

12/15/2025

Controlid Industria e Comercio de Hardware e Servicos De Tecnologia Ltda  
Rua Hungria, 888  
8th floor  
São Paulo, Brazil  
01455-000

Dear Albert Nissimoff,

Enclosed is the EMC test report for testing of the Controlid Industria e Comercio de Hardware e Servicos De Tecnologia Ltda, iDFace Max tested to the requirements of FCC Part 2.1091 and RSS-102 Issue 6

Thank you for using the services of Eurofins E&E North America. If you have any questions regarding these results or if MET can be of further service to you, please do feel free to contact me.

Sincerely,



Nancy LaBrecque  
Documentation Department  
Eurofins Electrical and Electronic Testing NA, Inc.

Reference: WIRA139090\_MPE



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**RF Exposure Criteria  
Test Report  
Using Maximum Permissible Exposure (MPE) Calculations**

for the

**Controlid Industria e Comercio de Hardware e Servicos De Tecnologia Ltda  
iDFace Max (Model: IDFMAXFPH)**

Tested under

**FCC Part 2.1091 and RSS-102 Issue 6**

**Report: WIRA139090\_MPE**

12/15/2025



Bryan Taylor, Wireless Team Lead  
Electromagnetic Compatibility Lab



Nancy LaBrecque  
Documentation Department

**Engineering Statement:** The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.



Matthew Hinojosa  
EMC Manager, Austin Electromagnetic Compatibility Lab

## Report Status Sheet

| Revision | Report Date | Reason for Revision |
|----------|-------------|---------------------|
| 0        | 12/15/2025  | Initial Issue.      |

## List of Terms and Abbreviations

|                              |                                                                                                                                    |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>AC</b>                    | <b>Alternating Current</b>                                                                                                         |
| <b>ACF</b>                   | <b>Antenna Correction Factor</b>                                                                                                   |
| <b>Cal</b>                   | <b>Calibration</b>                                                                                                                 |
| <b><i>d</i></b>              | <b>Measurement Distance</b>                                                                                                        |
| <b>dB</b>                    | <b>Decibels</b>                                                                                                                    |
| <b>dB<math>\mu</math>A</b>   | <b>Decibels above one microamp</b>                                                                                                 |
| <b>dB<math>\mu</math>V</b>   | <b>Decibels above one microvolt</b>                                                                                                |
| <b>dB<math>\mu</math>A/m</b> | <b>Decibels above one microamp per meter</b>                                                                                       |
| <b>dB<math>\mu</math>V/m</b> | <b>Decibels above one microvolt per meter</b>                                                                                      |
| <b>DC</b>                    | <b>Direct Current</b>                                                                                                              |
| <b>E</b>                     | <b>Electric Field</b>                                                                                                              |
| <b>DSL</b>                   | <b>Digital Subscriber Line</b>                                                                                                     |
| <b>ESD</b>                   | <b>Electrostatic Discharge</b>                                                                                                     |
| <b>EUT</b>                   | <b>Equipment Under Test</b>                                                                                                        |
| <b><i>f</i></b>              | <b>Frequency</b>                                                                                                                   |
| <b>CISPR</b>                 | <b>Comite International Special des Perturbations Radioelectriques<br/>(International Special Committee on Radio Interference)</b> |
| <b>GRP</b>                   | <b>Ground Reference Plane</b>                                                                                                      |
| <b>H</b>                     | <b>Magnetic Field</b>                                                                                                              |
| <b>HCP</b>                   | <b>Horizontal Coupling Plane</b>                                                                                                   |
| <b>Hz</b>                    | <b>Hertz</b>                                                                                                                       |
| <b>IEC</b>                   | <b>International Electrotechnical Commission</b>                                                                                   |
| <b>kHz</b>                   | <b>kiloHertz</b>                                                                                                                   |
| <b>kPa</b>                   | <b>kiloPascal</b>                                                                                                                  |
| <b>kV</b>                    | <b>kilovolt</b>                                                                                                                    |
| <b>LISN</b>                  | <b>Line Impedance Stabilization Network</b>                                                                                        |
| <b>MHz</b>                   | <b>MegaHertz</b>                                                                                                                   |
| <b><math>\mu</math>H</b>     | <b>microHenry</b>                                                                                                                  |
| <b><math>\mu</math>F</b>     | <b>microFarad</b>                                                                                                                  |
| <b><math>\mu</math>s</b>     | <b>microseconds</b>                                                                                                                |
| <b>PRF</b>                   | <b>Pulse Repetition Frequency</b>                                                                                                  |
| <b>RF</b>                    | <b>Radio Frequency</b>                                                                                                             |
| <b>RMS</b>                   | <b>Root-Mean-Square</b>                                                                                                            |
| <b>V/m</b>                   | <b>Volts per meter</b>                                                                                                             |
| <b>VCP</b>                   | <b>Vertical Coupling Plane</b>                                                                                                     |

