

Product Specification

Product Name: OpenHAB EnOcean Gateway

Product Model: DSGW-211

Revision History

Specification		Sect.	Update Description	By
Rev.	Date			
1.0	2021-03-22		New Version Release	Tiny

Approvals

Organization	Name	Title	Date

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Model List

Category A (In Stock, Lead Time: 1~2 Weeks)

Feature Mode	Wi-Fi 2.4G/5G	Bluetooth 5.2	Li-Battery	LTE	Zigbee 3.0	EnOcean
DSGW-211-1	•	•	•	•	•	•

Category C (Built by Order, Lead Time More Than 8 Weeks, MOQ: 500)

Feature Mode	Wi-Fi 2.4G/5G	Bluetooth 5.2	Li-Battery	LTE	Zigbee 3.0	EnOcean
DSGW-211-2		•	•	•	•	•

1. Product Description

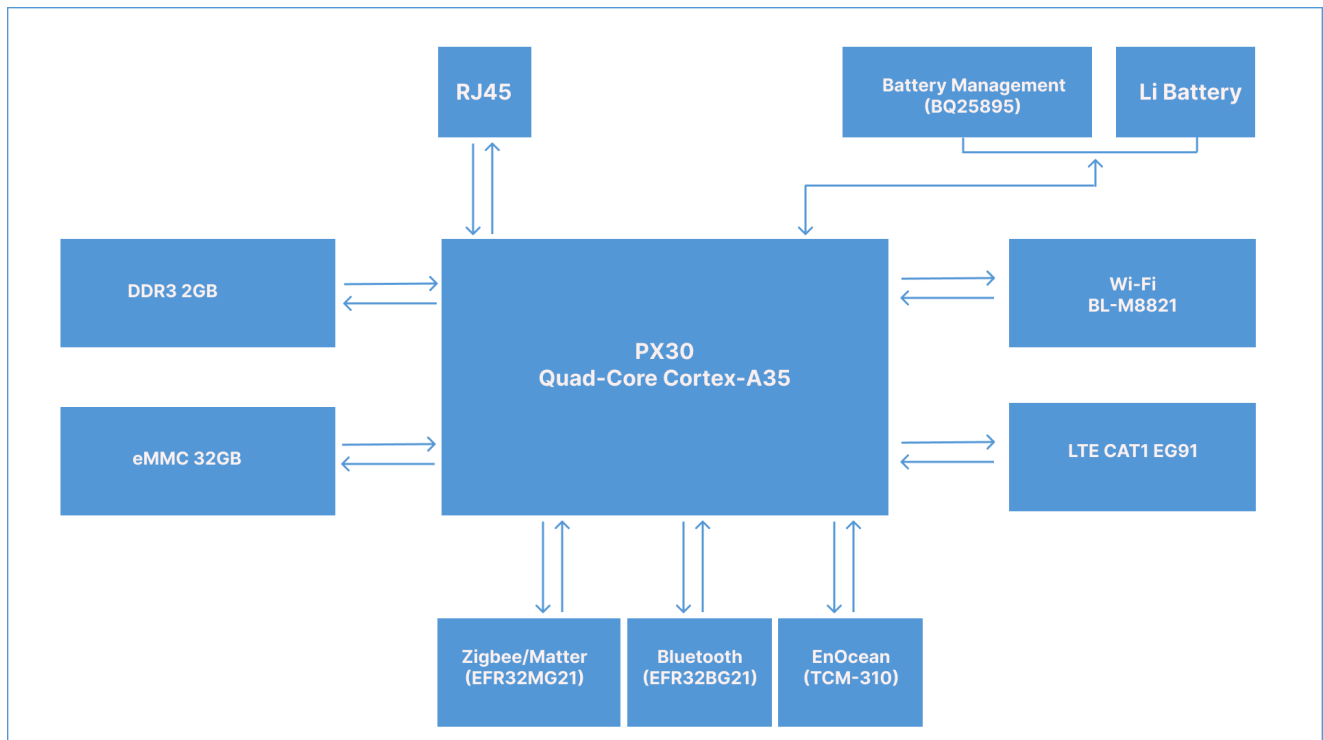
1.1. Purpose and Description

The DSGW-211 is a versatile smart gateway designed for building automation, home automation, and IoT applications, featuring compatibility with OpenHAB and support for multiple protocols such as Zigbee, Z-Wave, and Bluetooth 5.2. Its distinguishing feature is the support for the EnOcean protocol, enabling integration with corresponding sub-devices and enhancing connectivity range.

1.2. Product Feature Summary

- Support 5V USB type-c power supply
