



Test report issued under the responsibility of:  
EMITECH MONTPELLIER laboratory  
MRA US-EU Designation Number: FR0006  
Canadian CAB Identifier: FR0003

## RF EXPOSURE TEST REPORT

**KDB 447498 D01 V06**  
**RSS-102 - Issue 6, December 2023**

**Company** .....: **VOGO**  
**Address**.....: 895 RUE DE LA VIEILLE POSTE,  
34000 MONTPELLIER  
FRANCE

**Test item description** .....: **Radio module in host**  
**Trade Mark** .....: VOKKERO  
**Manufacturer**.....: **VOGO**  
**Model/Type reference**.....: VO8364AA+ /  
• Into VOK-ELITE PLUS-US/CAN/AUS/NZ-WIRELESS INTERFACE - VO8161CA  
• Into VOK-ELITE PLUS -US/CAN/AUS/NZ-SMART GATEWAY-4M - VO8346BA  
**FCC ID**.....: 2AU6N-VO8364AA  
**IC** .....: 25704-VO8364AA  
**Ratings**.....: 3.7Vdc to 4.2Vdc or 100-240Vac/50-60Hz

**Testing Laboratory** .....: **EMITECH MONTPELLIER laboratory**  
**Address**.....: 145 rue de Massacan  
34740 VENDARGUES  
FRANCE

**Report Reference No**.....: **RE-EVE-24B929-1A**  
**Test procedure** .....: FCC IC Certification  
**Diffusion**.....: M SAGUIN  
**Applicant's name** .....: VOGO  
**Date of issue**.....: November 26, 2024  
**Total number of pages**.....: 10  
**Revision** .....: 0  
**Compiled by**.....: Fabien MOINACHE  
**Approved by (+ signature)** .....: Olivier HEYER (Deputy center manager)



*Duplication of this test report is only permitted for an integral photographic facsimile. It includes the number of pages referenced here above. This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of the whole manufactured products of the tested sample.*

## REPORT INDEX:

|                                                             |           |
|-------------------------------------------------------------|-----------|
| <b>1. GENERAL INFORMATIONS .....</b>                        | <b>3</b>  |
| <b>2. REFERENCE DOCUMENT(S) .....</b>                       | <b>4</b>  |
| <b>3. EQUIPMENT TECHNICAL DESCRIPTION .....</b>             | <b>5</b>  |
| 3.1. TEST CONDITIONS .....                                  | 5         |
| 3.2. E.U.T. MARKING PLATE VO8161CA .....                    | 5         |
| 3.3. E.U.T. MARKING PLATE VO8346BA .....                    | 6         |
| 3.4. E.U.T. GENERAL VIEW VO8161CA .....                     | 6         |
| 3.5. E.U.T. GENERAL VIEW VO8346BA .....                     | 6         |
| 3.6. E.U.T. MECHANICAL AND ELECTRICAL DESIGN VO8161CA ..... | 7         |
| 3.7. E.U.T. MECHANICAL AND ELECTRICAL DESIGN VO8346BA ..... | 7         |
| 3.8. E.U.T. INPUT/OUTPUT PORTS VO8161CA .....               | 7         |
| 3.9. EUT INPUT/OUTPUT PORTS VO8346BA .....                  | 8         |
| 3.10. EUT RADIO SPECIFICATIONS .....                        | 8         |
| <b>4. RF EXPOSURE .....</b>                                 | <b>10</b> |

## REVISION HISTORY:

| Revision | Date              | Modified pages | Modifications |
|----------|-------------------|----------------|---------------|
| 0        | November 26, 2024 | /              | Creation      |

