

Product Specification

Product Name: Smart Gateway

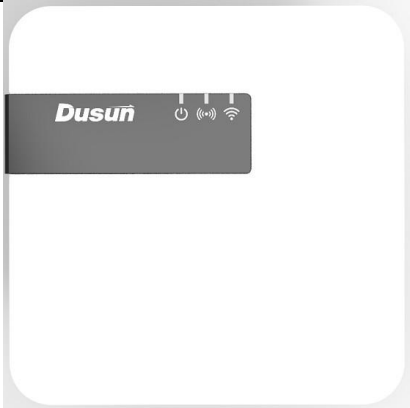
Model Name: DSGW-092

Revision History

Specification		Sect.	Update Description	By
Rev	Date			
1.0	2022-05-16		New version release	

Approvals

Organization	Name	Title	Date



Feature Mode	LTE CatM1	Wi-Fi	Bluetoth5.2	WAN/LAN
DSGW-092	●	●	●	●

1	Introduction.....	4
1.1	Purpose& Description.....	4
1.2	Product Feature Summary.....	4
1.3	Hardware block diagram.....	4
2	Mechanical Requirement.....	5
2.1	Drawings.....	5
3	Specifications.....	6
3.1	Technical Specification.....	6
3.2	Performance Requirement.....	7
4	QA Requirements.....	9
4.1	Quality &Testing Information.....	9

1 Introduction

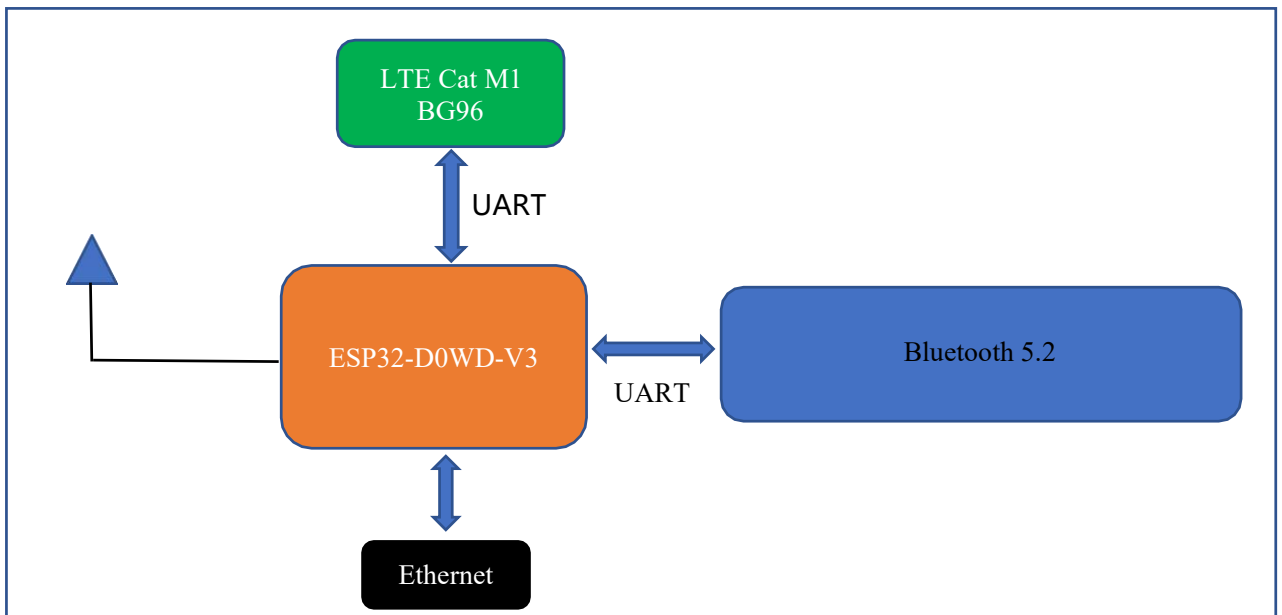
1.1 Purpose& Description

DSGW-092 is a IoT Gateway. It provides reliable connectivity for a wide range of wireless IoT devices. The user can connect the network through Wi-Fi, LTE and Ethernet. Besides, smart sensors can be connected through BLE.

