


 IoTThinks / **EasyLoRaGateway_v2.1** Public

Easy LoRa Gateway v2.1 is an easy-to-use and PRODUCTION LoRa Gateway for home users and small businesses. This gateway will use an ESP32 with Semtech LoRa SX1278 module Ra-02/RFM95W

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 IoTThinks Check Ethernet cable ...on Jun 3  73[View code](#) README.md

EasyLoRaGateway v2.1 (Ra02 and RFM95W)

Easy LoRa gateway connects multiple smart IoT Plugs and Nodes in large buildings, factories and farms up to 10 km from the nearest Internet access. Easy LoRa gateway uses LoRa as the transmission protocol via 433+ Mhz/915+ Mhz wave. It enables us to remotely control our smart IoT Plugs and Nodes inexpensively and efficiently.

- A 10-storey building only needs 01 Easy LoRa gateway to connects to all LoRa Plugs and sensors in the building. A 10-hectare farm may only needs 01 LoRa Gateway to reach all of its IoT devices.
- Homepage: <http://iotthinks.com/easy-lora-gateway/>
- Full Wiki: https://github.com/IoTThinks/EasyLoRaGateway_v2.1/wiki

Previous version:

- Old version of Easy LoRa gateway v1 is at <https://github.com/IoTThinks/EasyLoraGateway>
- Old version of Easy LoRa gateway v2 is at https://github.com/IoTThinks/EasyLoRaGateway_v2

1. Quick starts

- How to use: https://github.com/IoTThinks/EasyLoRaGateway_v2.1/wiki
- Sample code test for Ra02 version:
https://github.com/IoTThinks/EasyLoRaGateway_v2.1/tree/master/EasyLoRaGatewayTest_v2_1_Ra02
- Sample code test for RFM95W version:
https://github.com/IoTThinks/EasyLoRaGateway_v2.1/tree/master/EasyLoRaGatewayTest_v2_1_RFM95W
- Sample code for Easy LoRa gateway (433+ Mhz):
https://github.com/IoTThinks/EasyLoRaGateway_v2.1/tree/master/EasyLoRaGateway

