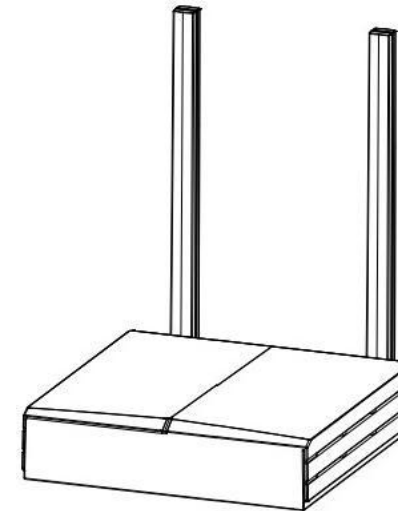


G200

USER MANUAL



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51500105203D

EasyLinkin

Hui Lian Wu Yan

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1.PRODUCT OVERVIEW

1.1 Brief Introduction

G200 Series gateway is a portable indoor gateway and complies with LoRaWAN™ protocol to provide low power, stable and secure wireless connectivity for devices and sensors.

G200 adopts star topology deployment and provide WiFi, 4G or Ethernet connection to network server. The solution is used in a wide area of applications such as smart energy, smart cities and agricultural IoT.

G200 meets the network requirements of long-range communications, strong anti-interference ability, high sensitivity and low power for many dispersed nodes to provide a low cost and high reliability indoor IoT solution.

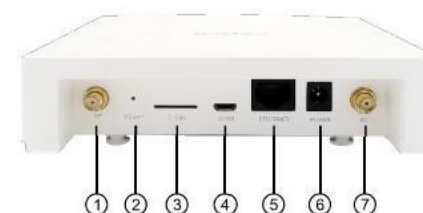


1.2 Features

- Low Cost
Compact and portable, easy to install, cost effective for LoRa network deployment.
- Stable Network
The legal nodes can move freely within gateway coverage.
When one gateway is abnormal in the multi-gateway network, the node can be accessed through adjacent gateway.
- Versatile Backhaul Options
Support 4G/Ethernet/WiFi, support switch dynamically.
- Easy Maintenance
Support remote troubleshooting and firmware upgrade, support local connection for debugging.

2.INTERFACE AND LEDS

2.1 Interface



Port 1: LoRa Antenna (SMA-female)

Port 3: SIM Card Slot

Port 5: Ethernet (RJ45)

Port 7: 4G/WiFi Antenna (SMA-female)

Port 2: RESET

Port 4: Micro USB

Port 6: DC12V DC_IN

NOTE: 1. Port 2: RESET hole, head into RESET hole with one end of paper clip for 6 seconds, then out. G200 restore factory defaults.

2. Port 7 is only available for 4G version

2.2 LED Status Indications

LEDs	Function definition
Flash blue and green every 1 second	• Normal NS connection • Normal data forward
Flash red and blue every 1 second	• Abnormal NS connection • Normal data forward
Flash red and green every 1 second	• Abnormal NS connection • Abnormal data forward
White lights up for 1 minute	Gateway power on, system initialization
Off	Gateway is not powered on

3.SPECIFICATION

LoRa Parameters	
Frequency Band	470MHz/868MHz/915MHz/ 923MHz
Communication	LoRaWAN, Star Network
Modulation	LoRa
Mode	Half duplex
Sensitivity	-137dBm @SF12/BW 125KHz
Max Transmitter Power	17 dBm(Typical)
Channel &Bandwidth	125KHz/250KHz/500MHz Configurable
Interface	Ethernet/WiFi/4G
Communication Distance	Suburban 5Km,urban 3Km
Physical	
IP Grade	IP30
Size	142mm*142mm*35mm
Color	Off white
Material	PC+ABS
Input Voltage	DC12V (11.0VDC~14.0 VDC)
Installation	DesktopWall mount/Ceiling mount
Operating Temperature	0~60℃
Operating Humidity	0~90%RH
Thermal Methods	Radiator grille
Hardware	
Processor	MIPS 650MHz
RAM	128MB RAM
Flash	16MB
WiFi	QCA9513
Security System	
System Encryption	AES128
Remote Management	
Upgrade and Maintenance	Remote monitoring of network status
	Support remote firmware upgrade,configuration backup and recovery

4.CONFIGURATION

G200 provides a friendly and easy way to configure network parameters and LoRa parameters.

4.1 Getting Started

Please follow the steps below to login:

Step 1:Search APELI-G200-XXXXXX(XXXXXX is the last six hex number of G200 MAC)for G200,click on connect.

Step2:If connect is successful,open browser(recommend IE browser)and input

192.168.31.1/cgi-bin/ucis

unsafe

Authorization Required

Please enter your username and password.

Username: Admin Password: Admin

Rest B Lgn

Step 3:After entering login page,input username and password.Then enter the overview page, as shown below.

Username:admin(default)

Password:admin(default)

0 Changes

StatusSystem Service9 Network Lora Logout

overview Firewall Routes System Log Kamel Log P Proc989s Realtime Graphs

Status

System-Router Name EasyLinkin

Router Model QualcommAtheros AP147 reference board

Firmware Version QSDK Premium Beeiner Router QCA9558.LN/Luc10.11.1 Release (0.1.1)

Kamel Version 3.3.8

Local Time Sat Sep801:45:172018

Uptime 13h 35m 0

Load Average 0.59, 0.24, 0.17

Memory

Total Available 90260k8/12

Free 614Bk (71%)3830B

Cached ks/12614Bc (30%)

Buffered 45152ka/12614B kB (35%); 6800ka/12614B kB (5%)

Network-IPv4 WAN Status Type:dhcp

Address:172.16.10.2

30Netmask:255.255.255.0

Gateway:172.16.10.254

Status, System, Service, Network, LoRa and Logout tabs are displayed at the top of the page. If you want to change administrator password, please click System-Administration then input the new password and click Save&Apply.

Changes: 0			
Status	System	Service	Network
System	Administration Software	Startup	LED Configuration Backup/Fash Firmware
Router Password			
Changes the administrator pasw ord for acesaing the device			
Password			
Confirmation			

4.2 Modifying Network Parameters

Please follow the below steps to modify network parameters:

Step1: Click Network-Interface, then the Ethernet and WiFi configuration can be found in this page.

