KTBG602

Bluetooth gateway (4G/WiFi/Ethernet)

Product specifications

Document information

Product model	KTBG602
Product description	Bluetooth gateway(4G/WiFi/Ethernet)
File type	Product specifications
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Contents

1 Product overview

The KTBG602 is a Bluetooth 4.2/5.0 gateway with a 580MHz MIPS 24KEc processor, a 64MB DDR2 DRAM and 16MB FLASH. The KTBG602 Bluetooth Gateway integrates PA and LNA, so that the Bluetooth scanning and connectivity distance is more than 100 meters, it increases the coverage range and reduces the system cost. The KTBG602 can use PoE power supply (IEEE 802.3at (Class1)) or power adapter (wide input voltage range: 6V-24V).

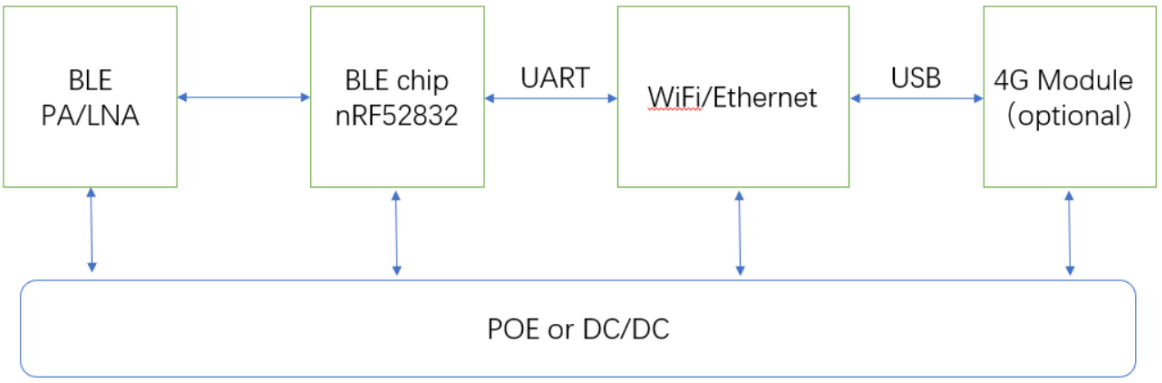
KTBG602 can be compatible with different Bluetooth terminal devices, convenient for users to connect with different Bluetooth terminal devices such as Bluetooth bracelet, Bluetooth jump rope, Bluetooth door lock, various Bluetooth sensors, etc. KTBG602 Bluetooth gateway can scan data from Bluetooth devices, remote control through the connection with Bluetooth terminal devices, to achieve two-way transmission of data.

KTBG602 supports different communication protocols: UDP, TCP and MQTT. Bluetooth filtering is supported including Bluetooth name filtering, signal strength filtering, MAC address filtering, and more.

By receiving the Received signal strength index (RSSI value) of the Bluetooth signal from the Bluetooth terminal, you can calculate the distance from the Bluetooth terminal to multiple Bluetooth gateways, so that you can know the position of the Bluetooth terminal by tri-angle localization algorithm.

KTBG602 should be used in a wide range of medical, elderly care, sports, fitness, education, smart home, and a variety of industrial applications.

2 System block diagram



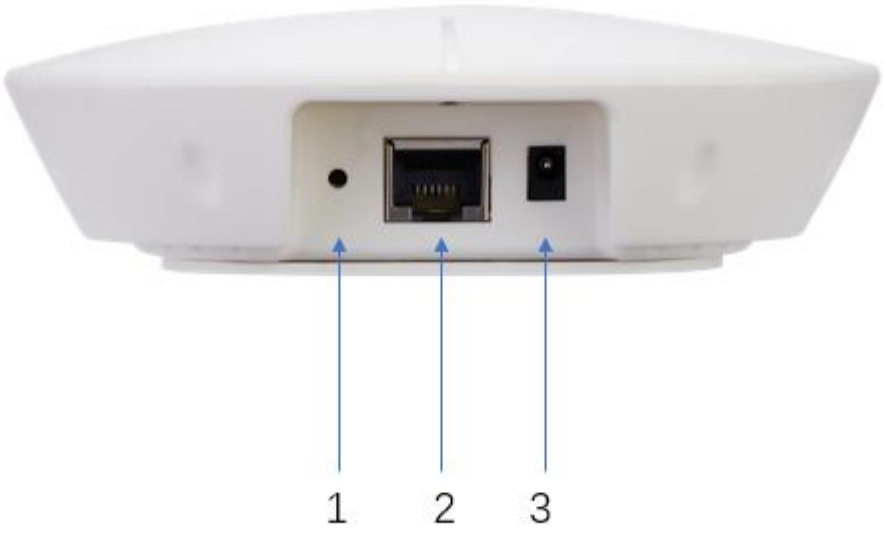
KTGB602 system block diagram

3 Product characteristics

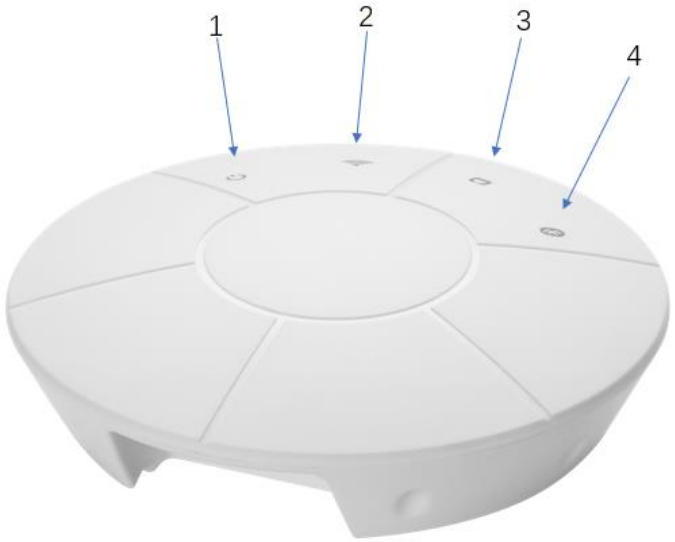
- Support for PoE power supply or power adapter;
- Support for IEEE 802.11n, IEEE 802.11g, IEEE 802.11b protocol;
- BLE 4.2/5.0 is supported;
- Integrated Bluetooth PA/LNA;
- Support LTE-TDD/LTE-FDD/TD-SCDMA/UMTS/EVDO/EDGE/GPRS/GSM/CDMA; (4G version)
- A WAN/LAN adaptive port;
- RoHS compliant;
- FCC,CE compliant.