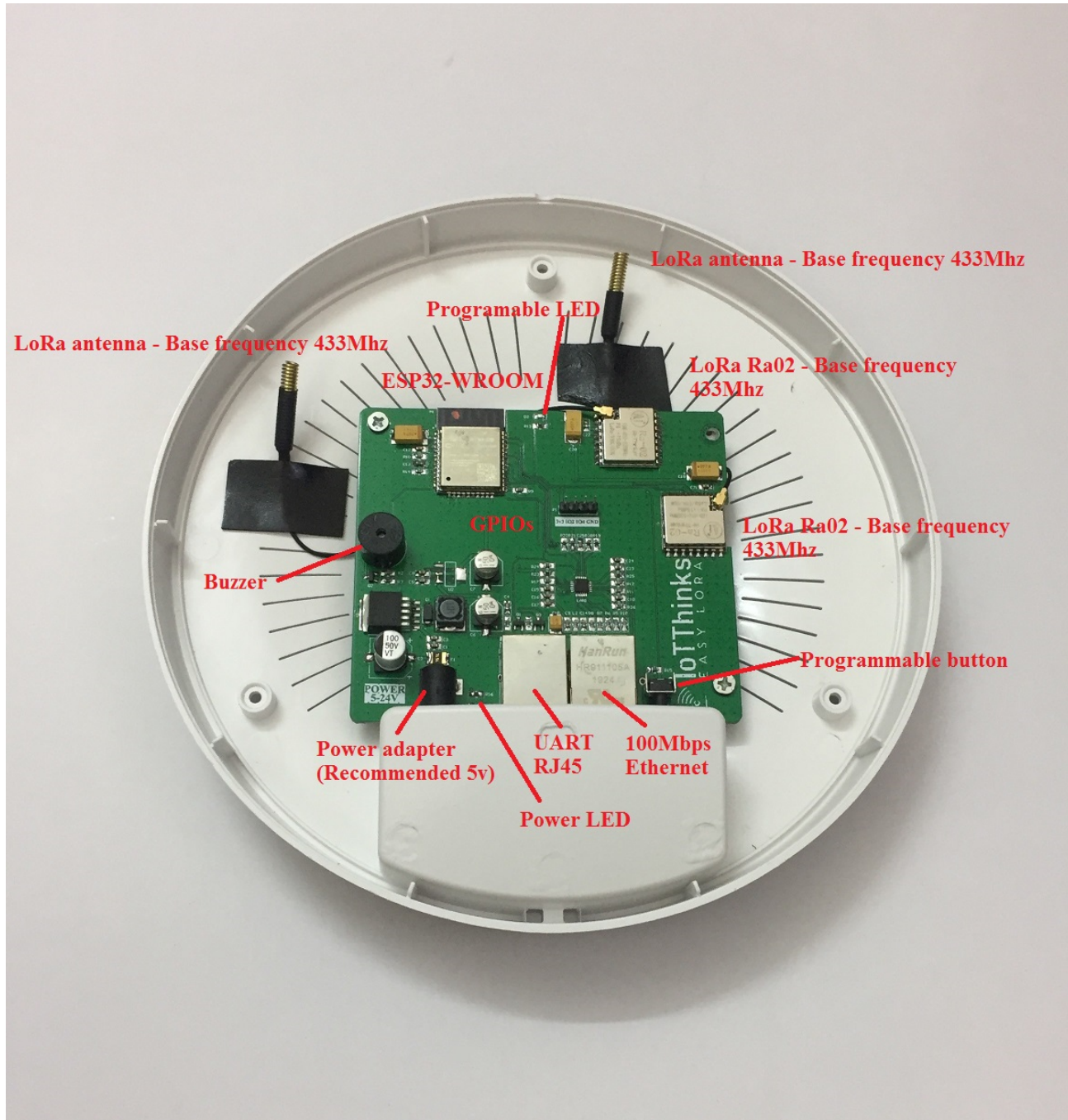
2. Hardware specification

- 1 x ESP32 chip with WiFi 802.11n and BLE
- 2 x LoRa SX1278 433MHz (Ai-Thinker Ra02) or 915Mhz (RFM95W)
- 1 x 100 Mbps Ethernet LAN
- 1 x Ethernet Console (for debug and upload firmware)
- 1 x Speaker
- 1 x LED
- 1 x Power LED
- 1 x 5v Power jack
- Over voltage protection, reverse-polarity protection, short-circuit protection via PTC fuse