Changes: 0			
Status System Services Network LoRa Logout			
Interfaces w swc DHCP and DNS Hostame5 Static Routes Firewall Diagnostics			
I nterfaces			
Network Status Actions			
WWANO	Uptime: oh OmOs MAC-Address: AE:ED:DF:2A:07: BP RX: 0.0000 Pkts. TX: 0.0000 Pkts.	Connect 0 Stop Edit Image Delete	
wwano	Uptime: 43m 68s MAC-Address: BD:41:10:54:19: 4ARX: 4.61 MB (59785 Pkts.) TX: 1.26 MB (7436 Pkts.)	Connect 0 Stop Edit Delete	
LAN	Uptime: 843m 418 MAC-Address: BD:41:10:54:19: 49 RX: 77.64MB (730370 Pkts.) TX: 5.92 MB (49023 Pkts.)	Connect 0 Stop Edit Delete	
WAN	Uptime: 843m 418 MAC-Address: BD:41:10:54:19: 49 RX: 77.64MB (730370 Pkts.) TX: 5.92 MB (49023 Pkts.)	Connect 0 Stop Edit Delete	
o	Uptime: 843m 418 MAC-Address: BD:41:10:54:19: 49 RX: 77.64MB (730370 Pkts.) TX: 5.92 MB (49023 Pkts.)	Connect 0 Stop Edit Delete	
WWAN	Uptime: 843m 418 MAC-Address: BD:41:10:54:19: 49 RX: 77.64MB (730370 Pkts.) TX: 5.92 MB (49023 Pkts.)	Connect 0 Stop Edit Delete	
B-wwan	Uptime: 843m 418 MAC-Address: BD:41:10:54:19: 49 RX: 77.64MB (730370 Pkts.) TX: 5.92 MB (49023 Pkts.)	Connect 0 Stop Edit Delete	
Add new rsaeace.			

Step 2: Click WAN-Edit, the General Setup(Ethernet static IP configuration or DHCP configuration) can be modified. The default configuration is DHCP mode.

Changes: 0			
Status System Services Network LoRa Logout			
Interfaces wif Switch DHCP and DNS Firewall Di agnostic			
WAN wwAN WWANO LAN			
Interfaces-WAN			
on this page you can cofiure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by space s. You can also use VLAN notation (INTERFACE.MASK (Q:dhcp, 1)).			
Common Configuration			
General setup Advanced Settings		Firewall Settings	
Status Uptime: sh 42m 50s		2 M R ACK: 7 echo TX: 5.92 MB (4894 Pkts.) IPv4: 172.16.10.230/24	
Protocol		DHCP client	
Hostname to send when requesting DHCP		EaSyLinkan	
Accept router advertisement		ns	
Reset @ Save DSave &Appy			

Step 3: Set up Use gateway metric is 5.

Unsaved Changes			
Status System Services Network LoRa Logout			
Interfaces wh Switch DHCP and DNS Hostnames Static Routes Firewall Diagnostics			
WAN WWAN WWANO LAN			
Interfaces-WAN			
on this page you can cofiure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use VLAN notation (INTERFACE.MASK (Q:dhcp, 1)).			
Common Configuration			
General setup Advanced settings		Physical Settings Firewall Settings	
Bring up on boot		ingsL	
override MAC address		20 41D6990F	
Override MTU		1500	
Use gateway metric		5	
DHCP Server			
General Setup			
Ignore interface		Override DHCP for this interface.	
Reset @ Save Circle Save &Apply			

Step 4: Set up static IP address s.

StatusSystemServicesNetworkLoraLogout

InterfacesWiFiSwitchDHCPandDNSHostnamesStaticRoutesFirewallDiagnostics

WANWANWANWAN

Interfaces-WAN

At this page you can configure the network interfaces. You can bridge several interfaces by ticking the bridge interfaces field and enter the names of several network interfaces separated by spaces. You can also use VLAN notation (M0P7.VLAN(R:0.1)).

Common Configuration

General SetupAdvanced SettingsFirewall Settings

Status

Uptime: 0h 0m 0s
MAC Address: B0:41:1D:6F:99:0F
eth0RX: 0.00 B (0 Pkts.)
TX: 0.00 B (0 Pkts.)

Protocol

Static address

IPv4 address

172.16.10.123

IPv4 netmask

255.255.255.0

IPv4 gateway

172.16.10.1

IPv4 broadcast

Use external DNS servers

172.16.10.1

Accept router advertisements

☐

Send router solicitations

IPv6 address

IPv6 gateway

DHCP Server

General Setup

Ignore interface

80Disable DHCP for this interface.

Reset @ Save Round Save & Apply

Note: If gateway connect to LinkWAN platform (that is NS from Ali cloud platform). Set up the following DNS address: 223.5.5.5 or 223.6.6.6

Step 5: Click Save and Apply. The configuration is active.

Step 6: Step 4: Click Network-WiFi to enter the WiFi configuration page.

System ServicesNetworkLogout

InterfacesWiFiSwitchDHCPandDNSHostnamesStaticRoutesFirewallDiagnostics

wifi: Master "EASYLINKIN-2" wifi: Client "EASYLINKIN-1"

Wireless Overview

Generic Atheros 802.11bgn (wifi0) Channel: 11 (2.462 GHz) | Bitrate: 0.144 Mbit/s

Scan

Assoc

SSID: EASYLINKIN-11 Mode: Client

Wireless is disabled or not associated

Enable Edit X Remove

SSID: EASYLINKIN-2 | Mode: Master @ Dial Team Edit Remove

0% BSSID: B0:41:1D:54:19:51 Encryption: WPA2 NONE (CCMP)

Associated Stations

SSID

MAC Address

IPv4 Address

Signal Noise

RX Rate

TX Rate

EASYLINKIN-100:00:00:00:00:00

?

95 dBm

-95 dBm

0.0 Mbit/s

0.0 Mbit/s

EASYLINKIN-2

48:8A:D2:7D:0F:AD

192.168.1.161

-66 dBm

-95 dBm

55.6 Not/s

39.1 Mbit/s

Step 7: Click Edit in the Client mode. The ESSID of the AP will be connected can be set.