1.2 Product Feature Summary

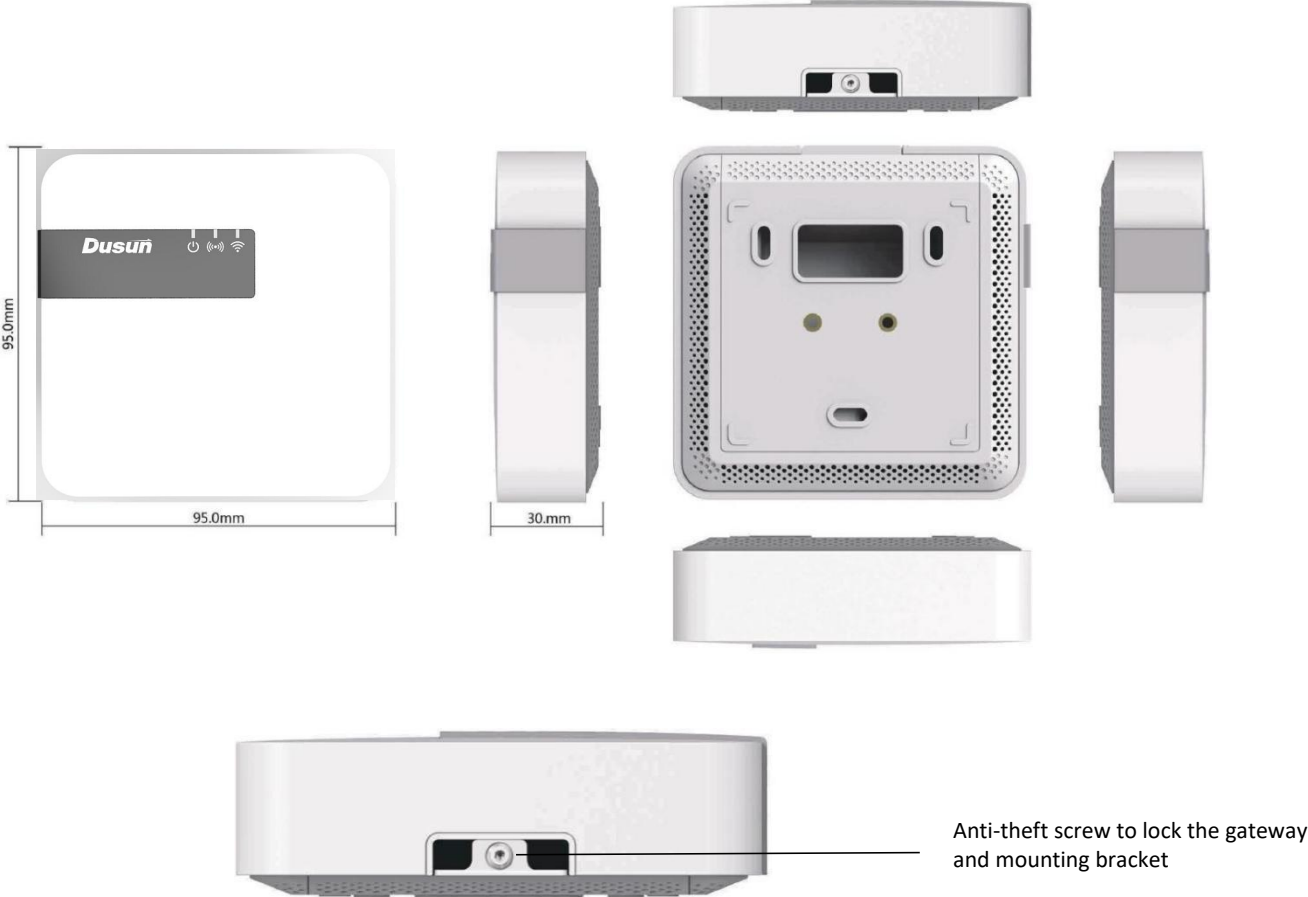
- USB 5V type C Power supply
- Processor: ESP32
- Support IEEE802.11n, IEEE802.11g, IEEE 802.11b Protocol
- Support Bluetooth 5.2
- Support LTE cat M1
- One WAN/LAN variable network port