4 Product interface

4.1 Indoor Bluetooth Gateway



1. Reset the key, press and hold for more than 5 seconds to restore factory settings;
2. Ethernet port /POE power supply;
3. Power supply, power adapter with AC 100-240V(50/60Hz)input, 12V 2A output power adapter.



1. Power LED;

No.	State	Lights
1	The power supply is plugged in	On
2	The power supply is not plugged in	Off

2. WIFI LED

No.	State	Lights
1	The WiFi is starting	On
2	After WiFi start-up	Flashing
3	WiFi off	Off

3. Ethernet indicator

No.	State	Lights
1	The network cable is plugged in	Flashing
2	The network cable is not plugged in	Off

4. Bluetooth LED

No.	Mode	Lights
1	Scan device broadcast mode	Periodic 5000ms off 200ms on
2	Scan and forwarding information mode	Periodic 8000ms off 200ms on
3	Long connection mode is connecting	Periodic 2000ms off 2000ms on
4	Short connection mode is connecting	Periodic 1000ms off 300ms on
5	Connected to the device (more than 0 connections).	Periodic 300ms off 300ms on

4.2 Outdoor Bluetooth Gateway

5 Product performance parameters

Product size	Diameter:124mm; Height:40mm
Power	DC6-28V（2A） PoE (PoE switch up to 57V), IEEE 802.3at(Class1) compliant
Working current	280mA@12V (with 4G module) 180mA@12V (without 4G module)
Operating temperature	-20°C~70°C
Interface	Ethernet port, power interface, reset button
WiFi	
WiFi protocol	IEEE 802.11n, IEEE 802.11g, IEEE 802.11b
Data rate	IEEE 802.11 b Standard Mode: 1,2,5.5,11Mbps
	IEEE 802.11 g Standard Mode: 6,9,12,18,24,36,48,54Mbps
	IEEE 802.11n : 72Mbps @ HT20 150Mbps @ HT40
Receive sensitivity	HT40 MCS7 : -67dBm@10% PER(MCS7)
	HT20 MCS7 : -73dBm@10% PER(MCS7)
	54M: -76dBm@10% PER
	11M: -91dBm@ 8% PER

Transmit power	IEEE 802.11n: 15dBm @HT40 MCS7 15dBm@HT20 MCS7
	IEEE 802.11g: 16dBm
	IEEE 802.11b: 18dBm
Wireless security	WPA/WPA2, WEP, TKIP, and AES
Working mode	Bridge、Gateway、AP Client
Bluetooth	
Bluetooth protocol	Bluetooth ® 5.0
The data rate	Uncoded: 1Mbps/2Mbps
Wireless security	AES HW Encryption
The connection distance	100m
Transmit power	0~+18dBm
4G LTE	
Communication protocol	LTE-TDD/LTE-FDD/TD-SCDMA/UMTS/ EVDO/EDGE/GPRS/GSM/CDMA

6 Gateway configuration

6.1 Preparation

(1) One Bluetooth Gateway ;

(2) One computer;

(3) One 4G SIM card (only for 4G gateway);

(4) One power adapter.

6.2 Connect the device

(1) Power on the gateway;

(2) Connect your computer to the WiFi of the Bluetooth gateway, the SSID of the WiFi is like KunLun_XXXXXXXXXX;

(3) Make a connection.

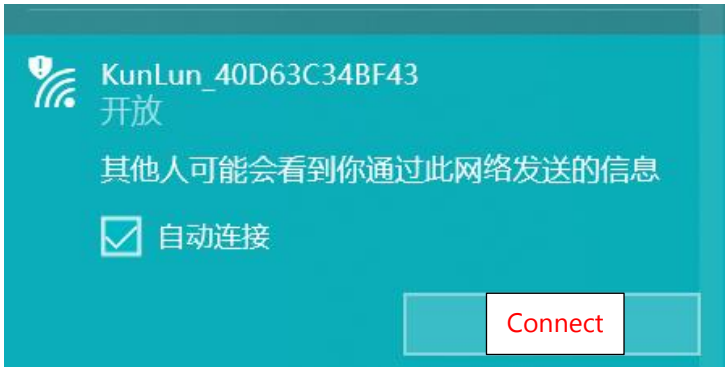


Figure 1

6.3 Start configuring

Using a browser, input the IP address: 10.10.10.254; The username/password is admin/admin.

Figure 2

You can change the Account and Password in the Management menu.

