CALIFORNIA EASTERN LABORATORIES

FreeStar ZFSM-100 Series ZigBee-Ready Modules

FREESTAR FEATURES

- 4000+ feet range
- Miniature form factor: 24.7 x 36.2mm
- Integrated Inverted-F PCB Antenna
- FCC / IC / CE / C-Tick certified
- Direct Sequence Spread Spectrum
- CSMA-CA
- Wireless boot loader*
- Flash-based / upgradable
- 10 Bit A/D (2 inputs)
- General Purpose I/O (8 ports)
- Microsoft® Windows®-based Configuration & Test Tools
- Simple Serial UART Interface
- Over 65,000 network addresses

Future Software Release

SPECIFICATIONS

- Frequency: 2400 to 2483.5 MHz
- Output Power: 10 mW, 100 mW (software controlled)
- Receiver sensitivity: – 92 dBm @ 1% PER
- RF data rate: 250 kbps
- 16 RF channels
- Maximum nodes per network: 65,543
- Voltage input: 2.4 to 3.6 V
- Power consumption:
    - a. Transmit Mode:
        - i. 10 mW – 125 mA
        - ii. 100 mW – 150 mA
    - b. Receive Mode: < 45 mA
    - c. Standby Mode: < 5 µA
- Host interface: Serial TTL
- Operating temperature: -40°C to +85°C

Part Number	Power Out	Antenna	Eval Board
ZFSM-101-1	100mW	Integrated PCB	ZFSM-101-KIT-1

Extended Range

FreeStar Modules offer a miniature, fully-integrated, drop-in RF transmission solution that's ideal for ZigBee and other low cost, low power IEEE 802.15.4 data transmission applications. They offer best-in-class range performance over standard ZigBee implementations, providing over 4000 feet of range.

Small Size, Low Power Consumption, Fully Certified

FreeStar modules are based on the Freescale™ MC13192 transceiver IC. They include Freescale's MC9S08GT60 8-bit microprocessor, a 100 mW Power Amplifier, and an integrated inverted-F PCB antenna — all in a miniature 24.7 x 36.2 mm package. A streamlined communications protocol results in low power consumption in transmit mode. Plus they're FCC, IC, CE, and C-Tick certified, which eliminates the need for a costly and time-consuming approval process when incorporated into your end application.

CEL + LSR

California Eastern Laboratories and LS Research have teamed to develop and market these new, high performance modules. CEL's high frequency solutions are based on broad applications knowledge and over 45 years' design and product development experience. LSR is an acknowledged leader in RF hardware and software development, plus their *Cerification Center* can complete the compliance process and provide safety certification for their products. LSR's design and development strengths are a perfect compliment to CEL's sales, marketing, customer support, and global supply chain expertise.

LS RESEARCH Wireless Product Development

CEL California Eastern Laboratories