## 1.0 Requirements Summary

| Page Number | Test Name                                                   | Result    |
|-------------|-------------------------------------------------------------|-----------|
| 9           | RSS-102 Issue 6 MPE Limits<br>(For General Public Exposure) | Compliant |
| 9           | FCC Part 2.1091 MPE Limits<br>(For General Public Exposure) | Compliant |

Table 1. Summary of Test Results

## 2.0 Equipment Configuration

### 2.1 Overview

Eurofins MET Labs was contracted by Controlid Industria e Comercio de Hardware e Servicos De Tecnologia Ltda to perform testing on the, under Controlid Industria e Comercio de Hardware e Servicos De Tecnologia Ltda's purchase order number 2025562648.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Controlid Industria e Comercio de Hardware e Servicos De Tecnologia Ltda iDFace Max.

The results obtained relate only to the item(s) tested.

|                                       |                                                         |                                                                        |
|---------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------|
| <b>Product Name:</b>                  | iDFace Max                                              |                                                                        |
| <b>Model(s) Tested:</b>               | DFMAXFPH                                                |                                                                        |
| <b>Equipment Specifications:</b>      | Primary Power:                                          | 12VDC                                                                  |
|                                       | EUT Frequency Ranges:                                   | BLE: 2402MHz – 2480MHz<br>HF RFID: 13.56MHz<br>LF RFID: 125kHz         |
|                                       | Peak RF Output Power Including Tune-Up Tolerance:       | BLE: 5.86dBm<br>HF RFID: -46.61dBm (EIRP)<br>LF RFID: -47.47dBm (EIRP) |
|                                       | Antenna Gain <sup>1</sup> :                             | BLE: 3.47dBi<br>HF RFID: 1dB<br>LF RFID: 1dB                           |
| <b>Analysis:</b>                      | The results obtained relate only to the item(s) tested. |                                                                        |
| <b>Environmental Test Conditions:</b> | Temperature: 15-35° C                                   |                                                                        |
|                                       | Relative Humidity: 30-60%                               |                                                                        |
|                                       | Barometric Pressure: 860-1060 mbar                      |                                                                        |
| <b>Evaluated by:</b>                  | Bryan Taylor                                            |                                                                        |
| <b>Report Date(s):</b>                | 12/15/2025                                              |                                                                        |

Table 2. EUT Summary Table

<sup>1</sup> The antenna gain information was provided by Controlid Industria e Comercio de Hardware e Servicos De Tecnologia Ltda and may affect compliance.

## 2.2 Test Site

All testing was performed at Eurofins E&E North America, Austin, TX. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

## 2.3 References

|                         |                                                                                                |
|-------------------------|------------------------------------------------------------------------------------------------|
| <b>RSS-102: Issue 6</b> | Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) |
| <b>FCC Part 2.1091</b>  | Radiofrequency radiation exposure evaluation: mobile devices.                                  |

**Table 3. References**

## 2.4 Description of Test Sample

The HID Amico Facial Recognition Reader is an access control reader employing facial recognition technology, as well as RFID and Bluetooth technologies.

The DFMAXFPH has an LF, HF and a BLE radio on board enables the use of traditional RFID access control as well as mobile access through cell phone BLE and the HID Mobile Access App.

The DFMAXFPH allows a user that is enrolled to access a door through the means of facial recognition (by looking into the cameras on the screen) or presenting an RFID credential, in the form of a fob, card or mobile device.

## 2.5 Modifications

### 2.5.1 Modifications to EUT

No modifications were made to the EUT.

### 2.5.2 Modifications to Test Standard

No modifications were made to the test standard.

