

# Product Specification

产品名称: Wi-Fi 双频段网关

产品型号: DSGW-020

## Revision History

Specification		Sect.	Update Description	By
Rev	Date			
1.0	2020-09-08		New version release	

## Approvals

Organization	Name	Title	Date

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### Model List

Feature Mode	Wi-Fi 2.4G/5G	Bluetooth 5.2	Zigbee3.0	LTE CatM1	POE	
DSGW-020-1	●	●			●	
DSGW-020-2	●	●		●	●	
DSGW-020-3	●		●		●	
DSGW-020-4	●		●	●	●	
DSGW-020-5	●	●	●	●	●	
DSGW-020-8	●		●	●	●	一个天线用于 Zigbee, 另外一个天线用于Wi-Fi&5G

## 1 简介

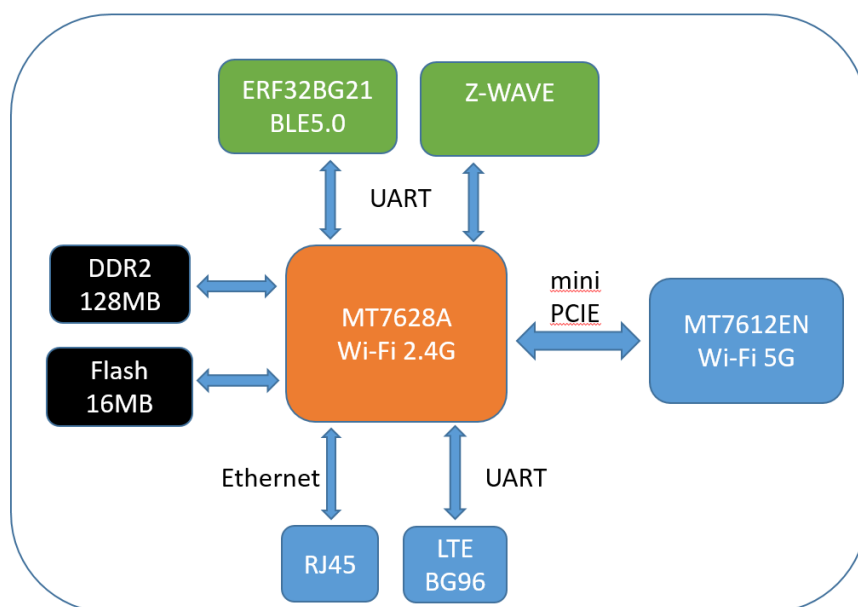
### 1.1 描述

DSGW-020 是一款支持 POE 或 DC 供电的智能网关。它可以被灵活地在使用在多种场景中。它可以远程控制 BLE 设备，接收 BLE 设备发送的数据，并将其发送到服务器。 Wi-Fi 数据速率最高可到达 580Mbps，BLE 数据速率最高可到达 2Mbps。除此之外它还保留 ZigBee3.0，4G LTE 功能。

### 1.2 产品特性

- 支持 PoE 供电和 5V 适配器供电
- 支持 IEEE 802.11ac, IEEE 802.11n, IEEE 802.11g, IEEE 802.11b Wi-Fi 协议
- 支持 4G (LTE-TDD/LTE-FDD)
- 支持蓝牙 5.2/SIG Mesh
- 支持 zigbee3.0 (可选)
- 网口 WAN/LAN 可切换

