

Supplementary information for EU Devices in the LoRaWAN® Showcase catalogue. Version 1.0

Version of Questionnaire form from the Customer/ Device Manufacturer

Version	Date	Author	Update
1.0			Initial release from manufacture

Supplementary Information on certified device

1 Supplementary information	
1.1 Manufacturer or Brand name	Schneider Electric Industries SAS
1.2 Website	www.se.com
1.3 Sales / Marketing contact person, email:	Marc Burger (Marc.Burger@se.com)
1.4 Technical contact person, email:	Nicolas RIOU (nicolas.riou@se.com)
1.5 Commercial Product name	PrismaSeT Wireless Panelserver
1.6 Product code used when ordering / article number	SMT 10019
1.7 Product Version : Hardware version: Firmware version:	1.0 1.0 1.2.1
1.8 In what countries is the product available	Europe
1.9 What date was / is the market introduction for this device / product?	April 2021 as Mass Launch
1.10 Is the device already working on a public LoRaWAN network. If yes specify at which public operator, country and number of deployed devices on that network:	<input type="checkbox"/> Yes: <input checked="" type="checkbox"/> No
1.11 What functionality does the device provide and which sensor(s) does it contain?	Use case: Voltage Loss Alarm Short behavior description:
1.12 Accuracy & resolution for every sensor or measurement made by the device	
	Name: sensor accuracy (incl. unit): +/- resolution (incl. unit): measurement parameter: measurement range
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1.13 Uplinks are: Periodic: Period: Explanation: Keep alive message period: Event triggered how:	<input checked="" type="checkbox"/> 15 minutes product-specific strategy
1.14 Parameter configuration of device (e.g. transmission or measurement interval, threshold levels, etc.)	<input type="checkbox"/> Remotely: <input type="checkbox"/> Over-the-air with LoRaWAN data downlinks <input type="checkbox"/> Specify if other: <input type="checkbox"/> Locally: <input type="checkbox"/> Via CLI: specify type of connector: <input type="checkbox"/> Via NFC: <input checked="" type="checkbox"/> Specify if other: NA
1.15 Does the application server send downlinks to the devices?	<input type="checkbox"/> Yes: (why/how often/typical size) <input checked="" type="checkbox"/> No
1.16 Operating temperature of device - x °C to + x °C	Minimum -20 °C Maximum 70 °C
1.17 Is the payload structure available for decoding?	<input type="checkbox"/> Yes: <input checked="" type="checkbox"/> No Please attach the payload structure (+example of decoded payload)
1.18 Is there a decode-API available	<input type="checkbox"/> Yes: <input checked="" type="checkbox"/> No Please attach the API documentation
1.19 Is the firmware upgradeable and how?	<input checked="" type="checkbox"/> Yes: (how) locally through BLE
1.20 How can the device be reset to factory default settings?	NA
1.21 How can the device be forced to re-initiate the join procedure?	power off / power on

<p>1.22 Product certifications (IP rating, ATEX, ...)</p>	<p>1. IP rating: IP55 2. ATEX compliance: Other:</p>
<p>1.23 Which regulatory certifications are available (RED, CE, EMC)?</p>	<p><input checked="" type="checkbox"/> RED <input checked="" type="checkbox"/> CE <input type="checkbox"/> EMC Attach proof of certification to the mail in which this document is sent to a public operator</p>
<p>1.24 Power Supply</p>	<p><input checked="" type="checkbox"/> External power supply: connection: Wired Mains voltage: 230 VAC L-N amperage: 7mA</p> <p><input type="checkbox"/> Internal battery: battery type: chemical composition: Battery self-discharge (%/year): Battery shelf life: capacity: weight: rechargeable: <input type="checkbox"/> Yes: <input type="checkbox"/> No</p>
<p>1.25 Powering device on and off How is the device turned ON ? How is the device turned OFF ?</p>	<p>By Connecting with Mains Supply By Disconnecting from Mains Supply</p>
<p>1.26 Dimensions of device (Length x width x height)</p>	<p>27.5 X 9 X 4.5cm</p>
<p>1.27 Weight of full device</p>	<p>300g</p>
<p>1.28 Mounting of device 1. How to mount? 2. How to mount for best antenna propagation</p>	<p>Panel Roof Mounted Panel Roof</p>

