



The Testcenter facility 'LoRa<sup>®</sup> Test Lab' within IMST GmbH is recognized by the LoRa<sup>™</sup> Alliance for testing in accordance to the LoRaWAN<sup>™</sup> 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

# pruefbericht\_eng.doc\01.07.10\V3.2\YT

# **Administrative Summary**

<u>Location:</u> IMST GmbH, Test Centre, Kamp-Lintfort, Germany <u>Responsible Test Engineer:</u> 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

<u>Tested Device:</u> Clickey Pir <u>Firmware version:</u> 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 30<sup>rd</sup>, 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

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

**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

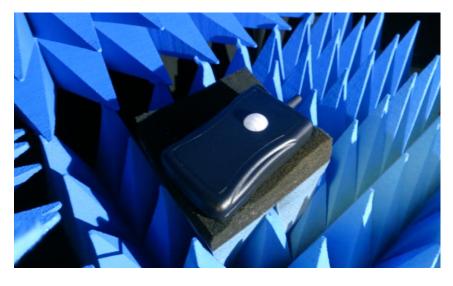


Figure 1 DUT Setup



#### 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.



