

REM-EMIESS24C182ECH-02Av0

## MPE test report

According to the standard:

CFR 47 FCC PART 15

Equipment under test:

*CRT.0036.915*

FCC ID: *2A2B4-36915V3-2*


Company:

**E-CHRONOS SA**

Distribution: Mr WAELTI Gabriel

(Company: E-CHRONOS SA)

Number of pages: 5

Ed.	Date	Modified Page(s)	Technical Verification and Quality Approval	
			Name and Function	Visa
0	19-Jul-24	Creation	J.C. BOGA, Laboratories Manager	

Duplication of this document 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.

Information in italics are declared by the manufacturer/customer and are under his responsibility

**DESIGNATION OF PRODUCT:** *CRT.0036.915*

**Serial number (S/N):** *Sample 1: 00372585 / 0033*  
*Sample 2: 00372566 / 0064*

**Reference / model (P/N):** *CRT.0036.915*

**Firmware version:** *1.13.5*

**MANUFACTURER:** *E-CHRONOS SA*

**COMPANY SUBMITTING THE PRODUCT:**

**Company:** *E-CHRONOS SA*

**Address:** *Rue d'Airmont 5,  
2900 Porrentruy,  
Switzerland*

**Responsible:** *Mr WAELTI Gabriel*

**DATE(S) OF TEST:** *From 6-Jun-24 to 8-Jun-24*

**TESTING LOCATION:** *EMITECH LYON laboratory at CHASSIEU (69) FRANCE*

*FCC Accredited under US-EU MRA Designation Number: FR0013  
Test Firm Registration Number: 807590*

**TESTED BY:** *T. LEDRESSEUR*

**VISA:**

A handwritten signature in black ink, appearing to be "T. LEDRESSEUR", written over a horizontal line.

**WRITTEN BY:** *T. LEDRESSEUR*

## CONTENTS

	TITLE	PAGE
1.	INTRODUCTION .....	4
2.	PRODUCT DESCRIPTION .....	4
3.	NORMATIVE REFERENCE .....	5
4.	RF EXPOSURE.....	5

## REVISIONS HISTORY

Revision	Date	Modified pages	Modifications
0	19-Jul-24	/	Creation

## 1. INTRODUCTION

This report presents the results of radio test carried out on the following radio equipment: **CRT.0036.915**, in accordance with normative reference.

The equipment under test is a LoRa radio module

## 2. PRODUCT DESCRIPTION

Category of equipment (ISED): I

Class: B

Utilization: Residential use

Antenna type and gain: Four different antenna can be used:

Type	Gain
$\frac{1}{2} \lambda$ whip antenna	2.15 dBi
Omni-directional antenna	3 dBi
Patch antenna (PCB)	1.9 dBi
Internal ceramic antenna	2.15 dBi

Operating frequency range: From 902 MHz to 928 MHz

Number of channels: 20

Channel spacing: 1.288MHz

Modulation parameters: SF=9, BW=500k, CR=2

Power source: 3.3 Vdc

### Test frequencies:

Frequencies tested:

Sample N°= 1  $\Rightarrow$  902.764 MHz Full tests

Sample N°= 1  $\Rightarrow$  915.644 MHz Full tests

Sample N°= 1  $\Rightarrow$  927.236 MHz Full tests

Power level, frequency range and channels characteristics are not user adjustable.  
The details pictures of the product and the circuit boards are joined with this file.

### 3. NORMATIVE REFERENCE

The standards and testing methods related throughout this report are those listed below.

They are applied on the whole test report even though the extensions (version, date and amendment) are not repeated.

CFR 47 (2024)	Radio Frequency Devices
ANSI C63.10	2013 Procedures for Compliance Testing of Unlicensed Wireless Devices.
447498 D01 General RF Exposure Guidance v06	RF Exposure procedures and equipment authorization policies for mobile and portable equipment
447498 D04 Interim General RF Exposure Guidance v01	RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices

### 4. RF EXPOSURE

#### **Maximum Permissive Exemption according paragraph 1.1310(d)(2) of CFR 47 FCC Part 15**

The most powerful antenna was considered for this analysis.

Maximum measured EIRP = 19.84 dBm = 0.0964 W at 902.764 MHz

$$PSD = EIRP / (4 * \pi * R^2)$$

$$\Rightarrow 0.0964 / (4 * \pi * (20 \text{ cm})^2) = 0.019175 \text{ mW/cm}^2 \text{ (limit = } 0.602 \text{ mW/cm}^2 = f / 1500 \text{ for } 300 < f < 1500 \text{ MHz)}$$

The equipment fulfils the requirements on power density for general population/uncontrolled exposure and therefore fulfils the requirements of 47 CFR §1.1310.

□□□ End of report □□□