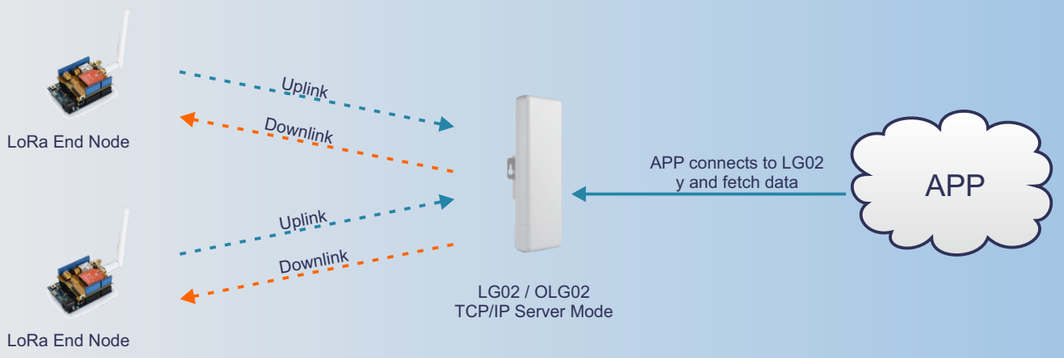
Operation Mode - III

TCP/IP Server mode:

Use LG02 / OLG02 as a LoRa Gateway to forward packet to IoT Server in TCP/IP Server Mode



Operate principle:
- The LoRa End Nodes send data to LG02 gateway via private LoRa protocol.
- LG02 / OLG02 stores the sensor data.
- Remote APP connect to LG02 and fetch sensor data.

More Modes:

LG02/OLG02 are open source device,user is easy to develop their own protocol to connect to their IoT Server.

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Dual Channels LoRa Gateway

LG02 / OLG02

Dual Channel LoRa Gateway Indoor & Outdoor version

OVERVIEW:

LG02 & OLG02 are open source dual channels LoRa Gateway. It lets you bridge LoRa wireless network to an IP network via WiFi, Ethernet, 3G or 4G cellular. The LoRa wireless allows users to send data and reach extremely long ranges at low data-rates.
It provides ultra-long range spread spectrum communication and high interference immunity.

LG02 & OLG02 has WiFi interface, Ethernet port and USB host port. These Interfaces provide flexible methods for users to connect their sensor networks to Internet.

LG02 & OLG02 can support the LoRaWAN protocol in single frequency and customized LoRa transmit protocol. It use two sx1276/sx1278 LoRa modules which lets the LoRa can works in full duplex mode and increase the communication efficiency. The aim for LG02 / OLG02 is to provide a low cost IoT wireless solution to support 50~300 sensor nodes.

Specifications:

Linux Side:
· Processor: 400 MHz, 24K MIPS
· Memoria Flash: 16MB, RAM: 64 MB

Interfaces:
· 2 x Ports 10M/100M RJ45
· WiFi: 802.11 b/g/n
· LoRa Wireless
· Power input: 12V Dc
· 1 x USB 2.0 host connector
· 1 x USB 2.0 host internal interface
· 3G/4G module (optional)

Order Option:

Indoor Version:
· LG02-XXX-YY

Outdoor Version:
· OLG02-XXX-YY

-XXX:
· 433: Best tuned at 433 MHz
· 868: Best tuned at 868 MHz
· 915: Best tuned at 915 MHz

-YY
· AU: with Quectel EC25-AU
· E: with Quectel EC25-E
· A: with Quctel EC25-A

Características:

· Open Source OpenWrt system
· Low power consumption
· Firmware upgrade via Web
· Software upgradable via network
· Flexible protocol to connect to IoT servers
· Auto-Provisioning
· Built-in web server
· Managed by Web GUI, SSH via LAN or WiFi
· Internet connection via LAN, WiFi, 3G or 4G
· Failsafe design provides robustly system
· 2 x SX1276/SX1278 LoRa modules
· Full–duplex LoRa transceiver
· Two receive channels, and one transmit channel
· Limited support in LoRaWAN/ Support Private LoRa protocol
· Support upto 300 nodes
· LoRa band available at 433/868/915/920 Mhz
· Max range in LoRa: 5~10 km. Density Area:>500m