2 LoRaWAN Device Information

<p>2.1 DevEUI Range (IEEE Compliance)</p>	<p>From :00 80 F4 94 00 00 To : 00 80 F4 94 FF FF</p>
<p>2.2 LoRaWAN Class</p>	<p><input checked="" type="checkbox"/> Class A <input type="checkbox"/> Class B <input type="checkbox"/> Class C</p>
<p>2.3 For Class C Device: Device Under Test restores previous RF settings at boot?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>2.4 In what LoRaWAN region/frequency ranges is the product available</p>	<p><input checked="" type="checkbox"/> EU863-870 <input type="checkbox"/> US902-928 <input type="checkbox"/> AS923 <input type="checkbox"/> IN865-867 <input type="checkbox"/> KR920-923 <input type="checkbox"/> Other</p>
<p>2.5 Is the LoRaWAN test mode supported?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, why not</p>
<p>2.6 Tested and certified against which LoRaWAN Specification(s)</p>	<p><input type="checkbox"/> V1.0 <input type="checkbox"/> V1.0.1 <input checked="" type="checkbox"/> V1.0.2 revB <input type="checkbox"/> V1.0.3 <input type="checkbox"/> V1.1.x <input type="checkbox"/> Other :</p>
<p>2.7 Link to document on the LoRa Alliance website</p>	<p>Link: https://www.se.com/ww/en/work/products/product-launch/prisma/prismaset-active.jsp https://www.se.com/ww/en/product-range-presentation/39982243-prismaset-p-active/?selected-node-id=47404288464</p>
<p>2.8 Which TX power is used in production devices by default? - if LW 1.0.2 rev A or older is used:</p>	<p><input type="checkbox"/> TXPower 0 (20dBm) <input checked="" type="checkbox"/> TXPower 1 (14dBm) <input type="checkbox"/> TXPower 2 (11dBm) <input type="checkbox"/> TXPower 3 (8dBm) <input type="checkbox"/> TXPower 4 (5dBm) <input type="checkbox"/> TXPower 5 (2dBm) <input type="checkbox"/> other TXPower (dBm)</p> <p><input type="checkbox"/> TXPower 0 (MaxEIRP) <input type="checkbox"/> TXPower 1 (MaxEIRP-2dB)</p>

<p>prequalification testing been done?</p>	<p>Which Network Servers</p> <p><input checked="" type="checkbox"/>Activity</p> <p><input type="checkbox"/>Loriot</p> <p><input type="checkbox"/>TTI</p> <p><input type="checkbox"/>Other: Specify:</p> <p>Please attach all the test reports.</p>
<p>2.12 Is Activation Type OTAA the default</p>	<p><input checked="" type="checkbox"/>Yes.</p> <p><input type="checkbox"/>No, why :</p>
<p>2.13 For OTAA, is AppKey unique for each device?</p>	<p><input checked="" type="checkbox"/>Yes.</p> <p><input type="checkbox"/>No.</p>
<p>2.14 Is ADR implemented? Recommendation: ADR should always be activated. Exceptions can be made for moving devices but will need to be explained.</p>	<p><input checked="" type="checkbox"/>Activated</p> <p><input type="checkbox"/>Deactivated, why :</p> <p><input type="checkbox"/>Configurable by user (recommendation: Activated by default)</p> <p><input type="checkbox"/>Mixed, explain:</p>
<p>2.15 What values did you implement for: - ADR_ACK_LIMIT: - ADR_ACK_DELAY:</p>	<p>64 recommended value: 64</p> <p>32 recommended value: 32</p>
<p>2.16 Do you use unconfirmed and/or confirmed uplinks and what is the data rate, timing and power back off algorithm?</p> <p>Upon reception of a confirmed downlink message, is the next uplink sent immediately after the downlink ?Answers (radio buttons)</p>	<p><input checked="" type="checkbox"/>unconfirmed</p> <p><input type="checkbox"/>confirmed, when and why:</p> <p><input type="checkbox"/>Both, which is used when and why:</p> <p>Data rate, timing and power back-off algorithm (only if you use confirmed uplinks):</p> <p><input type="checkbox"/>Yes.</p> <p><input checked="" type="checkbox"/>No, why : reason will be provided at testing stage</p>

