

产品规格书

产品名称: IoT边缘计算网关

产品型号: DSGW-210

Revision History

Specification		Sect.	Update Description	By
Rev.	Date			
1.0	2021-03-22		New version release	Tiny
2.0	2021-05-21		Add LoRaWAN Protocol	Tiny
3.0	2021-06-08		Add SD card	Tiny
4.0	2021-07-12		Add new -2, USB/LTE	Tiny
5.0	2021-08-10		Add different RAM and eMMC	Tiny
6.0	2021-08-17		Add the new type -6	Tiny
7.0	2021-08-18		Add the security module ECC608	Tiny
8.0	2021-09-07		Add LTE CAT1	Tiny
9.0	2021-10-11		Add new type -8	Tiny
10.0	2021-11-16		Add new gateway model	Tiny
11.0	2021-12-16		Add new Type-10 and Type-11	Tiny
12.0	2021-12-21		Add new Type-12 and Type-13	Tiny
13.0	2021-12-23		Add new Type-14	Tiny
14.0	2022.01.11		Merging the LoRaWan Gateway	Tiny
15.0	2022-01-17		Add the new Type-15 and 16	Tiny
16.0	2022-01-19		Add the new Type-17	Tiny
17.0	2022-03-04		Add the new Type-18	Tiny
18.0	2022-04-22		Add the new Type-19	Tiny
19.0	2022-04-27		Add the new Type 20	Tiny
20.0	2022-8-4		Add the new Type 21~26	Li
21.0	2023-2-13		Add new type 27~28	Li
22.0	2023-2-17		Add New type 29-30	Li
23.0	2023-2-18		Add New type31-35	Li
24.0	2023-07-13		Major Update to version and CN version release	Hubert

Approvals

Organization	Name	Title	Date

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Model List

A 类产品 (现货, 交付时间: 1~2 周)

Feature Model	Wi-Fi 2.4G/5G	Bluetooth 5.2	Zigbee 3.0	Z-Wave	LTE CatM1	LTE Cat1	Li Battery	LTE Cat4
DSGW-210-F-1	●	●	●	●	●		●	

B 类产品 (接单生产, 交付周期大于 3~4 周)

Feature Model	Wi-Fi 2.4G/5G	Bluetooth 5.2	Zigbee 3.0	Z-Wave	LTE CatM1	LTE Cat1	Li Battery	LTE Cat4
DSGW-210-A-8	●	●					●	
DSGW-210-A-10	●	●						
DSGW-210-D-11	●	●				●		
DSGW-210-A-22	●		●					

C 类产品 (接单生产, 交付周期大于 8 周, 最小起订量: 500)

Feature Model	Wi-Fi 2.4G /5G	BLE 5.2	Zigbee 3.0	Z-Wave	LoRa	LTE CatM1	LTE Cat1	Li-Battery	Matter & Thread	LTE Cat4	GPS	ECC	M-Bus/ Sub-G
DSGW-210-X-1	●	●	●	●		●		●					
DSGW-210-X-2	●	●				●							
DSGW-210-X-3						●							
DSGW-210-X-4	●	●			●					●	●		
DSGW-210-X-5	●	●	●										
DSGW-210-X-6	●	●			●			●					
DSGW-210-X-7		●			●			●					
DSGW-210-X-8	●	●						●					
DSGW-210-X-9	●		●			●			●				
DSGW-210-X-10	●	●											
DSGW-210-X-11	●	●					●						
DSGW-210-X-12	●		●	●				●					
DSGW-210-X-13	●		●	●									
DSGW-210-X-14	●	●								●			
DSGW-210-X-15	●	●	● [1]	●									
DSGW-210-X-16	●	● [2]	● [1]	●		●		●					
DSGW-210-X-17		●	●					●					
DSGW-210-X-18			●	●									
DSGW-210-X-19	●				●	●		●					
DSGW-210-X-20	●	●				●		●					
DSGW-210-X-21	●	●					●					●	