Applications:

· Wireless Alarm and Security Systems
· Home and Building Automation
· Automated Meter Reading
· Industrial Monitoring and Control
· Long range Irrigation Systems
· GPS tracker,etc

26/09/2018

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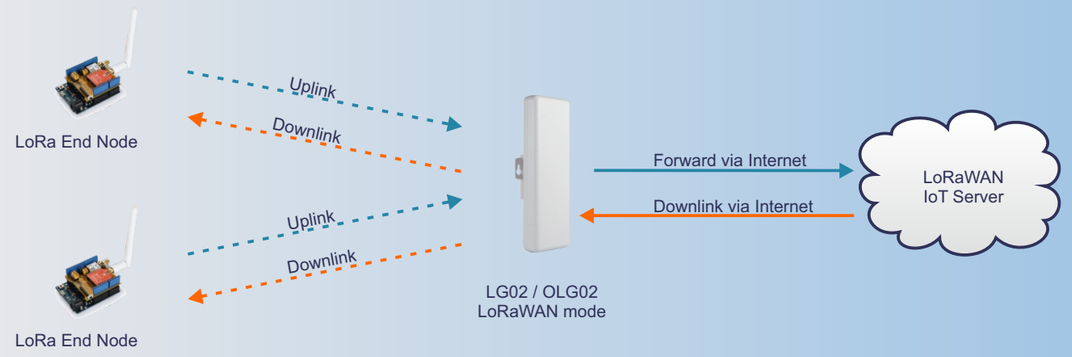
Operation Mode - I

LoRaWAN Gateway Mode:

Use LG02 / OLG02 as a LoRaWAN gateway fo forwared packet to LoRaWAN IoT Server

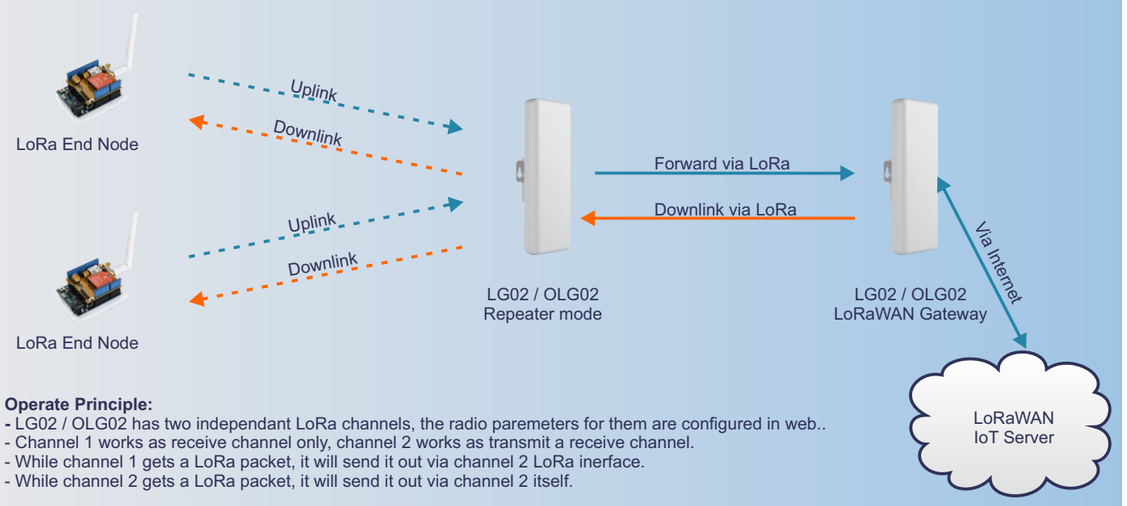


Operate principle:
- LG02 / OLG02 running packet forawared and will forward the uplink LoRa packet from end node to LoRaWAN server..
- it will also forward downlink LoRa packet from LoRaWAN server to end node..
- The end node can use OTTA or ABP mode in the LoRaWAN protocol.