<p>2.17 Is the device doing a periodical rejoin? (only for OTAA)</p>	<p><input type="checkbox"/> Yes (frequency): <input checked="" type="checkbox"/> No. Why? How to trigger a rejoin? The rejoin can be triggered by rebooting the product (long press on the button – more than 5 seconds). The automatic rejoin every 30 days will be added in a next release.</p>
<p>2.18 Is the first join request sent on SF12?</p>	<p><input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No, why: Explain the JoinRequest sequence if no JoinAccept is received - data rate, timing and power back-off algorithm. JoinRequest are sent at SF12 and repeated in conformance with section 7 of LoRaWAN v1.0.3 specification (Retransmissions back-off). See diagram hereafter:</p> <p>The diagram illustrates the LoRa join algorithm. It shows a timeline of 'Join request sent' and 'Lora join algorithm' steps. The first four requests are at SF12 (1min11), and subsequent ones are at SF7 (2min11). A final 'Join failed' period of 4 hours is shown. Below the diagram, a legend explains the timing: a random delay is added before each request; a 10-second wait is performed after each request; a reset of the LoRa module is performed before retrying; and a 4-hour period is used between retries after a join is considered failed.</p>
<p>2.19 On what SF and power setting is the first uplink (after join procedure) done?</p>	<p>SF: 12 TXPower: +14 dBm (ERP)</p>
<p>2.20 Are you doing periodically reset of Uplink frame counter?</p>	<p><input type="checkbox"/> Yes (frequency/why): <input checked="" type="checkbox"/> No.</p>
<p>2.21 If LoRaWAN 1.0.x, DevNonce behaviour :</p>	<p><input checked="" type="checkbox"/> Based on a random value <input type="checkbox"/> Monotonically increasing never-wrapping counter</p>
<p>2.22 Uplink DataRate (0-7 supported)</p>	<p>Min: 0 (SF12) Max: 5 (SF7)</p>
<p>2.23 RX1 Data Rate Offset</p>	<p><input checked="" type="checkbox"/> Default LoRaWAN in regards of ISM band <input type="checkbox"/> Other:</p>
<p>2.24 RX1 Delay</p>	<p><input checked="" type="checkbox"/> Default LoRaWAN in regards of ISM band <input type="checkbox"/> Other:</p>
<p>2.25 RX2 Data Rate</p>	<p><input checked="" type="checkbox"/> Default LoRaWAN in regards of ISM band <input type="checkbox"/> Other:</p>