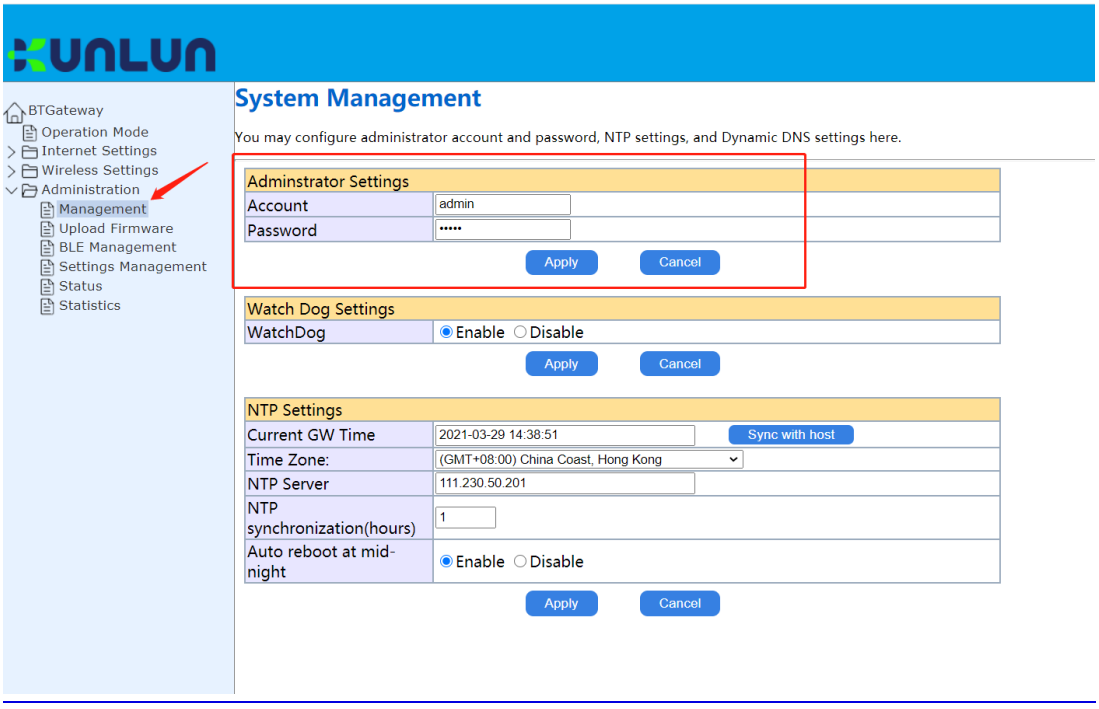


Figure 3

6.4 Use Ethernet access to the network

6.4.1 Select the Gateway option, see Figure 4, click the "Apply" button, the gateway restarts, please reconnect the gateway;