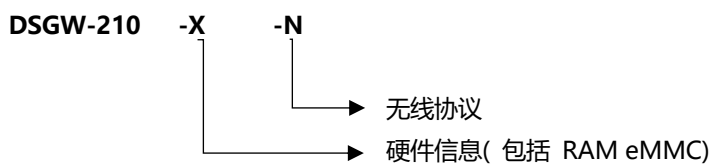
Feature Model	Wi-Fi 2.4G /5G	BLE 5.2	Zigbee 3.0	Z- Wave	LoRa	LTE CatM1	LTE Cat1	Li- Battery	Matter & Thread	LTE Cat4	GPS	ECC	M-Bus/ Sub-G
DSGW-210-X-22	●		●										
DSGW-210-X-23	●			●									
DSGW-210-X-24	●	●	●	●		●		●					
DSGW-210-X-25	●	●											●
DSGW-210-X-26	●	●	●	●				●		●			
DSGW-210-X-27	●		●	●			●	●					
DSGW-210-X-28	●		●	●	●		●	●					
DSGW-210-X-29	●						●						●
DSGW-210-X-30	●	●	●					●					
DSGW-210-X-31	●	●			●						●		
DSGW-210-X-32	●	●			●	●					●		

Configuration	RAM	eMMC
-A	1GB	8GB
-B	2GB	8GB
-C	1GB	16GB
-D	2GB	16GB
-E	512MB	4GB
-F	2GB	32GB

NOTE:

Dusun 提供两种现成的型号 (DSGW-210-F-1 和 DSGW-210-F-18) , 以方便客户进行快速样品测试。如果客户需要其他型号, 可以先测试这两种型号, 在批量订单时将提供定制选项。

4. 产品型号解释如下:



1. 产品简介

1.1. 描述

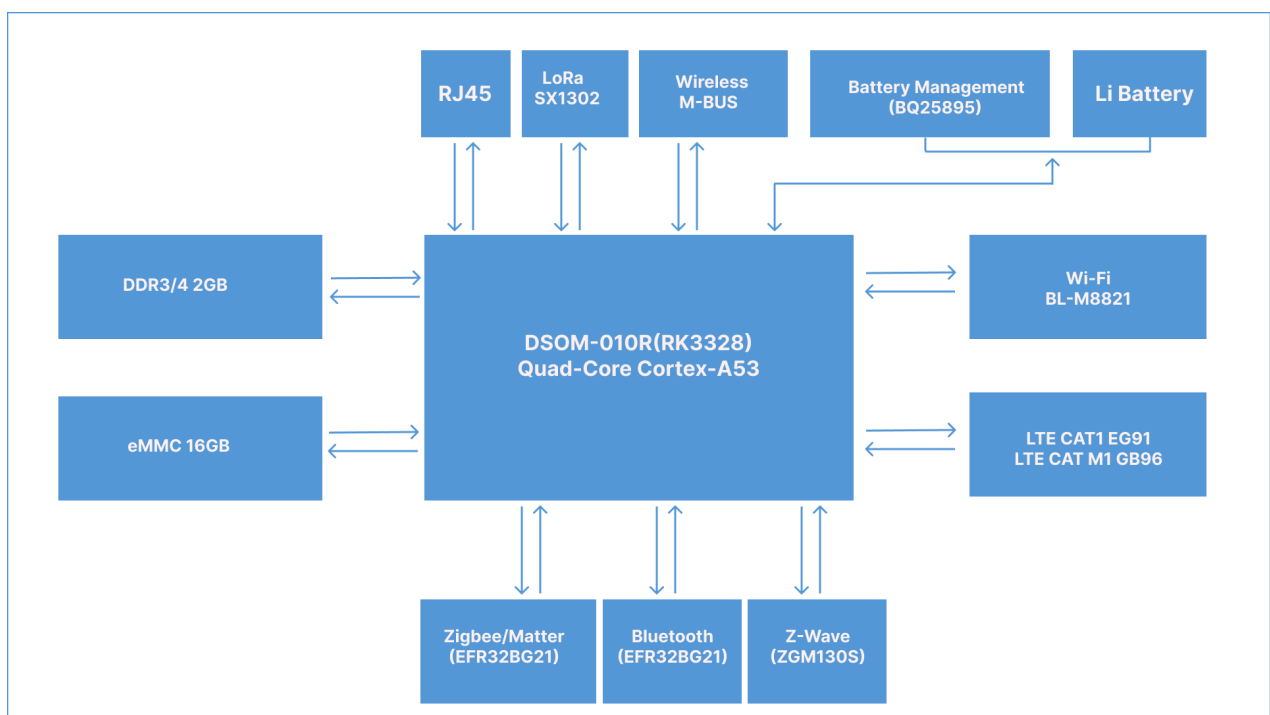
DSGW-210 是一款高性能的边缘计算网关，支持多协议，包括 Zigbee 3.0, Z-Wave、Bluetooth 5.2, Wi-Fi 2.4G/5G 和 LTE 等等。它采用 RK3328 作为处理器，可满足第三方应用：Home Assistant, OpenHAB 等流畅运行。其独特的模块化设计允许定制，使用户能够消除不必要的组件，从而节省成本。除此之外开发人员可以通过下载预集成的，充分验证过的开发资源，从硬件层面来开发自定义固件。