### 1.3 硬件框图

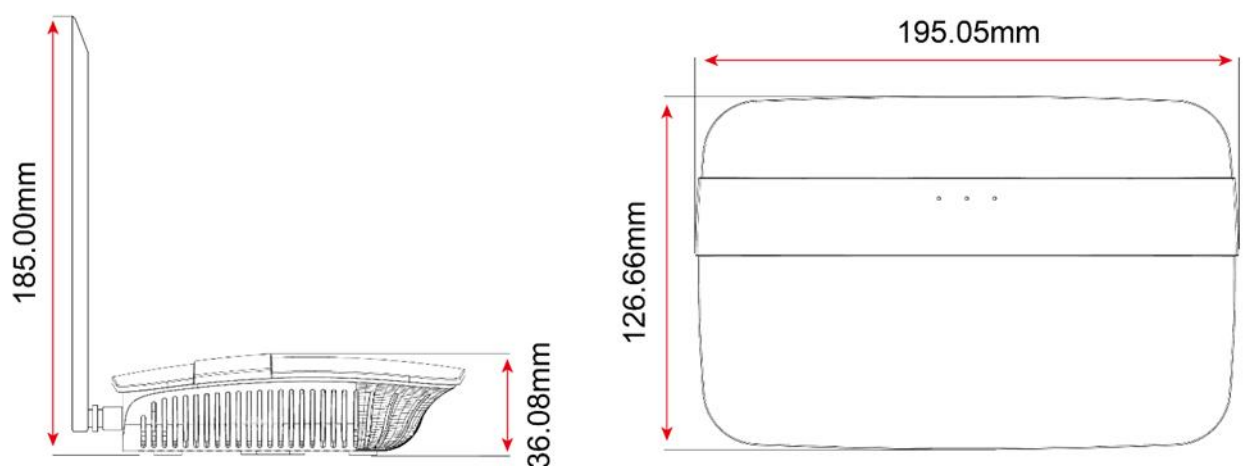


## 2 机械需求

### 2.1 产品图片



### 2.2 产品尺寸



### 3 规格参数

#### 3.1 软件参数

电源	输入 100-240V 50/60HZ
LED指示灯	电源指示灯 Zigbee/BLE/Z-Wave 指示灯 因特网指示灯 网络指示灯
重置功能	长按重置按钮超过5秒钟后，网关将恢复为出厂设置
工作温度	-10°C ~ 70°C
电流	350mA@5V

性能需求	
Wi-Fi 性能	<ul style="list-style-type: none"> <li>• IEEE wireless LAN standard: IEEE802.11n; IEEE802.11g; IEEE 802.11b</li> <li>• 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</li> <li>• Sensitivity: HT40 MCS7 : -70dBm@10% PER(MCS7) /2.4GHz band HT20 MCS7 : -71dBm@10% PER(MCS7) /2.4GHz band</li> <li>• Transmit Power: IEEE 802.11n: 16dBm @HT20/40 MCS7 /2.4GHz band IEEE 802.11g: 16dBm @54MHz IEEE 802.11b: 18dBm @11MHz</li> <li>• Wireless Security: WPA/WPA2, WEP, TKIP, and AES</li> <li>• 工作模式 : Bridge、Gateway、AP Client</li> <li>• 覆盖范围: 50 米 ( 最大 空旷领域 )</li> <li>• 发射频率:17dBm</li> <li>• 最高传输速率: 300Mbps</li> <li>• 频率偏差: +/- 50KHZ</li> <li>• 频率范围 (MHz): 2412.0~2483.5</li> <li>• E.i.r.p (Equivalent Isotopically Radiated power) (mW)&lt;100mW</li> <li>• 带宽 (MHz):20MHz/40MHz</li> <li>• 调制方式: BPSK/QPSK, FHSSCCK/DSSS, 64QAM/OFDM</li> </ul>
	<ul style="list-style-type: none"> <li>• 覆盖范围: 1000 米 ( 最大 空旷领域 )</li> <li>• 发射功率:17.5dBm</li> <li>• 最大传输速率: 300Mbps</li> </ul>

