



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 5, March 2015

**Company** .....: **ENLESS WIRELESS**  
**Address**.....: 45 TER AVENUE DE VERDUN  
33520 BRUGES  
FRANCE

**Test item description** .....: **LoRa temperature & humidity wireless transmitter**  
**Trade Mark** .....: ENLESS WIRELESS  
**Manufacturer**.....: ENLESS WIRELESS  
**Model/Type reference**.....: 600138402 / TX PULSE LED 600-138  
**FCC ID**.....: 2BEZP600138  
**IC** .....: 32107-600138  
**Ratings**.....: 3.6 Vdc to 3.8 Vdc

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

**Report Reference No** .....: **RE-EVE-23B292-3A**  
**Test procedure** .....: FCC IC Certification  
**Diffusion**.....: Mr PETIT  
**Applicant's name** .....: ENLESS WIRELESS  
**Date of issue**.....: July 19, 2024  
**Total number of pages**.....: 10  
**Revision** .....: 0  
**Compiled by**.....: Olivier HEYER  
**Approved by (+ signature)** .....: David MONTAULON (Technical Manager)

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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.*

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## REVISION HISTORY:

| Revision | Date          | Modified pages | Modifications |
|----------|---------------|----------------|---------------|
| 0        | July 19, 2024 | /              | Creation      |

## 1. GENERAL INFORMATION

This document submits the results of Radio tests performed on the equipment **Connected measuring device TX PULSE LED 600-138** (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> ..... : Morgan PATEY<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> ..... : From November 22 <sup>nd</sup> of 2023 to January 10 <sup>th</sup> of 2024                                                                                                                                                                                                                           |                                |       |                         |     |                     |
| <b>APPLICANT'S GENERAL INFORMATION:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                |       |                         |     |                     |
| <b>Company name</b> ..... : ENLESS WIRELESS<br><b>Company address</b> ..... : 45 TER AVENUE DE VERDUN<br>33520 BRUGES<br>FRANCE<br><b>Person(s) present during the tests</b> ..... : No representative for company attended the tests.<br><b>Responsible</b> ..... : Mr PETIT                                                                                                                                                                                                                                                                                                                                                                                                               |                                |       |                         |     |                     |
| <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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |       |                         |     |                     |
| <b>Test case does not apply to the test object</b> .: N/A<br><b>Test case not performed</b> ..... : N/P<br><b>Test object does meet the requirement</b> ..... : P (Pass)<br><b>Test object does not meet the requirement</b> ..... : F (Fail)                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                |       |                         |     |                     |
| <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 5, March 2018**

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

**RR-EVE-23B292-5A and -6A**

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. .... : LoRa wireless transmitter  
Model/Type reference..... : 600138402 / TX PULSE LED 600-138  
Trade Mark. .... : ENLESS WIRELESS  
Serial number (S/N)..... : Not communicated  
Part number (P/N). .... : Not communicated  
Software version..... : *Not communicated*  
Firmware version..... : *Not communicated*  
Type of sample..... : Standard equipment  
Function(s)..... : Not communicated  
Manufacturer name. .... : ENLESS WIRELESS  
Address. .... : 45 TER AVENUE DE VERDUN  
33520 BRUGES  
FRANCE

#### General product information:

N/A

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



### 3.3.E.U.T. General view



### 3.4.E.U.T. Front view



### 3.5.E.U.T. Back view



### 3.6.E.U.T. Internal view & Electronic board





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

Power supply. .... : 3.6 VDC  
Power supply range..... : 3.6 Vdc to 3.8 Vdc  
Power type..... : Battery powered  
Power (W)..... : Not communicated  
Nominal current (A). .... : Not communicated  
Dimensions (L x W x H) (m). .... : 0.118 x 0.079 x 0.048  
Weight (kg). .... : 0.300  
Temperature range (°C). .... : -25 to +55  
Ground bounding strap..... : No

