

Product Specification

产品名称: S 系列智能网关

产品型号: DSGW-030

Revision History

Specification		Sect.	Update Description	By
Rev	Date			
1.0	2020-09-08		New version release	
2.0	2020-10-08		Add new module supporting 4G	

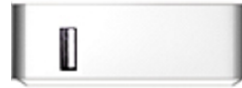
Approvals

Organization	Name	Title	Date

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DSGW-030



DSGW-031



DSGW-03X-1



DSGW-03X-2/ DSGW-03X-4



DSGW-03X-3

Model List

Feature \ Model	RAM	Flash	eMMC	USB	Wi-Fi 2.4G	Bluetooth 5.2	Zigbee3.0	Z-Wave	4G
DSGW-030-1	64MB	16MB			•		•		
DSI-0177-4G	64MB	16MB			•		•		•
DSGW-030-2	64MB	16MB			•	•			
DSGW-030-3	64MB	16MB			•			•	
DSGW-030-4	64MB	16MB			•	•	•		
DSGW-030-5	64MB	16MB			•		•	•	
DSGW-031-1	64MB	16MB		•	•	•			
DSGW-031-2	64MB	16MB		•	•		•		
DSGW-031-3	64MB	16MB		•	•			•	
DSGW-030-B-1	128MB	16MB	4GB		•		•		
DSGW-030-B-2	128MB	16MB	4GB		•	•			
DSGW-030-B-3	128MB	16MB	4GB		•			•	
DSGW-030-B-4	128MB	16MB	4GB		•	•	•		
DSGW-030-B-5	128MB	16MB	4GB		•		•	•	
DSGW-030-B-6	256MB	16MB	4GB		•	•	•		
DSGW-031-B-1	128MB	16MB	4GB	•	•		•		
DSGW-031-B-2	256MB	16MB	8GB	•	•		•		

1 简介

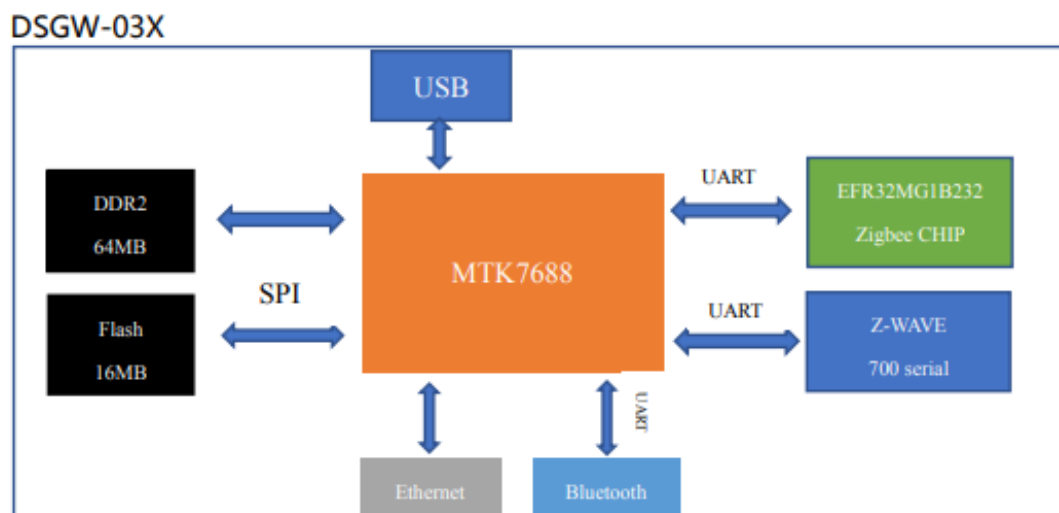
1.1 描述

DSW-030 作为物联网的核心设备被广泛使用在智能家居，智能安全行业，智慧养老领域。它支持多种无线协议，包括 Wi-Fi, zigbee3.0, BLE, Z-WAVE。用户可以通过 Wi-Fi 和以太网连接网络。此外，这款网关也可以通过 zigbee3.0, BLE, Z-WAVE 等协议与其它智能设备连接。