Zigbee3.0 性能	<ul style="list-style-type: none"> <li>• Frequency offset: +/- 20KHZ</li> <li>• 接收灵敏度:-94dBm</li> <li>• 频率范围 (MHz):2401.0~2483.5</li> <li>• 低频 (MHz):2400</li> <li>• 高频 (MHz):2483.5</li> <li>• E.i.r.p (Equivalent Isotopically Radiated power) (mW)&lt;100mW</li> <li>• 带宽 (MHz):5MHz</li> <li>• 调制方式: OQPSK</li> </ul>
Bluetooth 性能	<ul style="list-style-type: none"> <li>• 蓝牙协议: Bluetooth 5.2</li> <li>• 发射功率: 19.5dBm</li> <li>• 覆盖范围: 150 米 (最大 空旷领域)</li> <li>• 接收灵敏度: -80dBm@0.1%BER</li> <li>• 频率偏差: +/-20KHZ</li> </ul>
GPRS 性能	<p>工作频段 850/900/1800/1900MHZ</p> <p>全球 LTE:FDD:B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28</p> <p>北美 LTE TDD:B2/B4/B12/B13</p> <p>LTE TDD B39(for cat.M1 only)</p> <p>EGPRS</p> <p>Cat.M1/Cat.NB1</p> <p>GPS/Galileo/QZSS: 1575.42±1.023MHz</p> <p>GLONASS : 1597.5~1605.8MHz</p> <p>BeiDou : 1561.098±2.046MHz</p>
因特网性能	<p>WAN □ 10M/100M bps</p> <p>LAN □ 10M/100M bps</p>
RF 工厂测试模式	<ul style="list-style-type: none"> <li>• 将板设置为测试模式，使用 Iqexl-ws 可测试 Wi-Fi，Zigbee</li> <li>• 有关详细信息，请参阅 DUSUN 测试规范。</li> </ul>

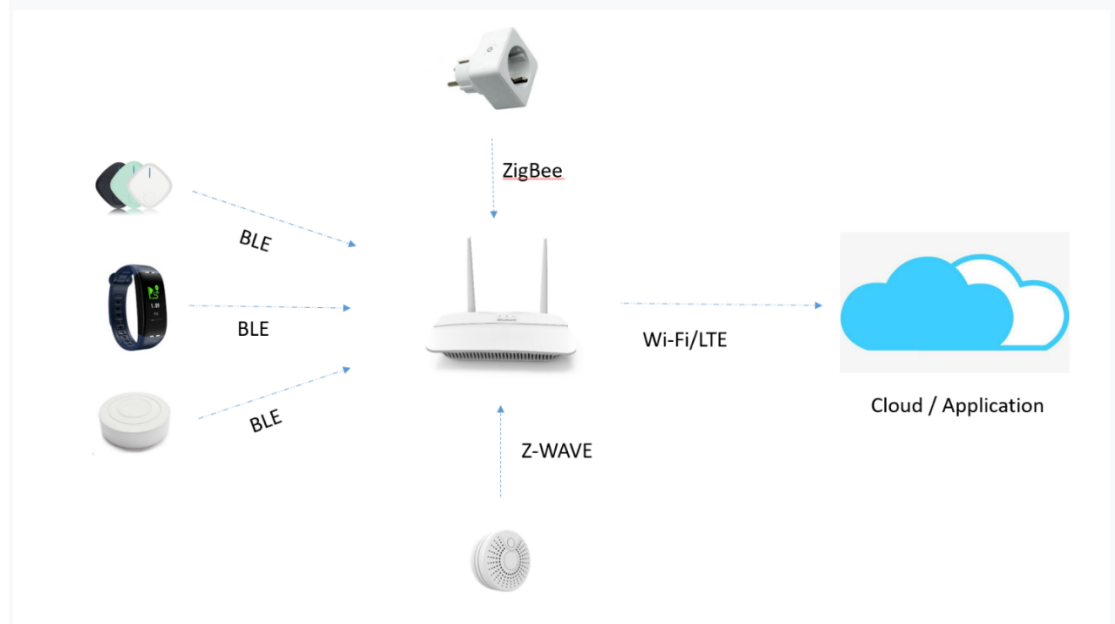
## 4 质量保证需求

### 4.1 质量信息

质量&测试信息	
信息描述	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	Bluetooth 认证, Zigbee 认证
工作温度	-10°C~70°C