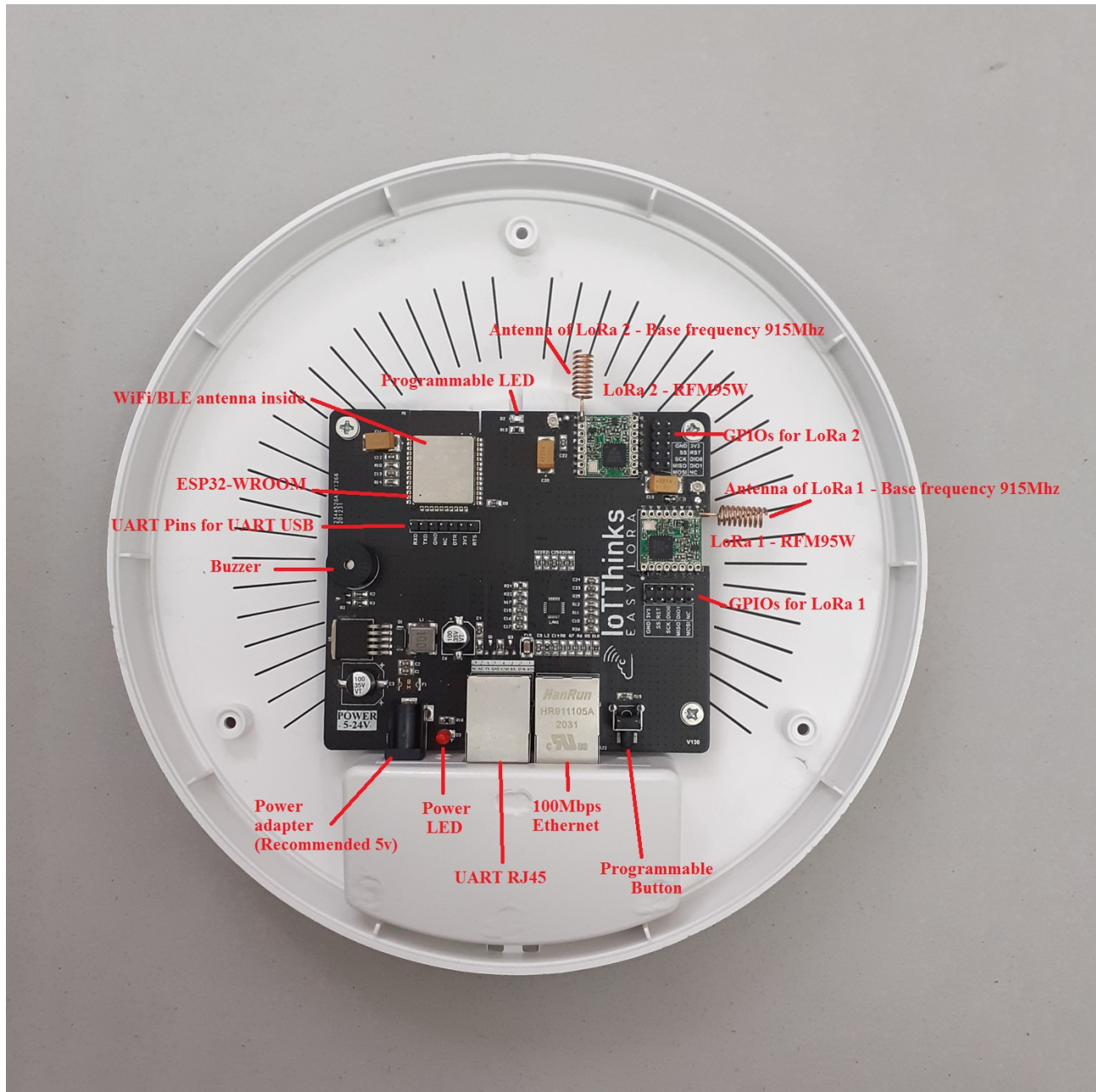
3. Appearance

3.1 Components

From inside - Ai-Thinker Ra02 (433Mhz)



From inside - RFM95W (915Mhz)



