

CEL Embedded RF Wireless Products



California Eastern Laboratories



802.15.41 ZIGBEE SOLUTIONS

California Eastern Laboratories

CEL's comprehensive line of ZigBee solutions includes ICs, modules, and software application packages designed for use in mesh, point-to-point, and point-to multipoint systems. They provide a fully integrated, easy-to-use transceiver solution for IEEE 802.15.4 networks. CEL ZigBee modules and ICs are ideal for remote sensing, AMR/AMI, home and building automation, and security applications.

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Integrated RF Transceiver/MCU for ZigBee/IEEE 802.15.4/SNAP Networks

Key Features:

- Industry leading RF Link Budget @ 106dB
- Embedded 8051 Compatible MCU
- with 96KB/8KB Flash/RAM
- Scalable Data Rate: 250kbps for ZigBee, 500kbps
- Voice Codec Support
- 4 Level Power Management Scheme
- Single Voltage Operation of 1.9V to 3.3V
- Hardware MAC



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	CEL Part No.	Operating Frequency (MHz)	Supply Voltage (V)	Output Power	Sensitivity	MCU	Flash Memory	Data Memory	Price Each			
									1	10	100	500
551-ZIC2410QN48	ZIC2410QN48	2400 to 2483	1.5-3.3V	+8 dBm	-98 dBm	8-bit	96 KB	8 KB	9.14	8.41	6.59	5.86

Mesh Connect™ Modules – ZICM2410P0 Series

Key Features:

- Scalable Data Rate : 250kbps for Zigbee, 500kbps and 1Mbps
- Voice Codec Support: μ -law/a-law/ADPCM
- 4 Level Power Management Scheme with Deep Sleep Mode (0.3 μ A)
- 16 RF Channels
- Over 3000 feet of range
- AES 128-bit encryption
- Network: Mesh, Point to Point, Point to Multipoint



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	CEL Part No.	Description	Transceiver Chipset	Fmax	I/O	Tx Power Output	Rx Sensitivity	Range	Vcc	Rx Current	Tx Current	Price Each		
												1	10	25
551-ZICM2410P0-1	ZICM2410P0-1	PCB Trace Antenna	MeshConnect™	16MHz	22	+6dBm	-97dBm	3000+ft	2.1V-3.0V	35mA	44mA	16.77	16.24	15.65
551-ZICM2410P0-1C	ZICM2410P0-1C	U.FL Conn. for Ext. Ant.	ZIC2410	16MHz	22	+6dBm	-97dBm	3000+ft	2.1V-3.0V	35mA	44mA	18.37	17.47	16.49
551-ZICM2410P2-2	ZICM2410P2-2	PCB Trace Antenna	8-BIT, 8051	16MHz	20	+20dBm	-103dBm	16000+ft	2.1V-3.3V	38mA	200mA	27.55	26.00	24.46
With SNAP Software														
551-ZICM2410P0-1-SN	ZICM2410P0-1-SN	PCB Trace Antenna	MeshConnect™	16MHz	22	+6dBm	-97dBm	3000+ft	2.1V-3.0V	35mA	44mA	17.74	17.31	17.07
551-ZICM2410P0-1C-SN	ZICM2410P0-1C-SN	U.FL Conn. for Ext. Ant.	ZIC2410	16MHz	22	+6dBm	-97dBm	3000+ft	2.1V-3.0V	35mA	44mA	18.52	17.70	17.66
Mesh Connect Development Kit														
Description														
551-ZICM2410P0KIT2-1	ZICM2410P0-KIT2-1	Engineering Dev. Kit	Eval Boards with Module-Network Analyzer-Univ AC/DC Power Supply-USB Cables-Software and Technical Information CD									458.00	-	-
551-ZICM2410P2KIT1-1	ZICM2410P2-KIT1-1	Engineering Dev. Kit	Eval Boards with Module-USB Cables-Jumpers-Software and Technical Information CD									208.00	-	-

Mesh Connect™ Module - ZICM357 Series

Key Features:

- Based on Ember EM357 system on a chip (SoC)
- Range: Up to 2.5 miles
- Network Speed: 250Kbps
- RF Channels: 15
- Networks: Mesh, Point to Point, and point to multipoint



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	CEL Part No.	Description	Transceiver Chipset	Fmax	I/O	Tx Power Output	Rx Sensitivity	Range	Vcc	Rx Current	Tx Current	Price Each		
												1	10	25
551-ZICM357P2-1	ZICM357P2-1	PCB Trace Antenna	Ember, EM357	24MHz	23	+20dBm	-100dBm	13000+ft	2.7V-3.6V	28mA	170mA	21.06	20.68	20.50
Mesh Connect Evaluation Kit														
Description														
551-ZICM-EM35X-KIT-2	ZICM-EM35X-DEV-KIT-2	Development Kit	MeshConnect EM35x Ember Companion Kit for Ember EM35x Development Kit									110.00	-	-
551-ZICM357P2-KIT-1	ZICM357P2-KIT-1	Engineering Dev. Kit	Eval Board with Modules (2), USB Cable, Software & Technical Information, Jumpers & Batteries									375.00	-	-

FreeStar Transceiver Modules – ZFSM-101-2 Series

Key Features:

- Up to 100mW output power
- Low power consumption: 125mA @ 10mW output, 150mA @ 100mW
- Over 4000 feet of range
- Simple UART interface



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	CEL Part No.	Description	Transceiver Chipset	Fmax	I/O	Network	Tx Power Output	Rx Sensitivity	Vcc	Rx Current	Tx Current	Price Each		
												1	10	25
551-ZFSM-101-2	ZFSM-101-2	PCB Trace Antenna	Freescale MC13202 8-bit	40MHz	8	Point to Point, Point to Multipoint, Mesh	+20dBm	-92dBm	2.4-3.6V	42mA	150mA	29.65	26.78	25.74

Apex Evaluation Module

Module Features:

- Ember™ EM250 platform
- 128kB Flash memory
- 5kB SRAM
- 16-bit XAP2b microprocessor
- 16 general purpose I/O ports
- DMA - SPI, I²C and UART interface
- Integrated ADC with 12-bit resolution

Description	APEX	APEX LT	Description	APEX	APEX LT
Power Supply Voltage	3.6Vdc	3.6Vdc	Transmit Mode	170mA	170mA
RF Input Power	+10dBm	+10dBm	Receive Mode	37mA	37mA
RF Data Rate	250kbps	250kbps	Nominal Output Power	20dBm	20dBm
Flash Memory	128kB	--	Rec. Sens. (normal)	-96dBm	-96dBm
RAM	5kB	--			

MOUSER STOCK NO.	CEL Part No.	Description	Frequency Min./Max.	Price Each
551-ZAXM-201-KIT-1	ZAXM-201-KIT-1	100mW Apex Evaluation Kit	2400/2483.5	400.00