6.4.2 The gateway of the gateway automatically switches to WAN port;

6.4.3 Connect the gateway to the switch or router;

6.4.4 The default is dynamic IP,if you need to use static IP,see Figure 5/6;

6.4.5 Once the above configuration is complete, you will normally get an IP, refer to Figure 11.

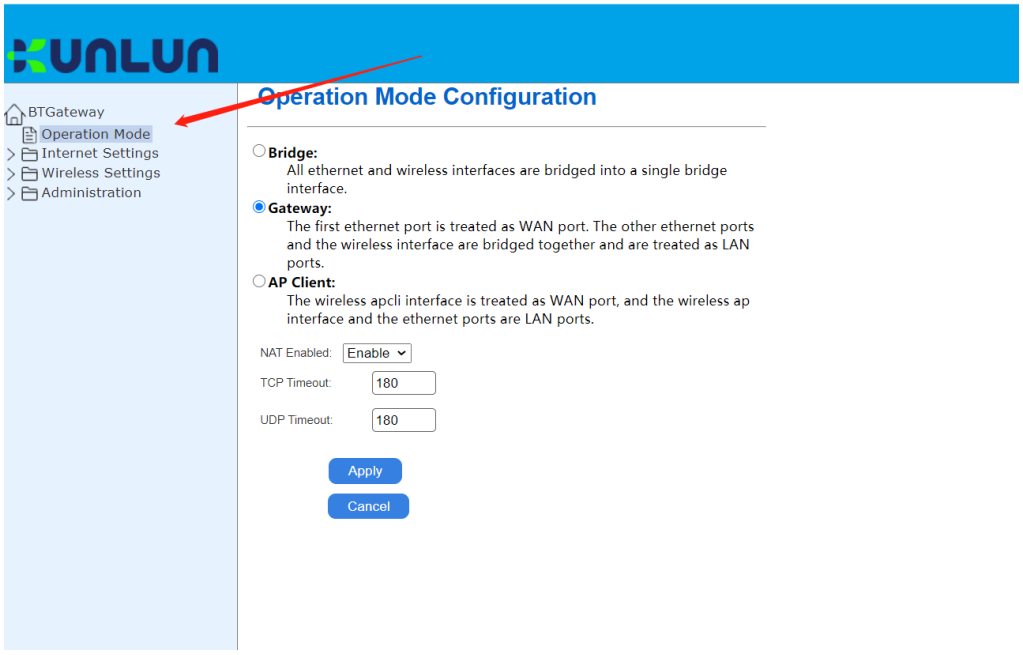


Figure 4

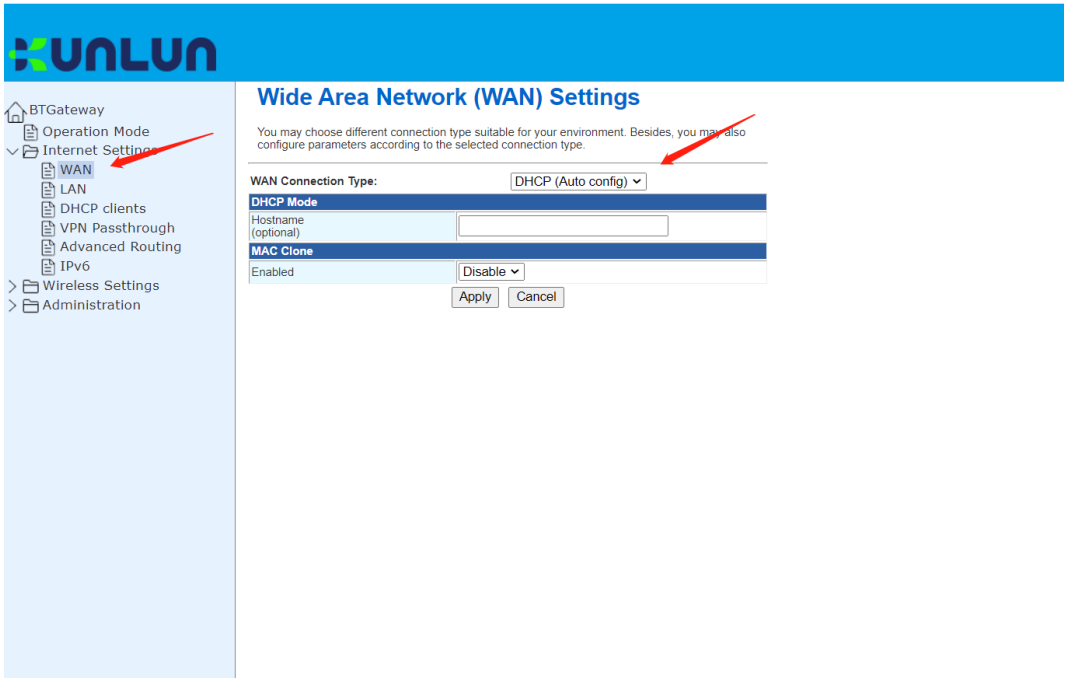


Figure 5

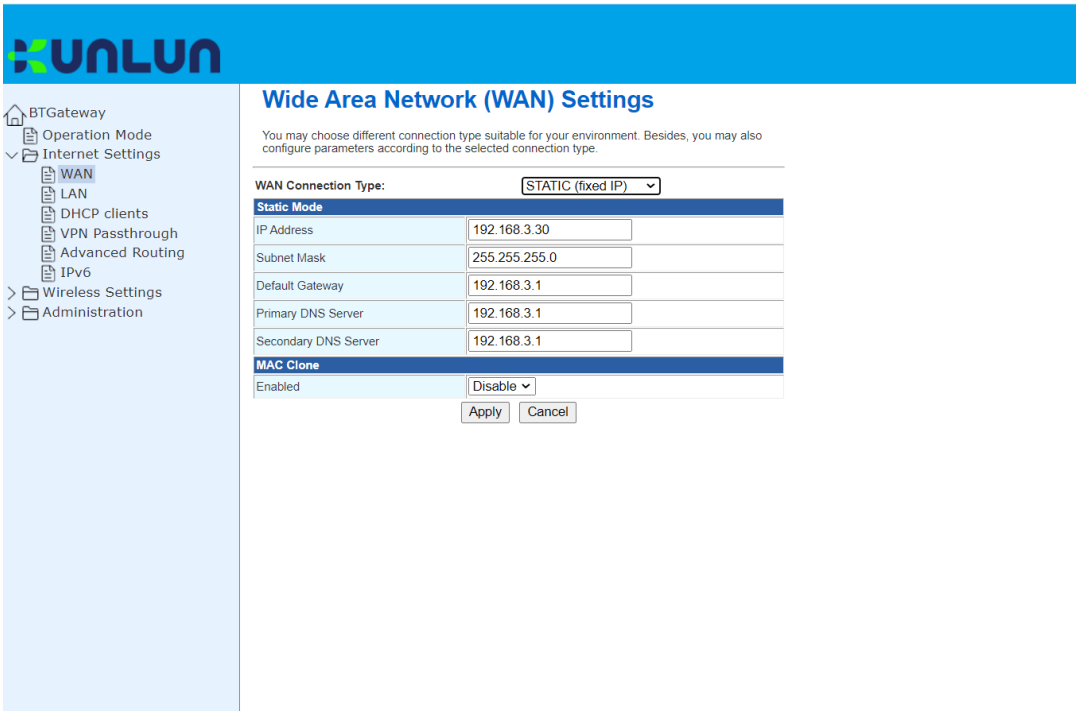


Figure 6

6.5 Connect to the network through WiFi

6.5.1 Select the AP/Client option, see Figure 7, click the "Apply" button, the gateway restarts, please reconnect to the gateway;

6.5.2 The Ethernet of the Gateway automatically switches to LAN port, do not connect the device to the router to avoid LAN-LAN conflicts;

6.5.3 Set up the Wi-Fi you want to connect to, see Figure 8 and fill in the correct SSID and password in the red box location;