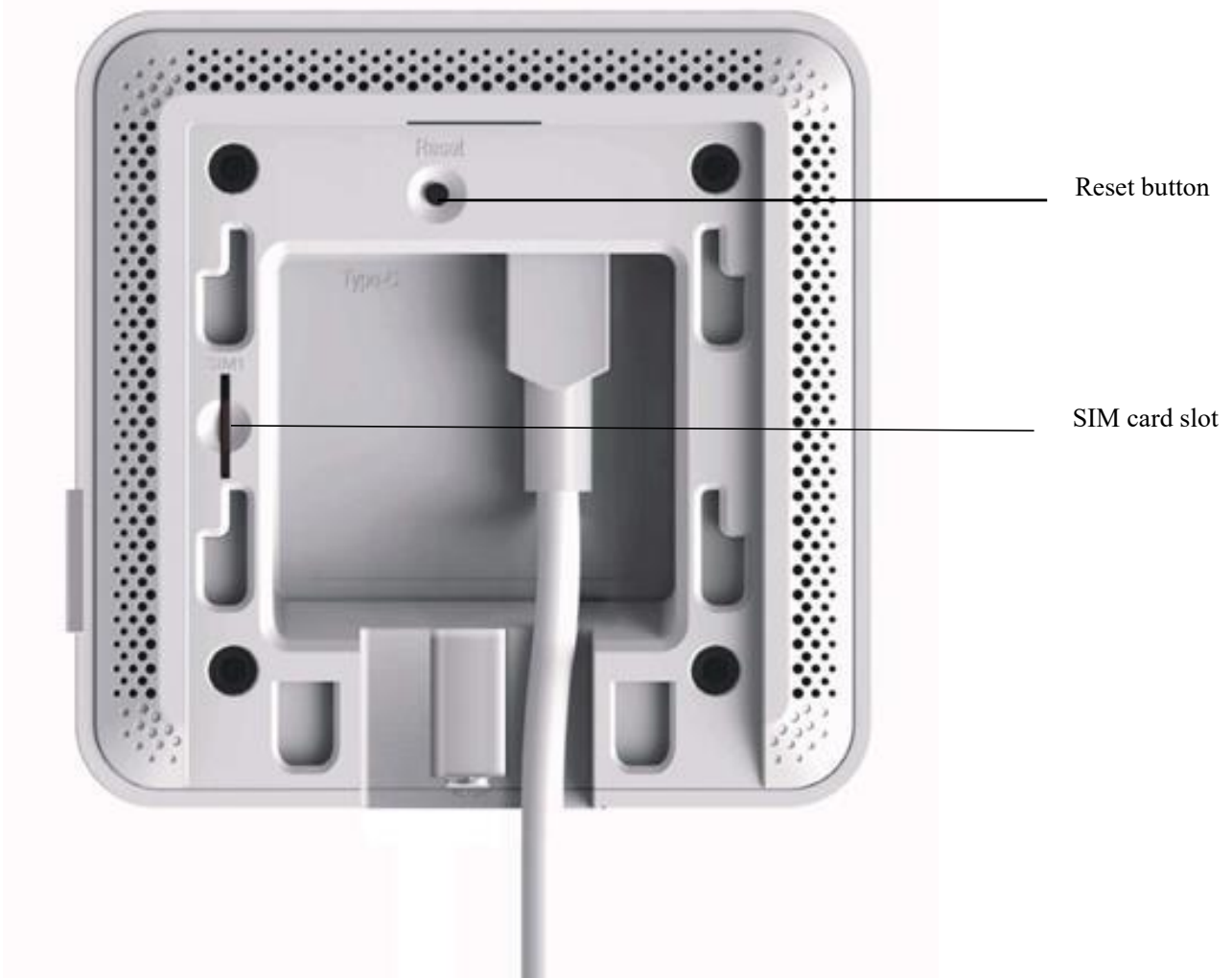
1.3 Hardware block diagram



2 Mechanical Requirement

2.1 Drawings





3 Specifications

3.1 Technical Specification

Power Adapter	Input:100V~240V AC/50~60HZ Output:5V/2A, USB type C
Ethernet	The network interface supports CAT-5/CAT-5E to transmit data. It is WAN/LAN variable.
Indicator LEDs	Green led: Power LED normally on when powered on Red led: BLE LED is flash when the signal come Blue led: Wi-Fi LED normally on after connecting to Wi-Fi for 1-2 sec
Reset Button	The reset button is hole button, soft reset. After pressing the reset button for more than 5 seconds, the Gateway will be restored to the factory settings.
Installation method	Flat, Ceiling, DIN
SIM card	support
Operating Temperature	-10°C~70°C
Storage Temperature	-40°C~85°C

3.2 Performance Requirement

<p>Wi-Fi Performance</p>	<ul style="list-style-type: none"> • IEEE wireless LAN standard: • IEEE802.11n; IEEE802.11g; IEEE 802.11b • 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 • Sensitivity: <ul style="list-style-type: none"> IEEE 802.11b: -98dBm at 1Mbps IEEE 802.11b: -88dBm at 11Mbps IEEE 802.11g: -93dBm at 6Mbps IEEE 802.11g: -75dBm at 54Mbps IEEE 802.11n: -93dBm @HT20 MCS0 IEEE 802.11n: -73dBm @HT20 MCS7 IEEE 802.11n: -90dBm @HT40 MCS0 IEEE 802.11n: -70dBm @HT40 MCS0 • Transmit Power: <ul style="list-style-type: none"> IEEE 802.11b: 19.5dBm @1Mbps DSSS IEEE 802.11g: 16dBm @54MHz OFDM IEEE 