WSL05-A0

LICENSE-FREE SOLUTION

For Sub-1G Frequency band

868 and 915 MHz LoRaWAN

Embedded Module

Product Description

WSL05-A0 is a RF module compliant with LoRaWAN standard. It is ideally suited for use as an embedded RF module in one or two-way data links with gas, water, heat and electricity meters.

The module operates in 868 and 915MHz frequency band with an output power of up to 22dBm and a receiving sensitivity of -138dBm. It supports customer development function (open CPU feature), which can burn and run the client's code, enabling users to implement their specific applications without the need for an extra MCU, saving costs and power consumption.

With ultra-low power for maximum battery life and a wide range of applications, this module has many unique features:

- Certified RF module, LCC package, TTL interface.
- LoRaWAN™ Specification V1.0.2
- Customer Secondary Development

Key Features

- Cost effective 868 and 915 MHz LoRaWAN module
- Conform with EU&TTE requirements (EN 300 220, EN301 489, EN 60950)
- Provide AT command UART interface

- Support customer secondary development
- Sensitivity up to -138dBm（SF12）
- Support LoRaWAN Class A / C modes.
- UART firmware upgrade or FOTA.
- Very low power consumption for battery powered applications.
- Compact dimensions: 14 x 22 x 3.2 mm.
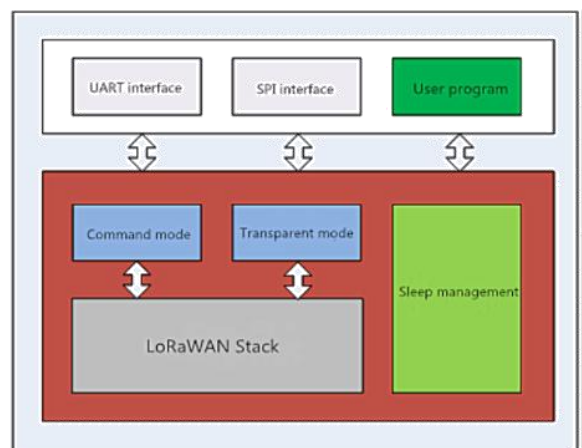
Family Concept

LoRaWAN is a field proven communication for water, gas , heat meters , data loggers and smart meter gateways. It is widely adopted in Advanced Metering Reading (AMR) applications.

Operating in license-free ISM frequency bands of 433,470, 868, 915 and 923MHz, Friendcom WSL05-A0 module can be applied to a wide range of RF link solutions.

The functional block diagram of the module is shown as below.

Specifications

Performance

- Range: Up to 5km(LoS)
- Configurable output power
- AT command for configuration
- Sensitivity up to -138dBm（SF12）

Networking

- Frequency Band: 433,868 and 915MHz
- LoRaWAN A, C mode
- Modulation: LoRa and FSK
- LoRaWAN Data Encryption
- Firmware Over-the-Air

Electrical

- Output Power: Up to 22 dBm
- Power Supply: 2.4 to 3.6 V
- Power consumption:
    Tx: ＜160 mA
    Rx: ＜ 4.6mA
    Sleep: ＜1.5uA

General

- 28 pins, SMT package
- Dimensions: 14 x 22 x 3.2mm
- Operating temperature: -40 to +80℃
- Weight: Approx. 1.7 g
- Antenna: External antenna port (50 ohm)

Module Variations

Module	Variant	Network	Bands
WSL05-A0	LF	LoRaWAN	EU433, CN470
WSL05-A0	HF	LoRaWAN	EU868, US915, AU915, IN865, AS923