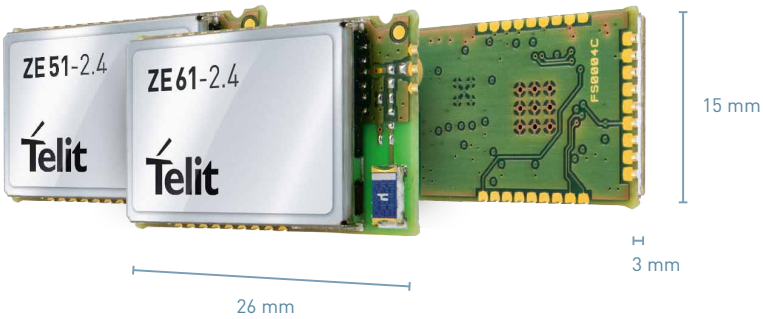
# ZE51/ZE61-2.4

**IEEE 802.15.4 | ZigBee®** Embedded




## Product Description

The ZE51-2.4 and ZE61-2.4 modules operate in the 2.4 GHz ISM license free frequency bands with TX Power up to 2.5 mW (ZE51) and 100 mW (ZE61). ZE modules run the ZigBee® communication protocol (based on the IEEE 802.15.4 standard) widely adopted in a range of markets such as home automation and control, building automation, AMR, and telecom applications

- Certified RF modules, LGA xE Form Factor, TTL RS232 interface
- Telit developed ZigBee PRO protocol (ZigBee Certified) and Telit Demo profile
- Telit developed Smart Energy 1.1 (IHD&ESI certified) and Home Automation profiles
- Very low power consumption
- Custom development and integration
- Excellent RX sensitivity
- Download Over The Air (DOTA)
- Industrial temperature range

## Key Benefits

- Application profiles for ZigBee Pro developed by Telit, integrators can focus on the application
- Wide (ZE51) or and very wide (ZE61) area coverage
- Low consumption for battery powered applications
- Select from low-power (ZE51-2.4) and high-power (ZE61-2.4) solutions with a single design

## 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.

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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ENABLING THE IoT
IS WHAT WE DO.

# ZE51/ZE61-2.4

## Product Features

- Performance ZE51
  Range: Up to 1 km (Ext antenna, LOS)
- Performance ZE61
  Range: Up to 4 km (Ext antenna, LOS)
- 256 kB Flash memory, 8 kB SRAM, 8 kB EEPROM for non-volatile application data storage
- 32.768 kHz real time clock (RTC), 4 timers
- Configurable output power

## Networking

- Frequency: 2400 - 2483.5 MHz
- Channels: 16
- Modulation: QPSK
- Technology: DSSS
- Hayes Mode
- Download Over-the-Air

## Optional Features

- ZE51-2.4 and ZE61-2.4 modules are available:
  (a) as a compact SMD component with integrated antenna
  (b) as a compact SMD component without integrated antenna
  (c) in DIP version with integrated antenna
  (d) in DIP version with SMA connector for external antenna
  (e) as a USB dongle (only ZE51-2.4)

## Data

**ZE51-2.4**

- Serial Data Rate: Up to 115.2 Kbps
- Radio Data Rate: 250 Kbps

**ZE61-2.4**

- Serial Data Rate: Up to 115.2 Kbps
- Radio Data Rate: 250 Kbps

## Environmental

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

## Interfaces

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

## Approvals

- Zigbee certified Telit Zigbee PRO Stack: Yes
- ZigBee Profiles
  - Smart Energy 1.1 (IHD & ESI) ZigBee Certified
  - Home Automation
  - Telit Demo Profile
- CE certified
- FCC/IC certififed
- Anatel certified.
- Compliant with ARIB STDT66 (Japan)

## Electrical & Sensitivity

**ZE51-2.4**

- Output Power: 2.5 mW, 4 dBm (ZE51)
- Power Supply: 2 to 3.6 V
- Board Consumption:
  - Rx: 26 mA
  - Tx: 35 mA
- Std-by: 2 µA
- Sleep: 1µA
- Sensitivity (PER=1%): -97 dBm (ZE51)

**ZE61-2.4**

- Output Power: Up to 100 mW, 20 dBm (ZE61)
- Power Supply: 2 to 3.6 V
- Board Consumption:
  - Rx: 31 mA
  - Tx: 150 mA
- Std-by: 2,5 µA
- Sleep: 1,5 µA
- Sensitivity (PER=1%): -100 dBm (ZE61)

[09.2015]



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