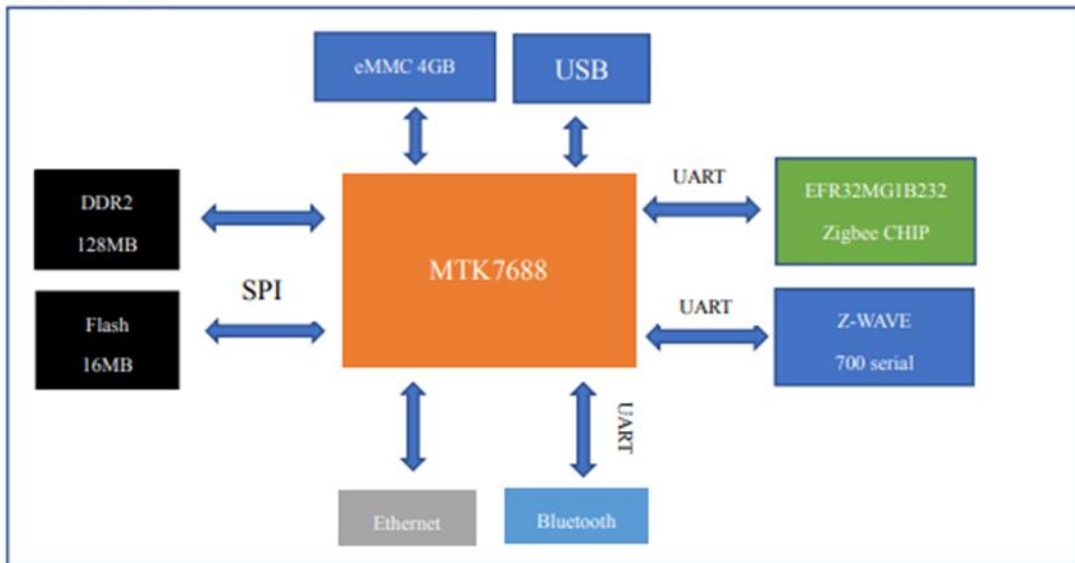
1.2 产品特性

- 操作系统：Linux@ OpenWrt
- 处理器：MTK7688
- RAM:64MB 可用空间：16MB
- RAM :64MB 可用空间：80MB（B 版本）
- Flash :16MB 可用空间：8MB
- Storage :eMMC 4GB (B 版本)
- 支持 IEEE 802.11n, IEEE 802.11g, IEEE 802.11b Wi-Fi 协议
- 支持蓝牙 5.2
- 支持 zigbee3.0
- 网口 WAN/LAN 可切换
- 支持 Z-Wave
- USB 接口
- Zigbee, BQB, TCB, FCC, CE, Canada IC 认证