6.5.4 The default is dynamic IP, if you need to use static IP, see Figure 5/6;

6.5.5 Once the above configuration is complete, you will normally get an IP, refer to Figure 11.

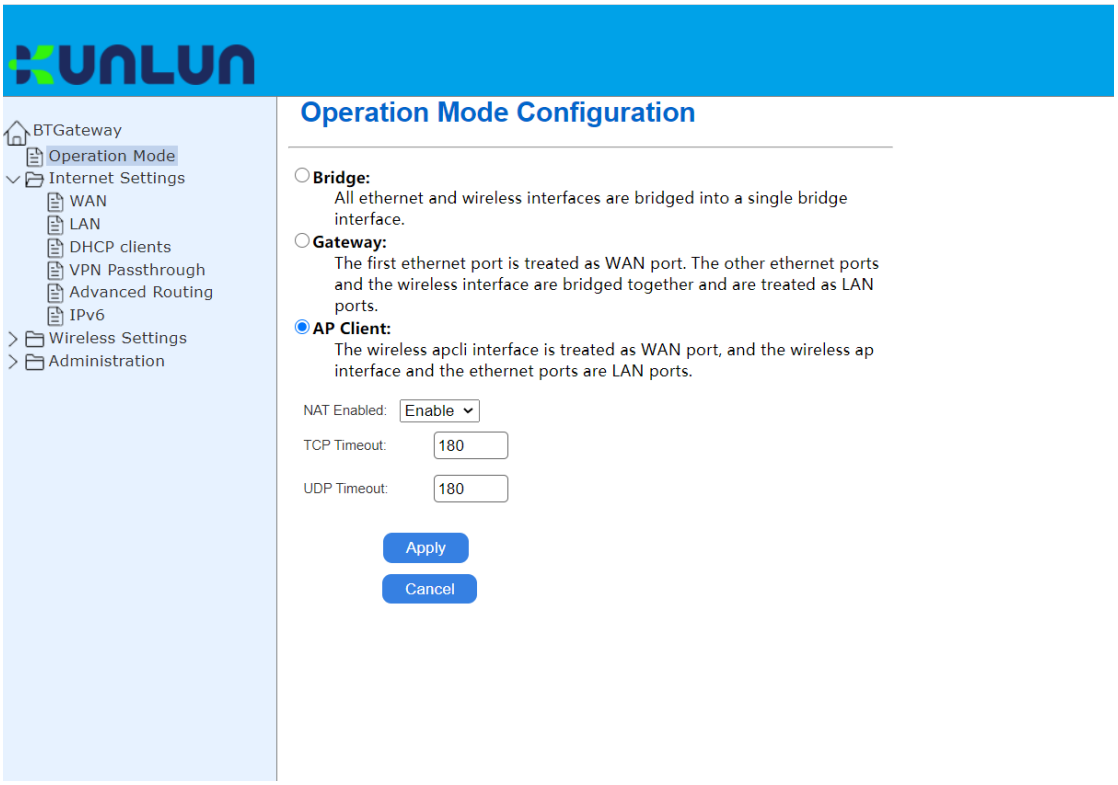


Figure 7

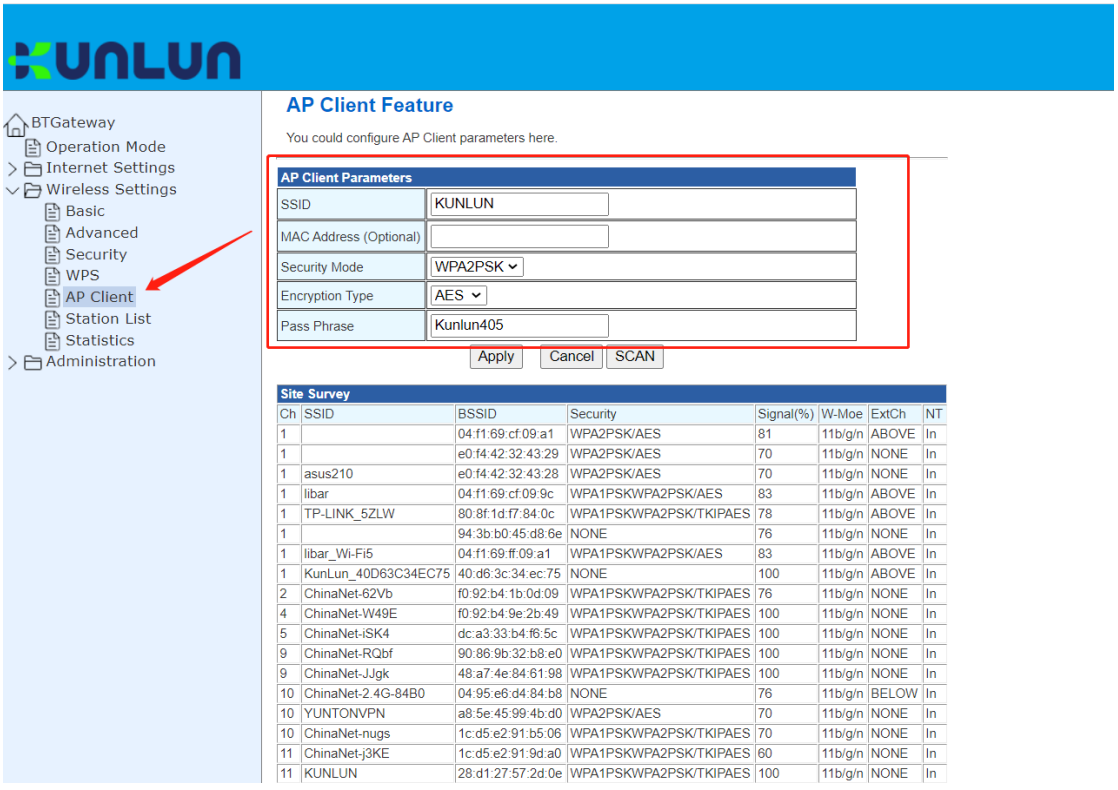


Figure 8

6.6 Use 4G to access network (only for 4G gateway)

6.6.1 Choose Gateway or AP Client mode;

6.6.2 The external network selects 4G Internet access, remember to select the modem model, see Figure 10;

6.6.3 4G Internet access does not support static IP;