3.2 Casing and IOs

From top



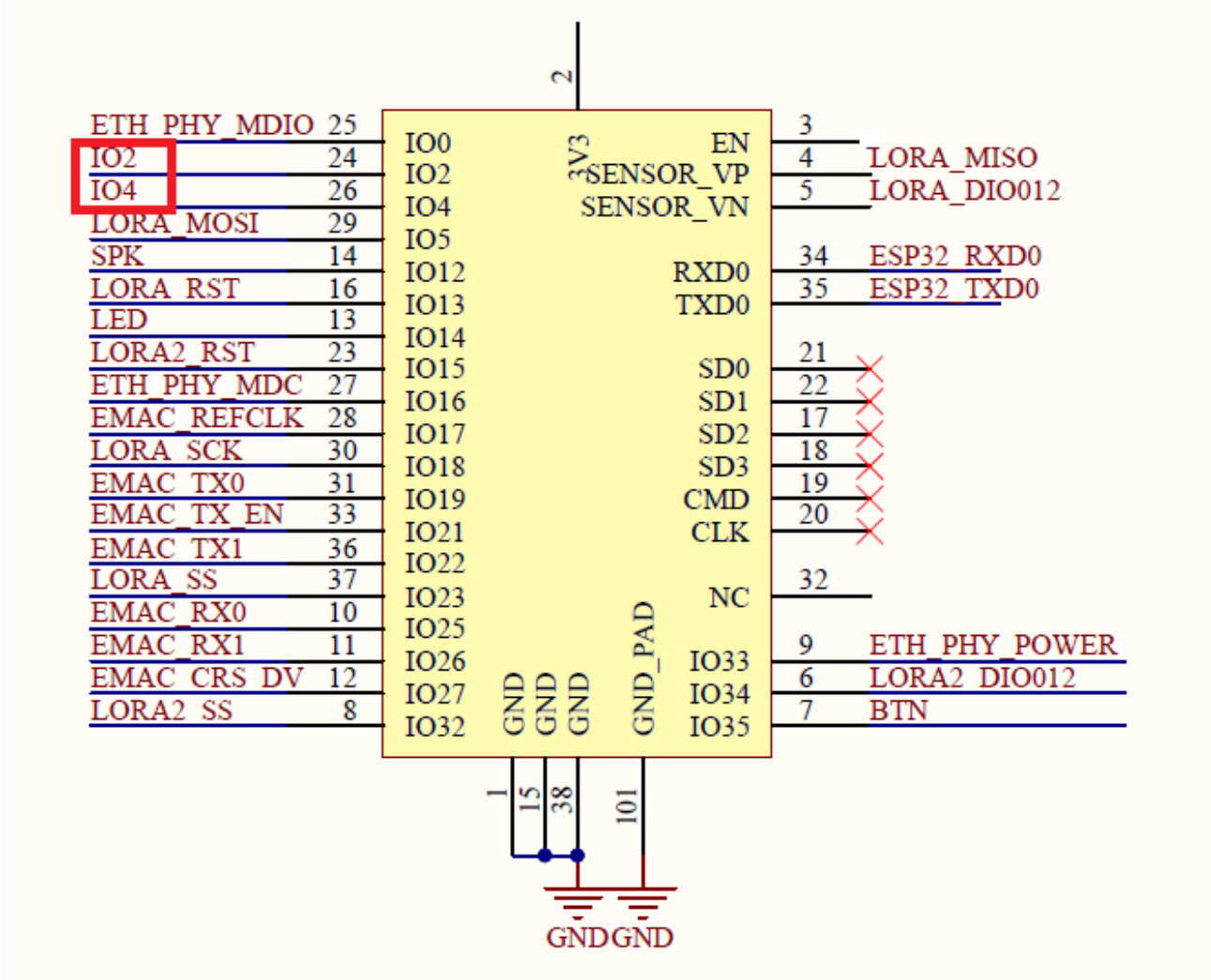
From bottom



4. Pin mappings