## 2.6 Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to Controlid Industria e Comercio de Hardware e Servicos De Tecnologia Ltda upon completion of testing.

## 3.0 Maximum Permissible Exposure Results

### 3.1 RSS-102 RF Exposure Limits

| Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)                                 |                           |                                          |                                   |                            |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------|-----------------------------------|----------------------------|
| Frequency Range (MHz)                                                                                                               | Electric Field (V/m rms)  | Magnetic Field (A/m rms)                 | Power Density (W/m <sup>2</sup> ) | Reference Period (minutes) |
| 0.003-10 <sup>21</sup>                                                                                                              | 83                        | 90                                       | -                                 | Instantaneous*             |
| 0.1-10                                                                                                                              | -                         | 0.73/ f                                  | -                                 | 6**                        |
| 1.1-10                                                                                                                              | 87/ f <sup>0.5</sup>      | -                                        | -                                 | 6**                        |
| 10-20                                                                                                                               | 27.46                     | 0.0728                                   | 2                                 | 6                          |
| 20-48                                                                                                                               | 58.07/ f <sup>0.25</sup>  | 0.1540/ f <sup>0.25</sup>                | 8.944/ f <sup>0.5</sup>           | 6                          |
| 48-300                                                                                                                              | 22.06                     | 0.05852                                  | 1.291                             | 6                          |
| 300-6000                                                                                                                            | 3.142 f <sup>0.3417</sup> | 0.008335 f <sup>0.3417</sup>             | 0.02619 f <sup>0.6834</sup>       | 6                          |
| 6000-15000                                                                                                                          | 61.4                      | 0.163                                    | 10                                | 6                          |
| 15000-150000                                                                                                                        | 61.4                      | 0.163                                    | 10                                | 616000/ f <sup>1.2</sup>   |
| 150000-300000                                                                                                                       | 0.158 f <sup>0.5</sup>    | 4.21 x 10 <sup>-4</sup> f <sup>0.5</sup> | 6.67 x 10 <sup>-5</sup> f         | 616000/f <sup>1.2</sup>    |
| <p><b>Note:</b> f is frequency in MHz.<br/> * Based on nerve stimulation (NS).<br/> ** Based on specific absorption rate (SAR).</p> |                           |                                          |                                   |                            |

### 3.2 FCC Exposure Limits

| Frequency range (MHz)                                    | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|----------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (i) Limits for Occupational/Controlled Exposure          |                               |                               |                                     |                          |
| 0.3-3.0                                                  | 614                           | 1.63                          | *(100)                              | ≤6                       |
| 3.0-30                                                   | 1842/f                        | 4.89/f                        | *(900/f <sup>2</sup> )              | <6                       |
| 30-300                                                   | 61.4                          | 0.163                         | 1.0                                 | <6                       |
| 300-1,500                                                |                               |                               | f/300                               | <6                       |
| 1,500-100,000                                            |                               |                               | 5                                   | <6                       |
| (ii) Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
| 0.3-1.34                                                 | 614                           | 1.63                          | *(100)                              | <30                      |
| 1.34-30                                                  | 824/f                         | 2.19/f                        | *(180/f <sup>2</sup> )              | <30                      |
| 30-300                                                   | 27.5                          | 0.073                         | 0.2                                 | <30                      |
| 300-1,500                                                |                               |                               | f/1500                              | <30                      |
| 1,500-100,000                                            |                               |                               | 1.0                                 | <30                      |

f = frequency in MHz. \* = Plane-wave equivalent power density.

### Test Procedure:

An MPE evaluation for was performed in order to show that the device was compliant with the general population exposure limits. The maximum power density was calculated for each transmitter band at a separation distance of 20cm using the maximum declared output power including tune up tolerance.

For each transmitter the maximum RF exposure at a 20 cm distance using the formula:

$$\text{ConductedPower}_{mW} = 10^{\text{ConductedPower(dBm)}/10}$$

$$\text{PowerDensity} = \frac{\text{ConductedPower}_{mW} \times \text{Ant.Gain}}{4\pi \times (20_{cm})^2}$$

For transmitters where field strength was measured at a specific distance, the radiated power was calculated via the formula from ANSI C63.10 shown below:

$$\text{EIRP} = E_{M_{431}} + 20 \log(d_{M_{431}}) - 104.7$$

where

|               |                                                                              |
|---------------|------------------------------------------------------------------------------|
| EIRP          | is the equivalent isotropically radiated power, in dBm                       |
| $E_{M_{431}}$ | is the field strength of the emission at the measurement distance, in dBuV/m |
| $d_{M_{431}}$ | is the measurement distance, in m                                            |

The EIRP was then used in the numerator in the power density equation above in place of the conducted power and antenna gain.