6.6.4 Insert the SIM card correctly, see Figure 9;

Figure 9

6.6.5 When configured, you will normally get an IP address. See Figure 11.

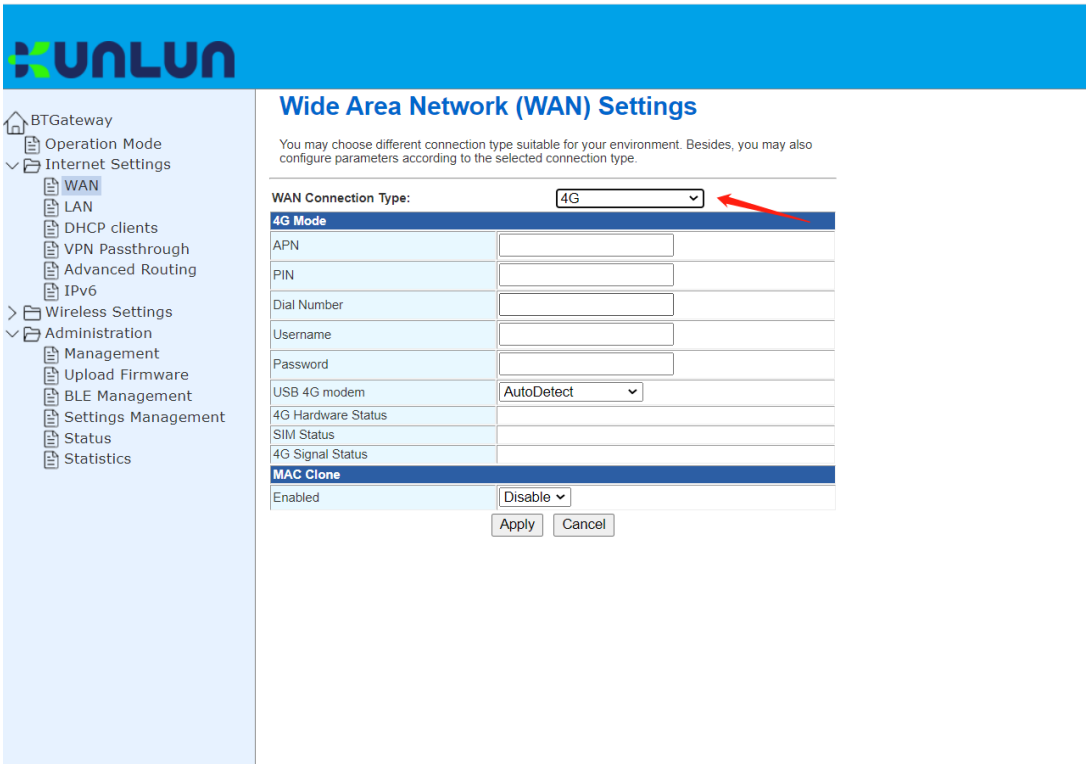


Figure 10

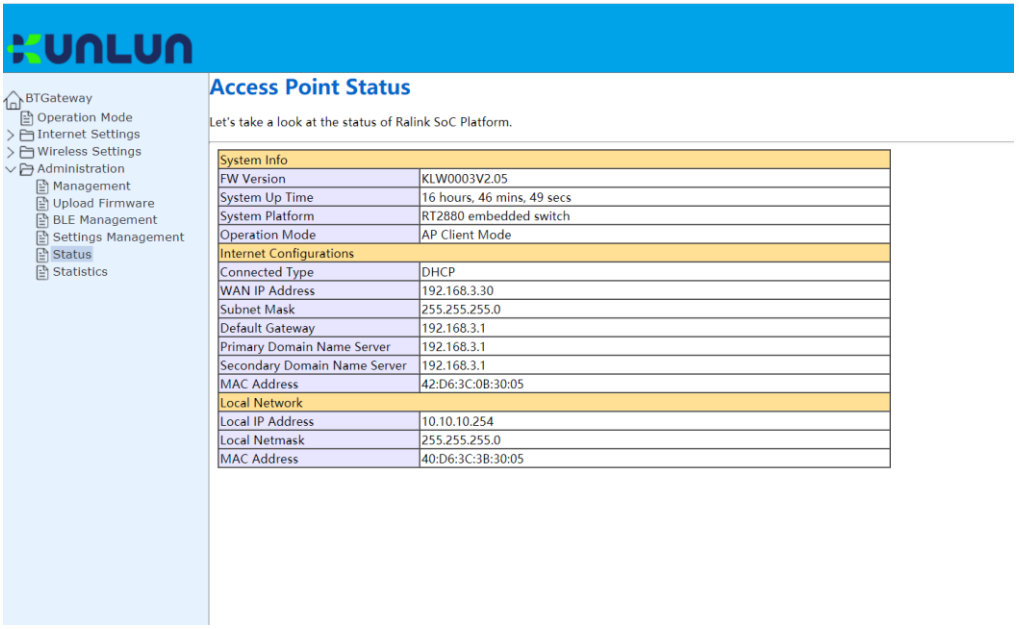


Figure 11

6.7 Firmware upgrade

6.7.1 Select Upload Firmware;

6.7.2 Select the firmware provided by the Kunlun Link to upgrade, see Figure 12;

6.7.3 When update the firmware, please don't power off the gateway. The gateway will reboot after upgrade the firmware.

6.7.4 Look at the current firmware, see Figure 13.