## 1. GENERAL INFORMATION

This document submits the results of Radio tests performed on the equipment **VOK-ELITE-US/CAN/AUS/NZ-WIRELESS INTERFACE** (denominated hereafter E.U.T.: equipment under test) according to document(s) listed in §2 of this test report.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |       |                         |     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------|-------------------------|-----|---------------------|
| <b>TESTING PROCEDURE AND TESTING LOCATION:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |       |                         |     |                     |
| <b>Testing Location</b> ..... : EMITECH MONTPELLIER laboratory<br><b>Address.</b> ..... : 145 rue de Massacan<br>34740 VENDARGUES<br>FRANCE<br><b>Test procedure.</b> ..... : FCC IC Certification<br><b>Tested by</b> ..... : Fabien MOINACHE<br><b>Test supervisor</b> ..... : None<br><b>Date of receipt of test item</b> ..... : N/A<br><b>Date (s) of performance of tests</b> ..... : August the 5 <sup>th</sup> of 2024                                                                                                                                                                                                                                                              |                                |       |                         |     |                     |
| <b>APPLICANT'S GENERAL INFORMATION:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                |       |                         |     |                     |
| <b>Company name</b> ..... : VOGO<br><b>Company address.</b> ..... : 895 RUE DE LA VIEILLE POSTE,<br>34000 MONTPELLIER<br>FRANCE<br><b>Person(s) present during the tests.</b> ..... : M DE BARROS<br><b>Responsible.</b> ..... : M SAGUIN                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                |       |                         |     |                     |
| <b>GENERAL REMARKS:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                |       |                         |     |                     |
| <p><b>The information in italics is declared by the manufacturer and is under his responsibility</b><br/> <b>The test results presented in this report relate only to the object tested.</b><br/> <b>The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.</b></p> <p>"(see Enclosure #)" refers to additional information appended to the report.<br/> "(see appended table)" refers to a table appended to the report.<br/> Throughout this report the decimal separator is point.</p> |                                |       |                         |     |                     |
| <b>POSSIBLE TEST CASE VERDICTS:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |       |                         |     |                     |
| Test case does not apply to the test object.: N/A<br>Test case not performed..... : N/P<br>Test object does meet the requirement..... : P (Pass)<br>Test object does not meet the requirement. F (Fail)<br>..... :                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                |       |                         |     |                     |
| <b>DEFINITIONS AND ABBREVIATIONS:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |       |                         |     |                     |
| E.U.T.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Equipment Under Test           | AE    | Ancillary Equipment     | Pk  | Peak detector       |
| RBW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Resolution BandWidth           | VBW   | Video BandWidth         | QP  | Quasi-peak detector |
| FSOATS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Free Space Open Area Test Site | FAR   | Full Anechoic Room      | Av  | Average detector    |
| VP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Vertical Polarization          | HP    | Horizontal Polarization | RMS | Root Mean Square    |
| RF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Radio Frequency                | N.T.R | Nothing To Report       | N/C | Not Communicated    |
| SAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Semi Anechoic Chamber          |       |                         |     |                     |

## 2. REFERENCE DOCUMENT(S)

### NORMATIVE REFERENCES:

The following referenced documents are necessary for the application of the present test report.

**FCC 47 CFR PART 15**

Code of federal regulations – Title 47 telecommunication

Part 15- Radio frequency devices

**KDB 447498 D01 v06**

RF exposure procedures and equipment authorization policies for mobile and portable devices.

**RSS-102 - Issue 6, December 2023**

Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

**RR-EVE-24B929-3A, RR-EVE-24B929-4A**

Radio Test Reports Emitech.

Although the product standard uses obsolete technical standards, the latest versions of standards achievable by the laboratory will be used for testing.

### INFORMATIVE REFERENCES:

The following referenced documents are not necessary for the application of the present test report but they assist the user with regard to a particular subject area.