#### Comments:

N/A

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

TX PULSE LED 600-138



Internal  
Battery



RF  
antenna



| PORT | NAME             | TYPE | LENGTH | CABLE TYPE | COMMENTS |
|------|------------------|------|--------|------------|----------|
| 0    | Main frame       | N/E  | N/A    | Plastic    | N/A      |
| 1    | Internal Battery | DC   | N/A    | N/A        | 3.6 Vdc  |
| 2    | RF antenna       | RF   | N/A    | N/A        | 915 MHz  |

AC/DC : AC/DC Converter port

I/O .....: Input or Output port

N/E .....: Non Electrical port

AC.....: Alternative current port

TP .....: Telecommunication port

DC.....: Direct current port

RF.....: Radio frequency port



### 3.9. EUT Radio Specifications

| a) GENERAL INFORMATIONS                    |                     |                      |
|--------------------------------------------|---------------------|----------------------|
| According to manufacturer's declarations : |                     |                      |
| EUT type.....                              | Transceiver         |                      |
| Technology .....                           | LoRa                |                      |
| Environmental profile.....                 | Data transmissions  |                      |
| Temperature range.....                     | -25°C to +55°C      |                      |
| Antenna type .....                         | Integrated          |                      |
| Antenna Gain.....                          | Not communicated    |                      |
| Comments:                                  |                     |                      |
| N/A                                        |                     |                      |
| b) TRANSMITTER PARAMETERS (Tx)             |                     |                      |
|                                            | DSSS Mode           | FHSS Mode            |
| Frequency bands.....                       | 902 MHz to 928 MHz  | 902 MHz to 928 MHz   |
| RF Power.....                              | 25 mw               | 25 mw                |
| Number of channels / Separation .....      | 8 channels / 1.6MHz | 64 channels / 200kHz |
| Modulation type .....                      | LoRa                | LoRa                 |
| Duty cycle .....                           | Not communicated    | Not communicated     |
| Tested frequency.....                      | 903.0 MHz           | 902.3 MHz            |
|                                            | 907.8 MHz           | 908.5 MHz            |
|                                            | 914.2 MHz           | 914.9 MHz            |
| c) RECEIVER PARAMETERS (Rx)                |                     |                      |
| Frequency bands.....                       | 902 MHz to 928 MHz  | 902 MHz to 928 MHz   |
| Bandwidth .....                            | Not communicated    | Not communicated     |

## 4. RF EXPOSURE

### 4.1. DSSS Mode

Maximum EIRP = 7.05 dBm (5.07 mW) at 903 MHz (see Radio test report referenced in §2)

#### For USA

In accordance with KDB 447498 D01 General RF Exposure Guidance v06 Appendix A, as EIRP is lower than 15.98 mW at 903 MHz, SAR exemption for FCC can be considered for a distance  $\leq 5$ cm.

It is therefore not necessary to carry out measurements to assess human exposure to radiofrequencies.

#### For Canada

In accordance with RSS-102, Issue 5, Section 2.5.1., as EIRP is lower than 16.36 mW at 903 MHz, SAR exemption for ISED can be considered for a distance  $\leq 5$ mm.

It is therefore not necessary to carry out measurements to assess human exposure to radiofrequencies.

### 4.2. FHSS Mode

Maximum EIRP = 9.32 dBm (8.55 mW) at 914.9 MHz (see Radio test report referenced in §2)

#### For USA

In accordance with KDB 447498 D01 General RF Exposure Guidance v06 Appendix A, as EIRP is lower than 15.90 mW at 914.9 MHz, SAR exemption for FCC can be considered for a distance  $\leq 5$ cm.

It is therefore not necessary to carry out measurements to assess human exposure to radiofrequencies.

#### For Canada

In accordance with RSS-102, Issue 5, Section 2.5.1., as EIRP is lower than 16.25 mW at 914.9 MHz, SAR exemption for ISED can be considered for a distance  $\leq 5$ mm.

It is therefore not necessary to carry out measurements to assess human exposure to radiofrequencies.

●●● End of test report ●●●