Status System Services Network Logout
Interfaces wifi switch DHCP and DNS Hostnames Static Routes Firewall Diagnostics
wifi: Master EASYLINKIN-2 wifi: Client "EASYLINKIN-1"

Wireless Network: Client "EASYLINKIN-1" (eth0)

The Device Configuration section covers physical settings of the radio hardware such as channel, transmit power or antenna selection which is shared among all defined wireless networks (if the radio hardware is multi-SSID capable). Per network settings like encryption or operation mode are grouped in the Interface Configuration.

Device Configuration 2
General Setup Advanced settings
Status SSID: EASYLINKIN-1 | Mode: client
0% Wireless disabled or not associated
Wireless network is enabled @ Disabled
Channel 11 (2.462 GHz)
Transmit Power 15 dBm (31mW) dBm

Interface Configuration

General Setup Wireless Security Advanced Settings
ESSID tenda Bins
Mode Client (MDS)
Network
1 a n: 2
children ☐
wan: 2
-

Step 8: Click Wireless Security, modify key, then click Save & Apply waiting for connecting.

wifi: Master "EASYLINKIN-2" wifi: Client "EASYLINKIN-1"

Wireless Network: Client EASYLINKIN-1 (eth0)

The Device Configuration section covers physical settings of the radio hardware such as channel, transmit power or antenna selection which is shared among all defined wireless networks (if the radio hardware is multi-SSID capable). Per network settings like encryption or operation mode are grouped in the Interface Configuration.

Device Configuration
General Setup Advanced settings
Status Mode: Client SSID: Tenda_Bins
BSSID: 80:DECE06:C4:50 J Encryption:
6 Channel: 13 (2.422 GHz) TX Power: 15 dBm
62% signal: -73 dBm Noise: -95 dBm
Bitrate: 0.1 Mbit/s Country: 0

Wireless network is enabled
Channel 11 (2.462 GHz)
Transmit Power 15 dBm (31mW) dBm

Interface Configuration

Wireless Security
Encryption WPA2 PSK
Cipher Auto
Key ☐

Reset @ Save @ Save @ Apply

Step 9:If WiFi parameters modification is done,the AP connected and IPV4 address acquired can be displayed in Associated Stations in WiFi page.

System	Services	Network	Logout
Interfaces:wifi Switch DHCP and DNSHostname Stabc Routas Frawall Diagno sic wfo:Master "EASYLNKIN2wifio:Clan:.Tenda_Ein s			
Wireless Overview			
Generic Atheros 802.11b gn(wifio) Channe:3(2.422 GHz) Bltrate:0.144 bit/sSSID:Tenda_Bns I Mode: Client ☒ Disable ☐ Edn graph Rameve			
ESSID: EASYLNKIN-2 I Mode:Master Diskle EInRemove ☐ OWESSID: B9 :41:1D:54:19:15 I Encryption:WPA2 NONE (CCMP)			
Associated Stations			
5SIDMAC-Address	IPV4-A ddress	Signal Nolse	RX Rate TX Rate
Tenda_BnsB0:DF:C1:06:C4:60	192.168.0.1	-73dBm-95dBm	1.0 Nou/s10.7 Mbit/s
EASYLNKIN-248:8A:D2:7D:DF:AD	192.168.1.161	65 dBm 95dam	63.0 Mbt/s50.6 Mbit/s

NOTE:The Master mode is only used by techni cians,so please do not do any modification under this mode.

4.3 Modifying LoRa Parameters

Please follow the steps below to modify LoRaparameters:

Step1:Click LoRain overview page and enter LoRa configuration p age,which is composed of threeparts:Version Configuration,Base Configuration ,Radio and NS Server Configuration.

Status	Services	Network	Logout
LoRa Configuration			
Version			
Ota Versin:	2.0.0		
Lora Version:	2.0.0.1903291323		
System Version:	Linux version 3.3.8(cepotcubuntu) [ce version 4.6.320120201 (linaro GCC 4.6-2012.02)] #85un NOV401:29:04 PST 2018 (prerelease)		
Base Configuration			
GatewayEUI:	b0410ffef9908		
Radio And NS Configuration			
SelectConfile:	CN470		
NS ServerAdr:	Gbreasyrkinrs.com		
NS 5erver PortUp;	1700		
N55arver PotDon:	1700		
NM ServerAdr:	Bpleasylnk.com		
NM ServerPot;	50		

Step 2:Gateway EUI can be shown in Base Configuration.

Step 3:Different LoRa frequency band can be chosen in Radio Configuration.

Step 4:NS Server addr(default:gwbr.easylinkin-ns.com),NS Server Port up(default:1700),NSServer Port down(default:170,NM Server Addr(default:api.easylink.co m),and NM

ServerPort(default:80)can be configured in the NS Server Configuratio n.

4.4 Customized Configuration

Step 1:Click Select File ,select CUSTOMIZE, following informatio n pop up.

Status	Services	Network	Logout
LoRa Configuration			
Version			
OtaVersion:	2.0.	0	
LoraVersion:	2.0.0.1903291323		
SystemVersion:	Linux version 3.3.8(ceportubuntu) [ce ve rsien 4.6.320120201 (prerelease) (linaro GCC 4.6-2012.02)] #8 Sun Nov 401:29:04 PST 2018		
Base Configuration			
GatewayEUI:	b04110ffe6f990e		
Radio And NS Configur ation			
SelectConfile:	CUSTOMIZE		
NS Server	breasylnkin-n9.com		
NS Server PortUp:	1700		
NS ServerPort Down:	1700		
NM ServerAddr:	api casylnkcm		
NM ServerPot:	50		
Radio Center Frequency(HZ):	472560000		
Channel o0fsat (HZ):	30000		
Channel10ffset(CHZ):	10000		
Channel 20ftset (HZ):	100000		
Channel30ffset(CHZ):	50000		
Radio Center Frequency(HZ):	273400		
Channel40fsat (HZ):	3000500		
Channel 5 0fsat(HZ):	300000		
Channel 60ffset(HZ):	10000		
Security Mode:	none		
ReopliveInterval(S):	15		
StatInterval(S):	5300		

©Reset GSave aSave &Aoolv

Step 2.Set up parameters as needed.For example,keep alive intervals,frequency can be configured.

Step 3.After any modification,do not forget to click Save&Apply button.

4.5 Timezone Configuration

Step 1.Click System in overview page and enter Sys tem configuration page.

