

CEL ZigBee®/802.15.4 Radio Modules

CEL modules provide a fully integrated, easy-to-use solution for your SNAP, 802.15.4, and ZigBee networks. Ideal for lighting control, remote sensing, AMR/AMI, home and building automation, and security applications, they feature low power consumption, long range and integrated antennas.

FCC, CE and IC certified, CEL modules are the result of years of product development experience. They combine industry-leading transceiver ICs with high performance NEC Power Amplifiers, RFIC switches and other high-end components.

NEW

CEL MeshConnect™ Extended Range Module



With a range of up to two miles, the new Extended Range Module is ideal for noisy environments or long distance mesh networking.

| | MeshConnect™ | NEW MeshConnect™ Extended Range | FreeStar Pro | FreeStar | Apex | Apex LT | Matrix 10mW | Matrix 100mW | | |
|--------------------|-----------------------------------|--|---|---|--|---|-----------------------------------|-------------------------------------|----------------|----------------|
| MCU | Transceiver Chipset | | MeshConnect™ ZIC2410 8 bit, 8051 | Freescal™ MC13224 32 bit, ARM7 | Freescal MC13192 8 bit, HCS08 | Ember™ EM250 16 bit, XAP2b | Ember™ EM260 Network processor | TI™ CC2430 8 bit, 8051 | | |
| | Fmax | | 16 MHz | 32 MHz | 40 MHz | 12 MHz | n/a | 32 MHz | | |
| | Inputs/ Outputs | | 22 | 20 | 46 | 8 | 17 | n/a | 17 | |
| NETWORK | Network | | Mesh, Point-to-Point, Point-to-Multipoint | Mesh, Point-to-Point, Point-to-Multipoint | Point-to-Point, Point-to-Multipoint | Mesh | | Point-to-Point, Point-to-Multipoint | | |
| | Software/ ZigBee Stack | | SNAP®, MAC, S-MAC, ZigBee® | Freescal BeeStack™ (ZigBee PRO, MAC, SMAC) | LSR STAR Protocol BeeStack | Znet Pro® 3.1 (ZigBee Pro Certified) | | LSR STAR Protocol Z-Stack™ | | |
| PERFORMANCE | Tx Power Output | | +6dBm | +20dBm | +20dBm | | +10dBm | +20dBm | | |
| | Rx Sensitivity | | -97dBm | -103.5dBm | -96dBm | -92dBm | -97dBm | | | |
| | Range | | 3000 +ft | 12,000+ft | 4000+ft | 4000ft | 4000+ft | 2000ft | 4000ft | |
| | Vcc | | 2.1– 3.3V | | 2.0– 3.6V | 2.4 – 3.6V | 2.1 – 3.6V | | 2.1 –3.6V | |
| | Rx Current | | 35mA | 38mA | 30mA | 42mA | 37mA | | 27mA | |
| | Tx Current | | 44mA | 175mA | 193mA | 150mA | 170mA | | 50mA | 130mA |
| | Standby Current | | <1.0µA | | 1.1µA | 5µA | 5µA | | 5µA | |
| Dimensions | | 25 x 34 mm | | 25 x 36 mm | | 25 x 33mm | | 23 x 29mm | 23 x 31mm | |
| PART NO. ▶ | ZICM2410P0-1/1C | | ZICM2410P2-1/1C | | ZFSM-201-1 | ZFSM-101-1 | ZAXM-201-1 | ZALM-301-1 | ZMXM-400-1 | ZMXM-401-1 |
| | ZICM2410P0-1-SN/1C-SN | | ZICM2410P2-1-SN/1C-SN | | | | | | | |
| EVAL KIT ▶ | ZICM2410P0-KIT2-1 | | ZICM2410P2-KIT1-1 | | ZFSM-201-KIT-1 | ZFSM-101-KIT-1 | ZAXM-201-KIT-1 | ZAXM-201-KIT-1 | ZMXM-400-KIT-2 | ZMXM-401-KIT-1 |



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