DSGW-210 可以广泛应用于多个领域，包括智能家居，能源管理，智慧医疗，智能城市和零售。

1.2. 产品特性

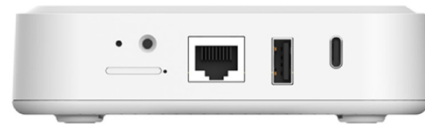
- 支持 5V USB type-c 电源
- 支持 IEEE802.11ac, IEEE802.11a, IEEE802.11n, IEEE802.11g, IEEE 802.11b 协议
- 支持 4G LTE CAT M1, CAT1, CAT4
- 支持 Bluetooth5.2, Zigbee3.0, Z-Wave, Wi-Fi2.4/5G
- 一个 10/100Mbps WAN/LAN 可变网口
- 支持 USB2.0
- 备用锂电池

1.3. 硬件框图

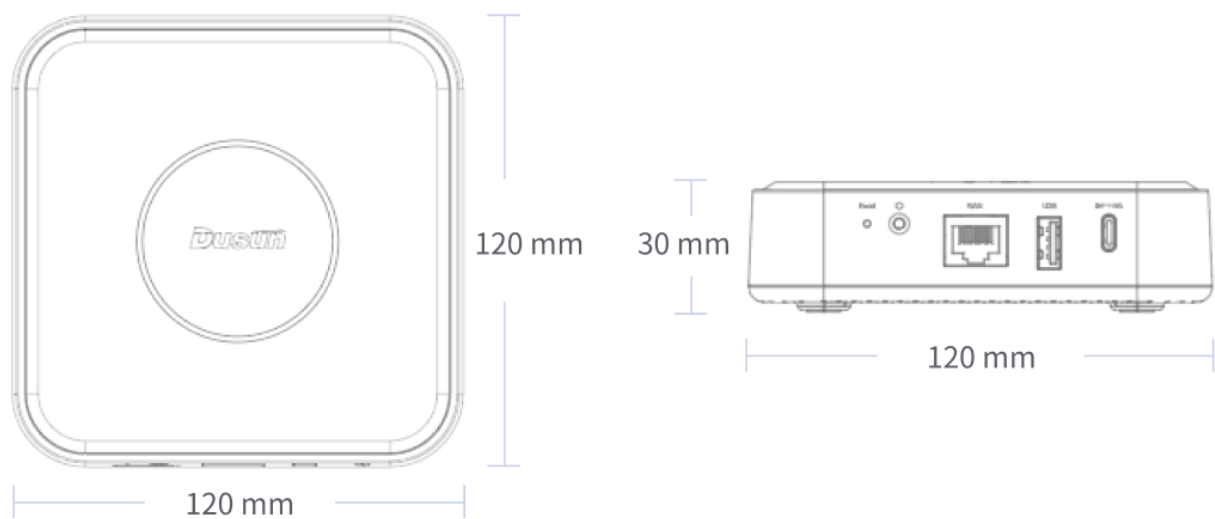


2. 机械需求

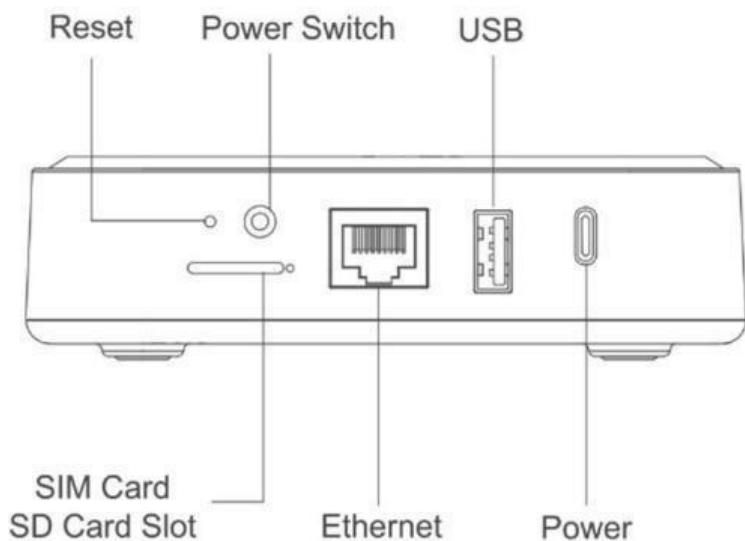
2.1. 产品图片



2.2. 产品尺寸



2.3. 接口信息



3. 规格参数

3.1. 硬件参数

类别	参数
CPU	RK3328 Quad-core Cortex A53
System	Debian11, Ubuntu 20.04, Android11, Yocto4.0
RAM	Up to 2GB
eMMC	Up to 32GB
SD Card	Up to 128GB
电源	USB Type-C 5V/3A
复位键	恢复出厂设置功能。长按超10秒钟，网关将恢复出厂设置
自定义按键	支持
网口	1 x 10/100Mbps LAN/WAN 可变口
USB 接口	1 * USB2.0
SIM&TF卡槽	抽屉式卡槽 12mm x 15 mm
指示灯	电源, 无线网络, LTE
天线	Zigbee/BLE PCB 天线, Z-Wave/Wi-Fi FPC 天线
锂电池	5000mAH
RTC	支持
安装方式	平装, 居顶
硬件加密	ATECC608B
工作温度	-10°C~60°C
存储温度	-40°C~85°C

工作湿度	10%~90% non-condensing
存储湿度	5%~90% non-condensing
IP等级	IP22

3.2. 性能参数

Wi-Fi 性能	<p>IEEE Wireless LAN standard: IEEE802.11ac, IEEE802.11n, IEEE802.11g, IEEE802.11b</p> <ul style="list-style-type: none"> ● 传输速率: 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 ● 接收灵敏度: 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 ● 发射功率: 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 ● 无线安全: WPA/WPA2, WEP, TKIP, and AES ● 工作模式: Bridge, AP Client ● 覆盖范围: 最大50M, 空旷范围 ● 最大传输速率: 300Mbps ● 频率偏差: +/- 50KHZ ● 频率范围 (MHz): 2412.0~2483.5 ● 低频 (MHz):2400 ● 高频 (MHz):2483.5 ● E.i.r.p (Equivalent Isotopically Radiated power) (mW)<100mW ● 带宽 (MHz):20MHz/40MHz ● 调制方式: BPSK/QPSK, FHSSCCK/DSSS, 64QAM/OFDM
