



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 C

for the Device

“iM880B-L”

for the Customer

“IMST GmbH”

Jens Lerner

Yavuz Turan

5th July, 2021

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 C for EU)

Company and Contact Information:

IMST GmbH

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47475 Kamp-Lintfort

Germany

Tested Device: iM880B-L

Hardware version: B

Firmware version: V3.0

End-device identifier: 70B3D58FFFFFFFFF

LoRa Device Class: C

LoRaWAN Specification version: V1.0.4

Certification requirements: LoRaWAN 1.0.4 End Device Certification Requirement V1.1

Frequency band(s) tested: 868MHz

Test Equipment: Test Software Version: 1.2

8x IMST LGW (iC980A + Raspberry Pi): Gateway software version 4.1.3

Packet forwarder software version 3.1.0


Test Result: PASS


Quality Engineer: Jens Lerner

Date: July 5th, 2021

The Test Report, No. 6210238 has the following conclusion:

The device has PASSED the tests hereunder.

Responsibility: 
Yavuz Turan
Test Engineer

Approved: 
Jens Lerner
Quality Engineer

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1 Description of the Device Under Test (DUT)

1.1 General

| Item | Value |
|-------------------------------------|--|
| Product name | iM880B-L |
| Product Vertical(s) | |
| Series (if any) | |
| Hardware Version | B |
| Firmware Version | V3.0 |
| Type of DUT | <input checked="" type="checkbox"/> Module <input 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 | max. 17.5dBm |
| Number / Type of Antenna(s) | |
| Antenna Gain | |

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 Alliance End Device certification Requirements for All Regions Version 1.1” Chapter 2.

1.3 DUT Setup

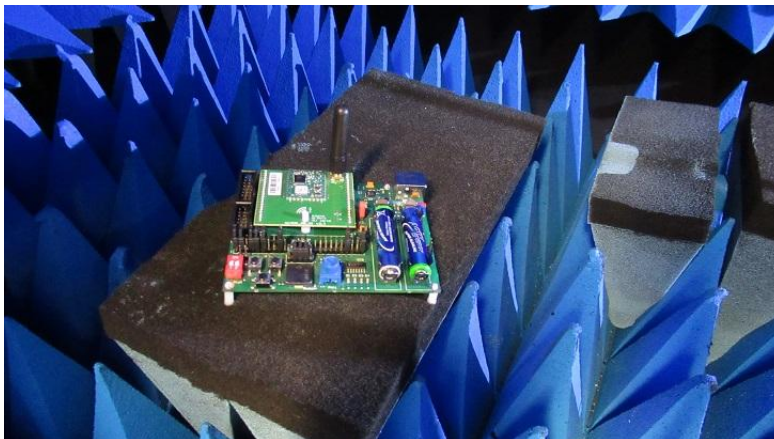


Figure 1 DUT Setup

Applied Methods of Measurement

1.4 Protocol Testing according to LoRaWAN™ specification V1.0.4 (Class C device for EU868)

Detailed Test Results Class A:

Device Activation (Activation by Personalization): **PASS**

Test Mode Activation (Over the Air Activation): **PASS**

Cryptography: **PASS**

Frame Sequence Number: **PASS**

Confirmed Packets: **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**

Uplink Datarate RX1 DR Offset Mapping: **PASS**

Packet Error Rate Rx1 MaxSize: **PASS**

Packet Error Rate Rx1 MaxSize: **PASS**

RX1 And RX2 Simultaneous Frames: **PASS**

RX Oversized Payload: **PASS**

Maximum Allowed Payload: **PASS**

Mac Commands: **PASS**

Mac Commands Buffer: **PASS**

Device Deactivation: **PASS**

Detailed Test Results Class C:

Test Mode Activation (Over the Air Activation): **PASS**

RXC Reception Part 1: **PASS**

RXC Reception Part 2: **PASS**

RXC Packet Error Rate: **PASS**

RXC Confirmed Uplinks: **PASS**

Over The Air Activation: **PASS**

Switch Class A: **PASS**

Device Deactivation: **PASS**

Supported Optional Features:

Adaptive Data Rate (ADR): Yes

Min TX Power: Yes

SF7BW250 (DR6) Yes

FSK50 (DR7) Yes

Permanent Class C Yes

Remarks: None

Result: The device passed the test without limitations.