

Product Specification

Product Name: Smart Gateway with Wi-Fi Repeater
Model Name: DSGW-070

Revision History

Specification		Sect.	Update Description	By
Rev	Date			
1.0	2020-05-26		New version release	

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
2.2 Product Size	5
2.3 Plug accessories	5
3. Specifications	6
4. QA Requirements	9
4.1 Quality Information	9
5. Application	9



DSGW-070



US



AU



UK



EU

Model List

Model \ Feature	Country	Wi-Fi 2.4G	Bluetooth 5.0	Zigbee3.0	Z-WAVE
DSGW-070-1-US	US	•		•	
DSGW-070-2-US		•	•		
DSGW-070-3-US		•			•
DSGW-070-1-UK	UK	•		•	
DSGW-070-2-UK		•	•		
DSGW-070-3-UK		•			•
DSGW-070-1-AU	AU	•		•	
DSGW-070-2-AU		•	•		
DSGW-070-3-AU		•			•
DSGW-070-1-EU	EU	•		•	
DSGW-070-2-EU		•	•		
DSGW-070-3-EU		•			•

1. Introduction

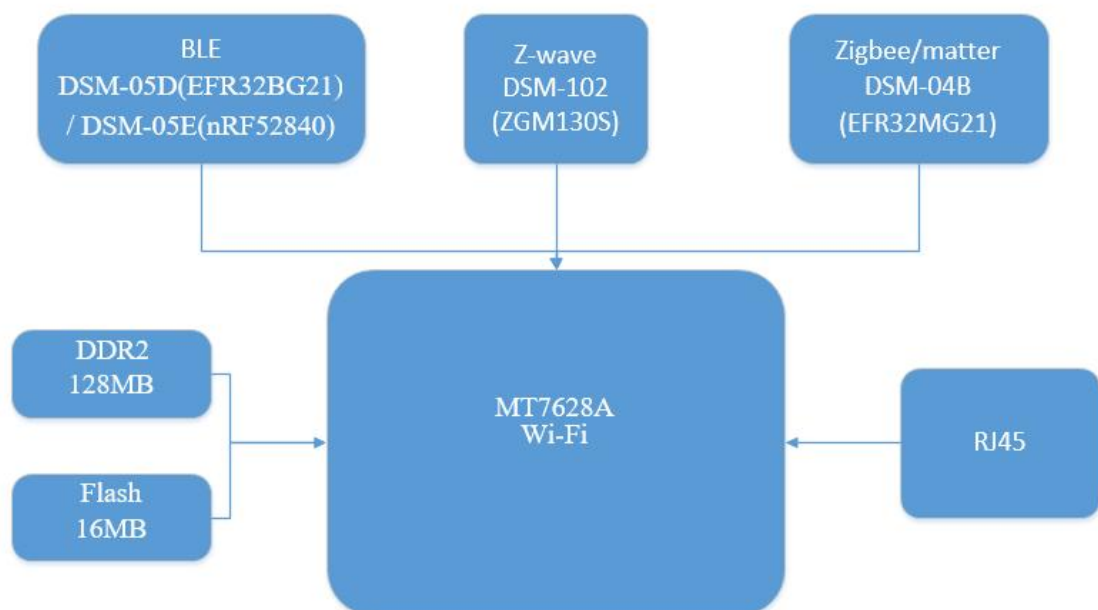
1.1 Purpose& Description

It's a Gateway with Wi-Fi, zigbee, BLE, Z-WAVE function . It can be plug and play. It can be used in various scenarios flexibly. It can control zigbee/BLE/Z-WAVE devices remotely, receives the data sent by the zigbee/BLE/Z-WAVE devices and sends it to servers. It can connect to internet via Wi-Fi. It can also be used as a Wi-Fi signalextdender.