1.3 硬件框图

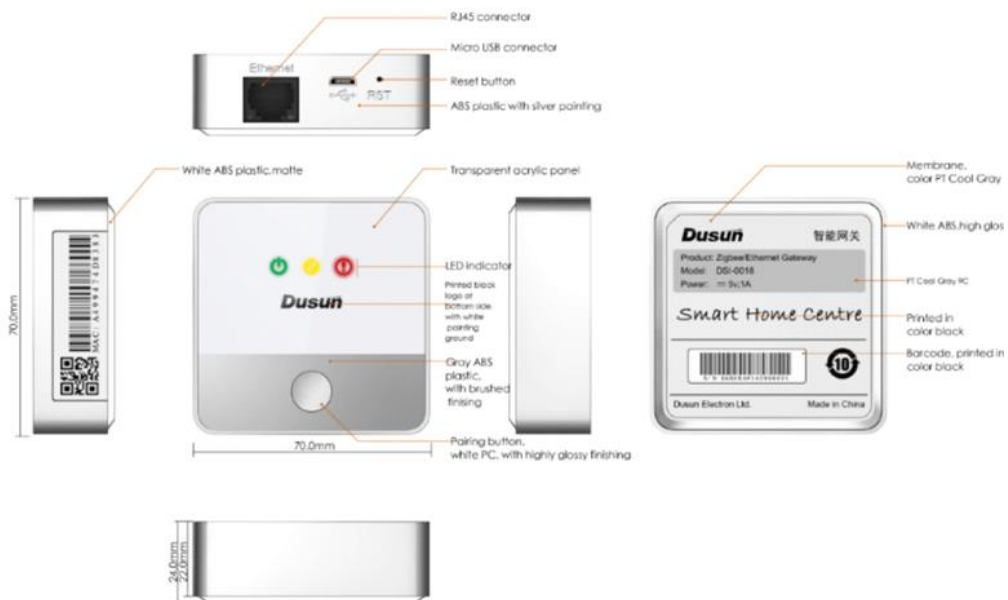


DSGW-03X-B

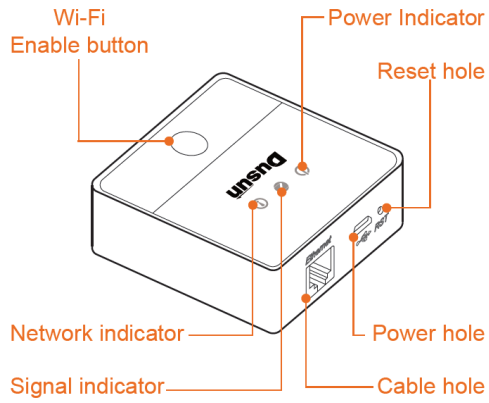


2 机械需求

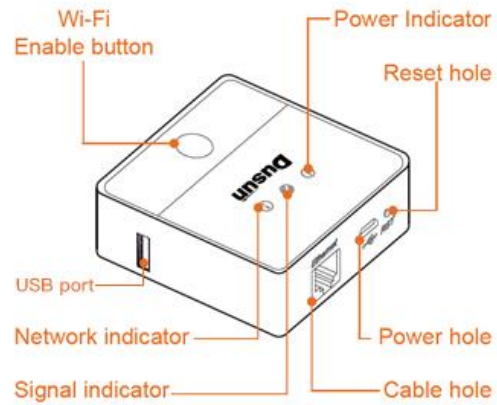
2.1 产品图片



2.2 接口说明

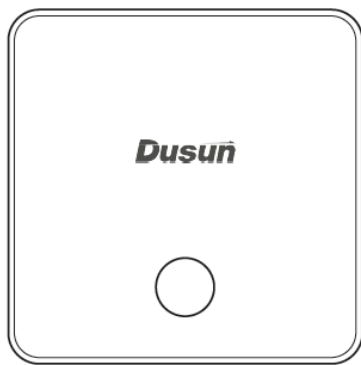


DSGW-030

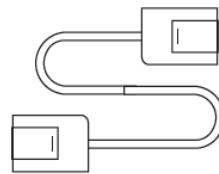


DSGW-031

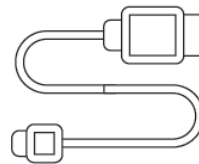
2.3 产品清单



Gateway x 1



Network cable x 1



USB Power cable x 1

3 规格参数

3.1 软件参数

电源	100V-240 50/60HZ
LED指示灯	电源指示灯 Zigbee/BLE/Z-Wave 信号指示灯 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
接口	一个 WLAN/WAN可变口， 一个USB接口
工作温度	-10°C ~ 70°C

3.2 性能需求

性能需求	
Wi-Fi 性能	<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 • 工作模式 : Bridge、Gateway、AP Client • 覆盖范围: 50 米 (最大 空旷领域) • 发射功率:17dBm • 最高传输速率: 300Mbps • 频率偏差: +/- 50KHZ • 频率范围 (MHz): 2412.0~2483.5 • 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
	<ul style="list-style-type: none"> • 覆盖范围: 150 米 (最大 空旷领域) • 发射功率:17.5dBm • 最大传输速率: 300Mbps

Zigbee3.0 性能	<ul style="list-style-type: none"> • Frequency offset: +/- 20KHZ • 接收灵敏度:-94dBm • 频率范围 (MHz):2401.0~2483.5 • 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
Bluetooth 性能	<ul style="list-style-type: none"> • 蓝牙协议: Bluetooth 5.2 • 发射功率: 19.5dBm • 覆盖范围: 150 米 (最大 空旷领域) • 接收灵敏度: -80dBm@0.1%BER • 频率偏差: +/-20KHZ
Z-wave 性能	<ul style="list-style-type: none"> • 发射功率最大到 13dBm (20mW) • 接收灵敏度 @100kbps-97.5dBm • 覆盖范围: 150 米 (最大 空旷领域) • 默认频率: 916MHz
因特网	<ul style="list-style-type: none"> • 10/100Mbps

