The Testcenter facility ‘LoRa® Test Lab’ within IMST GmbH is recognized by the LoRa™ Alliance for testing in accordance to the LoRaWAN™ Specification V1.0.1

Report for Test of Conformance to LoRaWAN™ V1.0.1

for the Device

“Clickey Pir”

for the Customer

Clickey Pir

Markus Ridder
Yavuz Turan

30. Mar. 2017
Administrative Summary

Location: IMST GmbH, Test Centre, Kamp-Lintfort, Germany  
Responsible Test Engineer: Yavuz Turan, Markus Ridder

Subject: Test of Conformance to LoRaWAN™ Specification V1.0.1

Company and Contact Information:  
Invenit B.V. ("Clickey"), Pedro de Smit  
Langebroekstraat 3, 4944XH Raamsdonk

Tested Device: Clickey Pir  
Firmware version: V1.8  
Hardware version: V1.0  
End-device identifier: 140009EC  
LoRa Device Class: A  
LoRaWAN Specification version: V1.0.1

Certification requirements: LoRa End Device Certification EU Version 1.2  
Frequency band(s) tested: 868 MHz  
Test Equipment: Test Software Version: 1.1.9  
Semtech IOT SX1301 Starter Kit: Gateway software version 3.1.0  
Packet forwarder software version 2.1.0

Test Result: PASS

Chief Test Engineer: Markus Ridder  
Dept. Test Center

Date: March 30th, 2017

The Test Report, No. 6170117 has the following conclusion:

The device has PASSED the tests hereunder.

Responsibility: Approved:  
Yavuz Turan  
Test Engineer  
Markus Ridder  
Quality Engineer

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1 Description of the Device Under Test (DUT)

1.1 General

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>Clickey Pir</td>
</tr>
<tr>
<td>Kind of product</td>
<td>Motion sensor</td>
</tr>
<tr>
<td>Series (if any)</td>
<td></td>
</tr>
<tr>
<td>Hardware Version</td>
<td>V1.0</td>
</tr>
<tr>
<td>Firmware Version</td>
<td>V1.8</td>
</tr>
<tr>
<td>Type of DUT</td>
<td>☑ Module / End Device ☑ Gateway / Concentrator</td>
</tr>
<tr>
<td>Geographical area of operation</td>
<td>☑ Europe ☑ USA</td>
</tr>
<tr>
<td>Operating frequency</td>
<td>☑ 433 MHz ☑ 868 MHz ☑ 915 MHz</td>
</tr>
<tr>
<td>Adaptive Data Rate (ADR) supported?</td>
<td>☑ Yes ☑ No</td>
</tr>
<tr>
<td>Optional data rates supported?</td>
<td>☑ DR6 ☑ DR7</td>
</tr>
<tr>
<td>Activation possibilities</td>
<td>☑ Over the air ☑ by personalization ☑ both</td>
</tr>
<tr>
<td>Test According LoRaWAN™ Spec</td>
<td>☑ V1.0 ☑ V1.0.1 (m/o June 2016 earliest)</td>
</tr>
<tr>
<td>Output Power</td>
<td>14 dBm</td>
</tr>
<tr>
<td>Number / Type of Antenna(s)</td>
<td>1 helical</td>
</tr>
<tr>
<td>Antenna Gain</td>
<td>2.1dBi</td>
</tr>
</tbody>
</table>

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 “LoRa End Device Certification EU V1.2” Chapter 3.

1.3 DUT Setup

Figure 1 DUT Setup
Applied Methods of Measurement

1.4 Protocol Testing according to LoRaWAN™ specification V1.0.1

Detailed Test Results:

Test Mode Activation (Activation by Personalization): **PASS**
Test Mode Activation (Over the Air Activation): **PASS**
Test Application Functionality: **PASS**
Packet Error Rate RX2 SF12: **PASS**
Cryptography: **PASS**
Downlink Window Timing: **PASS**
Frame Sequence Number: **PASS**
Device Status Request: **PASS**
Mac Commands: **PASS**
New Channel Request: **PASS**
Confirmed packets: **PASS**
RX Parameter Setup Request: **PASS**
RX Timing Setup Request: **PASS**
Link ADR Request: **PASS**
Packet Error Rate RX1 Window: **PASS**
Packet Error Rate RX2 Window: **PASS**

Supported Optional Features:

Adaptive Data Rate (ADR): Yes
DR6 (SF7BW250): No
DR7 (FSK50): No

Remarks: None.

Result: The device passed the test without limitations.