Step 2..Select corresponding time zone as needed.If connect to Ali LinkWAN platform,please choose UTC O time zone.

EasyLinkin I QSDK Premium Bediner Router QCA9558.LN ILoad:0,140,250,171 Auto Refrech:on Change:0		
Satus System Services Network L ara Inaque		
System Administration software Startu Scheduled Taks LED ConfigurabionBacu/Fach Fimwara Ra boot		
System		
Here you can configure the ba sic aspects ofyour device like its hostname or the tmezone.		
System Properties		
General settings Lanoune and styled		
Local Time: Sun, Apr 7, 2019, 16:30:04 Country: syne with bro n		
Hotname	EasyLnion	s0r
Ti mazonne	AsiaShargnai	
Time synchronization		
Enabla NTP ciant		
Provide NTP serNer ☐		
NTP sarvar canddzas	a pocdIntsang north-america poolntp C urope poolno og oceaiar.poolntcoog two dehn.pol.ntbon	Disc
Reet Sae&App y		

5.INSTALLATION

G200 Series gateway has three installationmethods:

·Desktop:Put the gateway on a flat surface such as the top of a table.Then adjust antenna direction accordingly,which is suitable for tempora ry demonstration and debugging.

·Wallmounting:Attach gateway on the wall with the installation kit to mou nt it using the expansion tube and the adjustab le screws.

·Ceilingmounting:Attach gateway on ceiling with installation kit to moun t it using expansion tube and adjustable screws.

5.1 Wall Mounting

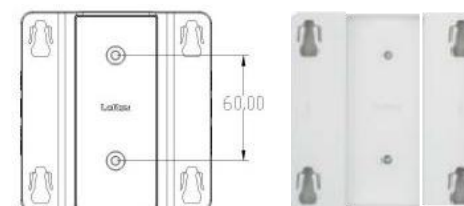


Install the gatewaybracket:

Step1:Select installation positi on on walland mark the locations where the screw holes for the screws will be drilled.

Step2:Drill holes(5)in the wall and plug in plastic extension pipes(PA4.0*30m m),then place the gateway bracket onto the ma rked location with holes aligned.

Step3:Tighten the screw.

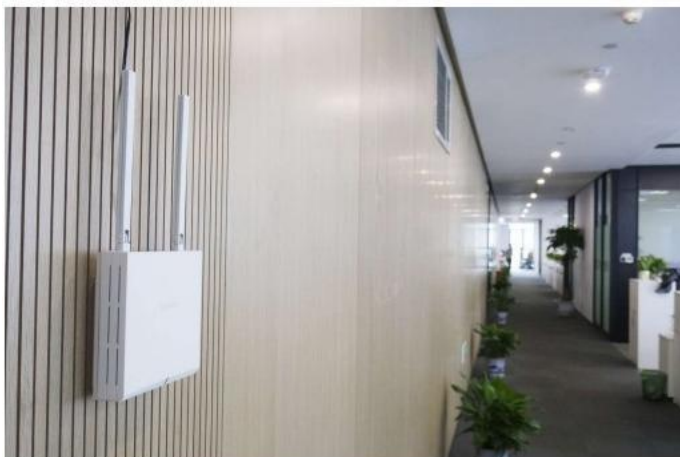


Place gateway into bracket:

Step1:Connect 4G/LoRa antennas.

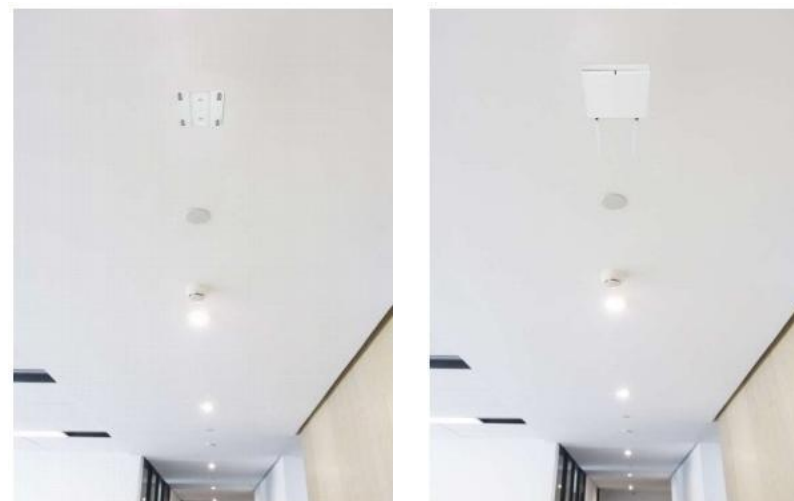
Step2:Connect power adapter,put the SIM card into the slot,or connect the Ethernet cable.
When the gateway is power on,check the LED status.Make sure the gateway is working normally.

Step3:Attach gateway to bracket,make the hook in the gateway align to the bracket grooves, push the gateway upward(in a direction shown with a blue arrow)and lock it to the bracket.



5.2 Ceiling Mounting

Ceiling mounting is almost the same as wall mounting except that the bracket needs to be installed under the ceiling.



NOTES:

- The gateway should be handled gently without violent collisions and drops.
- The gateway should be mounted on a flat and dry surface with little dust and good ventilation. Do not expose the gateway to rain, water leakage and any humidity.

6. PACKAGE LIST

No.	Photo	Name	Quantity (PCS)	Note
1		G200 Gateway	1	
2		Power Adapter	1	FCC/UL/CE/CCC
3		RF Antenna	1	
4		4G/WiFi Antenna	1	
5		Bracket		
6		Product Specification	1	
7		Certificate & Warranty Card	1	

7. SUPPORT

If you have any question or problem with our gateway, please contact us for support.

1. Product Overview

The G200 is an indoor gateway developed by HuiLian Infinite, utilizing the low-power Wide Area Network (LoRaWAN) protocol to provide standardized connectivity solutions.

High-precision LoRaWAN IoT devices deliver ultra-low-power, stable, and secure local two-way communication. The G200 establishes a star-shaped LoRa network to connect local LoRa terminals, then links them to the NS (Network Cloud Server) via Ethernet, WiFi, or 4G, enabling diverse IoT applications through device networking.