## 5 应用

- 1) 智能网关每秒收集一次有关附近信标的信息，包括 RSSI，MAC 等
- 2) 智能网关每秒通过 Wi-Fi 或 LTE 将信标信息发送到 Cloud
- 3) 智能网关支持 TCP / IP，UDP 协议，并且可以支持 MQTT，LWM2M 协议
- 4) 智能网关支持连接 Zigbee 设备
- 5) 智能网关支持连接蜂窝网络





6 认证

CE



ATTESTATION OF CONFORMITY

Attestation Number:AOC RSHD201119001-02  
Date of Issue:2021-02-07

Client:

Company name: Hangzhou Roombanker Technology Co., Ltd.  
Address: A#801 Wantong center, Hangzhou, Zhejiang, China

Product:

Name: Dual band Wi-Fi Smart Gateway  
Model(s): DSGW-020, DSGW-020-1, DSGW-020-2, DSGW-020-3, DSGW-020-4, DSGW-020-5  
Brand: N/A  
Manufacturer & Address: Hangzhou Roombanker Technology Co., Ltd.  
A#801 Wantong center, Hangzhou, Zhejiang, China

Trade Mark:

N/A

Bay Area Compliance Laboratories Corp. (Kunshan) hereby declares that the submitted sample(s) of the above equipment has been tested for CE regulations and in accordance with the European Directives and Standards:

EMC Directive 2014/30/EU

Harmonized Standards	Test Report Number
EN 55032:2015+A11:2020	RSHD201119001-01A
EN 55035:2017+A11:2020	
EN IEC 61000-3-2: 2019+A1:2020	
EN 61000-3-3: 2013+A1:2019	



Mark is permitted only after all applicable requirements are met in accordance with the CE regulation requirements, including the manufacturer's issuance of a "Declaration of Conformity". The Declaration of Conformity is issued under the sole responsibility of the manufacturer. This attestation is specific to the standard(s) stated above and compliance with additional standards and/or CE regulations are applicable.

Attestation by:

Lab. Manager: Oscar Ye

Signature: *Oscar Ye*



**ATTESTATION OF CONFORMITY**Attestation Number: AOC RSHD201119001-03  
Date of Issue: 2021-02-07**Client:**Company name: Hangzhou Roombanker Technology Co., Ltd.  
Address: A#801 Wantong center, Hangzhou, Zhejiang, China**Product:**Name: Dual band Wi-Fi Smart Gateway  
Model(s): DSGW-020, DSGW-020-1, DSGW-020-2, DSGW-020-3, DSGW-020-4,  
DSGW-020-5  
Brand: N/A  
Manufacturer & Address: Hangzhou Roombanker Technology Co., Ltd.  
A#801 Wantong center, Hangzhou, Zhejiang, China**Trade Mark:**

N/A

Bay Area Compliance Laboratories Corp. (Kunshan) hereby declares that the submitted sample(s) of the above equipment has been tested for CE regulations and in accordance with the European Directives and Standards:

**Radio Equipment Directive 2014/53/EU**

Harmonized Standards	Test Report Number
ETSI EN 301 489-1 V2.2.3 (2019-11)	RSHD201119001-02
ETSI EN 301 489-17 V3.2.4 (2020-09)	
ETSI EN 301 489-52 V1.1.0 (2016-11)	
ETSI EN 300 328 V2.2.2 (2019-07)	RSHD201119001-01B
ETSI EN 300 328 V2.2.2 (2019-07)	RSHD201119001-01C
ETSI EN 300 328 V2.2.2 (2019-07)	RSHD201119001-01D
ETSI EN 301 908-1 V13.1.1 (2019-11)	RSHD201119001-01E
ETSI EN 301 908-13 V13.1.1 (2019-11)	
ETSI EN 301 893 V2.1.1 (2017-05)	RSHD201119001-01F
ETSI EN 300 440 V2.2.1 (2018-07)	RSHD201119001-01G
EN IEC 62311:2020	RSHD201119001-01H
EN 62368-1:2014+A11:2017	RSHD201119001-SF



