Telit wireless solutions

License-Free System
for Frequencies ‹1 GHz

Embedded

NE50-868
RF modules

38.4 Kbps - 25 mW

WEEE RoHS and WEEE Compliant

Available LGA Format

Embedded Low Power Mesh Stack

Ultra Low Power Consumption+Std-by Mode

Integrated Digital TTL I/Os and Analog Inputs

DOTA - Upgradeable and Configurable Over-the-Air
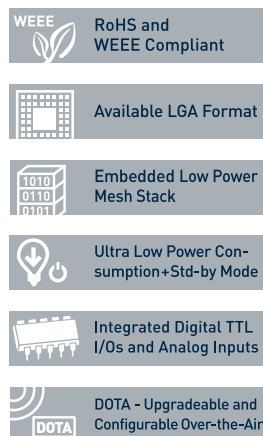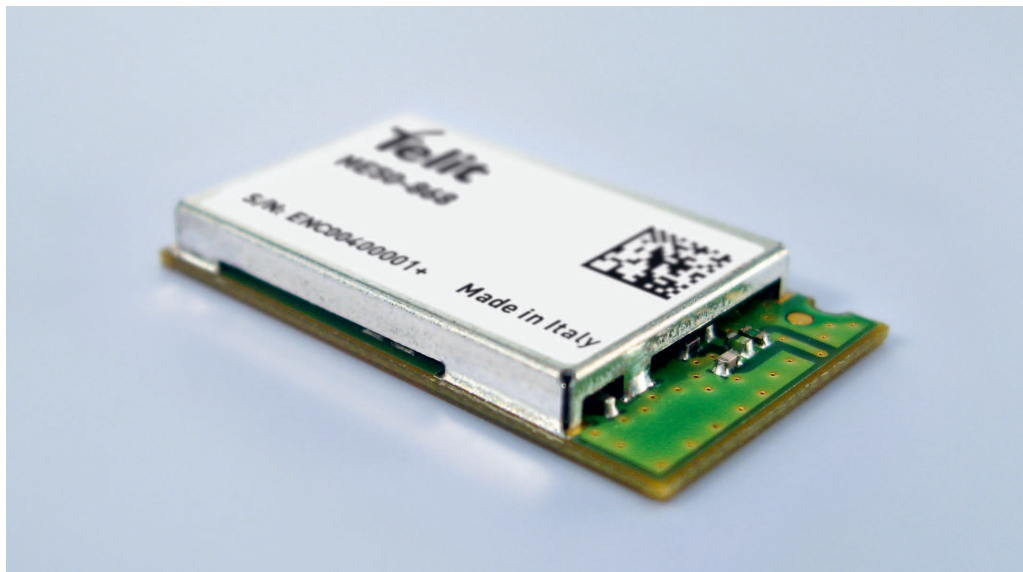
Telit NE50-868 RF modules are based on Mesh network concept in the license-free 868 MHz ISM band. With adjustable output power from 5 mW to 25 mW NE50-868 modules can reach up to 1500 m in LOS.

Advanced proprietary embedded low power mesh stack allows efficient power management on both end nodes and routers, network latency defined on the system requirements by setting different synchronous network time, data rate or message format, connecting up to 100 end nodes per router in a cluster tree architecture that enables scalability.

Low power mesh stack is designed for battery powered sensor networks that can be built automatically making it easily to integrated, thus reducing development time and cost for applications in building automation, metering (water, gas, electric), irrigation, tracking, lightning and access control. Telit NE50-868 is pin to pin compatible with ZE Family (Zigbee), ME Family (Wireless M-Bus) and LE Family (Telit Star Network).

Performance
- Range: Up to 1500 m (Ext antenna)
- Output Power: adjustable from 5 mW to 25 mW
- Serial Data Rate: Up to 115.2 Kbps
- Radio Data Rate: 38.4 Kbps
- Sensitivity (PER=1%): -101 dBm @ 38.4 Kbps

Power Requirements
- Power Supply: 2 to 3.6 V
- Board Consumption at 25 mW:
  Rx: < 26 mA
  Tx: < 45 mA
  Std-by:
  - With clock running (internal timer running)
    < 3µA

Physical Properties
- Board Format:
  Rectangular 26 x 15 mm, height 3 mm
- Extended temperature: -40°C to +85°C

Mesh features
- Ultra low power end point
- Up to 10 hops on the network
- Up to 10 000 device in the network
- Cluster tree

- Auto-association
- Auto-repair
- Configurable network period and synchronous part

Networking
- Frequency: 868 - 870 MHz
- Channels: 5
- Modulation: GFSK
- Serial Interface:
  RS232 TTL (Tx, Rx, Cts, Rts)

Hayes Mode:	Yes
Download Over-the-Air:	Yes
Mesh Network:	Yes
I/O Copy:	Yes
Listen Before Talk:	Yes

Order-No.
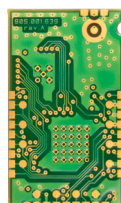Please contact your Telit representative for order codes and further information.

Making machines talk.®

Telit
is in it.

(a)

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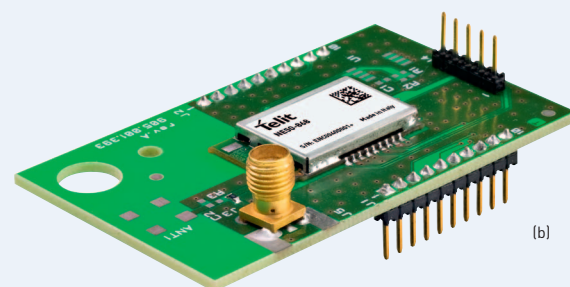actual size

Optional Features

- NE50-868 modules are available:
  - (a) as a compact SMD component without integrated antenna
  - (b) in DIP version

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Compact

NE50-868
RF modules-DIP

38.4 Kbps - 25mW

(b)

Mesh Demo Case

Demo Case is available for testing and to assist during mesh network integration into the final application.

Mesh Demo Case Content:

- 4 demo boards with modules (can be set as Coordinator, Router, End device or Sniffer)
- 2 I/O management boards (with LEDs and switches)
- 4 SMA RF antennas
- 4 classic serial cables (for demo boards)
- 2 power supply block (for Coordinator and Routers)
- 2 primary +9V batteries (for End points only)

Other Services

- Custom application profiles
- Guest lectures and training courses
- Software testing and debugging

Distributed by:

Complementary Gateway solution GG863-SR that integrates Short Range and GSM/GPRS capabilities with ARM9 - Linux OS core. GG863-SR can extend the mesh network range, establishing a direct connection between the IP host and gaining full control of the Short Range Network over IP.

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