<p>2.26 RX2 Frequency</p>	<p><input checked="" type="checkbox"/> Default LoRaWAN in regards of ISM band <input type="checkbox"/> Other:</p>
<p>2.27 RX1 Delay on JoinRequest (OTAA devices only)</p>	<p><input checked="" type="checkbox"/> Default LoRaWAN in regards of ISM band <input type="checkbox"/> Other:</p>
<p>2.28 Mobility Profile (how your device moves)</p>	<p><input checked="" type="checkbox"/> Near static <input type="checkbox"/> Walking speed <input type="checkbox"/> Vehicle speed <input type="checkbox"/> Random</p>
<p>2.29 Frame Counters Up To 32-bits</p>	<p><input checked="" type="checkbox"/> Frame counter-up <input checked="" type="checkbox"/> Frame counter-down</p>
<p>2.30 Which MAC commands does the device support</p>	<p><input checked="" type="checkbox"/> LinkCheckReq / LinkCheckAns <input type="checkbox"/> TXParamSetupReq / TXParamSetupAns <input checked="" type="checkbox"/> LinkADRReq / LinkADRAns <input checked="" type="checkbox"/> DutyCycleReq / DutyCycleAns <input checked="" type="checkbox"/> RXParamSetupReq /RXParamSetupAns <input checked="" type="checkbox"/> DevStatusReq / DevStatusAns <input checked="" type="checkbox"/> NewChannelReq / NewChannelAns <input type="checkbox"/> TXTimingSetupReq / TXTimingSetupAns</p>
<p>2.31 LoRaWAN Stack Type (optional)</p>	<p><input type="checkbox"/> Semtech/Stackforce <input checked="" type="checkbox"/> Semtech/Stackforce with modifications <input type="checkbox"/> IBM <input type="checkbox"/> IBM with modifications <input type="checkbox"/> Proprietary- Other, name it:</p>
<p>2.32 LoRaWAN Stack Version (optional)</p>	<p>LoRaWAN V1.0.3 I-CUBE-LRWAN 1.3.1 (LoRa Mac 4.4.2 from Semtech/StackForce)</p>
<p>2.33 LoRa Radio Hardware (optional)</p>	<p><input type="checkbox"/> Proprietary: SX chip used: <input checked="" type="checkbox"/> LoRaWAN Modem/Module: Manufacturer: MURATA Part Number: CMWX1ZZABZ-078 Firmware revision:</p>
<p>2.34 Multicast support (optional)</p>	<p><input type="checkbox"/> Yes: Multicast DevAddr: Multicast AppSKey: Multicast NwkSKey: Payload: Port: <input checked="" type="checkbox"/> No.</p>

3 Radio Frequency Information

<p>3.1 Type of Antenna</p>	<p><input type="checkbox"/> Wire <input type="checkbox"/> PCB <input checked="" type="checkbox"/> External <input type="checkbox"/> Other: (which type)</p>
<p>3.2 Antenna gain [dBi or dBd]</p>	<p>1.8 dBi</p>
<p>3.3 Did you measure and take into account the loss between the modem and the antenna?</p>	<p><input checked="" type="checkbox"/> Yes, 2 dB loss <input type="checkbox"/> No, why:</p>
<p>3.4 For LW 1.0.2 rev A or older devices: which TXPower setting should be used on the network for your device*:</p>	<p><input type="checkbox"/> TXPower 0 (20dBm) <input type="checkbox"/> TXPower 1 (14dBm) <input type="checkbox"/> TXPower 2 (11dBm) <input type="checkbox"/> TXPower 3 (8dBm) <input type="checkbox"/> TXPower 4 (5dBm) <input type="checkbox"/> TXPower 5 (2dBm) <input type="checkbox"/> other txpower (dBm)</p>
<p>3.5 Did you calibrate your device with the antenna gain and measured loss in between the chipset and antenna? This so that your device emits with maximal power when using TXPower 1 for LW 1.0.2 rev A or older devices (= 14dBm) and TXPower 0 for LW 1.0.2 rev B or newer devices (= MaxEIRP or 16.15dBm EIRP)*.</p>	<p><input checked="" type="checkbox"/> Yes, dB loss <input type="checkbox"/> No, why:</p>

4 Battery and TX Power Information

Please indicate if you do not want Section 4 displayed on the LoRa Alliance Website Yes
 If yes please supply contact details for the operators to request the information for Section 4

Our product is not powered from a battery, but from mains.