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	FCC,CE, IC, Bluetooth 认证, Zigbee 认证, ROHS

5 软件说明

软件依托联发科平台开发，支持 OpenWrt 系统。支持 Wi-Fi, Zigbee3.0, QTA, MQTT 等功能。

5.1 软件功能定义

上电

上电：当网关没有进行任何设置和网关连接，红，绿，黄三种颜色的灯长亮，进行硬件初始化，初始化成功。

网关绿灯进行闪烁，进入系统初始化。绿灯长亮，初始化成功。网关自动连接网络，连接成功，红灯熄灭。连接不成功，红灯长亮。

复位

短按复位按键：按键时间在 5s 内，网关切换到 smart config 模式。手机可以对网关需要连接的网络热点信息进行设置，绿灯以 2HZ 的频率进行闪烁。

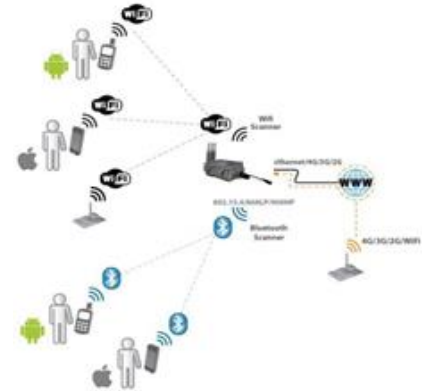
长按复位按键：按键时间在 5s 以外，网关恢复出厂设置，清除网关内所有的配对信息。网关进入 AP 模式，绿灯以 2HZ 的频率进行那个闪烁。

6 应用

应用序号	功能简介	产品型号	
AP-01	WI-FI, Bluetooth扫描	DSGW-030-2	
AP-02	室内定位	DSGW-030-2	
AP-03	智能家居	DSGW-030-1 DSGW-030-3	
AP-04	SIG Mesh	DSGW-030-2	

