

ZB2430

Wireless Module

THE FASTEST WAY TO WIRELESS

Based on Texas Instruments' leading edge 802.15.4 SoC & Z-Stack™ technology, the ZB2430 family of wireless modules is one of the most powerful ZigBee™-compliant solutions in the market today. It provides OEMs with industry-leading 2.4GHz module performance in low power conservation, ease of integration, range, features, and functionality.

ZB2430 is ideal for power-restricted or battery-operated applications. Its receive and power-down performance offer OEMs the lower power consumption of any comparable transceiver module. Since it operates in the 2.4 GHz ISM band, the modules can be used globally--allowing OEMs to standardize on a single platform. Although the IEEE 802.15.4 (PHY & MAC) and ZigBee stack are industry standards, our flexible approach allows OEMs to customize a solution specific to application requirements.

With the embedded Z-stack, ZB2430 is aimed squarely at secure, low-power mesh network applications. Modules are offered as Coordinators, Routers, End Devices or Commissioners. Network scan, remote configuration, dynamic routing, discovery, security...all unleash the full power of ZigBee. The Development Kit platform and test utility allow the OEM to explore the best of ZigBee straight out of the box.

FEATURES

- Outstanding power consumption
- Reliable ZigBee™ mesh architecture
- 2.4GHz ISM band for global applications
- Temperature sensor
- Long-range performance
- Configurable GPIO, ADC
- Over-the-air download (OAD) firmware updating capability

APPLICATIONS

- Automated meter reading
- Irrigation systems
- Medical devices
- ePOS

global solutions: local support™

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ZB2430 supports ZigBee's MESH architecture. Each system consists of a Coordinator, Router, Commissioner and optional End Devices.

COORDINATOR

- a) One coordinator per network
- b) Scans to find available channel
- c) Establishes a network
- d) Maintains routing tables
- e) Communicates with any device type

ROUTER

- a) Maintains routing tables
- b) Communicates with any device type
- c) Extends range of network by routing data over multiple hops

END DEVICE

- a) Communicates with any device type
- b) Supports sleep modes
- c) Dedicated to parent (Router or Coordinator)

COMMISSIONER

- a) One Commissioner per network
- b) Server module for OAD firmware upgrades
- c) Required for OAD ability

ORDERING INFORMATION

| | |
|---------------------|-----------|
| Coordinator | Z100S1*FC |
| Router | Z100S1*FR |
| End Device | Z100S1*FE |
| Commissioner | Z100S1*FM |
| Coordinator | Z040S1*FC |
| Router | Z040S1*FR |
| End Device | Z040S1*FE |
| Commissioner | Z040S1*FM |

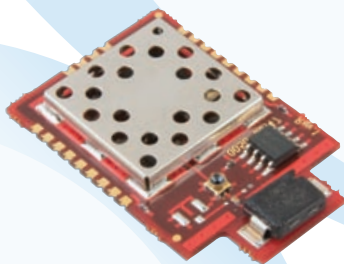
* = A for integrated antenna; U for u.FL connector (external antenna)

| Parameter | Z100S1* | Z040S1* |
|----------------------------|--|--|
| Form Factor | Surface Mount | Surface Mount |
| Output Power | 100mW | 40mW |
| Frequency | 2400-2483.5 MHz | 2400-2483.5 MHz |
| Outdoor Range | 4.8 km (ext antenna) | 1.6 km (ext antenna) |
| Indoor Range | 400m | 160m |
| Receive Sensitivity | -100 dB typical | -100 dB typical |
| Serial Data Rate | Up to 115 bps | Up to 115 bps |
| RF Baud Rate | 250 kbps | 250 kbps |
| Temperature Range | -40° C to +85° C | -40° C to +85° C |
| Size | 25.4mm x 39 mm x 3.6 mm | 25.4mm x 39 mm x 3.6 mm |
| Serial Interface | 3V TTL | 3V TTL |
| Power Consumption: | | |
| Tx | 140mA@ 3.3V +18dBm | 95mA@ 3.3V +14dBm |
| Rx | 44mA @ 3.3V | 30mA @ 3.3V |
| Sleep | 7.6 uA | 7.6 uA |
| Antenna Options | Integrated 2dBi ceramic antenna, u.FL connector for external antenna | Integrated 2dBi ceramic antenna, u.FL connector for external antenna |
| Approvals* | FCC/IC | CE |

*for additional country approvals, contact us for more information.

| | |
|--|----------------|
| Development Kit – External antenna | SDK-Z100S1UF |
| Development Kit - Integrated antenna | SDK-Z100S1AF |
| Development Kit – External antenna, CE | SDK-Z040S1UF |
| Development Kit - Integrated antenna, CE | SDK-Z040S1AF |
| Development Kit – External antenna OAD | SDK-Z100S1UF-M |
| Development Kit - Integrated antenna OAD | SDK-Z100S1AF-M |
| Development Kit – External antenna, CE, OAD | SDK-Z040S1UF-M |
| Development Kit - Integrated antenna, CE, OAD | SDK-Z040S1AF-M |

Development Kit include one Coordinator module, two router modules and two end devices.



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