802.11n: 14dBm @HT20/40 MCS7 OFDM • Wireless Security: AES, Hash (SHA-2), RSA, ECC, Random Number Generator (RNG) • Working mode: Bridge、Gateway、 AP Client • Range: 50 meters minimum, open field • Transmit Power: Up to 20.5dBm • Highest Transmission Rate: 150Mbps • Frequency offset: +/- 50KHZ • Frequency Range (MHz): 2412.0~2483.5 • Low Frequency (MHz): 2412 • 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
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<p>BLE Performance (NRF52840)</p>	<ul style="list-style-type: none"> • TX Power: 8dBm • Range: 150 meters minimum, open filed • Receiving Sensitivity: <ul style="list-style-type: none"> -103dBm at 125kbs, -99dBm at 500kbs, -96dBm at 1Mbs, -92dBm at 2Mbs • Frequency offset: +/-20KHZ • Frequency Range (MHz):2401.0~2483.5 • Low Frequency (MHz):2400 • High Frequency (MHz):2483.5
<p>LTE Cat M1 Performance</p>	<ul style="list-style-type: none"> • North America: LTE TDD:B2/B4/B12/B13
<p>Ethernet</p>	<p>10/100 M bps</p>

4 QA Requirements

4.1 Quality & Testing Information

Information Description	Standard (Yes) custom(No)
ESD Testing	YES
RF Antenna Analysis	YES
Environmental Testing	YES
Reliability Testing	YES
Certification	FCC, CE , IC

FCC Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

To comply with RF exposure requirements, a minimum separation distance of 20cm must be maintained between the user's body and the equipment, including the antenna.