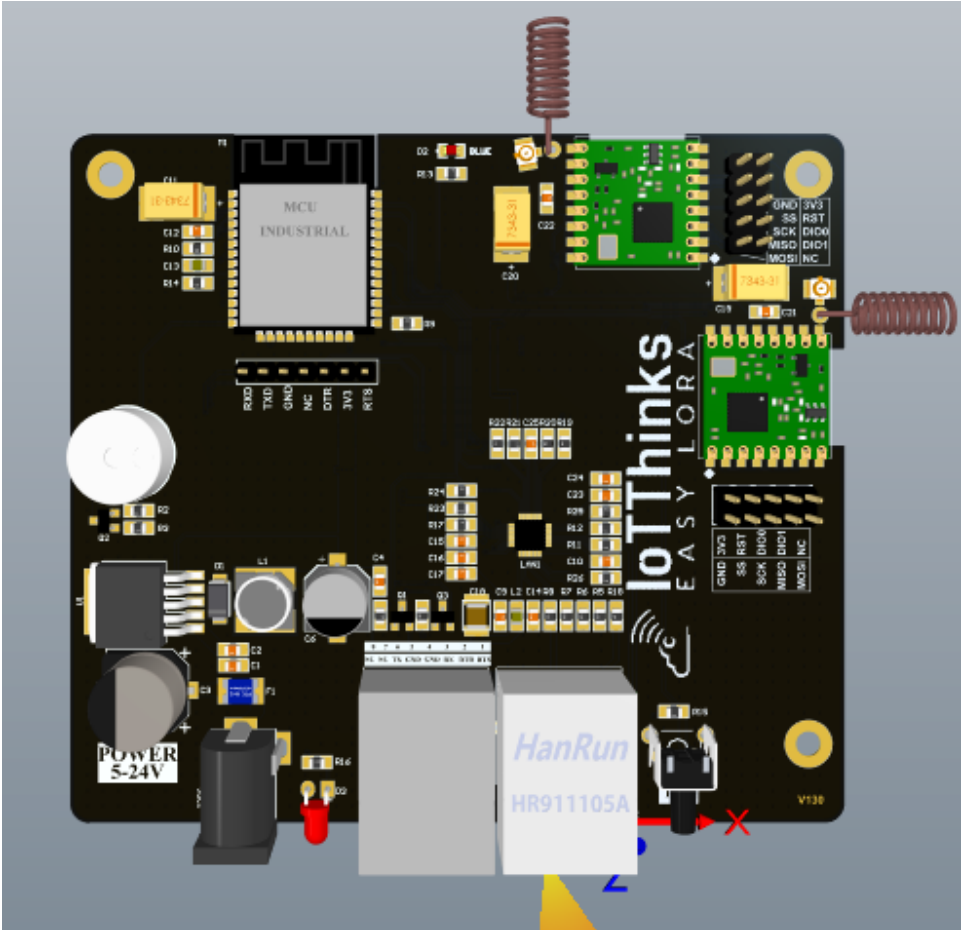
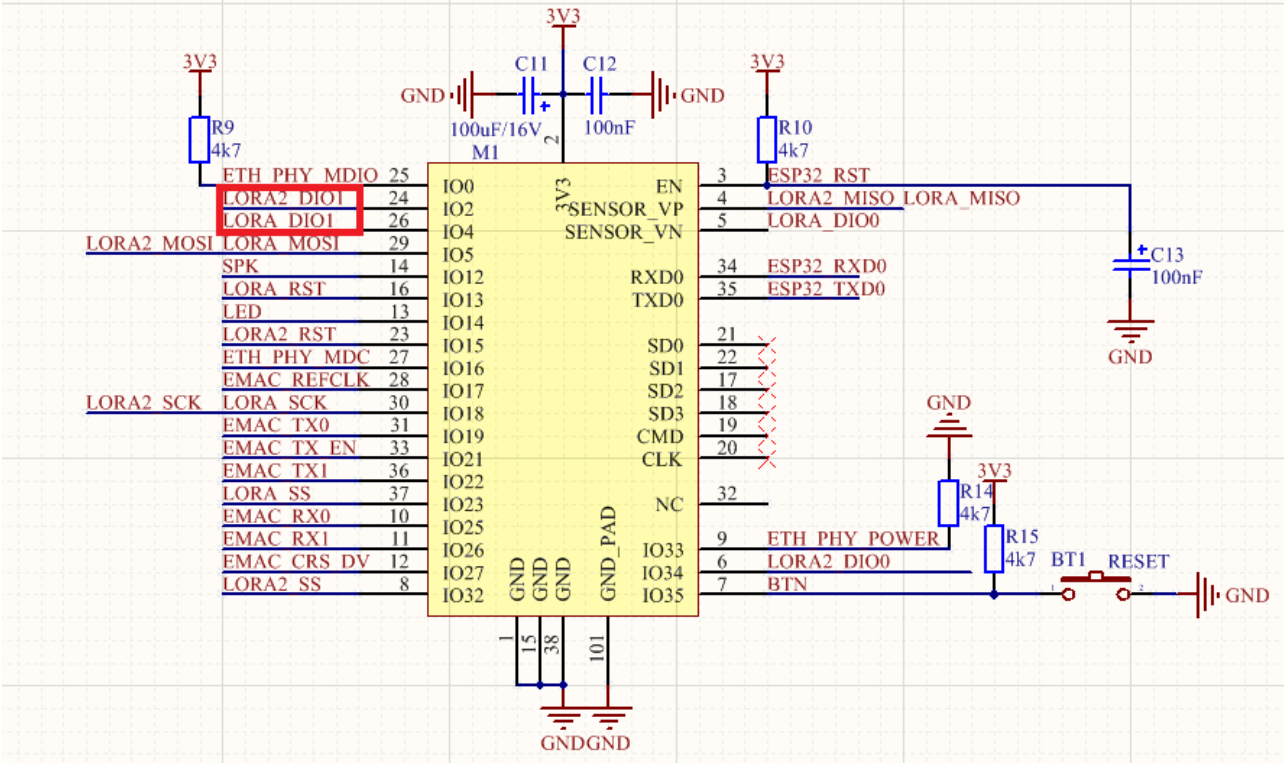
4.1 Ai-Thinker Ra02 version