### 3. EQUIPMENT TECHNICAL DESCRIPTION

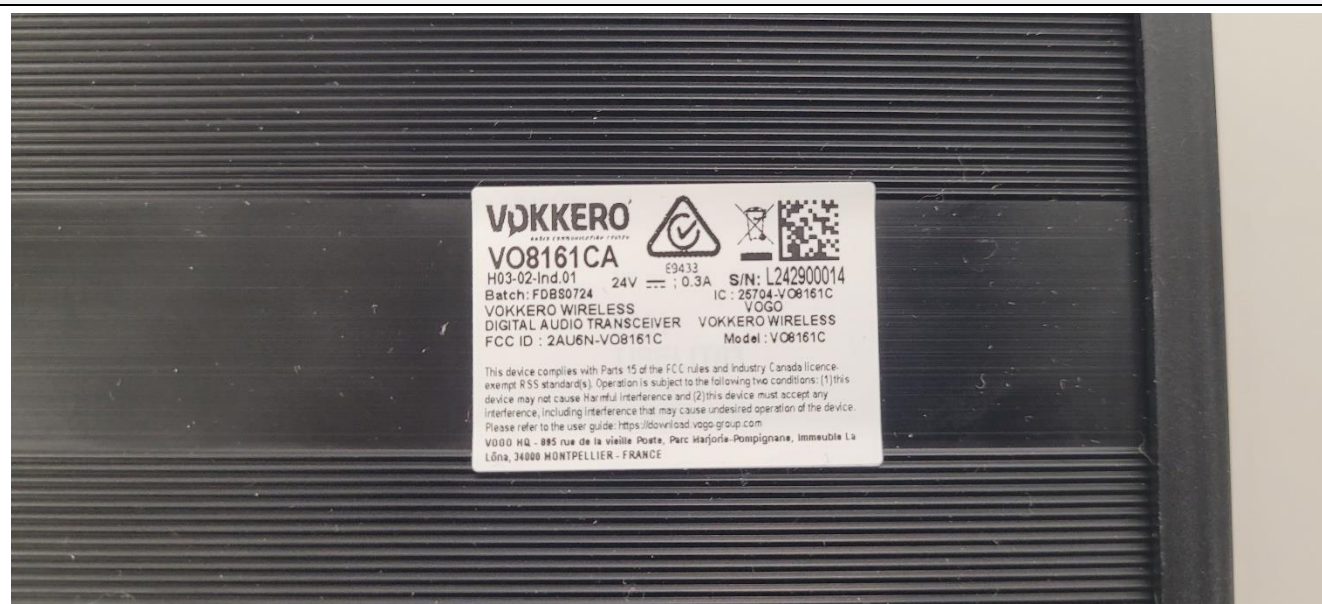
#### 3.1. Test Conditions

Test item description. .... : Radio module in host  
Model/Type reference..... : VO8364AA+ /  
• Into VOK-ELITE PLUS-US/CAN/AUS/NZ-WIRELESS INTERFACE - VO8161CA  
• Into VOK-ELITE PLUS -US/CAN/AUS/NZ-SMART GATEWAY-4M - VO8346BA  
Trade Mark. .... : VOKKERO  
Serial number (S/N)..... : L242900014 / L242900022 / L242500324  
Part number (P/N). .... : Not communicated  
Software version. .... : *Not communicated*  
Firmware version. .... : *Not communicated*  
Type of sample. .... : Sériel  
Function(s)..... : Wireless interface (WI) / Digital Analogic Audio Gateway / VOK-ELITE-US/CAN/AUS/NZ  
Manufacturer name. .... : VOGO  
Address. .... : PARC TECHNOLOGIQUE LES FONTAINES  
ACTIVILLAGE - BATIMENT 3A  
38190 BERNIN  
FRANCE

#### General product information:

N/A

#### 3.2. E.U.T. Marking plate VO8161CA



### 3.3.E.U.T. Marking plate VO8346BA



### 3.4.E.U.T. General view VO8161CA



### 3.5.E.U.T. General view VO8346BA



### 3.6.E.U.T. Mechanical and Electrical Design VO8161CA

Power supply..... : 120Vac/60Hz  
Power supply range..... : 100-240Vac/50-60Hz  
Power type..... : Single phase without earth  
Power (W)..... : Not communicated  
Nominal current (mA). .... : 400-200 to 750  
Dimensions (L x W x H) (mm). .... : 230 x 110 x 50  
Weight (kg). .... : 0.650  
Temperature range (°C). .... : -0 to +45  
Ground bounding strap..... : No

#### Comments:

N/A

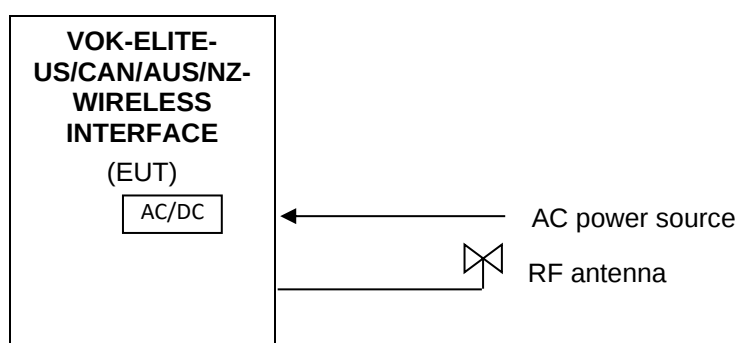
### 3.7.E.U.T. Mechanical and Electrical Design VO8346BA

Power supply..... : 120Vac/60Hz  
Power supply range..... : 100-240Vac/50-60Hz  
Power type..... : Single phase with earth  
Power (W)..... : 90  
Nominal current (A). .... : 2.5  
Dimensions (L x W x H) (m). .... : 0.483 x 0.253 x 0.088  
Weight (kg). .... : 5  
Temperature range (°C). .... : 0 to 40  
Ground bounding strap..... : No