- Support IEEE802.11ac, IEEE802.11n, IEEE802.11g, IEEE 802.11b Protocol
- One WAN/LAN 100Mbps variable network port
- One USB2.0 port
- Backup lithium battery power
- Support LTE Cat1
- Support Bluetooth 5.2, Zigbee3.0 (Matter) , and EnOcean

1.3. Hardware Block Diagram

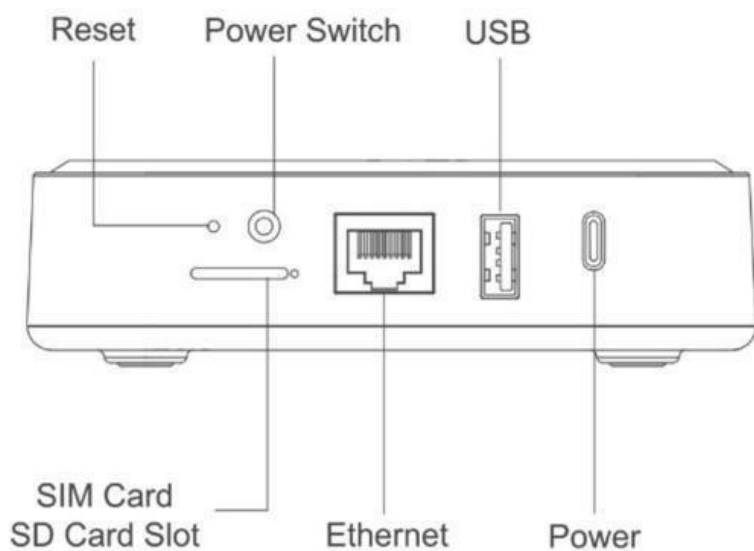


2. Mechanical Requirement

2.1. Drawings



2.2. Interface and Dimension



3. Specification

3.1. Technical Specificatio

Category	Specifications
CPU	PX30 Quad-core Cortex A35
System	Debian 11
RAM	2GB
eMMC	32GB
TF Card	Up to 128GB
Power Supply	USB Type-C 5V/3A
Reset	Factory reset button. To reset the Gateway to its original factory settings, press and hold it for more than 10 seconds
Switch	On/Off power
Network Interface	1 * WAN/LAN 10/100 Mbps variable
USB	1* USB2.0
SIM Card Slot	1 * Micro SIM Card slot
TF Card Slot	1 * TF Card slot
Indicator LEDs(RGB)	1). Power & battery LED 2). Wireless LED 3) LTE indicator
Antenna	Zigbee PCB Antenna, Wi-Fi/ BLE/ LTE FPC Antenna, Enocean SMA Antenna
Li battery	5000 mAh
Installation method	Flat, Ceiling, DIN
RTC	Real-Time Clock operated from an onboard battery
Operating Temperature	-10°C~55°C
Storage Temperature	-20°C~65°C
Operating humidity	10%~90%
IP rating	IP22