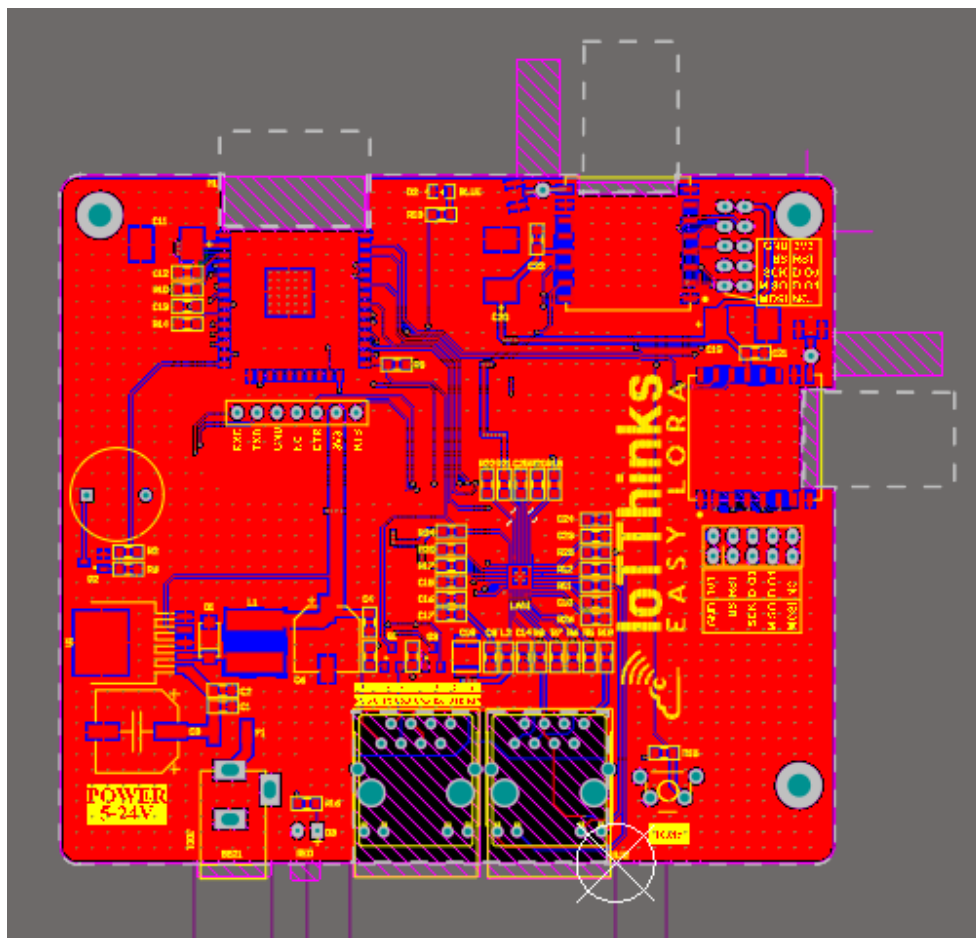
Pin mappings from main ESP32 to components