The G200 gateway is designed for networking applications requiring high communication performance, strong anti-interference capability, high sensitivity, low power consumption, and a large number of dispersed access nodes. It delivers cost-effective and highly reliable indoor IoT solutions for users.

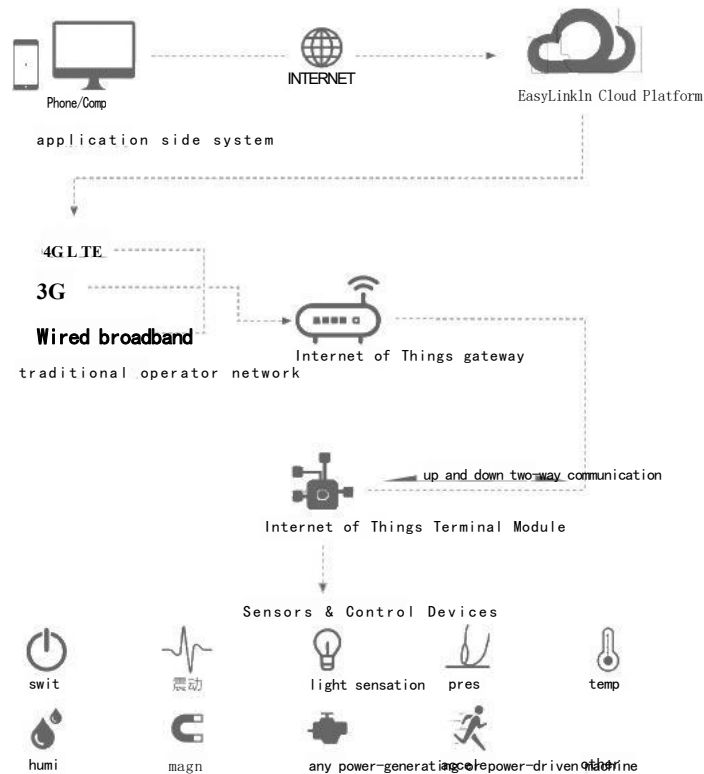


2. Product Features

- **Low-cost:** Compact and lightweight design with easy installation, enabling cost-effective LoRa network deployment.
- **Network stability:** Nodes can move freely within the gateway coverage area. In multi-gateway networks, if a gateway fails, nodes can connect through adjacent gateways.
- **Multi-cloud connectivity:** Supports Ethernet, WiFi, and 3G/4G connections to the NS platform with intelligent dynamic switching.

- Easy system maintenance: Supports remote cloud-based issue location, gateway operation log viewing, and gateway fault diagnosis; supports remote firmware upgrades and gateway parameter configuration.

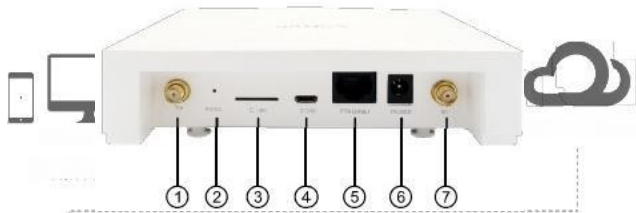
3. LoRaWAN Solution Introduction



Our low-power wide-area IoT network supports bidirectional data transmission between upper and lower layers. In the downward direction, sensor devices collect data which is transmitted through IoT node modules to IoT gateways, then uploaded via WiFi/3G/4G/cable broadband networks to the IoT cloud platform for user platform integration. In the upward direction, user platforms send commands or information to the IoT cloud platform through the internet, which is relayed via WiFi/3G/4G/cable broadband networks to IoT gateways. The data is then distributed through the IoT transmission network to IoT terminal modules connected to control devices, enabling precise control of these devices.

4. Product interface and indicator light

4.1 Introduction to the Interface



Interface 1: SMA (LoRa antenna) Interface 2: RESET reset button
Port 3: SIM card slot Port 4: Micro USB debugging port
Port 5: Ethernet (RJ45) Port 6: DC12V power socket
Interface 7: SMA (4G/WiFi antenna)

Note: 1. Interface 2: RESET button. Hold the RESET button for approximately 6 seconds, then release to restore factory settings.

2. The G200 (4G/Ethernet adaptive version) features external 4G antenna port 7 and built-in WiFi antenna. For the Ethernet version, port 7 serves as an external WiFi antenna interface.



4.2 LED Indicator Status Description

The G200 gateways LED indicator uses a single three-color LED, allowing users to visually determine the gateways current status through its color display.

LED light color	indicator status	Status Description
Blue and green alternating	Flash cycle: 1 second	The NS connection and forwarding status are normal
Red and blue alternating	Flash cycle: 1 second	NS connection error, gateway forwarding status normal
red lantern	Flash cycle: 1 second	NS connection error. Gateway forwarding status is abnormal.
White light	Always on	device initialize
----	extinction	The device is not powered on

5. size of product

LoRa parameter	
operating frequency band	470MHz/868MHz/915MHz/ 923MHz
protocol	LoRaWAN, Star Network
modulation mode	LoRa/FSK
work pattern	half-duplex
receiving sensitivity	-137dBm @SF12/BW 125KHz
transmitting power	17 dBm (typical value)
channel bandwidth	125KHz/250KHz/500MHz configurable
uplink	Supports ETH/WiFi/4G mode
number of channels	Supports 8 uplink channels and 1 downlink channel
coverage radius	3 km within the city, 5 km open area
Physical parameters	
levels of protection	IP30
External dimensions	142*142*35mm
Machine color	off-white
Appearance, structure, and material	PC+ABS
input voltage	DC12V(11.0VDC~14.0 VDC)
way to install	Desktop, Wall-Mounted, Ceiling-Mounted
operating temperature range	0~60℃
working humidity range	0~90%RH
heat dissipation method	Heat dissipation window
hardware configuration	
processor	MIPS 650MHz
RAM	128MB
Flash	16MB
WiFi	QCA9513
security system	
secure encryption	AES128
software management	
os	Open WRT
telemangement	You can view the device status log stream through remote connection in the backend management.
	Supports remote upgrades and makes system maintenance easier

6. UI operations

6.1 Login interface

To log in to the user interface, follow these steps:

- (1) Search for the G200 gateway AP hotspot EL I-G200-XXXXX (where XXXXXX denotes the last six hexadecimal digits of the gateways MAC address). Click Connect, enter the initial password easylinkin, and wait for the connection to establish.

