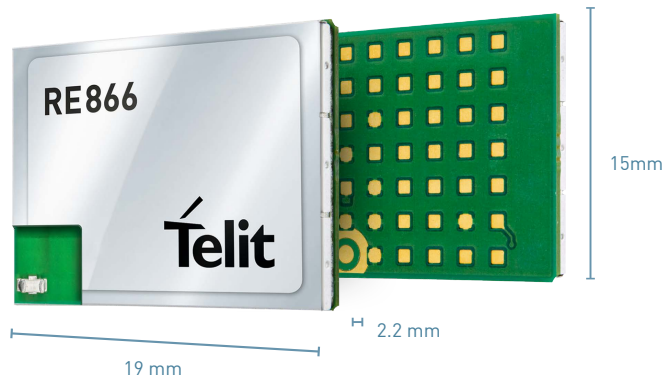


## RE866 Series

Ultra Low Power BLE and LoRa®  
Combo module

LoRa® Embedded  
Bluetooth Low Energy



## Product Description

Integrating unlicensed LPWAN to your IoT solution is simplified with the use of our pre-certified combo module, RE866. The module's open protocol and unique combination of long range (LoRa) with Bluetooth Low Energy (BLE) make it perfect for sensor-heavy applications such as smart metering, industrial automation, alarm systems, agriculture, street lightning, asset tracking, and smart cities.

This RE866 provides ultra-low power consumption with an outstanding wireless range and a secured, powerful solution for customers looking for a simple approach to enable remote management and configuration via PC or mobile or the module can act as a LoRa gateway for a subnetwork of connected BLE sensors,

True to the Telit, "Design once, use anywhere", philosophy, device makers' benefit from future proof, cost effective solutions. The enormously long range and ultra-low power consumption make the RE866 an ideal choice for battery-operated devices, supporting battery life of up to 10 years in relevant applications.

With the compact RE866, customers can take advantage of its pin-to-pin compatibility with the Telit NE866 NarrowBand IoT module, allowing solutions to switch from licensed to unlicensed standards with ease.

## Key Benefits

- LoRa Alliance certified module: LoRaWan1.02 class A/C and B.
- Bluetooth v5 qualified module
  - BLE 5 GATT Central/Peripheral, TIO (SPP like) with free source codes
  - Fully compatible with Bluemod+S42/S50 modules
  - 101dB budget link
- Integrated antenna for BLE, External antenna for SUB-GHZ
- Pin to Pin compatible with NE866 (Telit NB1 module)
- AES-128 security and Embedded Secured Element for future uses
- Ultra-low power usage schemes – Allows years of use on a single battery.
- Upgradable firmware – Prepare for the future with access to feature and security updates.
- NFC handover simplifies device pairing and connection setup.
- UART eDMA/PPI (faster UART speed / lower power consumption)
- CE, RED, FCC/IC
- Temperature (operating) -40°C to +85°C

### AVAILABLE FOR

EMEA

North America

Latin America

APAC

## Combine your LoRa module with

Wi-Fi modules



GNSS modules



[www.telit.com](http://www.telit.com)

**Complete, Ready to Use Access to the Internet of Things**



IoT MODULES



IoT CONNECTIVITY



IoT PLATFORMS



IoT KNOW-HOW

## RE866 Series

### Product Features

- Bluetooth® Low Energy Specification V5
  - Terminal I/O peripheral and GATT peripheral role
  - Generic GATT client and Server handling for 4 concurrent links (3 in central role and 1 in peripheral role)
- LoRa Modulation : Chirp Spread Spectrum, FSK, GFSK
- Data Rate: 250 bps – 50 kbps
- LoRaWan 1.02
- Over the air update

### Environmental

- LGA pads
- Integrated BLE ceramic Antenna
- Length x Width x Height: 19x15x2.2 mm
- Temperature range: -40°C to +85°C

### Interfaces

- UART: 9600 bps – 921600 bps (asynchronous)
- Other interfaces: I<sup>2</sup>C, SPI, PWM, ADC
- GPIOs: Up to 15

### Electrical & Sensitivity

- Bluetooth® Low Energy
  - Transmit Power: -20 to +4dBm
  - Receiver Sensitivity: -96 dBm
  - Max power consumption in transmission: 7.5 mA
- LoRa®
  - Max Tx Power: 14 dBm or up to 19dBm in PA boost mode
  - Receiver Sensitivity: Up to -138 dBm (SF 12, 125KHz bandwidth)
- Power supply: 1.8V to 3.6V
- Power consumption:
  - Transmission mode: <40 mA@25mW
  - Receive mode: 10 mA
  - Standby: <2µA
  - Sleep: <1µA

### Approvals

- Bluetooth Qualification 5
- LoraWan certified
- RED, FCC, IC



### Join the Telit Technical Forum

For a quicker and more rewarding integration experience join the Telit Technical Forum. There you can browse the first open forum covering all IoT topics, get direct support by region (EMEA, North America, Latin America, APAC), take part in this quickly growing IoT community and exchange experiences.