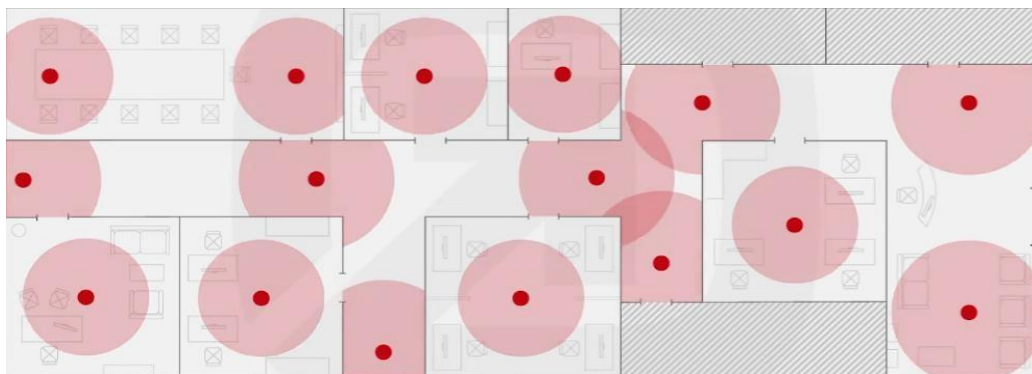
6.1 AP-01 购物和街头活动监控

智能网关无需连接到特定的访问点即可发现 iPhone 和 Android 设备，从而能够检测到该智能设备覆盖范围内的任何智能手机，笔记本电脑或免提设备。



6.2 AP-02 用于室内引导和定位的信标

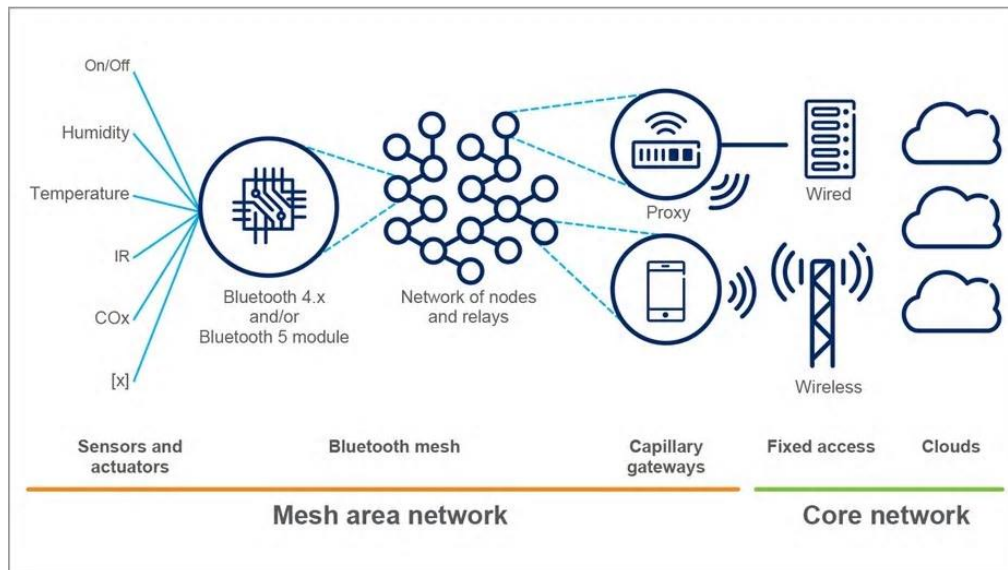
将 Beacon 安装到需要跟踪资产的产品上面，Beacon 将 BLE 信号发送到安装在建筑物中的 Smart Gateway。网关处理提供的的数据，并通过 Wi-Fi 将其发送到服务器。最后将位置显示在地图上，并且可以检索运动统计信息。



6.3 AP-03 智能家居



6.4 AP-04 SIG MESH



蓝牙技术已成为主导短程边缘节点的强大候选者。在蓝牙中添加 MESH 可以使低功耗传感器与远程网关进行通信，该网关可以在任何具有蓝牙功能的手机中实现。

蓝牙 MESH 提供了几种基于其部署的特性和应用程序来配置网络的方式，并且此类网络配置的影响随网络规模和吞吐量的变化而扩展。配置选项包括以下方面：中继功能的配置，使用已确认或未确认的传输，消息重复方案和传输随机化。

7 认证

Zigbee

zigbee alliance

CERTIFICATE

ZIGBEE CERTIFIED PRODUCT

The Zigbee Alliance is pleased to congratulate Hangzhou Roombanker Technology Co., Ltd. on the completion of the Zigbee Certification Program testing of the following product:

Type of Device	Zigbee - 2016 Combined Interface
Manufacturer	Hangzhou Roombanker Technology Co., Ltd.
Model Identification	Dusun-Programmable and Multi- protocol Mini IoT Gateway
Firmware Version	3.12.30
Hardware Version	A
Certification Date	September 25, 2019
Certification ID Number	ZIG19181ZB330423-24

This Certificate serves to confirm that the above-mentioned product has passed all relevant tests in conjunction with the Zigbee Certification Program. The manufacturer has been granted the right to use the following term and all associated logos:



The usage of this term is limited to the described device and does not encompass any changes, firmware upgrades or subsequent versions and models after the listed test date.

All usage guidelines governing Zigbee Alliance marks apply to the term above.

We congratulate you on the completion of the program!

Sincerely,

Zigbee Alliance

Date

Signature

508 Second Street, Suite 206 ■ Davis, CA 95616 ■ USA ■ Phone +1.530.564.4565 ■ www.zigbee.org

BQB



Project Details

Project Name	programmable and multi-protocol mini IoT gateway (DSI-0177-AMBER-BLE)
Product Type	End Product
TCRL Version	TCRL 2019-1
Referenced Qualified Design(s)	
Previously Qualified Design Used In this Qualification(s)	99504 101550
Listing Date	2019-11-19
Declaration ID	D048406

Product Listing(s)