1.2 Product Feature Summary

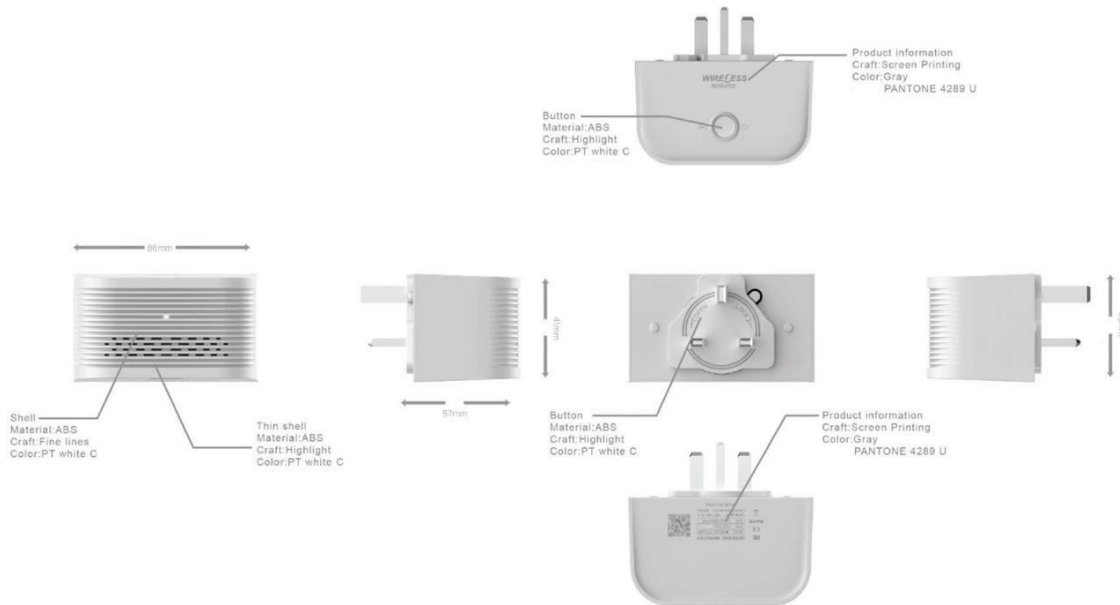
- Support 100-240V AC power supply
- Support IEEE802.11ac,IEEE802.11n,IEEE802.11g,IEEE 802.11b Protocol;
- Support Bluetooth 5.0;
- Support zigbee 3.0;
- Support the Z-WAVE
- RoHS compliance(Lead-free)
- FCC,CE compliance

1.3 Hardware block diagram

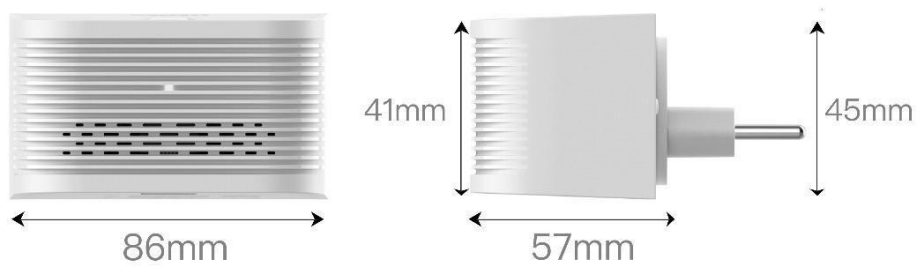


2. Mechanical Requirement

2.1 Drawings



2.2 Product Size



2.3 Plug accessories



3. Specifications

Technical Specification	
Power	Input:100V~240V AC/50~60HZ
Indicator LEDs	Used for device status indication
Button	The button use as a pair button or rest button
Operating Temperature	-10°C~70°C

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, FHSSCK/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

Bluetooth Performance	<ul style="list-style-type: none"> ● Bluetooth Protocol: Bluetooth 5.0 ● TX Power: 19.5dBm ● Range: 150 meters minimum, open filed ● Receiving Sensibility: -80dBm@0.1%BER ● Frequency offset: +/-20KHZ
Z-WAVE	<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 different frequency) Pls check the z-wave frequency band table (Table 0-1)
RF Factory Test Mode	<ul style="list-style-type: none"> ● Setting the Board into the test mode, using the lqexl-ws that can test the Wi-Fi, Zigbee. ● Please refer to the DUSUN Test Specification for details.

