



The Testcenter facility 'LoRa® Test Lab' within IMST GmbH is recognized by the LoRa® Alliance for testing in accordance to the LoRaWAN® Specification V1.0.4

---

# Report for Test of Conformance to LoRaWAN® V1.0.4 Class A (EU868)

for the Device

“MyWater Multiprotocol Add-on”

for the Customer

“JANZ – Contagem e Gestão de  
Fluídos, S.A.”

Jens Lerner  
Yavuz Turan

9<sup>th</sup> March, 2023

## Administrative Summary

Location: IMST GmbH, Test Centre, Kamp-Lintfort, Germany

Responsible Test Engineer: Yavuz Turan, Jens Lerner

Subject: Test of Conformance to LoRaWAN® Specification V1.0.4 (Class A for EU868)

Company and Contact Information:

JANZ – Contagem e Gestão de Fluidos, S.A.

Diogo Carvalho

Av. Infante D. Henrique, 286 | 288

1950-421 Lisboa

Portugal

Tested Device: MyWater Multiprotocol Add-on

Hardware version: 01

Firmware version: 01

End-device identifier: 0101010101010101

LoRa Device Class: A

LoRaWAN Specification version: V1.0.4

Certification requirements: LoRaWAN 1.0.4 End Device Certification Requirements V1.6

Frequency band(s) tested: 868MHz

Test Equipment: LCTT v3.9.0\_R1

2x IMST LGW (iC880A + Raspberry Pi): Gateway software version 5.0.1

Packet forwarder software version 4.0.1

Test Result: PASS

Quality Engineer: Jens Lerner

Date: March 9<sup>th</sup>, 2023

The Test Report, No. 6230112 has the following conclusion:

**The device has PASSED the tests hereunder.**

Responsibility:

  
Yavuz Turan

Test Engineer

Approved:



Jens Lerner

Quality Engineer

Copyright Notice & Disclaimer: No part of this test report may be reproduced without written permission of IMST GmbH. The test results herein only refer to the tested sample. IMST GmbH cannot be made responsible for any generalizations or conclusions drawn from the test results presented herein concerning further samples of the tested device. Modification of the tested sample(s) is prohibited and leads to invalidity of this report.

# 1 Description of the Device Under Test (DUT)

## 1.1 General

Item	Value
Product name	MyWater Multiprotocol Add-on
Product Vertical(s)	Utilities
Series (if any)	MyWater
Hardware Version	01
Firmware Version	01
Type of DUT	<input type="checkbox"/> Module <input checked="" type="checkbox"/> End Device/Sensor <input type="checkbox"/> others
Geographical area of operation	<input checked="" type="checkbox"/> Europe <input type="checkbox"/> USA <input type="checkbox"/> Australia
Operating frequency	<input type="checkbox"/> 433 MHz <input checked="" type="checkbox"/> 868 MHz <input type="checkbox"/> 915 MHz
Adaptive Data Rate (ADR) supported?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Optional data rates supported?	<input checked="" type="checkbox"/> DR6 <input checked="" type="checkbox"/> DR7
Activation possibilities	<input checked="" type="checkbox"/> Over the air <input type="checkbox"/> by personalization <input type="checkbox"/> both
Test According LoRaWAN® Spec	<input type="checkbox"/> V1.0.1 <input type="checkbox"/> V1.0.2 <input checked="" type="checkbox"/> V1.0.4
Output Power	14 dBm
Number / Type of Antenna(s)	integral (pcb)
Antenna Gain	0 dBm

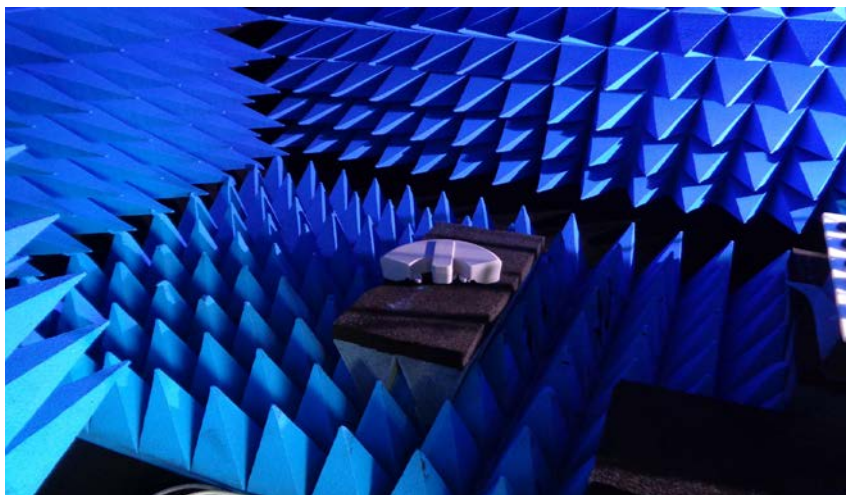
**Table 1 Device Information**

## 1.2 DUT Modes of Operation

During the tests the device operated in the following modes:

- Test mode according to document “TS009-LoRaWAN\_Certification\_Protocol” Chapter 2.

## 1.3 DUT Setup



**Figure 1 DUT Setup**

Applied Methods of Measurement

## 1.4 Protocol Testing according to LoRaWAN® specification V1.0.4 (Class A device for EU868)

### Detailed Test Results:

Test Mode Activation: **PASS**  
Over the Air Activation: **PASS**  
Cryptography: **PASS**  
Downlink Sequence Number: **PASS**  
Confirmed Frames: **PASS**  
Device Status Request: **PASS**  
New Channel Request: **PASS**  
Di Channel Request Mac Command: **PASS**  
RX Parameter Setup Request: **PASS**  
RX Timing Setup Request: **PASS**  
TX Parameter Setup Request: **PASS**  
Link Check Request: **PASS**  
Link ADR Request: **PASS**  
Duty Cycle Request: **PASS**  
Device Time Request: **PASS**  
RX1 Window Test: **PASS**  
RX2 Window Test: **PASS**  
RX1 and RX2 Simultaneous Frames: **PASS**  
RX Oversized Payload: **PASS**  
Maximum Allowed Payload: **PASS**  
Mac Commands: **PASS**  
Multiple MAC Commands Prioritization: **PASS**  
Device Deactivation: **PASS**

### Supported Optional Features:

Adaptive Data Rate (ADR):	Yes
SF7BW250 (DR6)	Yes
FSK50 (DR7)	Yes
LR-FHSS	No
SCHC	No
Permanent Class C	No

Remarks: None

**Result: The device passed the test without limitations.**