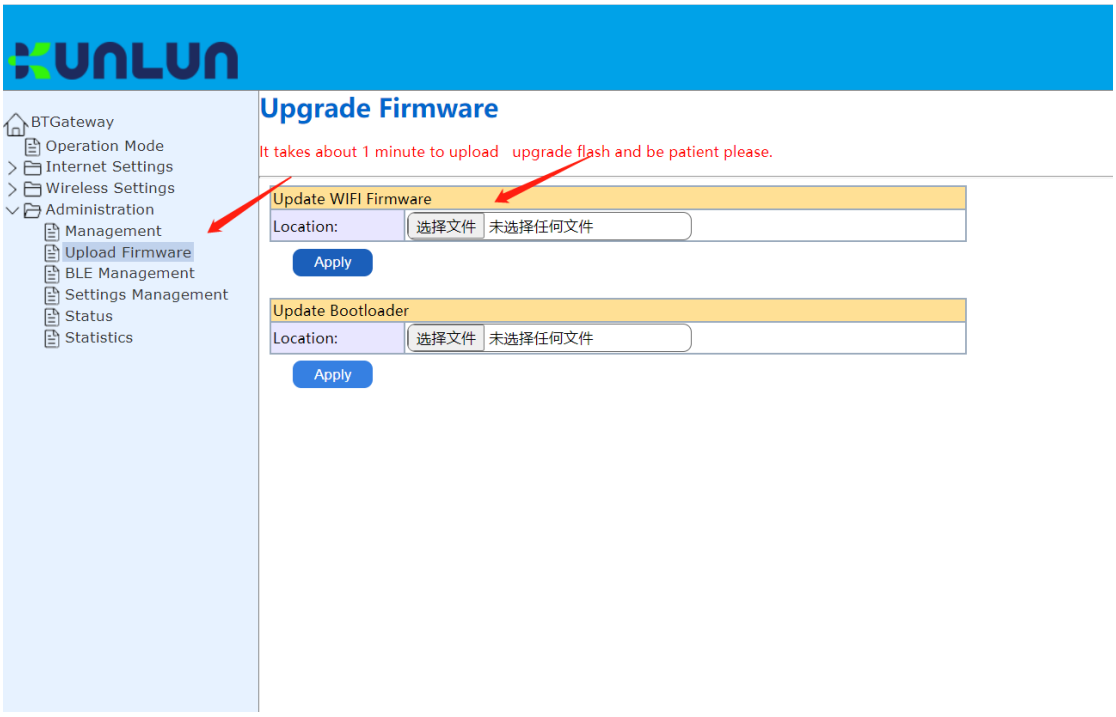


Figure 12

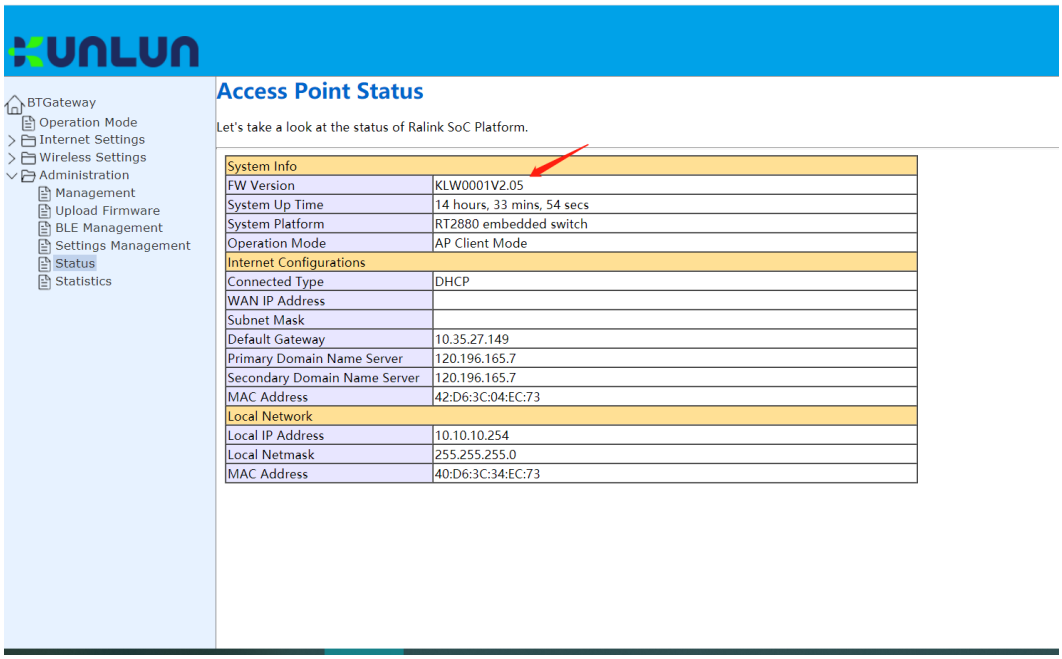


Figure 13

6.8 Configure the data receiving server

6.8.1 Depending on the actual scenario, select the TCP or UDP or MQTT transmission, see Figure 14;

6.8.2 Fill in the correct IP address and port, or domain name and port;

6.8.3 After confirmation of use, the appropriate server will be able to listen to the data reported by the gateway, the details of the data format can be found in the protocol documentation.

