





Product Description

The Telit NE family is comprised of multi-band, multi-channel radio modules operating on an advanced proprietary embedded 10-hop, 10K-node low-power mesh stack that is easy to integrate and use. They operate in the 433 MHz and 868 MHz bands and feature low power standby mode, efficient wake up on radio and link budget of 123 dB (119 dB for 433 MHz EU-only) with TX Power up to 25mW.

These certified, LGA modules provide TTL RS232 interface, integrated digital and analog I/O. The family is pin-to-pin compatible with Telit ZE Family (ZigBee 2007 and PRO stack), LE Family (star network) and ME Family (Wireless M-Bus).

- Certified RF modules, LGA xE Form Factor, TTL RS232 interface
- Excellent RX sensitivity
- Low power for coordinator, sleep mode for end points and routers
- Mesh network with hierarchical addressing, auto acquisition and auto repair capability
- Configurable mesh network period and sync
- Setup (Hayes command) over the air
- Maximum 10K devices, 100 children per router, up to 10 routers-deep for per mesh network
- Download Over The Air (DOTA)
- Industrial temperature range

Key Benefits

- Ultra low-power for low data rate, large area mesh networks
- Wide area coverage
- Low power consumption and very efficient mesh structure good for battery powered applications for end points and also for routers and coordinators

Family Concept

The Telit portfolio of short range wireless modules is comprised of a wide range of innova¬tive 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.

Telit pre-certified short range modules share small dimensions, form factor, and are pin2pin compatible with oneanother, 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



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•• NE 50-433/868

Product features

- Range: Up to 1500 m (Ext antenna) 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: 433.050 434.790 MHz (NE50-433) 863 - 870 MHz (NE50-868)
- Channels: 8 (NE50-433), 13 (NE50-868)
- Modulation: GFSK
- Hayes Mode: Yes
- Download Over-the-Air
- Mesh Network
- I/O Copy
- Listen Before Talk

Optional Features

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

Data

- NE50-433
- Serial Data Rate: 19.2 Kbps
- Radio Data Rate: 38.4 Kbps

NE50-868

- Serial Data Rate: 19.2 Kbps
- Radio Data Rate: 38.4 Kbps

Environmental

- Rectangular 26 x 15 mm, height 3 mm
- Temperature: -40°C to +85°C

Interfaces

• Serial Interface: RS232 TTL

Electrical & Sensitivity

NE50-433

- Output Power:
- Up to 14 dBm (default for EU 10dBm)
- Power Supply: 2 to 3.6 V
- Board Consumption at 25 mW:
- Rx: < 26 mA
- Tx: < 45 mA
- Std-bv:
- With clock running
- (internal timer running) < 3µA
- Sensitivity (PER=1%): -101 dBm @ 38.4 Kbps

NE50-868

- Output Power: Up to 14 dBm
- 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) < $3\mu A$
- Sensitivity (PER=1%): -105dBm @ 38.4 Kbps



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