<p>4.1 Battery consumption of the device (including modem, sensors and all other electronics)</p>	<p>TX current: mA RX current: mA Idle time current: mA</p>																														
<p>4.2 Estimated battery life in years based on the number of transmissions (including sensor readings) at SF7, SF10 & SF12 with your battery self-discharge and aging over time taken into account.</p> <p>Assumptions:</p> <ul style="list-style-type: none"> - Product shelf life before use: Maximum 1 year. - At an environment temperature of 20°C. - LoRaWAN specification used for battery life calculation: - TX power setting (txpower) used for battery life calculation: - Payload size used for battery life calculation (should be average payload size of production device): - Additional assumptions or comments on battery life (Typical usage 	<table border="1"> <thead> <tr> <th colspan="4">Battery life in years</th> </tr> <tr> <th></th> <th>SF7</th> <th>SF10</th> <th>SF12</th> </tr> </thead> <tbody> <tr> <td rowspan="7" style="writing-mode: vertical-rl; transform: rotate(180deg);">Transmission Periodicity (transmissions/day)</td> <td>144</td> <td></td> <td></td> </tr> <tr> <td>96</td> <td></td> <td></td> </tr> <tr> <td>48</td> <td></td> <td></td> </tr> <tr> <td>24</td> <td></td> <td></td> </tr> <tr> <td>12</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> </tbody> </table> <p> <input type="checkbox"/> LW1.0.1 <input type="checkbox"/> LW1.0.2 revA <input type="checkbox"/> LW1.0.2 revB <input type="checkbox"/> Other : </p> <p> <input type="checkbox"/> LW1.0.1 <input type="checkbox"/> LW1.0.2 revA <input type="checkbox"/> LW1.0.2 revB <input type="checkbox"/> Other : </p> <p>bytes</p>	Battery life in years					SF7	SF10	SF12	Transmission Periodicity (transmissions/day)	144			96			48			24			12			4			1		
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	24																														
	12																														
	4																														
	1																														

<p>4.3 Which TX power setting (TXPower) was used in the RF test?</p> <p>- If LW 1.0.2 rev A or older device:</p> <p>- If LW 1.0.2 rev B or newer device:</p>	<p><input type="checkbox"/> TXPower 0 (20dBm)</p> <p><input type="checkbox"/> TXPower 1 (14dBm)</p> <p><input type="checkbox"/> TXPower 2 (11dBm)</p> <p><input type="checkbox"/> TXPower 3 (8dBm)</p> <p><input type="checkbox"/> TXPower 4 (5dBm)</p> <p><input type="checkbox"/> TXPower 5 (2dBm)</p> <p><input type="checkbox"/> other TXPower (dBm)</p> <p><input checked="" type="checkbox"/> TXPower 0 (MaxEIRP)</p> <p><input type="checkbox"/> TXPower 1 (MaxEIRP-2dB)</p> <p><input type="checkbox"/> TXPower 2 (MaxEIRP-4dB)</p> <p><input type="checkbox"/> TXPower 3 (MaxEIRP-6dB)</p> <p><input type="checkbox"/> TXPower 4 (MaxEIRP-8dB)</p> <p><input type="checkbox"/> TXPower 5 (MaxEIRP-10dB)</p> <p><input type="checkbox"/> TXPower 6 (MaxEIRP-12dB)</p> <p><input type="checkbox"/> TXPower 7 (MaxEIRP-14dB)</p> <p><input type="checkbox"/> other TXPower (MaxEIRP- 16 dBm)</p>
<p>4.4 Is this the same TX power setting (TXPower) used by default in production devices (before network ADR)?</p>	<p><input checked="" type="checkbox"/> Yes,</p> <p><input type="checkbox"/> No, why:</p>
<p>4.5 Maximum ERP measured: (ERP = EIRP - 2.15 dB; LoRaWAN allows 14 dBm ERP)</p>	<p>14 dBm</p>
<p>4.6 TRP measured: (TRP is based on EIRP) This gives an idea about the directivity of the antenna.</p>	<p> dBm</p> <p>To be confirmed later.</p>
<p>3.10 TIS measured on RX1:</p>	<p>For RX1-SF12BW125 on 868.3MHz dBm</p> <p>To be confirmed later.</p>
<p>3.11 TIS measured on RX2</p>	<p>For RX2-SF12BW125 on 869.525 MHz: dBm</p> <p>To be confirmed later.</p>