Fi 5 GHz MIMO at U-NII-3 sub-band.

### 5.1 FCC Exemption

#### Individual radio (for info only)

| Radio             | F Low [MHz] | Output Power [dBm] | Output Power [mW] | AG [dBi] | AG_i linear | ERP [mW] |  |  |  |
|-------------------|-------------|--------------------|-------------------|----------|-------------|----------|--|--|--|
| BT                | 2402        | -1.4               | 0.724             | 2.8      | 1.91        | 0.84     |  |  |  |
| BLE               | 2402        | -3                 | 0.501             | 2.8      | 1.91        | 0.58     |  |  |  |
| WLAN SISO U-NII-1 | 5180        | 9.8                | 9.55              | 2.4      | 1.74        | 10.12    |  |  |  |
| WLAN SISO U-NII-3 | 5745        | 9.1                | 8.13              | 5.5      | 3.55        | 17.58    |  |  |  |

#### Multiple radios evaluation

| Radio     | F Low [MHz] | Output Power [dBm] | Output Power [mW] | AG [dBi] | AG_i linear | ERP [mW] | ERP Threshold [mW] | Exemption option    | Limit ratio |
|-----------|-------------|--------------------|-------------------|----------|-------------|----------|--------------------|---------------------|-------------|
| WLAN MIMO | 5785        | 14.5               | 28.2              | 8.12     | 6.49        | 111.4    | 3060               | 1.1307(b)(3)(ii)(B) | 3.6%        |
| Sum       | -           | -                  | -                 | -        | -           | -        | -                  |                     | 3.6%        |

#### Note:

1. Antenna gain provided by applicant
2. Choose the maximum power to do MPE analysis.

### Conclusion:

The worst-case simultaneous transmission sums up to 3.6% and is within the exemption limit of 100%. The EUT is exempt from RF exposure evaluation.

## 5.2 IC Exemption

### Individual radio (for info only)

| Radio             | F Low [MHz] | Output Power [dBm] | Output Power [mW] | AG [dBi] | AG_i linear | EIRP [mW] |  |  |  |
|-------------------|-------------|--------------------|-------------------|----------|-------------|-----------|--|--|--|
| BT                | 2402        | -1.4               | 0.724             | 2.8      | 1.91        | 1.38      |  |  |  |
| BLE               | 2402        | -3                 | 0.501             | 2.8      | 1.91        | 0.95      |  |  |  |
| WLAN SISO U-NII-1 | 5180        | 9.8                | 9.55              | 2.4      | 1.74        | 16.6      |  |  |  |
| WLAN SISO U-NII-3 | 5745        | 9.1                | 8.13              | 5.5      | 3.55        | 28.84     |  |  |  |

### Multiple radios evaluation

| Radio     | F Low [MHz] | Output Power [dBm] | Output Power [mW] | AG [dBi] | AG_i linear | EIRP [W] | EIRP Limit [W] | Exemption option | Limit ratio |
|-----------|-------------|--------------------|-------------------|----------|-------------|----------|----------------|------------------|-------------|
| WLAN MIMO | 5785        | 14.5               | 28.2              | 8.12     | 6.49        | 0.18     | 4.88           | cl.6.6           | 3.7%        |
| Sum       | -           | -                  | -                 | -        | -           | -        | -              | -                | 3.7%        |

**Note:**

1. Antenna gain provided by applicant
2. Choose the maximum power to do MPE analysis.

### Conclusion:

The worst-case simultaneous transmission sums up to 3.7% and is within the exemption limit of 100%. The EUT is exempt from RF exposure evaluation.

## 6 **Revision History**

| Date       | Report name                          | Changes to report                                                 | Prepared by      |
|------------|--------------------------------------|-------------------------------------------------------------------|------------------|
| 2026-01-02 | EMC_CONTM_003_25001_RF_Exposure      | Initial version                                                   | Guangcheng Huang |
| 2026-02-20 | EMC_CONTM_003_25001_RF_Exposure_Rev1 | Update EUT antenna gain<br>Update WLAN U-NII-1 output power       | Guangcheng Huang |
| 2024-03-24 | EMC_CONTM_003_25001_RF_Exposure_Rev2 | Update EUT antenna gain and EIRP<br>Update distance to human body | Guangcheng Huang |
| 2026-04-13 | EMC_CONTM_003_25001_RF_Exposure_Rev3 | Sec.5, add evaluation of each individual radio                    | Guangcheng Huang |

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