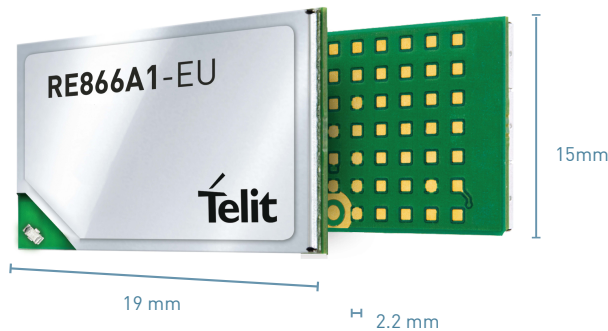




RE866A1-EU

LoRa®, BLE 4.2 and NFC Combo Module

LoRa®	Embedded
Bluetooth Low Energy	
NFC	



Product Description

Integrating unlicensed LPWAN to your IoT solution is simplified with the use of our pre-certified combo module, RE866A1-EU. The module's open protocol and unique combination of long range (LoRa®), NFC 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 RE866A1-EU provides a secure, powerful solution for customers looking for a simple approach to enable remote management and configuration via PC or mobile.

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 RE866A1-EU an ideal choice for battery-operated devices, supporting battery life of up to 10 years in relevant applications.

With the compact RE866A1-EU, 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 Features

- IoT Platform with LUA Scripting for host-less applications
- AT commands over UART for hosted applications
- LoRa® Alliance 1.02 class A/C certified module
- Bluetooth v4.2 qualified module
- NFC handover simplifies device pairing and connection setup.
- Pin to Pin compatible with NE866 (Telit NB1 module)
- Generic GATT
- LE secured connections
- Terminal I/O (BLE proprietary Serial Port Profile) for fast and easy transparent data transfer
- Terminal IO Utility
- Sample code for iOS and Android
- Powerful Cortex M4F MCU
- Integrated antenna for BLE, External antenna for SUB-GHZ
- AES-128 security and optional 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.
- UART Interface Control Protocol: Proprietary low power serial port protocol
- RED certification
- RoHS 2 compliant
- Temperature (operating): -40°C to +85°C

AVAILABLE FOR

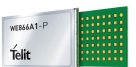
EMEA

Combine your LoRa module with

GNSS modules



Wi-Fi modules



www.telit.com

Complete, Ready to Use Access to the Internet of Things



IoT MODULES



IoT CONNECTIVITY



IoT PLATFORMS



IoT KNOW-HOW

Applications

- Public or Private networks
- Smart metering
- Agriculture
- Street lightning and Smart cities
- Asset tracking
- Industrial Automation/Monitoring and Control

ENABLING END-TO-END IOT SOLUTIONS

RE866A1-EU

Features

- **LoRaWAN 1.02 certified**
 - Chirp Spread Spectrum modulation
 - FSK@50Kbps modulation
 - Data Rate: DR0 to DR5
 - Adaptive Data Rate
 - Frequency plan: 863-870MHz (optional channels)
- +19 dBm high RF output
- +14 dBm high efficiency RF output
- **LoRa®, Bluetooth 4.2 Low Energy® and NFC**
 - Hosted platform, AT commands over UART
 - On-board LoRaWAN™ protocol stack: 1.02, class A/C with optional features
 - Terminal I/O Profile (BLE SPP-like) central and peripheral support for fast and easy data exchange
 - LE Secure Connection with 128bit AES encryption
 - Host access to up to 4 concurrent connections
 - Host access to generic GATT client for data exchange with third party devices
 - Host access to BT scanning functionality for implementing location-based services (RSSI based)
 - NFC Support for secure simple pairing
 - Support for OTA Firmware update
 - TIO mobile application
 - iOS and Android sample application available in source code
 - Low power UART
- **IoT Platform with LUA Scripting for host-less applications**
 - Designed for host-less battery driven operations
 - Based on Lua 5.3.5 powerful scripting language
 - Powerful Cortex M4F MCU
 - More than 100kB of FLASH and 20kB of RAM are available to implement and run custom scripts
 - Simple development of scripts as text files, no complex toolchain needed
 - On-board LoRaWAN™ protocol stack: 1.02, class A/C.
 - Host access to LoRaWAN API's
 - Script access to the same AT command set that is available in hosted firmware versions
 - Script access to Optional DR, Optional Channels, Programmable Output Power
 - Script access to external sensors via TWI (I²C) and 1*12bit ADC inputs
 - Script access to up to 4 fully configurable GPIOs and UART

Environmental

- 49 LGA pads
- Integrated BLE ceramic Antenna
- External LoRa Antenna, PAD G2
- Length x Width x Height: 19x15x2.2 mm
- Temperature range: -40°C to +85°C
- Storage: -40°C to +115°C

Interfaces

- UART: 1200 bps – 1Mbps
 - Other interfaces*: I²C, SPI, PWM, ADC
 - GPIOs: Up to 16*
- (*Vs Hosted or Host-less operations)

Approvals

- Bluetooth Qualification 4.2
- LoRaWAN 1.02 class A/C certified
- RED
- RoHS 2 compliant

Electrical & Sensitivity

- Power supply: 2.1V to 3.6V
- Bluetooth® Low Energy
 - Transmit Power: Up to +5dBm
 - Receiver Sensitivity: -96 dBm
- Max power consumption:
 - Standby (Advertising on 3 channels, 1,28s): 19µA
 - Sleep (Wake up on reset): 0.4µA
- 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 consumption:
 - Transmission mode: <41 mA@25mW
 - Receive mode: 11 mA
 - Standby: <2µA
 - Sleep: <1µA

Development Kits

Telit's RE866 developer kits enables rapid prototyping of customer's own firmware: solutions are based on a simple and powerful scripting language, Lua, supported by Telit Appzone development environment or any text editor

Evaluation Kits

Telit's RE866 evaluation kit is available to support Telit customers to evaluate and implement LoRa, NFC and Bluetooth module in their application.



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.