4.2 RFM95W version

Pin mappings from main ESP32 to components

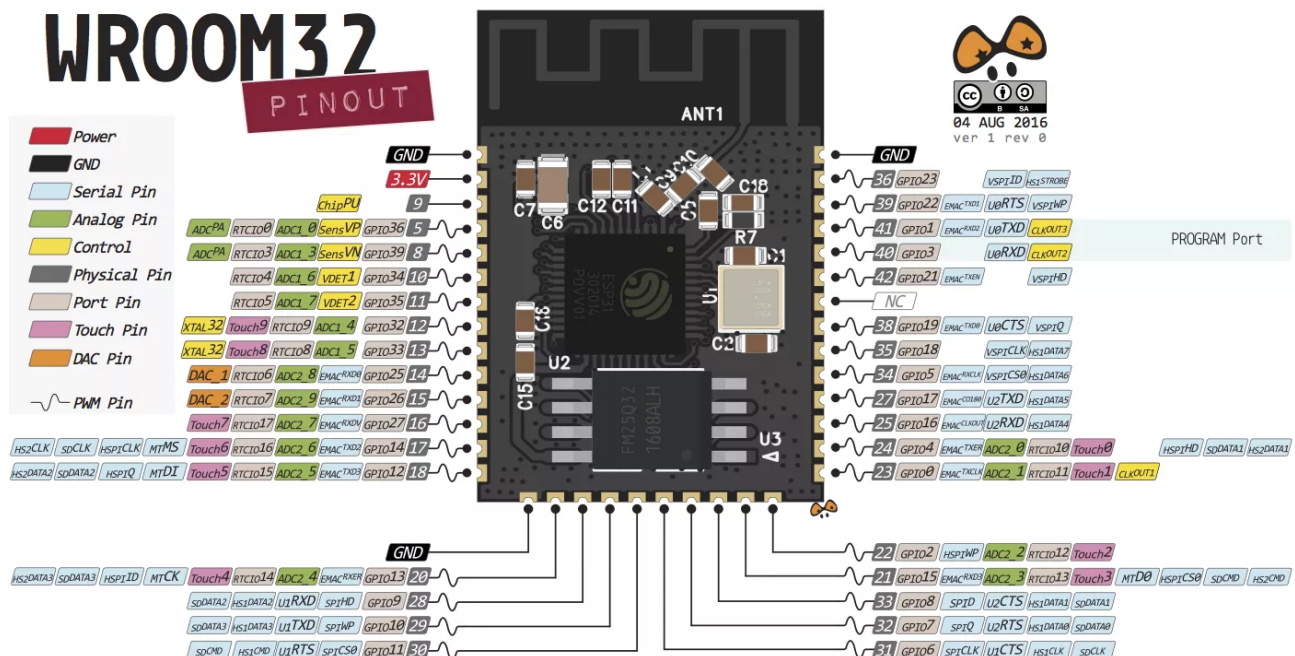




5. Pinout of MCU and LoRa

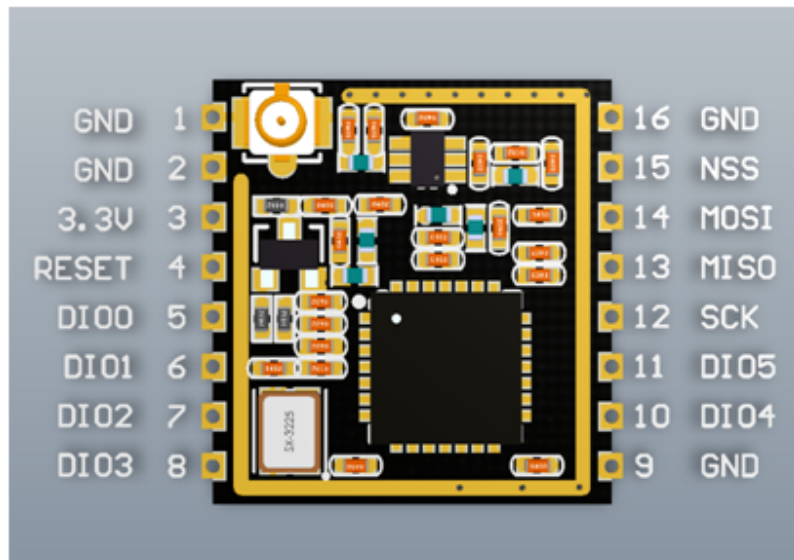
5.1 Pinout of ESP32

Datasheet: [esp32-wroom-32_datasheet_en.pdf](#)



