

Product Specification

Product Name: MTK7628 Smart Ceiling LTEGateway

Model Name: DSGW-090

Revision History

Specification		Sect.	Update Description	By
Rev	Date			
1.0	2021-07-01		New version release	
2.0	2021-07-13		Add the zigbee3.0 and thread	
3.0	2022-04-06		Add LTE, BLE and z-wave	
3.1	2022-7-28		Adjust photograph	Li

Approvals

Organization	Name	Title	Date

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.....	6
4	QA Requirements.....	7
4.1	Quality &Testing Information.....	7



Model list

Model \ Feature	Wi-Fi 2.4G	Bluetooth 5.2	Zigbee3.0	Z-Wave	LTE Cat1
DSGW-090-1	•		•	•	•
DSGW-090-2	•	•	•		•
DSGW-090-3	•		•	•	
DSGW-090-4	•	•	•		

1 Introduction

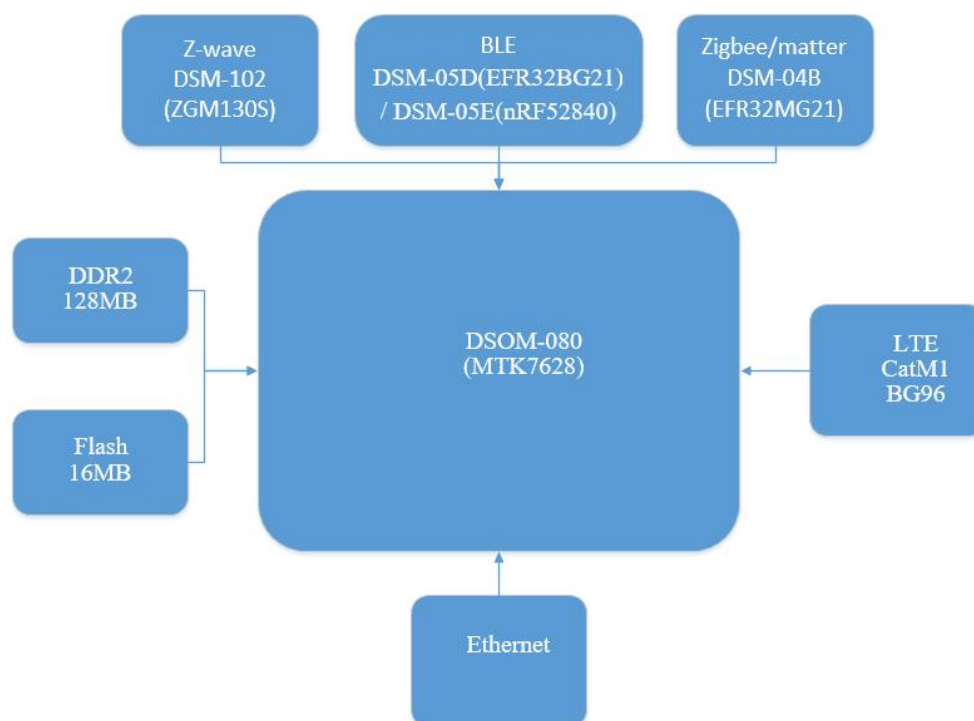
1.1 Purpose& Description

The DSGW-090 is a ceiling gateway used in the smart home, intelligent security industry, pension services. It a central device, support multiple wireless protocols including Wi-Fi and zigbee3.0, BLE, Z-WAVE. The user can connect the network through Wi-Fi, Ethernet and Cellular network. Besides, smart sensors can be connected through zigbee3.0, BLE, Z-WAVE.

