

# "Oval" 802.15.4 Thread / ZigBee Radio Module

Low Cost IoT Expander card for Sierra Wireless mangOH

## Oval– ZigBee and Thread Module

Oval provides ZigBee Pro and Thread functionality to the Sierra Wireless mangOH™ host platform for use in PAN (Personal Area Networks) and other IoT applications. The Oval occupies just one 42mm x 22mm IoT slot on the mangOH™ platform yet provides the highest power output allowable with many different antenna connection options for the most demanding applications.

The Oval IoT connector module is based on the NXP MKW22D512V fourth generation Thread / ZigBee Pro / IP platform which incorporates a low power 2.4GHz IEEE 802.15.4 compliant radio and powerful ARM® Cortex™ M4 MCU.

### Development Environment

The Sierra mangOH™ IoT platform is based on Legato open source Linux which is designed to simplify embedded IoT development.

Legato has everything you need to connect the IoT fast:

- Programming language APIs -- dev tools and APIs to easily write software components and specify how apps will use them.
- Target runtime environment -- set of daemon processes cooperatively implement execution sandboxes, secure IPC, fault monitoring.
- Development and build tools -- target, host, and build tools to create apps ready for deployment to your devices.
- Documentation and automated tests -- a raft of docs and automated tests ready to use.

### Applications

The FCC/IC/CE certified Oval offers a low risk wireless option for a wide range of applications including:

- |                            |                         |
|----------------------------|-------------------------|
| • IoT Multimedia           | • Thread / ZigBee SE2.0 |
| • HVAC Control             | • Smart Gateway         |
| • Appliances / White Goods | • Lighting Control      |
| • Industrial Automation    | • Asset Tracking        |



## Oval Features

### Radio SoC Features

- Freescale Thread, BeeStack™ Pro or 802.15.4 Stack
- +20dBm (100mW) Nominal Transmit Power
- Superior sensitivity -110dBm typical
- Antenna Diversity for demanding applications
- 1000 meters LoS range nominal
- ARM® Cortex™ M4 MCU
- Extensive Low Power Modes
- 64K SRAM
- 512K FLASH
- Integrated high performance chip antenna
- Optional U.FL, MMCX or RP-SMA RF connectors
- USB 2.0 Interface
- SPI Interface
- UART Interface
- JTAG Interface
- AES 128 bit encryption

### Physical

- 42.5mm x 22.3mm x 1.2mm QSPF+ form factor
- -40°C to +105°C Operation
- 3.3v Main Power Supply and I/O
- 1.8v Tolerant Inputs
- RoHS Compliant
- FCC/IC/CE Certified

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