

IEEE 802.15.4 | ZigBee®

Embedded









ZE51-2.4 RF modules

250 Kbps - 2.5 mW

ZE61-2.4 RF modules

250 Kbps - 100 mW



-  **RoHS and WEEE Compliant**
-  **Available with Integrated Antenna**
-  **SMD Component**
-  **Embedded In-House Z-One Stack**
-  **Standard In-House Firmware Available**
-  **Integrated Digital TTL I/Os and Analog Inputs**
-  **DOTA - Upgradeable and Configurable Over-the-Air**
-  **USB Dongle Version Available**

The ZE51-2.4 and ZE61-2.4 are compact, SMD, and complete ZigBee®-ready modules that supports Full Function Device (FFD) and Reduced Function Device (RFD) operation with IEEE 802.15.4 compliant PHY and MAC layers. The modules are based on the Texas Instruments CC2530 System on Chip with 256KB flash memory dedicated for ZigBee profiles or custom applications and are optionally available with an integrated antenna.

This is an ideal low-cost ZigBee® OEM module for small battery powered devices such as those used in advanced metering, building automation, and wireless sensor networks. The ZE51-2.4 supports low power modes up to 2.5 mW and operates in industrial temperature range from -40° C to 85° C.

The ZE61-2.4 is the extended version of the low cost ZE51-2.4 fully compatible and with the same form factor, having link allocation of 119 dB and 100 mW output power. Telit RF Technologies offers the proven world-class in-house ZigBee® PRO stack (Z-ONE) easy-to-use C-API.

All ZE products are available with fully owned IPR (Intellectual Property Rights) and independently developed ZB PRO stack assuring full technical support during development, deployment and maintenance phases as well as possible dedicated customization to reduce the TCO (Total Cost of Ownership) finally providing a real competitive advantage.

Performance ZE51

- Range: Up to 1 km (Ext antenna, LOS)
- Output Power: 2.5 mW, 4 dBm
- Serial Data Rate: Up to 115.2 Kbps
- Radio Data Rate: 250 Kbps
- Sensitivity (PER=1%): -97 dBm

Performance ZE61

- Range: Up to 4 km (Ext antenna, LOS)
- Output Power: Up to 100 mW, 20 dBm
- Serial Data Rate: Up to 115.2 Kbps
- Radio Data Rate: 250 Kbps
- Sensitivity (PER=1%): -99 dBm

Power Requirements ZE51

- Power Supply: 2 to 3.6 V
- Board Consumption:
 - Rx: 26 mA
 - Tx: 35 mA
 - Std-by: 2 µA
 - Sleep: 1 µA

Power Requirements 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

Product Features

- Board Format: Rectangular 26 x 15 mm, height 3 mm
- Temperature: -40°C to +85°C
- 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
- Compliant to EN300 440 and EN 300 328 (Europe), FCC CFR 47 part 15 (US), ARIB STD-T66 (Japan)

Networking

- Frequency: 2400 - 2483.5 MHz
- Channels: 16
- Modulation: QPSK
- Technology: DSSS
- Serial Interface: RS232 TTL (Tx, Rx, Cts, Rts)
- Hayes Mode: Yes
- ZigBee PRO Stack: Yes
- Download Over-the-Air: Yes
- Smart Energy and other standard ZigBee Alliance profiles available



Making machines talk.®

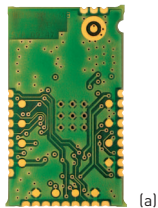
Embedded

ZE 51 - 2.4
RF modules

ZE 61 - 2.4
RF modules



(a)



(a)



(a)

actual size

Optional Features

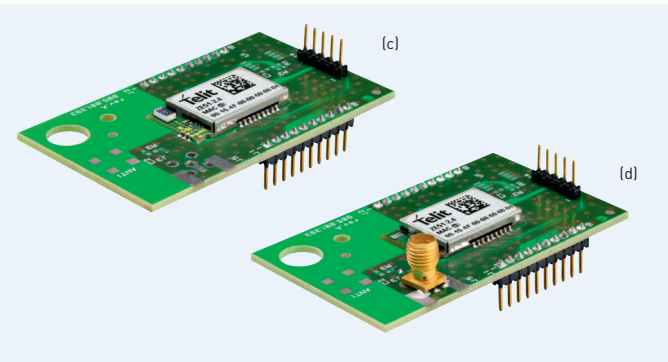
- ZE51-2.4 and ZE61-2.4 modules are available:
 - (a) as a compact SMD component with integrated antenna
 - (b) as a compact SMD component without integrated antenna
 - (c) in DIP version with integrated antenna
 - (d) in DIP version with SMA connector for external antenna
 - (e) as a USB dongle (only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

IEEE 802.15.4 | ZigBee®

Compact

ZE 51 - 2.4
RF modules-DIP
250 Kbps - 2.5 mW

ZE 61 - 2.4
RF modules-DIP
250 Kbps - 100 mW



(b)



(e)



ZigBee® Demo Case

- Embedded Telit Z-One ZigBee PRO Stack
- Demo Case Profile (including: I/O management profile and serial link emulation profile)
- 30-day trial Network Analyzer included

ZigBee® Demo Case Content

- 3 ZE61-2.4 DIP (1 IA and 2 WA)
- 3 ZE51-2.4 DIP (1 IA and 2 WA)
- 4x EV motherboards for DIP
- 4x 2.4GHz Antennas, SMA connector
- 1x USB dongle as sniffer
- 3x B Report I/O board
- 4x serial cable for demo board
- 2x AC/DC block for demo board (+12V)
- 2x 9V cell for end device (used only for ZE51)

Order-No.

Please contact your Telit representative for order codes and further information.

Other Services

- Private application profiles
- Custom ZigBee® development
- Guest lectures and training courses
- Software testing and debugging

Copyright © 2010, Telit
Subject to changes in technology, design and availability
© Anne AKTAN - Fotolia.com

Distributed by:



Telit RF Technologies
Rue Evariste Galois
Emerald Square - Bâtiment D
06410 Sophia-Antipolis, France
Tel +33(0)497213310
Fax +33(0)497213311
Email: EMEA@telit.com

Telit Wireless Solutions Inc.
3131 RDU Center Drive, Suite 135
Morrisville, NC 27560, USA
Tel +1 888 846 9773 or +1 919 439 7977
Fax +1 888 846 9774 or +1 919 840 0337
E-Mail: NORTHAMERICA@telit.com

Telit Wireless Solutions Inc.
Rua Cunha Gago, 700 - cj 81, Pinheiros
São Paulo - SP, 05421001, Brazil
Tel +55 11 2679 4654
Fax +55 11 2679 4654
E-Mail: LATINAMERICA@telit.com

Telit Wireless Solutions Co., Ltd.
12th Fl, Shinyoung Securities Bld.
34-12, Yeouido-dong, Yeongdeungpo-gu
Seoul, 150-884, Korea
Tel. +82 2 368 4600
Fax +82 2 368 4606
E-Mail: APAC@telit.com

www.telit.com www.telit.com/techforum www.facebook.com/telitwireless www.twitter.com/telit_ws

