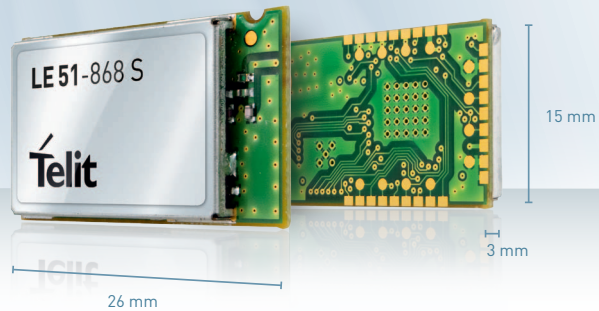


● ● **LE51-868 S**
Star Network
SIGFOX™ certified

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 -126dBm 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.

- Networking: Sigfox gateway
- Frequency: 868.2 Mhz
- Channel: 1
- 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
- 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



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ONE STOP.
ONE SHOP. NOW, INNOVATE!



●● LE51-868 S

Star Network
SIGFOX™ certified

Product features

- Range: Up to 2000m (short range network)
- up to 128 kB Flash, 4 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 60
- 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

- LE51-868 S modules are available:
(a) without integrated antenna
(b) in DIP version

Data

LE51-868 S

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

Environmental

- 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 µA
 - standby (32.768 KHz on): < 2 µA
- Sensitivity (PER < 80%): -126 dBm @ 600 bps



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 m2m topics, get direct support by region (EMEA, North America, Latin America, APAC), take part in this quickly growing m2m community and exchange experiences.