For transmitters that could operate simultaneously, the MPE to limit ratio for each was calculated and then summed. If the sum of the MPE to limit ratios was less than 1, that specific combination of transmitters was deemed to comply.

### Test Results:

The iDface Max was **compliant** with FCC Part 2.1091 and RSS-102 Issue 6. The calculated maximum power density at 20cm distance was equal to or less than the required limits for general population exposure for FCC Part 2.1091 and RSS-102 Issue 6.

For ISED, the 125kHz transmitter is subject to the Nerve Stimulation requirements from RSS-102 and that is addressed in a separate report.

#### **BLE Power Calculation:**

The BLE radio had a measured conducted power of 3.86dBm. The manufacturer has a 2dB tune up tolerance which equates to a worst-case power of 5.86dBm which was used in the MPE calculation.

#### **125kHz EIRP Calculation:**

The Field strength at 3m was measured (48.13 dBuV/m) and according to the manufacturer has a 5% tune up tolerance from the measured value which equates to 48.55dBuV/m. 48.55dBuV/m was converted to EIRP using the equations from ANSI C63.10 Section 9.5:

$$EIRP = E_{Meas} + 20 \log(d_{Meas}) - 104.7 \quad (22)$$

where

EIRP is the equivalent isotropically radiated power, in dBm  
 $E_{Meas}$  is the field strength of the emission at the measurement distance, in dBuV/m  
 $d_{Meas}$  is the measurement distance, in m

NOTE—Because this equation yields the identical result whether the field strength is extrapolated using the default 20 dB/decade of distance extrapolation factor, or the field strength is not extrapolated for distance, this equation can generally be applied directly (with no further correction) to determine EIRP. In some cases, a different distance correction factor may be required; see 9.1.

$$EIRP = 48.55\text{dBuV/m} + 20\log(3\text{m}) - 104.7 = -46.61\text{dBm}$$

#### **13.56MHz Power EIRP Calculation:**

The 13.56MHz Transmitter had a measured field strength of 47.27dBuV/m. The manufacturer has a 5% tune-up tolerance from the measured value which equates to 47.69dBuV/m. The 47.69dBuV/m field strength was converted to ERP using the equations from ANSI C63.10 Section 9.5:

$$EIRP = E_{Meas} + 20 \log(d_{Meas}) - 104.7 \quad (22)$$

where

EIRP is the equivalent isotropically radiated power, in dBm  
 $E_{Meas}$  is the field strength of the emission at the measurement distance, in dBuV/m  
 $d_{Meas}$  is the measurement distance, in m

NOTE—Because this equation yields the identical result whether the field strength is extrapolated using the default 20 dB/decade of distance extrapolation factor, or the field strength is not extrapolated for distance, this equation can generally be applied directly (with no further correction) to determine EIRP. In some cases, a different distance correction factor may be required; see 9.1.

$$EIRP = 47.69\text{dBuV/m} + 20\log(3\text{m}) - 104.7 = -47.47\text{dBm}$$

### FCC Power Density Calculations:

| 100 (%)         |                                        |                                              |                   |                                 |                                 |                                       |                                     |
|-----------------|----------------------------------------|----------------------------------------------|-------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------------|
| 20 (cm)         |                                        |                                              |                   |                                 |                                 |                                       |                                     |
| Frequency (MHz) | Max Cond. Power (Inc. Tolerance) (dBm) | Duty Cycle Adjusted Cond. Output Power (dBm) | Antenna Gain (dB) | MPE Value (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) | Margin to Limit (mW/cm <sup>2</sup> ) | MPE / Limit Ratio (for Co-Location) |
| 2402            | 5.86                                   | 5.86                                         | 3.47              | 0.0017050226                    | 1.0000000000                    | 0.9982949774                          | 0.0017050226                        |
|                 |                                        |                                              |                   |                                 |                                 | Sum:                                  | 0.0017050226                        |