Limitations:
- LG02 / OLG02 only support one LoRaWAN frequency for uplink. So the end node should be set to fix frequency.
- If end node use multiply frequencies to transfer, The LG02 will only be able to receive the same frequency set in LG02.

LoRa Repeater:

Use LG02 /OLG02 as a LoRa Repeater to increase transmit distance



Operate Principle:
- LG02 / OLG02 has two independant LoRa channels, the radio paremeters for them are configured in web..
- Channel 1 works as receive channel only, channel 2 works as transmit a receive channel.
- While channel 1 gets a LoRa packet, it will send it out via channel 2 LoRa inerface.
- While channel 2 gets a LoRa packet, it will send it out via channel 2 itself.

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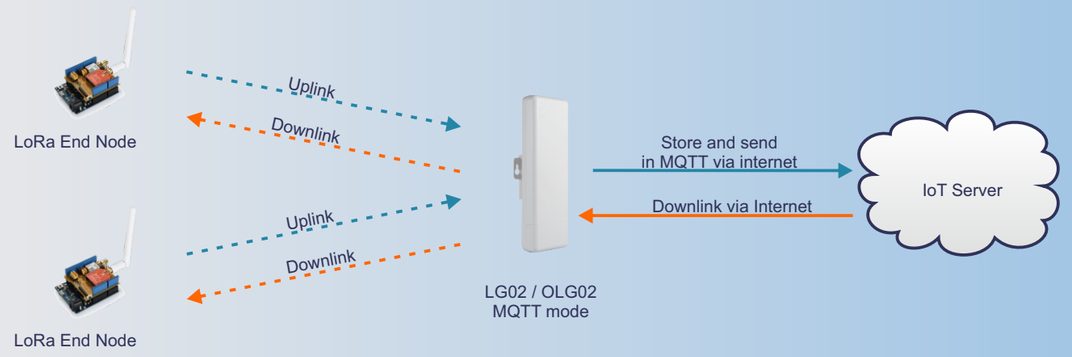
Operation Mode - II

MQTT Mode:

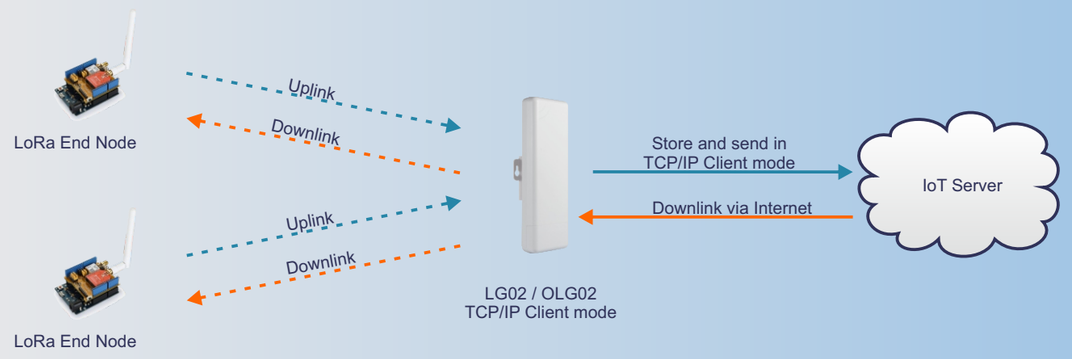
Use LG02 / OLG02 as a LoRa Gateway to forward packet to IoT Server via MQTT protocol.



Operate principle:
- The LoRa end node sends data to LG02 gateway via private LoRa protocol. LG02 stores the sensor data.
- LG02 sends the sensor data to IoT Server via MQTT protocol.

TCP/IP Client mode:

Use LG02 / OLG02 as a LoRa Gateway to forward packet to IoT Server in TCP/IP Client Mode



Operate principle:
- The LoRa end node sends data to LG02 gateway via private LoRa protocol. LG02 stores the sensor data.
- LG02 sends the sensor data to IoT Server via general TCP/IP Client mode

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