1.2 Product Feature Summary

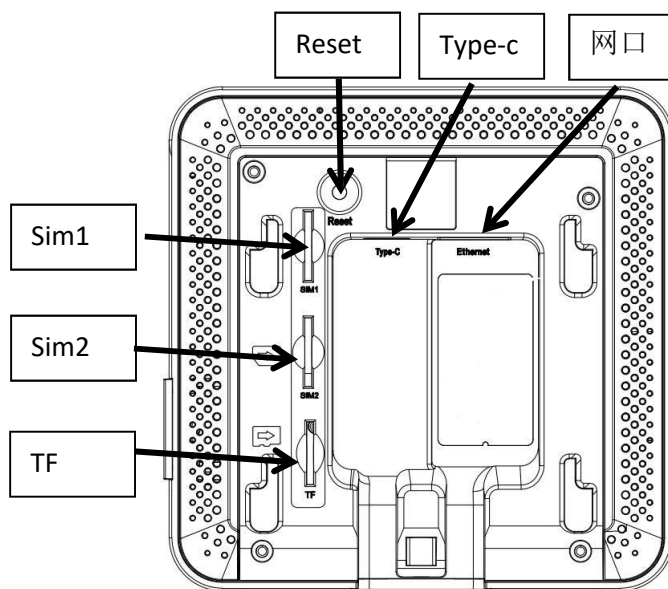
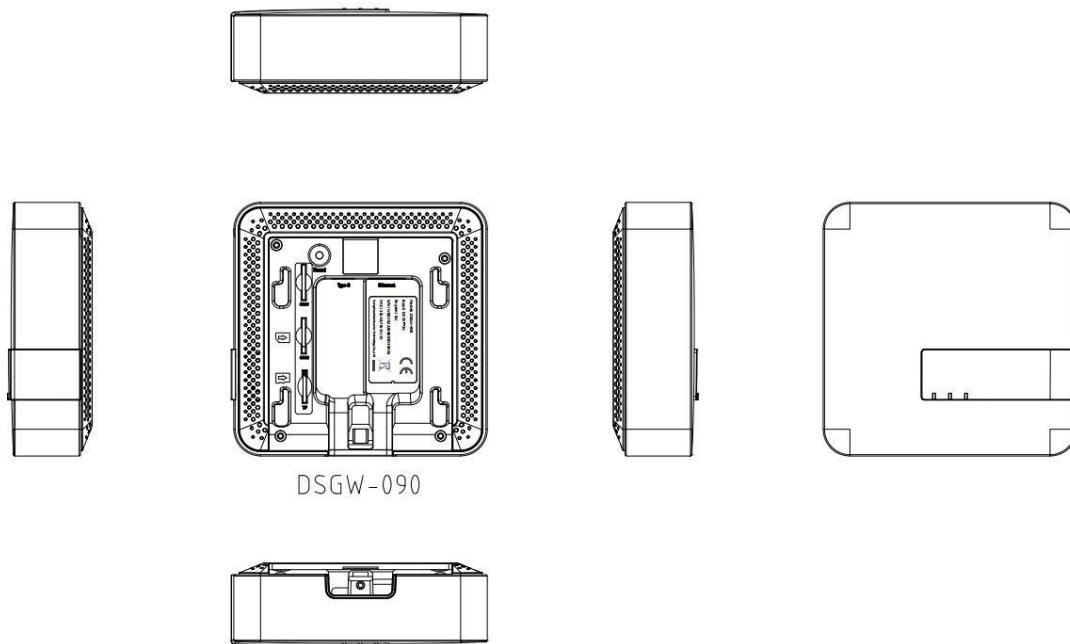
- OS: Linux@ OpenWrt
- USB 5V type C Power supply and PoE Ethernet Power supply
- Processor: MTK7628 (MIPS24KEc(580MHZ))
- RAM: 128MB
- Flash: 16MB
- Support IEEE802.11n,IEEE802.11g,IEEE 802.11b Protocol
- Support Z-WAVE
- Support zigbee3.0 and thread
- Support BLE5.2
- Support LTE cat M1
- One WAN/LAN 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, Micro USB
Ethernet	The network interface supports CAT-5/CAT-5E to transmit data and POE Power Supply (voltage range is 44~ 57V). It is WAN/LAN variable.
Indicator LEDs	Power LED normally on when powered on Zigbee/Z-WAVE LED is flash when the signal come Wi-Fi LED normally on after connecting to Wi-Fi for 1-2 sec
Reset Button	The reset button is hole button, After pressing the reset button for more than 5 seconds, the Gateway will be restored to the factory settings.
Operating Temperature	-10°C~55°C

3.2 Performance Requirement

Wi-Fi Performance	<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 • Sensitivity: HT40 MCS7 : -70dBm@10% PER(MCS7) /2.4GHz band HT20 MCS7 : -71dBm@10% PER(MCS7) /2.4GHz band • Transmit Power: IEEE 802.11n: 16dBm @HT20/40 MCS7 /2.4GHz band IEEE 802.11g: 16dBm @54MHz • IEEE 802.11b: 18dBm @11MHz • Wireless Security: WPA/WPA2, WEP, TKIP, and AES • Working mode : Bridge、 Gateway、 AP Client • Range: 50 meters minimum, open field • Transmit Power:17dBm • 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
-------------------	--

Zigbee3.0 Performance	<ul style="list-style-type: none"> • TX Power: 19.5dBm • Range: 100 meters minimum, open filed • Receiving Sensibility:-94dBm • Frequency offset: +/-20KHZ
Z-WAVE Performance	<ul style="list-style-type: none"> • TX power: TX power up to 13dBm • RX sensitivity: @100kbps -97.5dBm • Range: 100 meters minimum, open filed • Default Frequency: 916MHz(Different country with differentfrequency)
Bluetooth performance	<ul style="list-style-type: none"> • Bluetooth Protocol: Bluetooth 5.2 • TX Power: 19.5dBm • Range: 150 meters minimum, open filed • Receiving Sensibility:-93dBm@0.1%BER • Frequency offset: +/-20KHZ • BLE dual role (peripheral role and central role)
LTE cat1	<ul style="list-style-type: none"> • LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/ B26(Cat M1 Only)/B27(Cat M1 Only)/B28/B31/B66/ B71(Cat NB2 Only)/B72/B73/B85/B86*2 (Cat NB2 only)/B87*2 /B88*2 • EGPRS: 850/900/1800/1900MHz
Ethernet	10/100Mbps

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, Z-wave plus, RoHs