- 3) Enter the default password: admin, then click

- (4) On the Overview page, you'll find main tabs including System, Network, and Lora. Click the System tab, then select the Administration sub-tab. Under Router Password, change the

Changes:0

Status	System	Services	Network	Lora	Logout
System Administration Software Startup scheduled Tasks LED Configuration Backup/Flash Firmware Restore					
Router Password					
Changes the administrator password for accessing the device					
Password					
Confirmation					

(5) After changing your password, click the Save&Apply button in the lower right corner of the page to save the changes.

6.2 Configure network parameters

(1) Click the Network main tab, then select the Interface sub-tab to configure both Ethernet and Wi-Fi settings.

Uptime: 1y4h17m0s DNS Firewall

System	Services	Network	Lora	Logout
Interfaces w/ Switch Hostname: 5 Diagnostics				
Interfaces				
Interface overview				
Network Status				
WAN0	MAC Address: AE: FD: 2A: 07: BF Connect ☐ 0 Stop ☐ Edit Delete			
waano	RX: 0.00B (0 Pkts.) TX: 5.50B (6589 Pkts.)			
	Uptime: 43m46s			
LAN	MAC Address: B0: 41: 1D: 54: 19: 4; RX: 4.61MB (59785 Pkts.) TX: 1.50MB (1749 Pkts.) IPv4: 192.168.1.1/2			
	Uptime: 843m 41s			
WAN	MAC Address: B0: 41: 1D: 54: 19: 4; RX: 77.64MB (730370 Pkts.) TX: 3.54 KB (13 Pkts.)			
echo	Uptime: 843m 41s			
WAN	MAC Address: B0: 41: 1D: 54: 19: 4; RX: 77.64MB (730370 Pkts.) TX: 3.54 KB (13 Pkts.)			
WAN	MAC Address: B0: 41: 1D: 54: 19: 4; RX: 77.64MB (730370 Pkts.) TX: 3.54 KB (13 Pkts.)			
Add new interface.				

(2) Click WAN Edit, select General Setup to configure either static Ethernet IP or dynamic DHCP IP, with DHCP as the default.

Changes:0

Status	System	Services	Network	Lora	Logout
Interfaces w/ Switch DHCP and DNS Hostname Static Routes Firewall Diagnostic					
WAN WAN WAN LAN					
Interfaces - WAN					
On this page you can configure the network interfaces. You can bridge several interfaces by tickin the bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can a lso use ya notation (THERM2_VLJCRQ-0150.D).					

General Configuration		Firewall Settings
General Setup Advanced Settings		Firewall Settings
Status		Uptime: 4h 42m 50s
2 M R ACK: 7		2 M R ACK: 7
ethoTX: 5.92MB (48984 Pkts.) IPv4: 172.16.10.230/24		ethoTX: 5.92MB (48984 Pkts.) IPv4: 172.16.10.230/24
Protocol: DHCP Client		
Hostname to send when requesting DHCP		ZyLrkin
Accept route advertisement		

Reset Save & Apply

(3) When configuring DHCP, set the Use gateway metric to 5.

Unsaved Changes

StatusSystem Services Network Lora Logout

Interfaces wh switch DHCP and DNS Hostnames Static Routes Firewall Diagnostics

WAN WWAN WWANO LAN

Interfaces-WAN

on this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use VLAN notation (VLAN.Y) or (VLAN.Q:tag).
L r t m t d n u Y Nutrt of L I

Common Configuration

General setup Advanced Settings Physical Settings Firewall Settings

Bring up a "boot" group.

Override MAC address 20 411D6990F

override MTU 1500

Use gateway metric 5

DHCP Server

General Setup

Enable interface 00:1a:eb:dhcP port is interface.

Reset Save 8 Apply

(4) The static IP configuration method is as follows.

Unsaved Changes:

Status System Services Network Lora Logout

InterfacesW 5 Switch DHCP and DNS Hostnames Static Routes Firewall Diagnostics

WAN WWAN WWANO LAN

Interfaces-WAN

on this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the
L r t m t d n u Y Nutrt of L I

Common Configuration

General Setup Advanced settings Physical settings

Status

Uptime: 1h0m0s

ENMAC Address: B0:41:1D:6F:99:0F

ath0 RX: 0.00B (0 Pkts.)

TX: 0.00B (0 Pkts.)

Protocol States Address 5 All

IPv4 address 172.16.10.123

IPv4 netmask 255.255.255.0

IPv4 gateway 172.16.10.1

IPv4 broadcast

Use custom DNS servers 172.16.10.1

Accept router advertisements

send router solicitations

IPv6 address

IPv6 gateway

DHCP Server

General Setup

Enable interface 00:1a:eb:dhcP port is interface.

Reset @ Save Country Save & Apply

Note: When configuring static IP for a gateway connected to the Alibaba platform, DNS must be set to the Alibaba provided value.
DNS 223.5.5.5 and 223.6.6.6

- (5) Click Save & Apply to apply the changes.
- (6) Select the Network main tab and WiFi sub-tab:

StatusSystemServicesNetworkLogout

InterfacesWl5witchDHCPandDNSHostnamesStaticRot95Firawal1Diagnostics

wifo:Master "EASYLINKIN-2 wifo:Ciant "EASMLINKIN-1"

Wireless Overview

Generic Atheros 802.11b gn(wifi0)
Chamel:11(2.462 GHz)I Bitrate:0.144 Nbit/s

Scan Ad6

a SSID:EASYLINKIN-1
Mode:Client(Whether is disabled or not associated)

Enable : 2 Edt X Remove

SSTD:EASYLINKIN-2I Mode:Master

Disable Edt Remove

0%P5ID:BD41:1D:54:19:15I EnCryptlon:WPA2 NONE (CCMP)

Associated Stations

SSID	MAC-Address	IPV4-Address	Signal	Noise	RX Rate	TX Rate
EASYLINKIN-1	00:00:00:00:00:00	7	95 dem	95dBm	0.0 Mbit/s	0.0
EASYLINKIN-2	48:8A:D2:7D:0F:AD	192.168.1.161	-66dBm	-95 dBm	55.6 Nbt/s	Mbits39.1 Mbit/s

- (7) In the Wireless Overview section, click Edit under Client mode to configure the ESSID (hotspot name) for the AP (router) you want to connect to.

