

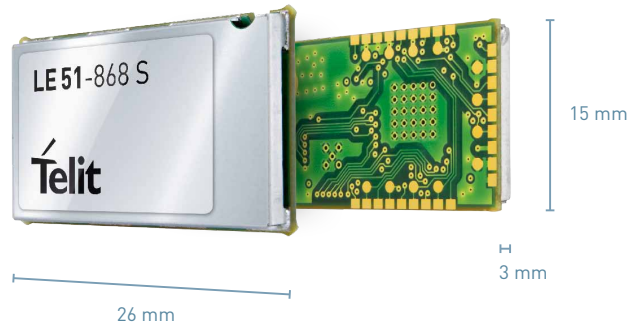
LE51-868 S

Star Network
SIGFOX™ certified

LICENCE-FREE SYSTEM

for Frequencies <1 GHz

Embedded



Product Description

The LE51-868 S is a high performance certified short range to long range module designed to cover the 863-870 MHz band working with the Telit Proprietary protocol and acting as a SIGFOX gateway. It has high value technical characteristics such as a -126 dBm sensitivity, ultra-low power consumption and up to 15dBm of output power. It is very easy to integrate, with small form factor and acts as a long range communication module connecting directly to SIGFOX network. It can also organize in a "Star Network" topology or chain communication with embedded smart repeater function over a Telit proprietary protocol for short range communications.

- Networking: Sigfox Network
- Frequency: 868-870 MHz
- Modulation: BPSK
- 100 bps
- Gateway to Sigfox Base station
- Broadcast 1.6 sec
- ETSI: 140 messages of 12 bytes, per object per day

Key Benefits

- SIGFOX™ certified gateway
- Bridges short range network with advanced Telit proprietary Star Network + repeater mode to long range with Sigfox
- Compatible with LE50-868 in star network configuration
- Ultra narrow band technology
- Ultra low power mode
- Budget link:
 - 141 dB: Star network
 - 156 dB: Sigfox gateway

Family Concept

The Telit portfolio of short range wireless modules is comprised of a wide range of innovative solutions ranging from ready-to-use wireless radio modems to OEM modules and RF design services.

Operating in the license-free ISM frequency bands of 169, 433, 868, 915 MHz, and 2.4 GHz, they're available in both standard air-interface protocols such as wireless M-Bus and ZigBee as well as proprietary low-power, low data rate technologies with the capability to connect to SIGFOX network.

Telit pre-certified short range modules share small dimensions, form factor, and are pin2pin compatible with one-another, which enables re-use of your design with different modules and air interface technologies as needed to meet your business and environmental requirements.

Telit also offers a full set of tools to shorten and streamline your design effort.

Combine your Short Range module with

Cellular modules



GNSS modules



www.telit.com

LE51-868 S

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Product Features

- Range: Up to 2000m (short range network)
- Up to 128 kB Flash, 8 kB RAM, 2 kB EEPROM
- 32.768 kHz real time clock (RTC), 4 timers
- Configurable output power
- 9 I/O ports max available

Networking: Short Range Network

- Frequency: 863 - 870 MHz
Channels: 2 to 89
- Modulation: GFSK
- Point to point, star network
- ACK
- Addressed Mode
- Repeater Mode: bridge function
(line propagation on the long distances)
- Listen Before Talk
- Telemetry
- Analog RSSI
- Cyclic wake up
- Remote CTS/RTS control
- Hayes Mode
- I/O Copy
- Download Over-the-Air
- AES encryption

Optional Features

- LE51-868S module is available
with DIP adapter and SMA connector

Data

LE51-868 S

- Serial Data Rate: Up to 115.2 Kbps
- Radio Data Rate
 - 2.4 kbps to 100 Kbps (Star network)
 - 100 bps (Sigfox mode)

Environmental

- LGA mount technology, 30 pads
RF pads for antenna
- Rectangular 26 x 15 mm, height 3 mm
- Weight 1.7 g
- Temperature: -40°C to +85°C

Interfaces

- Serial Interface: RS232 TTL (Tx, Rx, Cts, RTS)

Electrical & Sensitivity

LE51-868 S

- Output Power: Up to 15 dBm
- Power Supply: 2.0 to 3.6 V
- Board Consumption at 3V:
 - Rx: 32 mA
 - Tx: 55 mA
- Std-by consumption:
 - external wake-up (interrupt): 1 μ A
 - standby (32.768 Khz on): < 2 μ A
- Sensitivity (PER < 80%): -126 dBm @ 600 bps



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