



The Testcenter facility 'LoRa[®] Test Lab' within IMST GmbH is recognized by the LoRa[™] Alliance for testing in accordance to the LoRaWAN[®] Specification V1.0.2

Report for Test of Conformance LoRaWAN[®] V1.0.2 (EU868)

for the Device

“8911N”

for the Customer

“TE Connectivity Sensors”

Jens Lerner

Yavuz Turan

23rd September, 2022

Administrative Summary

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

Responsible Test Engineer: Yavuz Turan, Jens Lerner

Subject: Test of Conformance to LoRaWAN® Specification V1.0.2 (EU868)

Company and Contact Information:

TE Connectivity Sensors

Marty Romain

4 rue Gaye Marie

31000 Toulouse

French

Tested Device: 8911N

Hardware version: B

Firmware version: 1.7.10

End-device identifier: BCAF9100000F1DBE

LoRa Device Class: A

LoRaWAN Specification version: V1.0.2

Certification requirements: LoRa End Device Certification EU Version 1.6

Frequency band(s) tested: 868 MHz

Test Equipment: LCTT v3.7.0_R1

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: September 23rd, 2022

The Test Report, No. 6220408 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	8911N
Product Vertical(s)	Industry
Series (if any)	
Hardware Version	B
Firmware Version	1.7.10
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
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 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 checked="" type="checkbox"/> V1.0.2
Output Power	14dBm
Number / Type of Antenna(s)	1 TE's own antenna
Antenna Gain	2.15dB

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 EU863-870 MHz Version 1.6" Chapter 2.

1.3 DUT Setup

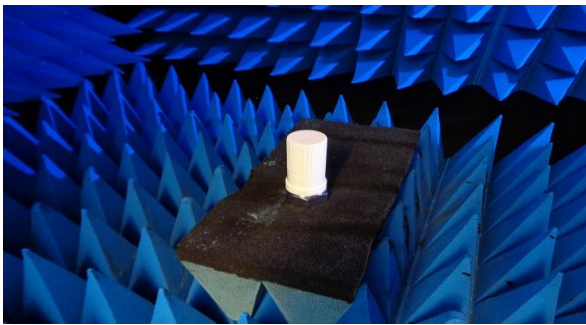


Figure 1 DUT Setup

Applied Methods of Measurement

1.4 Protocol Testing according to LoRaWAN® specification V1.0.2 (EU868)

Detailed Test Results:

Device Activation: **PASS**
Over the Air Activation: **PASS**
Test Application Functionality: **PASS**
AES Encryption and Message Integrity: **PASS**
Downlink Error Rate: **PASS**
Receive 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**
RX1 Receive Window: **PASS**
RX2 Receive Window: **PASS**
RX1 and RX2 Simultaneous Frames: **PASS**
TX Parameter Setup Request: **PASS**
Link Check Request: **PASS**
RX Oversized Payload: **PASS**
Maximum Allowed Payload: **PASS**

Supported Optional Features:

Adaptive Data Rate (ADR):	Yes
DR6 (SF7BW250):	Yes
DR7 (FSK50):	No
Link ADR Request Block:	No
Di Channel Request:	No
Join Synch DevNonce:	No
Confirmed Re-transmissions	No

Remarks: None

Result: The device passed the test without limitations.