Changes:0

StatusSystemServicesNetworkLogout

Intafacas wifi switch DHCP and DNSHoatnames Static Routas Firawall Diagncstics

af0: Natar "EASYLINKIN-2 wii0: Client" EASYLINKIN-1"

WirelessNetwork:ClientEASYLINKIN-1"(ath0)

The Device Confiauraim section covers physical saetings of the radio hardware such as cham,transant poncor antenna selecion
wich is shred among al defined wireless networs (f the radio hardware is mul6-SSID capable) . Per network settings like encryption or operation mode are grouped in the I interface Configuration.

Device Configuration

General SetupAdvanced SetinosL

Status

SSID:EASYLINKIN-1Mode:Client

0%Whether s dissbled or not associated

Wireless networkis enabled

Dis able

Channel11(2462GHz)

Transmit Pcewer1500m(31 mW)

0dBm

Interface Configuration-

General Setup wireless Security Advanced SetinasL

E55ID fenda Bns

Mode Cant (0DS

Sheet la: Child

wan:2

- (8) Select Wireless Security, modify the key, click Save & Apply, then wait for the connection to establish.

wifo:Master "EASYLINKIN-2 wifo:Client"EASYLINKIN-1"

WirelessNetwork:Client"EASYLINKIN-1"(ath 0)

The Device Confiauration section covers physical settings of the radio hardware such as channel,transmit po wer or antenna selection
s shared among al defined wireless networs which orks(if the radio hardware is mulL-SSID capable).Per network setting like encryption or operation uration.

Device Configuration

General Satup Advanced satingsL

Status

Mode:Client ISSID:Tenda Bins

BSSID:B0:DF:C1:06:C4:60IEncryption:

Channel3(2.422 GHz)I Tx-Pow

er1500m(31mW) +73 dBm Noise:-95 dem

Bitrate:0.1 Mbit/sCountry: 00

wireless networkis enabledDis ablo

Channngl112.462 GHz)

Tranamit Poner15dBm (31mW) dBm

Interface Configuration-

General Setup Wireless Security Advanced Se tins

EneryptionWPA2-PSK

Opherauto

Key 2-----

Reset OSave Sa ved

- (9) After successful connection, the Associated Stations section in the Wi-Fi tab displays both the connected hotspot and the assigned IPv4 address.

Chanoes:0

StatusSystemSerykesNetworkLogout

Intetaces Wili Snitch DHCP and DNS HostnamsStabic Ro utes Firawall Diagnostics

wT0:Master "EASYLINKIN-2wifo:Client Tenda Ei ns

Wireless Overview

Generic 902.11bgn(wifi0)
AtherosChannel: |Bitrate:0.144bt
3(2422GHz)
/s

a Scan Add

SSID:Tenda Bns

Mode:Client

62%BSSID:B0:D1:C1:06:C4:60I Encryption: *

Disable EIn N Remove

SSID:EASYLINKIN-2I Mode:Master Disable Edm

Remove

0%BSSID:B0:41:1D:54:19:15I Encryption WPA2 NONE (CCMP)

Associated Stations

SS ID	MAC-Address	IPV4-Adres s	Signal	Noise	RX Rate	TX Rate
Tenda Bins	B0:DF:C1:06:C4:60	192.168.0.1	-73 dem	-95 dBm	1.0NDb/s	10.7 Mbt/s
EAS5YLINKIN-248:8A:D2:7D:0F:AD	192.168 .1.161		65dBm	95dBm	63.0 Mbt/s	5D.6 Mbit/s

Note: The Master mode in Wireless Overview is intended for technical personnel to connect and use. Users should not modify it arbitrarily.

6.3 Configure LoRa parameters

(1) Click the LoRa main tab to access the LoRa interface.

Status	System	Services	Network	LoRa	Logout
Canfig					
LoRa Configuration					
Version					
Ota Version:	2.0.0				
Lora Version:	2.0.0.1903291323				
System Version:	Linux version 3.3.8(ccportubuntu) (gcc version 4.6.320120201 (prerelease) (Ubuntu GCC 4.6-2012.02)) #85Sun Nov401:29:04 PST 2018				
Base Configuration-					
GatewayEUI:	b0411dfe6f9908				
Radio And NS Configuration					
SelectCnfile:	CN470				
NS ServerAddr:	Fabreaylrkin-r5.com				
NS Server PortUp;	1700				
N5 SarverPortDon:	1700				
NM ServerAdr:	2pleasylnkcom two				
NM ServerPot;	50				
Reset Save Circle Sve8Appiy					

(2) The Version column displays the Ota version, Lora version, and System version.

(3) In the Base Configuration section, you can view the Gateway EUI of the current gateway.

(4) In the Radio Configuration section, select the appropriate LoRa frequency band configuration as needed.

(5) In the NS Server section, configure the gateways connection settings: NSServer addr (default: gwbr.easylinkin-ns.com), NS Server Port up (default: 1700), NS Server Port down (default: 170), NM Server Address (default: api.easylink.com), and NM Server Port (default: 80).

