ConnectZED modules provide both a rapid prototyping & a manufacturing solution for products requiring RF mesh networking capability using the ZigBee protocol stack. Designed to fit onto a host board & be powered from that board, a number of connectivity & aerial options are available to meet specific design needs.

The ConnectZED ZigBee module features a versatile Renesas M16C MCU core, onboard SPI flash memory together with a highly optimised RF PCB antenna front end design, with a U.FL connector for external antenna connection. Available in two forms for host connectivity, DIL connectors for plugging into a prototype board, or pad connectors for surface mount assembly; communications ports for programming & debugging are also included. Further, the modules can be supplied, with or without screening can protection depending on customer requirements.

The M16C device is pre-programmed with the ZigBee Pro stack from Renesas & is licensed for use. Smart Energy [SE] Application Profile is also available.

Features

- 2.4GHz ZigBee module integrating a 2.4GHz IEEE 802.15.4 compliant transceiver.
- High dynamic ranges transmit & receive.
- Channel filtering supports 16 channels.
- M16C Renesas architecture.
- PCB antenna & U.FL coaxial connector.
- SPI Flash memory.
- Compact size: 25mm x 35mm.
- Tested to European EMC standards.
- FCC approvals. [pending]
- Includes ZigBee Pro Stack [SE app. profile available]
- Single chip & dual-processor options supported.

Add ‘mesh’ networking to your products **simply & easily** – no specialist RF or ZigBee software engineering skill required

**Features**

- PCB antenna & U.FL connector.
- On board SPI flash memory.
- Low cost, ZigBee networking.
- Supports all ZigBee modes.
- Debug & programming support.
- Production ready solution.
- Pre-programmed.

**Options**

- Chip antenna.
- Additional RF shield.
- DIL/surface mount connection.
- SE application profile.
- Module customisation [on request].
Technical specifications
Preliminary information.

- Dimensions 25mm x 35mm x 5mm
- Up to 256kB ROM, 8kB Data Flash & 20kB RAM
- 256kB or 512kB SPI flash memory
- 2.4 - 2.48 GHz operation
- RX Sensitivity -94dBm [estimated]
- TX Power 0dBm [estimated]
- 94dBm link Budget
- Free space range 120m
- Output Power 0dBm per I, Q channel
- Temperature range -20 to +85°C
- Communications port for programming & debugging
  - Protocol [T.B.D.]
- PCB antenna
- On-board U.FL coaxial connector for external antenna
- FCC Approval [T.B.D.]
- European Regulations
  - Radio EN 300 328 v1.7.1
  - EMC EN 301 489-17 v2.1.1
  - Safety EN 60950-1:2006

Module layout

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