Table 0-1 Z-WAVE frequency band table

COUNTRY	STANDARD	Z-WAVE FREQUENCY
Argentina	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Armenia	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Australia	AS/NZS 4268	919.80 MHz, 921.40 MHz
Bahamas	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Barbados	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Bermuda	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Bolivia	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Brazil	ANATEL Resolution 506	919.80 MHz, 921.40 MHz
British Virgin Islands	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Canada	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Cayman Islands	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
CEPT*	EN 300 220	868.40 MHz, 869.85 MHz
Chile	FCC CFR47 Part 15.249	919.80 MHz, 921.40 MHz, 921.42 MHz
China	CNAS/EN 300 220	868.40 MHz
Colombia	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Costa Rica	ARIB T96, ARIB STD-T108	922.50 MHz, 923.09 MHz, 926.30 MHz
Ecuador	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz

Egypt	ETSI EN 300 220	868.40 MHz, 869.85 MHz
El Salvador	AS/NZS 4268	919.80 MHz, 921.40 MHz
EU	EN 300 220	868.40 MHz, 869.85 MHz
French Dept. of Guiana	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Guatemala	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Haiti	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Honduras	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Hong Kong (China)	HKTA 1035	919.80 MHz
India	CSR 564 (E)	865.20 MHz
Indonesia	ETSI EN 300 200	868.40 MHz, 869.85 MHz
Israel		916.00 MHz
Jamaica	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Japan **	ARIB STD-T108	922.50 MHz, 923.90 MHz, 926.30 MHz
Jordan	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Kazakhstan	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Lebanon	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Libya	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Malaysia	SKMM WTS SRD/ETSI 300 220	868.10 MHz
Mauritius	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Mexico	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
New Zealand	AS/NZS 4268	921.40 MHz, 919.80 MHz
Nicaragua	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Nigeria	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Panama	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Paraguay	AS/NZS 4268	919.80 MHz, 921.04 MHz
Peru	AS/NZS 4268	919.80 MHz, 921.40 MHz
Qatar	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Russian Federation	GKRCh/ETSI 300 220	869.00 MHz
Saudi Arabia	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Singapore	TS SRD/ETSI 300 220	868.40 MHz, 869.85 MHz
South Africa	ICASA/ETSI 300 220	868.40 MHz, 869.00 MHz
Republic of Korea	Clause 2, Article 58-2 of Radio W	920.90 MHz, 921.70 MHz, 923.10 MHz
St Kitts & Nevis	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Suriname	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Taiwan (China)	NCC/LP0002	922.50 MHz, 923.90 MHz, 926.30 MHz
Trinidad & Tabago	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Turks & Caicos Islands	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
UAE	ETSI EN 300 220	868.40 MHz, 869.85 MHz
Uruguay	AS/NZS 4268	919.80 MHz, 921.40 MHz
USA	FCC CFR47 Part 15.249	908.40 MHz, 916.00 MHz
Yemen	ETSI EN 300 220	Hz, 869.85 MHz

4. QA Requirements

4.1 Quality Information

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, Bluetooth certification, zigbee certification

5. Application

- 1) Gateway collects information about Beacon nearby, including RSSI, MAC, etc., once per second.
- 2) Gateway send the Beacon information to Cloud via Wi-Fi or LTE once per second.
- 3) Gateway support the TCP/IP, UDP protocol, and can support the MQTT, LWM2M protocol.
- 4) Gateway support the zigbee3.0 devices protocol, and can connect to the zigbee devices.
- 5) Gateway is with Wi-Fi repeater function, It can extend the Wi-Fi single.