Performance Requirement	
Wi-Fi Performance	<ul style="list-style-type: none"> ● IEEE Wireless LAN standard: IEEE802.11ac, IEEE802.11n, IEEE802.11g, IEEE802.11b ● Data Rate: IEEE 802.11b Standard Mode:1,2,5.5,11Mbps IEEE 802.11g Standard Mode:6,9,12,18,24,36,48,54 Mbps IEEE 802.11n: MCS0~MCS7 @ HT20/ 2.4GHz band MCS0~MCS7 @ HT40/ 2.4GHz band MCS0~MCS9 @ HT40/ 5GHz band IEEE 802.11ac: MCS0~MCS9 @ VHT80/ 5GHz band ● Sensitivity: VHT80 MCS9: -60dBm@10% PER(MCS9) /5GHz band HT40 MCS9: -63dBm@10% PER(MCS9) /5GHz band HT40 MCS7: -70dBm@10% PER(MCS7) /2.4GHz band HT20 MCS7 : -71dBm@10% PER(MCS7) /2.4GHz band ● Transmit Power: IEEE 802.11ac: 13dBm @HT80 MCS9 /5GHz band IEEE 802.11ac: 16dBm @HT80 MCS0 /5GHz band IEEE 802.11n: 14dBm @HT20/40 MCS7 /5GHz band IEEE 802.11n: 16dBm @HT20/40 MCS0 /5GHz band IEEE 802.11n: 16dBm @HT20/40 MCS7 /2.4GHzband IEEE 802.11g: 16dBm @54MHz IEEE 802.11b: 18dBm @11MHz ● Wireless Security: WPA/WPA2, WEP, TKIP, and AES ● Working mode: Bridge, AP Client ● Range: 50 meters maximum, open field ● Highest Transmission Rate: 300Mbps ● Frequency offset: +/- 50KHZ ● Frequency Range (MHz): 2412.0~2483.5 ● Low Frequency (MHz):2400 ● High Frequency (MHz):2483.5 ● E.i.r.p (Equivalent Isotopically Radiated power) (mW)<100mW ● Bandwidth (MHz):20MHz/40MHz ● Modulation: BPSK/QPSK, FHSSCCK/DSSS, 64QAM/OFDM
Bluetooth Performance	<ul style="list-style-type: none"> ● TX Power: 19.5dBm ● Range: 150 meters maximum, open filed ● Receiving Sensibility: -92dBm@0.1%BER, 1Mbps ● Frequency offset: +/-20KHZ ● Frequency Range (MHz):2401.0~2483.5 ● Low Frequency (MHz):2400 ● High Frequency (MHz):2483.5 ● E.i.r.p (Equivalent Isotopically Radiated power) (mW)<10mW ● Bandwidth (MHz):2MHz

	<ul style="list-style-type: none"> ● Modulation: GFSK
Zigbee (Thread) Performance	<ul style="list-style-type: none"> ● TX Power: 17.5dBm ● Range: 100 meters maximum, open filed ● Receiving Sensibility: -94dBm ● Frequency offset: +/-20KHZ ● Frequency Range (MHz):2400.0~2483.5 ● Low Frequency (MHz):2400 ● High Frequency (MHz):2483.5 ● E.i.r.p (Equivalent Isotopically Radiated power) (mW)<100mW ● Bandwidth (MHz):5MHz ● Modulation: OQPSK
EnOcean	<ul style="list-style-type: none"> ● Radio frequency: 868 MHz for Europe and other countries adopting RED 902 MHz for USA (FCC specification) and Canada (IC specification) ● EnOcean interface: TCM 310 ● Transmit power: 3dBm maximum ● Receive sensitivity: -97 dBm
LTE Cat1	<ul style="list-style-type: none"> ● LTE FDD: B2/B4/B5/B12/B13 ● WCDMA:B2/B4/B5 ● LTE FDD Data rate:10(DL)/5(DL)
WAN/LAN	10/100M bps

4. QA Requirement

Information Description	Standard(Yes) Custom(No)
ESD Testing	Yes
RF Antenna Analysis	Yes
Environmental Testing	Yes
Reliability Testing	Yes
Certification	FCC, CE, RoHS