| 100 (%)         |                                       |                                      |                                 |                                 |                                       |                                     |
|-----------------|---------------------------------------|--------------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------------|
| 20 (cm)         |                                       |                                      |                                 |                                 |                                       |                                     |
| Frequency (MHz) | Max EIRP Power (Inc. Tolerance) (dBm) | Max EIRP Power (Inc. Tolerance) (mW) | MPE Value (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) | Margin to Limit (mW/cm <sup>2</sup> ) | MPE / Limit Ratio (for Co-Location) |
| 0.125           | -46.61                                | 0.0000218273                         | 0.0000000043                    | 100.000000                      | 99.9999999957                         | 0.000000000043                      |
| 13.56           | -47.47                                | 0.0000179061                         | 0.0000000036                    | 100.000000                      | 99.9999999964                         | 0.000000000036                      |
|                 |                                       |                                      |                                 |                                 | Sum:                                  | 0.000000000036                      |

| TX Mode       | MPE / Limit Ratio |
|---------------|-------------------|
| 125kHz RFID   | 0.0000000000      |
| 13.56MHz RFID | 0.0000000000      |
| BLE           | 0.0017050226      |
| Sum:          | 0.0017050227      |

Since the sum of all of the limit to MPE ratios is less than 1 the device has demonstrated compliance with the simultaneous transmission exposure criteria.

Test Engineer(s): Bryan Taylor

Test Date(s): 07/28/2025 - 08/11/2025

### ISED Power Density Calculations:

For ISED, the 125kHz transmitter is subject to the Nerve Stimulation requirements from RSS-102 and that is addressed in a separate report.

| Duty Cycle       | 100 (%)         |                                        |                                              |                   |                               |                               |                                     |                                     |
|------------------|-----------------|----------------------------------------|----------------------------------------------|-------------------|-------------------------------|-------------------------------|-------------------------------------|-------------------------------------|
| Separation Dist. | 20 (cm)         |                                        |                                              |                   |                               |                               |                                     |                                     |
| Operating Mode   | Frequency (MHz) | Max Cond. Power (Inc. Tolerance) (dBm) | Duty Cycle Adjusted Cond. Output Power (dBm) | Antenna Gain (dB) | MPE Value (W/m <sup>2</sup> ) | MPE Limit (W/m <sup>2</sup> ) | Margin to Limit (W/m <sup>2</sup> ) | MPE / Limit Ratio (for Co-Location) |
| BLE              | 2402            | 5.86                                   | 5.86                                         | 3.47              | 0.0170502262                  | 5.350805                      | 5.3337543365                        | 0.0031864790                        |
|                  |                 |                                        |                                              |                   |                               |                               | Sum:                                | 0.0031864790                        |

| Duty Cycle       | 100 (%)         |                                       |                                     |                               |                               |                                     |                                     |
|------------------|-----------------|---------------------------------------|-------------------------------------|-------------------------------|-------------------------------|-------------------------------------|-------------------------------------|
| Separation Dist. | 20 (cm)         |                                       |                                     |                               |                               |                                     |                                     |
| Operating Mode   | Frequency (MHz) | Max EIRP Power (Inc. Tolerance) (dBm) | Max EIRP Power (Inc. Tolerance) (W) | MPE Value (W/m <sup>2</sup> ) | MPE Limit (W/m <sup>2</sup> ) | Margin to Limit (W/m <sup>2</sup> ) | MPE / Limit Ratio (for Co-Location) |
| 13.56MHz RFID    | 13.56           | -47.47                                | 0.0000000179                        | 0.0000000356                  | 2.0000                        | 1.9999999644                        | 0.0000000178                        |
|                  |                 |                                       |                                     |                               |                               |                                     | Sum: 0.0000000178                   |

| TX Mode       | MPE / Limit Ratio |
|---------------|-------------------|
| 13.56MHz RFID | 0.0000000178      |
| BLE           | 0.0031864790      |
| Sum:          | 0.0031864968      |

Since the sum of all of the limit to MPE ratios is less than 1 the device has demonstrated compliance with the simultaneous transmission exposure criteria.

Test Engineer(s): Bryan Taylor

Test Date(s): 07/28/2025 - 08/11/2025