6.4 LoRa User Customization

(1) Select the CONFIG and customize to open the following page

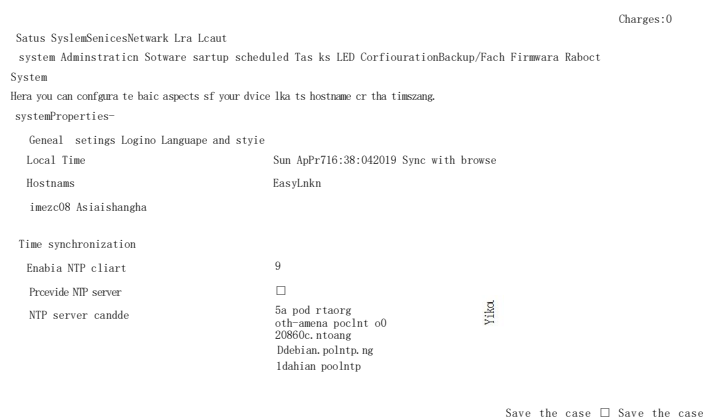
Status	System	Services	Network	LoRa	Logout
Canfig					
LoRa Configuration					
Version					
OtaVersion:	2.0.0				
Lara Version:	2.0.0.1903291323				
System Version:	Linux version 3.3.8(ccportubuntu) (gcc version 4.6.320120201 (prerelease) (Ubuntu GCC 4.6-2012.02)) #8 Sun Nov 401:29:04 PST 2018				
Base Configuration-					
GatewayEUI:	b0411dfe6f9908				
Radio And NS Configuration-					
SelectConfile:	CUSTOMZE				
NS Server Addr:	Fabreasylinkin-ns.com				
NS Server PortUp:	1700				
NS Server PortDown:	1700				
NM Sarver Adr:	a0leasylnkcom				
NM ServerPort:	5				
Radio0 CenterFreuency (HZ):	47260000				
Channel o Offset (HZ):	30000				
Channel10ffsat (HZ):	1000				
Channel20ffsat (HZ):	0000				
Channel 30fset (HZ):	30000				
Radot Center FrequencY (HZ):	47340000				
Channel40ffset (HZ):	30000				
Channel 5fsat (HZ):	3000				
Channel 6 Offset (HZ):	10000				
Channel 70fset (HZ):	30000				
KeepaliveIntervl (S):	15				
statInterval (S):	500				

(2) Users can customize the NS servers frequency reception points and heartbeat packets according to their actual needs. After completing the configuration, click Save & Apply and wait approximately 2 minutes for the gateway configuration to take effect.

6.5 Modify Time Zone

(1) Click System->System to access the system configuration interface.

(2) When connecting to Alibabas platform, the default time zone is UTC+8. Other platforms use Eastern Time (ET) by default. Customers can select the appropriate time zone as needed, as shown below:



(3) After selecting, click Save & Apply to apply

7. Product Installation Guide

The G200 gateway supports three standard installation methods:

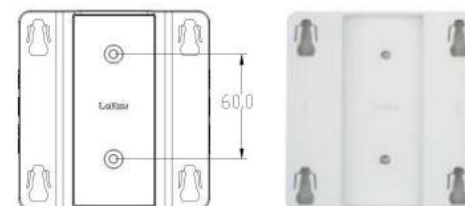
Desktop type: The gateway and power supply are mounted horizontally with fixed placement, allowing adjustment of antenna direction for temporary demonstrations or debugging. **Wall-mounted type:** The gateway is securely installed on the wall using expansion tubes and screws, enabling flexible adjustment of antenna direction.

Ceiling-mounted: The gateway is secured to the ceiling using expansion tubes and screws.

7.1 Wall-mounted bracket installation:



Mark the screw hole positions on the wall with a marker pen. Drill holes at the marked locations using a $\phi 5$ electric drill, then hammer in the plastic expansion tube ($M6 \times 30$ mm). Align the bracket with the holes and tighten the self-tapping screws ($PA4.0 \times 30$ mm).



Product installation

- ① sequentially screw the LoRa or 4G antenna onto the gateways corresponding SMA port, adjust the antenna angle, and tighten the nut.
- ② Connect the product to the power source and insert the network cable or 4G card. Check the status of the indicator light. After confirming normal functionality, align the hook on the back of the product with the fixing holes on both sides of the bracket. Once hung, push the product upward firmly (in the direction indicated by the arrow on the bracket side). A "click" sound will be heard.

The deduction is confirmed.



Push the gateway up the bracket along the arrow direction



Wall-mounted installation rendering

7.2 Ceiling-

mounted

bracket

installation:

Mark the screw hole positions on the ceiling with a marker pen, then drill holes sequentially at the marked locations using a 4mm bit electric drill. Next, install the bracket to the ceiling with a disc head screw (M4*30 mm), followed by securing it with washers and nuts (as shown in Figure 1).

Product installation:

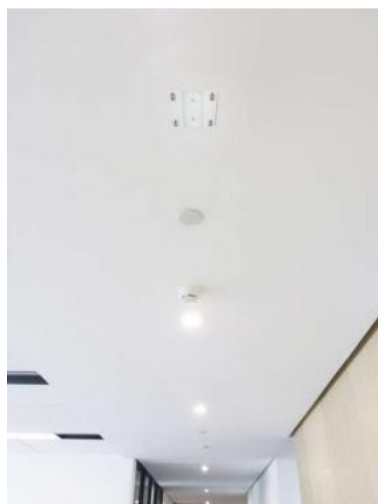
① sequentially screw the LoRa or 4G antenna onto the corresponding SMA port of the product, adjust the antenna angle, and tighten the nut.

② Connect the product to the power source and insert the network cable or 4G card.

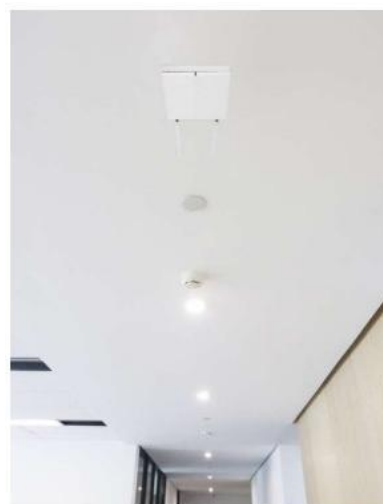
Check the status of the indicator light. After confirming normal functionality, align the hook on the back of the product with the fixing holes on both sides of the bracket. Once hung, push the product upward firmly (following the arrow line on the bracket side). A "click" sound confirms proper engagement.

*Handle the product gently during installation; avoid violent impacts or drops.

*The product should be installed on a flat, dry, and well-ventilated wall with minimal dust, and must not be placed in areas prone to rain, water leakage, or high humidity.



(Figure 1: Stent



(Figure 2: Gateway ceiling-mounted installation rendering)

matters need attention

8.container loading list

order number	picture	name	Quantity (PCS)	remarks
1		G200 gateway	1	
2		Power adapter	1	Available in Chinese, European, and American specifications
3		RF antenna	1	
4		4G/WiFi antenna	1	
5		support		
6		users manual	1	
7		Certificate of Conformity, Warranty Card	1	

technical support

If you have any questions during use that this document cannot resolve, please contact HuiLian Unlimited after-sales technical support.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment should be installed and operated with a minimum distance 20cm between the device and your body.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.