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Bluetooth 性能	<ul style="list-style-type: none"> ● 发射功率: 19.5dBm ● 覆盖范围: 最大150M, 空旷范围 ● 接收灵敏度: -92dBm@0.1%BER, 1Mbps ● 频率偏差: +/-20KHZ ● 频率范围 (MHz):2401.0~2483.5 ● 低频 (MHz):2400 ● 高频 Frequency (MHz):2483.5 ● E.i.r.p (Equivalent Isotopically Radiated power) (mW)<10mW ● 带宽 (MHz):2MHz ● 调制方式: GFSK
Zigbee 性能	<ul style="list-style-type: none"> ● 发射功率: 17.5dBm ● 覆盖范围: 最大100M, 空旷范围 ● 接收灵敏度: -94dBm ● 频率偏差: +/-20KHZ ● 频率范围 (MHz):2400.0~2483.5 ● 低频 (MHz):2400 ● 高频 (MHz):2483.5 ● E.i.r.p (Equivalent Isotopically Radiated power) (mW)<100mW ● 带宽 (MHz):5MHz ● 调制方式: OQPSK
Z-Wave 性能	<ul style="list-style-type: none"> ● 发射功率: 13dBm(20mW) ● 接收灵敏度: @100kbps-97.5dBm ● 覆盖范围: 最大100M, 空旷范围 ● 初始频段: 916MHz
LTE Cat M1 性能	Operation Frequency Band: 850/900/1800/1900MHZ
	<ul style="list-style-type: none"> ● Global:LTE:FDD:B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 ● North America: LTETDD:B2/B4/B12/B13 ● LTE TDD:B39(for cat.M1 only)
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)
LTE Cat4	<ul style="list-style-type: none"> ● LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 ● LTE-TDD: B38/B39/B40/B41 ● WCDMA: B1/B2/B4/B5/B6/B8/B19 ● GSM: B2/B3/B5/B8
WAN/LAN	10/100 Mbps

4. 质量保证需求

Information Description	Standard(Yes) Custom(No)
跌落测试	Yes
射频天线分析	Yes
环境测试	Yes
可靠性测试	Yes
认证信息	FCC, CE, RoHS, RCM, IC, CB