Name	Website	Category	Publish Date	Model Number	Description
DUSUN programmable and multi-protocol mini IoT gateway		Unique Products	11/19/2019 12:00:00 AM	DSI-0177-AMBER-BLE	programmable and multi-protocol mini IoT gateway
DUSUN programmable and multi-protocol mini IoT gateway		Unique Products	11/19/2019 12:00:00 AM	DSI-0177-AMBER	programmable and multi-protocol mini IoT gateway
DUSUN programmable and multi-protocol mini IoT gateway		Unique Products	11/19/2019 12:00:00 AM	DSI-0177-AMBER-ZWAVE	programmable and multi-protocol mini IoT gateway
DUSUN programmable and multi-protocol mini IoT gateway		Unique Products	11/19/2019 12:00:00 AM	DSI-0177-AP	programmable and multi-protocol mini IoT gateway
DUSUN programmable and multi-protocol mini IoT gateway		Unique Products	11/19/2019 12:00:00 AM	DSGW-030	programmable and multi-protocol mini IoT gateway

Member Company	Hangzhou Roombanker Technology Co., Ltd.
Declaring Member Contact / Listing Contact Person	Name
	Address
	City

CE



FCC

TCB

GRANT OF EQUIPMENT
AUTHORIZATION
Certification
Issued Under the Authority of the
Federal Communications Commission
By:

TCB

MICOM Labs
575 Boulder Court
Pleasanton, CA 94566

Date of Grant: 11/17/2019
Application Dated: 11/17/2019

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: 2AUXBDSI-0177

Name of Grantee: Hangzhou Roombanker Technology
Co., Ltd.

Equipment Class: Digital Transmission System
Notes: programmable and multi-protocol mini IoT gateway

Grant Notes

FCC Rule Parts

15C

Frequency
Range (MHz)
2412.0 - 2462.0

Output
Watts
0.01892

Frequency
Tolerance

Emission
Designator

Output power listed is conducted power. The antenna used with this transmitter must be
installed to provide a minimum 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 operating procedures for satisfying RF exposure compliance.



FCC

TCB **TCB**

GRANT OF EQUIPMENT AUTHORIZATION

Certification
Issued Under the Authority of the
Federal Communications Commission

By:

MICOM Labs
575 Boulder Court
Pleasanton, CA 94566

Date of Grant: 11/17/2019
Application Dated: 11/17/2019

Hangzhou Roombanker Technology Co., Ltd.
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China

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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: 2AUXBDSI-0177


Name of Grantee: Hangzhou Roombanker Technology Co., Ltd.

Equipment Class: Part 15 Low Power Communication Device
Transmitter

Notes: programmable and multi-protocol mini IoT gateway

<u>Grant Notes</u>	<u>FCC Rule Parts</u>	<u>Frequency Range(MHz)</u>	<u>Output Watts</u>	<u>Frequency Tolerance</u>	<u>Emission Designator</u>
	15C	2402.0 - 2480.0			
	15C	2405.0 - 2480.0			

Ble
Zigbee



IC



KC



발급번호 : UCSKR-2103-0053호

방송통신기자재등(무선) 시험성적서

- 1. 발 급 번 호 : UCSKR-2103-0053호
- 2. 점 수 일 : 2021년 2월 4일
- 3. 시 험 기 간 : 2021년 2월 25일 ~ 2021년 3월 2일
- 4. 신청인(상호명) : Hangzhou Roombanker Technology Co.,Ltd
 사업자등록번호 : CHN-00-18877
 대표자 성명 : Yongxiao Cheng
 주 소 : 801, Building A, Wantong Center, Gongshu District, Hangzhou City, Zhejiang Province, China
- 5. 기자재 명칭 / 모델명 : S-SERIAL SMART GATEWAY / DSGW-030
- 6. 제 조 자 / 제조국가 : Hangzhou Roombanker Technology Co.,Ltd / 중국
- 7. 시 험 결 과 : 적 합

방송통신기자재등 시험기관의 지정 및 관리에 관한 고시 제13조 규정에 의하여 시험성적서를 발급합니다.

2021년 03월 25일

(주)유씨에스 대표이사 (인)

주소 : 경기도 안양시 동안구 학의로 268, 702호 (관양동, 안양메가밸리)
전화번호 : 1833-5681
팩스번호 : 031-420-5685

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