

RCM-05

Integrated IEEE 802.15.4 compatible radio module for the sub-GHz bands

FEATURES

- IEEE 802.15.4 compliant
- Designed for long range sub-GHz communication in
 - European 863-870MHz SRD band
 - North American 902-928MHz ISM band
 - Chinese 779-787 WPAN band
- Integrated radio transceiver and powerful ARM Cortex-M3 microcontroller
- 20kbps BPSK or 100kbps O-QPSK PHY
- Link budget up to 124dB
- Output power up to +14dBm
- Antenna diversity with two u.fl antenna connectors
- Small footprint: 37 x 19 mm
- Easy surface mount
- Operating temperature: -40 to +85°C
- ETSI EN 300 220 compatible
- Advanced host system software support with APIs available in C/C++/C#/JAVA and Python
- Paired with an RCG gateway, the module allows to communicate with a dedicated on-line service – the RCM Hub.

DESCRIPTION

The RCM-05 is an integrated radio module that delivers industrial grade, IEEE 802.15.4 compatible mesh networking. With its advanced hardware capabilities and extensive software support It provides a simplified method of integrating Internet-of-Things technologies into virtually any end product.



The module integrates a radio transceiver with advanced radio front-end and an ARM Cortex-M3 microcontroller in a shielded small footprint module. The microcontroller features 256kB of FLASH and 48kB of RAM memory and runs up to 64MHz.

The module is designed to act as a peripheral wireless network interface for the host system, such as other microcontroller or Linux/Windows host. It can also seamlessly integrate with a compatible RCG gateway for direct communication with a dedicated on-line service, called the RCM Hub.

APPLICATIONS

- Industrial wireless sensors and actuators
- Professional telemetry
- Smart utility networks
- Advanced Metering Infrastructure
- Home/building automation

FIRMWARE/SOFTWARE SUPPORT

The RCM-05 comes with a preprogrammed firmware. It connects to a host MCU/CPU via a simple UART interface. The target host can use a provided API library to easily integrate the module into the final product. The API is available in C/C++/C#/JAVA and Python for any embedded\desktop\server host, as long as it supports some kind of preemptive operating system (RTOS\Linux\Windows etc.).

DEVELOPMENT TOOLS.

In order to quickly develop an RCM-05 based application, a complete out-of-the box toolset is available featuring Eclipse-based IDE and a GCC compiler. The toolset is distributed free of charge and includes only royalty-free components. The software support package comes with demos and tutorials, on how to integrate the RCM-05 quickly and reliably into the final product. Evaluation boards and other support materials are also available.

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