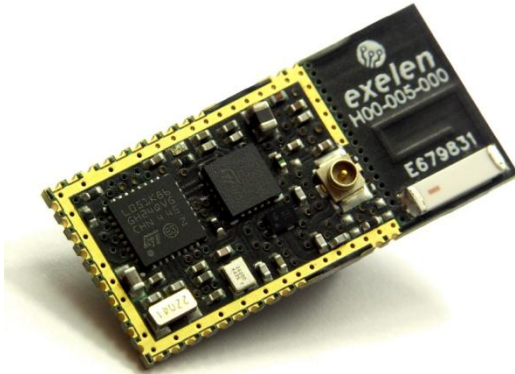


Ultra-low power sub-1GHz RF module with integrated microcontroller & antenna

FACT SHEET



FEATURES

- 868 MHz SRD band
- Up to 500 kbps data rate
- Integrated PCB antenna
- Ultra-low power STM32L0 microcontroller
- Simple control with AT command set
- SWD interface for custom firmware development by the user
- USART, I²C, SPI and USB interfaces, up to 16 GPIO pins and up to 6 analog pins (ADC) are available for extended operations
- Real-time clock (RTC)
- CE (R&TTE) certified
- RoHS compliant

KEY SPECIFICATIONS

- Compact design: 14 x 30 x 2.45 mm
- 1.8 – 3.6V single supply
- Power consumption: 22 mA (Tx @ +11 dBm), 8 mA (Tx @ -7 dBm), 11 mA (Rx)
- 32-MHz Cortex-M0+ microcontroller with 64 kB Flash memory (STM32L0 series)

APPLICATIONS

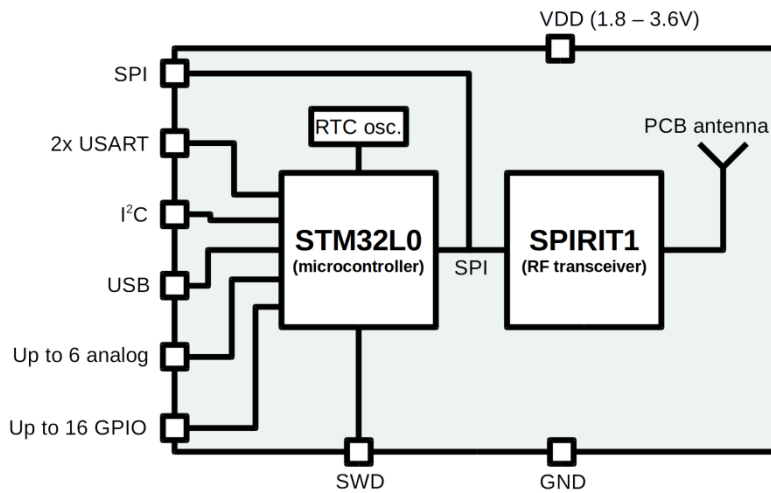
- Wireless sensors networks
- Battery-powered wireless devices
- Point-to-point serial data link
- Home automation
- Industrial monitoring and control
- Alarm systems
- Wireless metering, Wireless M-Bus

DESCRIPTION

The XLN-RF-868-A module is an ultra-low power RF module operating in the 868 MHz SRD band. Thanks to its small footprint, its integrated PCB antenna and its easy-to-use interface, integration of RF connectivity into your design is quick and seamless, reducing time-to-market of RF-enabled products.

The module includes a STM32L0 microcontroller clocked at up to 32 MHz coupled with a SPIRIT1 RF transceiver, with a standard firmware allowing easy RF configuration, transmission and reception through the USART interface. In addition, the microcontroller's standard Serial Wire Debug (SWD) interface is also made available to the user, so that custom applications can also be programmed. The microcontroller's USART, I²C, SPI and USB interfaces are also available to the user, as well as several GPIO and analog input pins to control peripherals, acquire data and communicate with other systems, so that no additional microcontroller is needed in most designs.

The XLN-RF-868-A module is already CE (R&TTE) certified, so that no costly RF certification is required from the user.



XLN-RF-868-A module block diagram

SPECIFICATIONS

RF band	868 MHz (SRD860)
Supported RF modulations	ASK, 2-FSK, GFSK, GMSK, MSK, OOK
Data rate	1 to 500 kb/s
Rx sensitivity	-118 dBm (2-FSK at 1.2 kb/s), -95 dBm (MSK at 250 kb/s)
Tx output power	-30 to +11 dBm
Antenna	PCB antenna
Encryption	128-bit AES (hardware accelerated)
Power consumption	Sleep: 2 μ A Tx: 8 mA @ -7 dBm, 22 mA @ +11 dBm Rx: 11 mA
Supply voltage	1.8 – 3.6V (single supply)
RF transceiver	SPIRIT1 (ST Microelectronics)
Microcontroller	STM32L052 (ST Microelectronics) Cortex-M0+, up to 32 MHz, 64 kB Flash, 8 kB RAM
Included functionalities	Real-time clock (20 ppm accuracy)
Interfaces	1x I ² C, 1x SPI, 2x USART, 1x USB 2.0, 1x SWD Up to 16 GPIO pins Up to 6 analog pins (ADC)
RF standards compatibility	EN13757-4 (Wireless M-BUS)
Dimensions	14 x 30 x 2.45 mm
Operating temperature	-30 to +85 °C
Certifications	CE (R&TTE, EN 300 220)
Environmental compliance	RoHS

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Notice: The specifications provided in this document are only informative and can be changed by Exelen GmbH at any time without notice.