

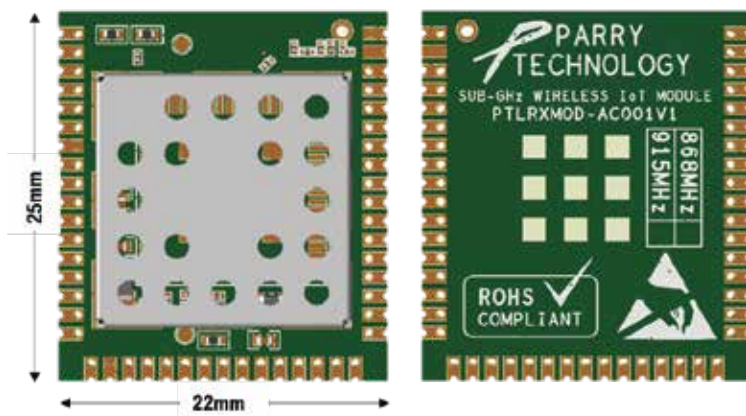
Sub-GHz Wireless IoT module (PTLR9MOD)

is based on Ultra-low power multi-modulation wireless

STM32WLE5x microcontroller from ST Micro-electronics. The module with four-layer PCB is designed for good RF performance, allowing one to be benefited from the best RF sensitivity of the integrated LoRa® RF transceiver SX126x. Provision to use a compact on-board helical antenna/monopole wire antenna or external dipole antenna using external U.FL connector, allows one to achieve medium to long RF range. All integrated 32MHz TCXO, 32KHz crystal along with the RF switch and RF passive components, enables one to jump start focusing on the software development, quickly develop the end-product and deploy it.

Benefits

- + Four-layer PCB for good RF performance. Easy to manually solder on to the base board
- + Components provision for 50-ohm impedance matching of antenna
- + Standard STM32 debugger and software tools from ST can be used for development



SUB-GHZ WIRELESS IOT MODULE

Arm® Cortex®-M4 core running at 48 MHz, 256 Kbytes of Flash, 64Kbytes of RAM

Integrated sub-GHz radio based-on Semtech SX126x with +22dBm maximum RF output

High RF sensitivity down to -138dBm for LoRa® @ 125KHz, SF12

Analog Inputs, DAC, DIOs, I2C, I2S, SPI, I2C, LPUART, 2 USARTs

Frequency range supporting 863 to 930MHz, SF5 to SF12, Bandwidth of 7.8KHz to 500KHz

Operating voltage of 1.8V to 3.3V, Operating temperature -40°C to +85°C

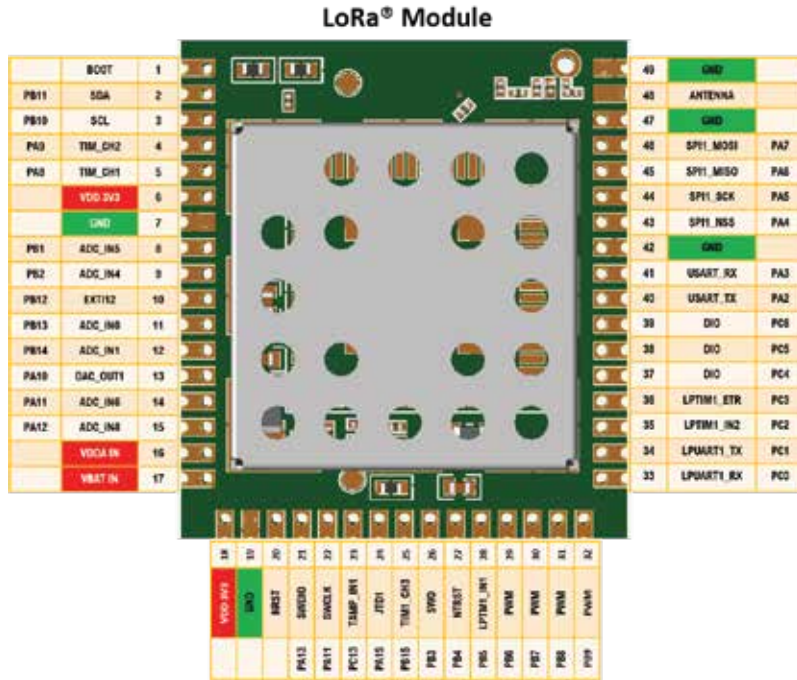
Purchase Notes

For quick start on the development, ParryTech 915MHz Wireless IoT Module EVB (PTLR9EVB-AC001V1) is available.

For requirement on 915MHz to Wi-Fi/BT gateways (optional 4G LTE GSM Module shield), reach out to estore-enquiry@parrytech.net

LoRa® is a trademark of Semtech Corporation or its subsidiaries

Pinout Diagram



Getting Started

MCU Datasheet,
Reference Manual

<https://www.st.com/en/microcontrollers-microprocessors/stm32wle5cc.html#documentation>

Software dev IDE

<https://www.st.com/en/development-tools/stm32cubeide.html>

Debugger/Programmer

To be ordered separately (STLINK-V2 or STLINK-V3E). SWD pins for programming.

I/O Pin functions

All the I/O pins has alternate functions as given in LoRa® MCU data sheet

Antenna options

Default helical antenna (PCB Impedance matched). Optional external antenna.

STM32WL Training

https://www.st.com/content/st_com/en/support/learning/stm32-education/stm32-online-training/stm32wl-online-training.html

Product Ordering Guide

Ordering Part number : **PTLR9MOD-AC001V1**

Note: This module is tuned for 902~930MHz Operation

About Parry Technology

+ Engineering/System integration services

+ Total Solutions:

Products, platforms and, cloud solutions for end-to-end IoT deployments

+ E-store:

Ready to use subsystem modules/products for quick test, develop Internet of Things (IoT) applications