*Mark is permitted only after all applicable requirements are met in accordance with the CE regulation requirements, including the manufacturer's issuance of a "Declaration of Conformity". The Declaration of Conformity is issued under the sole responsibility of the manufacturer. This attestation is specific to the standard(s) stated above and compliance with additional standards and/or CE regulations are applicable.*

FCC

TCB

GRANT OF EQUIPMENT  
AUTHORIZATION

TCB

Certification  
Issued Under the Authority of the  
Federal Communications Commission  
By:

Bay Area Compliance Laboratory Corp.  
1274 Anvilwood Avenue  
Sunnyvale, CA 94089

Date of Grant: 02/06/2021  
Application Dated: 02/06/2021

Hangzhou Roombanker Technology Co., Ltd.  
A#801 Wantong center,  
Hangzhou,  
China

Attention: Lin Su

**NOT TRANSFERABLE**

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is  
VALID ONLY for the equipment identified hereon for use under the Commission's  
Rules and Regulations listed below.

FCC IDENTIFIER: 2AUXBDSGW-020  
Name of Grantee: Hangzhou Roombanker Technology Co.,  
Ltd.  
Equipment Class: **Unlicensed National Information  
Infrastructure TX**  
Notes: **Dual band Wi-Fi Smart Gateway**

Grant Notes	FCC Rule Parts	Frequency Range (MHZ)	Output Watts	Frequency Tolerance	Emission Designator
CC MO	15E	5180.0 - 5240.0	0.039 <sup>Wi-Fi</sup>		
CC MO	15E	5745.0 - 5825.0	0.041 <sup>Wi-Fi</sup>		

Output power listed is conducted. The device contains an approved module (FCC ID: XMR201707BG96) documented in this filing. The antenna(s) used for this transmitter must be used to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures. End-users must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance. This product supports 20 MHz, 40 MHz and 80 MHz bandwidth modes.

CC: This device is certified pursuant to two different Part 15 rules sections.

MO: This Multiple Input Multiple Output (MIMO) device was evaluated for multiple transmitted signals as indicated in the filing.

FCC

TCB

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AUTHORIZATION

TCB

Certification  
Issued Under the Authority of the  
Federal Communications Commission  
By:

Bay Area Compliance Laboratory Corp.  
1274 Anvilwood Avenue  
Sunnyvale, CA 94089

Date of Grant: 02/06/2021  
Application Dated: 02/05/2021

Hangzhou Roombanker Technology Co., Ltd.  
A#801 Wantong center,  
Hangzhou,  
China

Attention: Lin Su

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER: 2AUXBDSGW-020  
Name of Grantee: Hangzhou Roombanker Technology Co., Ltd.

Equipment Class: Digital Transmission System  
Notes: Dual band Wi-Fi Smart Gateway

Grant Notes	FCC Rule Parts	Frequency Range (MHZ)	Output Watts	Frequency Tolerance	Emission Designator
CC	15C	2402.0 - 2480.0	0.006 BLE		
CC	15C	2405.0 - 2480.0	0.086 Zigbee		
CC MO	15C	2412.0 - 2462.0	0.264 Wi-Fi		
CC MO	15C	2422.0 - 2452.0	0.292 HT40		

Output power listed is conducted. The device contains an approved module (FCC ID: XMR201707BG96) documented in this filing. The antenna(s) used for this transmitter must be used to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures. End-users must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance. This product supports 20 MHz, and 40 MHz bandwidth modes.

CC: This device is certified pursuant to two different Part 15 rules sections.

MO: This Multiple Input Multiple Output (MIMO) device was evaluated for multiple transmitted signals as indicated in the filing.