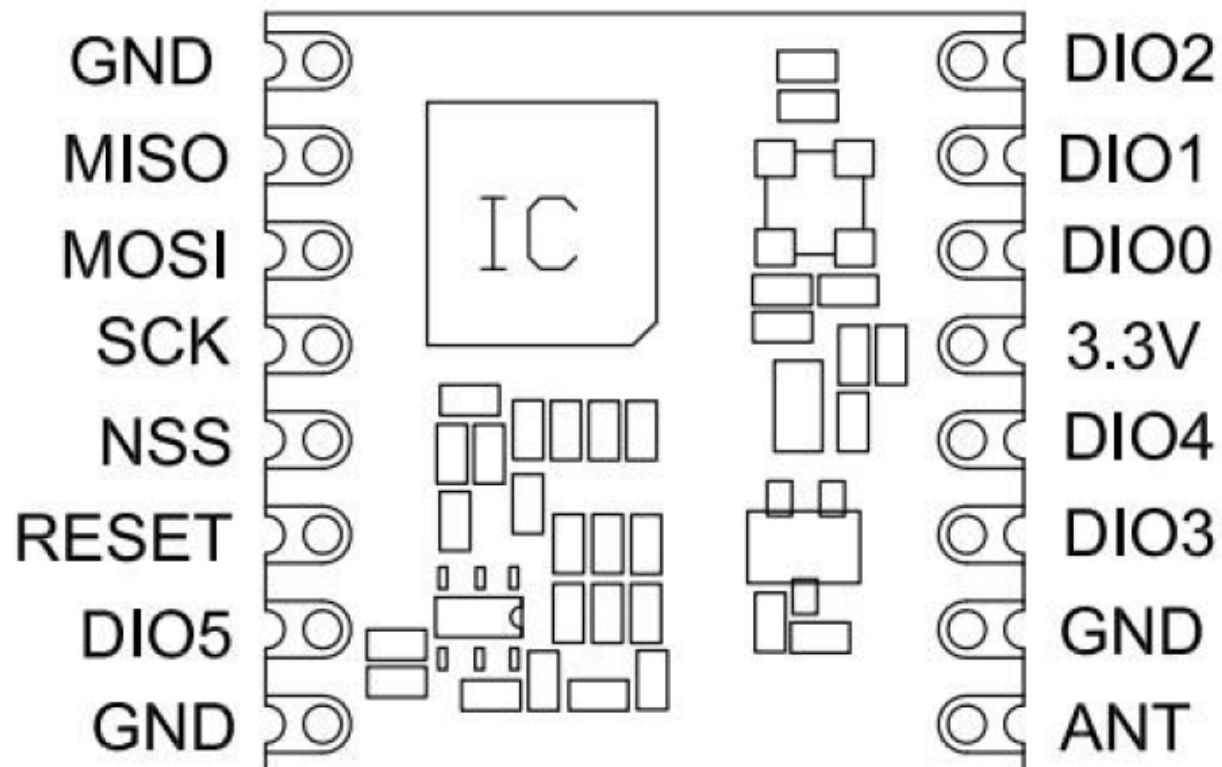
5.2 Pinout of LoRa Ai-Thinker RA-02

Datasheet: [LoRa-SX1278-Datasheet.pdf](#)



5.3 Pinout of LoRa RFM95W

Datasheet: [RFM95W-V2.0.pdf](#)



6. Software feature (In progress)

- Single or dual channel LoRa gateway
- Simple local management portal
- Auto provision of Easy LoRa Plug and Node
- Forward messages from LoRa to MQTT servers
- Web Service APIs for integration
- Auto update firmware via LAN or Internet
- OPEN SOURCE and commercial version

Releases

 3 tags

Packages

No packages published

Languages

● C++ 87.3% ● C 12.7%