

# LoRaWAN Certification Test Report

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Location: Etteplan Oyj, Jyväskylä Test Laboratory, Finland

Responsible Test Engineer: Sandro von Brandenburg

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Tested Device: W1 ultrasonic water meter  
Firmware version: 1.01  
Hardware version: v05  
End-device identifier: 00:00:00:00:00:00:93:93  
LoRa Device Class: A  
LoRaWAN Specification version: v1.0.2  
Certification requirements: LoRa End Device Certification EU Version 1.5  
Frequency band(s) tested: 868 MHz

Test Software Version: 1.1.11  
Gateway Model: IMST Lite Gateway  
Gateway Software Version: 5.0.1  
Packet Forwarder Software Version: 4.0.1

Test Result: **PASS**

## Detailed Test Results

Test Mode activation (ABP): **PASS**  
Test Mode activation (OTAA): **PASS**  
Test application functionality: **PASS**  
Cryptography: **PASS**  
Downlink Window Timing: **PASS**  
Frame Sequence Number: **PASS**  
Device Status Request: **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**  
DIChannelReq command: **Yes**  
6 dB transmit power range: **Yes**  
LinkADRReq block: **Yes**  
SF7, BW250 kHz: **No**  
FSK, 50 kbps: **No**

Remarks: None.



Sandro von Brandenburg, Etteplan Oyj