#### Comments:

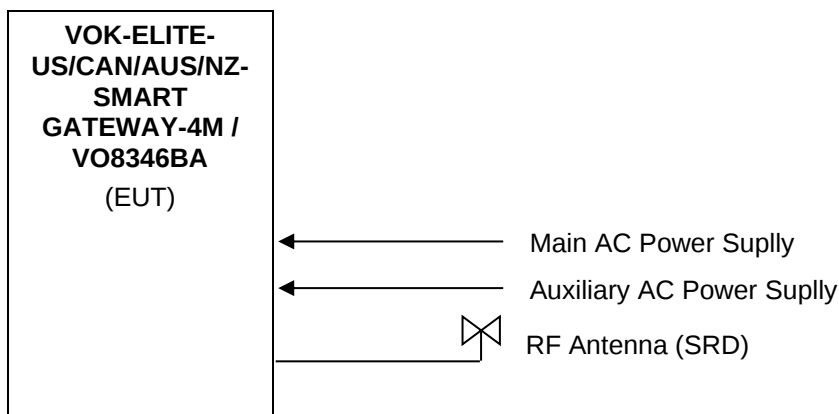
N/A

### 3.8.E.U.T. Input/Output ports VO8161CA



| PORT | NAME            | TYPE  | LENGTH | CABLE TYPE | COMMENTS |
|------|-----------------|-------|--------|------------|----------|
| 0    | Main frame      | N/E   | N/A    | Plastic    | N/A      |
| 1    | AC power source | AC/DC | N/A    | 2P         | N/A      |
| 2    | RF antenna      | RF    | N/A    | N/A        | N/A      |

### 3.9. EUT Input/Output ports VO8346BA



| PORT | NAME                      | TYPE | LENGTH | CABLE TYPE | COMMENTS                  |
|------|---------------------------|------|--------|------------|---------------------------|
| 0    | Main frame                | N/E  | N/A    | Metallic   | N/A                       |
| 3    | Main AC Power Supply      | AC   | >3m    | 2P+T       | 120Vac/60Hz               |
| 4    | Auxiliary AC Power Supply | AC   | >3m    | 2P+T       | 120Vac/60Hz               |
| 5    | RF Antenna (SRD)          | RF   | N/A    | N/A        | used for SRD (902-928MHz) |

### 3.10. EUT Radio Specifications

#### a) GENERAL INFORMATIONS

According to manufacturer's declarations :

EUT type..... : *Transceiver*  
Technology..... : *DTS*  
*FHSS*  
Environmental profile..... : *Data Transmissions*  
Temperature range..... : *0°C to +45°C (VO8161CA)*  
*0°C to 40°C (VO8161BA)*  
*-20°C to +55°C (VO8161AA)*  
Antenna type ..... : *External*  
Antenna Gain..... : *Not communicated*

#### Comments:

*N/A*

| b) TRANSMITTER PARAMETERS (Tx)       |                                                                       |
|--------------------------------------|-----------------------------------------------------------------------|
| Frequency bands.....                 | DTS band 902.4 MHz to 927.6 MHz<br>FHSS band 915.42 MHz to 927.42 MHz |
| RF Power.....                        | Not communicated                                                      |
| Number of channels / Separation..... | DTS: 127<br>FHSS: 25/26                                               |
| Modulation type .....                | GFSK                                                                  |
| Duty cycle .....                     | Not communicated                                                      |
| Tested frequency.....                | 902.4MHz (Low Freq.)<br>915MHz (Mid. Freq.)<br>927.6MHz (High Freq.)  |
| c) RECEIVER PARAMETERS (Rx)          |                                                                       |
| Frequency bands.....                 | DTS band 902.4 MHz to 927.6 MHz<br>FHSS band 915.42 MHz to 927.42 MHz |

## 4. RF EXPOSURE

### For USA

In accordance with KDB 447498 D04 Appendix B.3 and FCC Part 2.1091:

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

Thanks to test report in §2 of this document :

| Configuration | Frequency (MHz) | EIRP (dBm) | ERP (W) | Limit (W) |
|---------------|-----------------|------------|---------|-----------|
| VO8364BA      | 915             | 18.8       | 0.12    | 1.87      |
| VO8161CA      | 915             | 19.3       | 0.14    | 1.87      |

It is therefore not necessary to carry out other specific measurements to assess human exposure to radiofrequencies when the product is used more than 20 cm from the human body.

### For Canada

In accordance with RSS-102, Issue 6, Section 6.6., the maximum EIRP must be lower than  $1,31 \times 10^{-2} f^{0,6834}$

Thanks to test report in §2 of this document :

| Configuration | Frequency (MHz) | EIRP (dBm) | EIRP (W) | Limit (W) |
|---------------|-----------------|------------|----------|-----------|
| VO8364BA      | 915             | 18.8       | 0.08     | 1.38      |
| VO8161CA      | 915             | 19.3       | 0.09     | 1.38      |

It is therefore not necessary to carry out measurements to assess human exposure to radiofrequencies when the product is used more than 20 cm from the human body.

●●● End of report ●●●