



DISCOVER
THE FAST & EASY APPROACH
TO IMPLEMENTING
ZigBee®

THE CEL ADVANTAGE

Pairing 50+ Years of RF Expertise with the
Industry's Premier ZigBee® PRO Stack from Silicon Labs



Simplified Development with Reduced Design Risk



Accelerated Time to Market



Built on the World's Premier ZigBee Stack



Professional Grade Quality & Reliability



Technical Expertise And Support



Home Automation



Building Automation



Light Link



Smart Energy

Learn More
www.cel.com/empoweringmesh



THE CEL ADVANTAGE



Simplified Development with Reduced Design Risk

- Completely integrated RF and baseband solutions
- Designs eliminate need for in-house RF expertise
- Single module can be used across multiple SKUs



Accelerated Time to Market

- Modular form reduces typical design-in time by 88%
- Designs are pre-certified to meet requirements for...
 - ✓ FCC/IC/CE
 - ✓ iControl Open Home Platform
 - ✓ Daintree Networks Control Scope Connected Platform



Built on the World's Premier ZigBee Stack

- Silicon Labs' EmberZNet PRO™ stack is the most robust, reliable and comprehensive ZigBee PRO software solution
- Development kit includes access to Ember's world class software development tools



Increased Reliability

- All products 100% RF tested with traceability
- Extensive JESD22 qualifications
- Robust supply chain



Technical Expertise and Support

- Access to hardware and software engineers fluent in the Ember portfolio
- Guidance on developing ZigBee-compliant solutions for various ecosystems



PROFESSIONAL GRADE CERTIFIED MODULES



PRODUCT OFFERINGS & TECHNICAL INFORMATION



Based on
EM3588 SoC



Based on
EM357 SoC



MeshConnect Products

	EM358x Mini Modules		EM357 Mini Modules		EM357 USB Sticks	
	Standard	Extended Range	Standard	Extended Range	Standard	Extended Range
MCU	Radio Parameters	2405 to 2480 MHz / DSSS / IEEE 802.15.4		2405 to 2480 MHz / DSSS / IEEE 802.15.4	2405 to 2480 MHz / DSSS / IEEE 802.15.4	
	Transceiver Chipset	Silicon Labs™ EM3588 32 bit, ARM® Cortex™ - M3		Silicon Labs™ EM357 32 bit, ARM® Cortex™ - M3	Silicon Labs™ EM357 32 bit, ARM® Cortex™ - M3	
	Memory on Chip	512 kB Flash, 64 kB RAM		192 kB Flash, 12 kB RAM	192 kB Flash, 12 kB RAM	
	Supplemental Memory	–		–	1 MB Flash	
	Inputs/Outputs	Up to 23		Up to 22		N/A
	USB	USB 2.0 (full speed)		–		USB 2.0 (full speed)
NETWORK	Mesh Networks	✓		✓		✓
	Over-the-Air Data Rate	250 kbps		250 kbps		250 kbps
	Over-the-Air Security	128-bit AES Encryption		128-bit AES Encryption		128-bit AES Encryption
	Software/ZigBee Stack	EmberZNet PRO™ (ZigBee PRO)		EmberZNet PRO™ (ZigBee PRO)		EmberZNet PRO™ (ZigBee PRO)
	Tx Output Power	+ 8 dBm	+ 20 dBm	+ 8 dBm	+ 20 dBm	+ 8 dBm
	Rx Sensitivity	- 100 dBm	- 103 dBm	- 100 dBm	- 103 dBm	- 100 dBm
	RF Link Budget	+108 dB	+123 dB	+108 dB	+123 dB	+108 dB
	Power Supply Voltage	2.1 to 3.6 V		2.1 to 3.6 V		4.0 to 5.25 V
	Rx Current	30 mA	34 mA	30 mA	34 mA	51 mA
	Tx Current @ Max Power	44 mA	150 mA	44 mA	150 mA	65 mA
	Sleep/Suspend Current	2.4 µA 23.9 x 16.6 x 3.9 mm (0.94 x 0.655 x 0.152 in)		1.0 µA 23.9 x 16.6 x 3.9 mm (0.94 x 0.655 x 0.152 in)		0.24 µA 52.7 x 24.9 x 9.98 mm (2.075 x 0.984 x 0.393 in)
	Integrated Antenna	✓		✓		✓
	RF Port for External Antenna	✓		✓		–
	Temperature Range	-40°C to 85°C		-40°C to 85°C	-40°C to 85/110°C**	-30°C to 70°C
CERTIFICATIONS	FCC	✓	✓	✓	✓	✓
	IC	✓	✓	✓	✓	✓
	CE	✓	–	✓	✓	–
	RoHS	✓	✓	✓	✓	✓
	iControl	–	✓	–	✓	✓
	Daintree ControlScope	✓	✓	✓	✓	✓
Part Numbers	ZICM3588SP0-1 ZICM3588SP0-1C*	ZICM3588SP2-1 ZICM3588SP2-1C*	ZICM357SP0-1 ZICM357SP0-1C*	ZICM357SP2-1 ZICM357SP2-1C** ZICM357SP2-1C* ZICM357SP2-1C-HT**	ZM357S-USB	ZM357S-USB-LR

* Part numbers ending in **SP0-1C** have an RF port for external antennas and are not FCC, IC or CE certified.

Part numbers ending in **SP2-1C** have an RF port for external antennas and are FCC and IC certified for a Neanson S181AH-2450S antenna.

** Part numbers ending in **HT** are suited for high temperature applications up to 110 °C

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Mouser Electronics

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CEL:

[ZM357S-USB](#) [ZM357S-USB-LR](#)