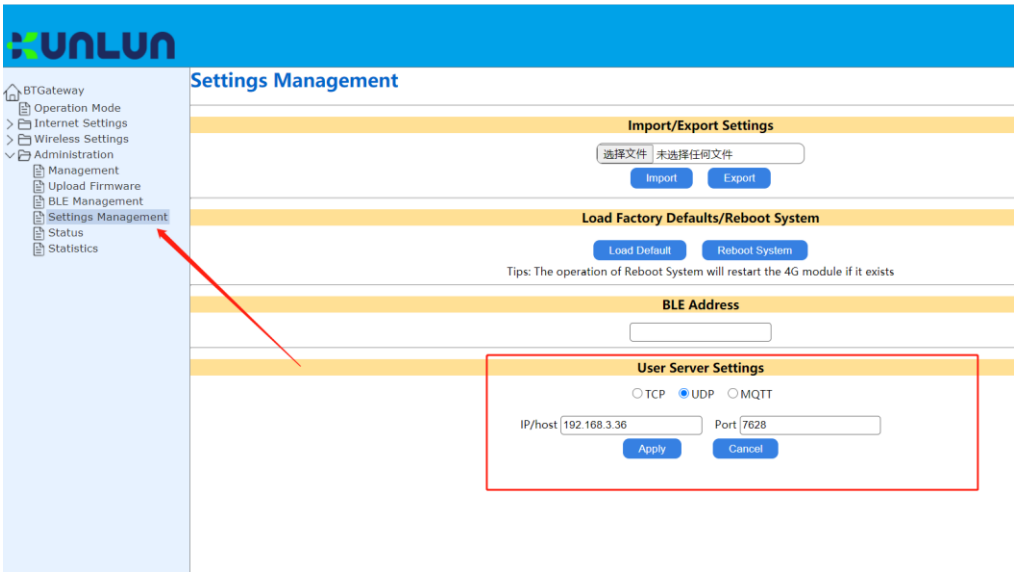


Figure 14

6.9 Administrator settings

6.9.1 To configure the administrator account password for this gateway, see Figure 15;

6.9.2 For the opening and closing of the Watch dog, default is Enable, see Figure 16;

6.9.3 To configure the gateway's time parameters, see Figure 16;

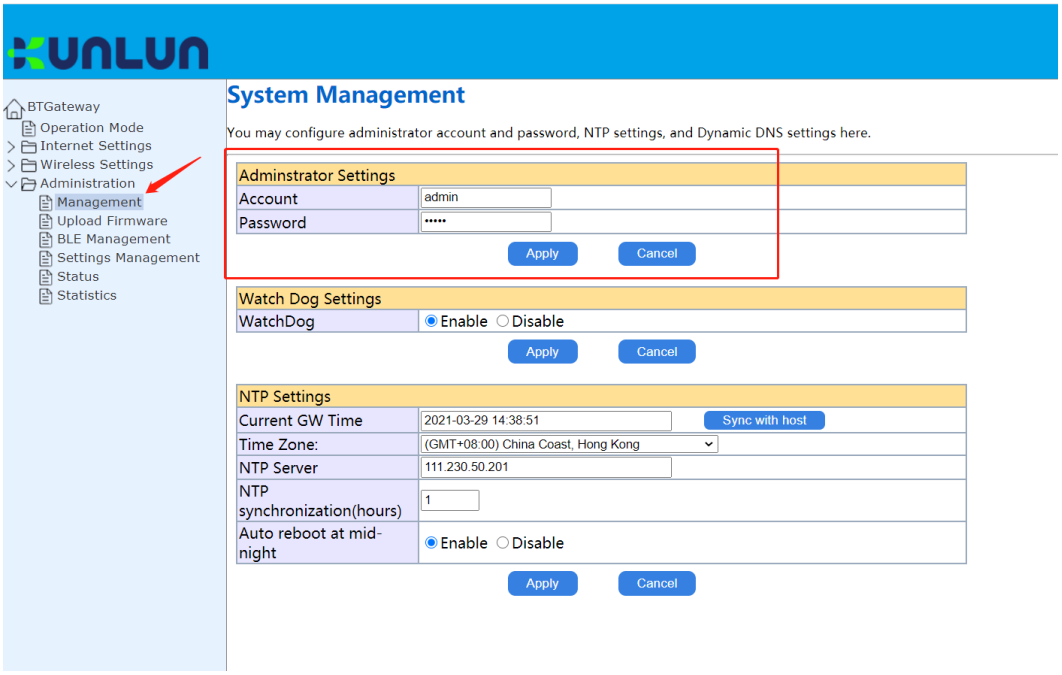


Figure 15

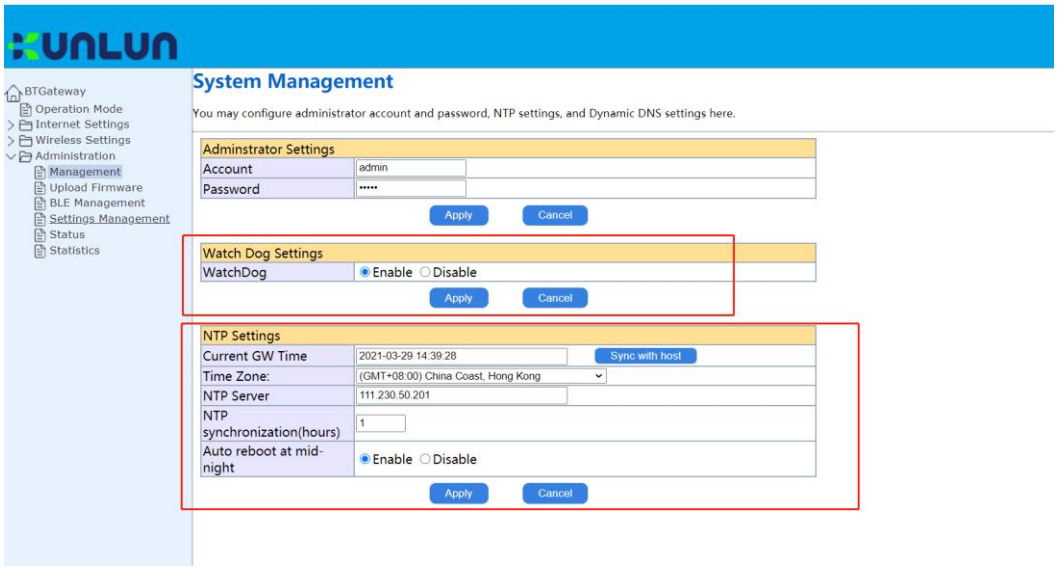


Figure 16

7 Order a model

KTBG602-P :Plastic housing

KTBG602-PC: Plastic case with 4G module

KTBG602-M: Metal waterproof housing

KTBG602-MC: Metal waterproof housing with 4G module

KTBG602-P/ KTBG602PC

KTBG602-M/ KTBG602-MC

8 Contact us

For complete contact information, visit us at www.kunlunlink.com.

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9 version history

Version	Date	Change the person	Change the content
V1.1	October 27, 2020	Robot2	Initial release
V2.0	February 29, 2021	Robot2	Add the configuration Description
V2.1	March 10, 2021	Robot2	Add an outdoor gateway interface description;
V2.2	Jun 7, 2021	Robot2	Revise the operation voltage range, current.