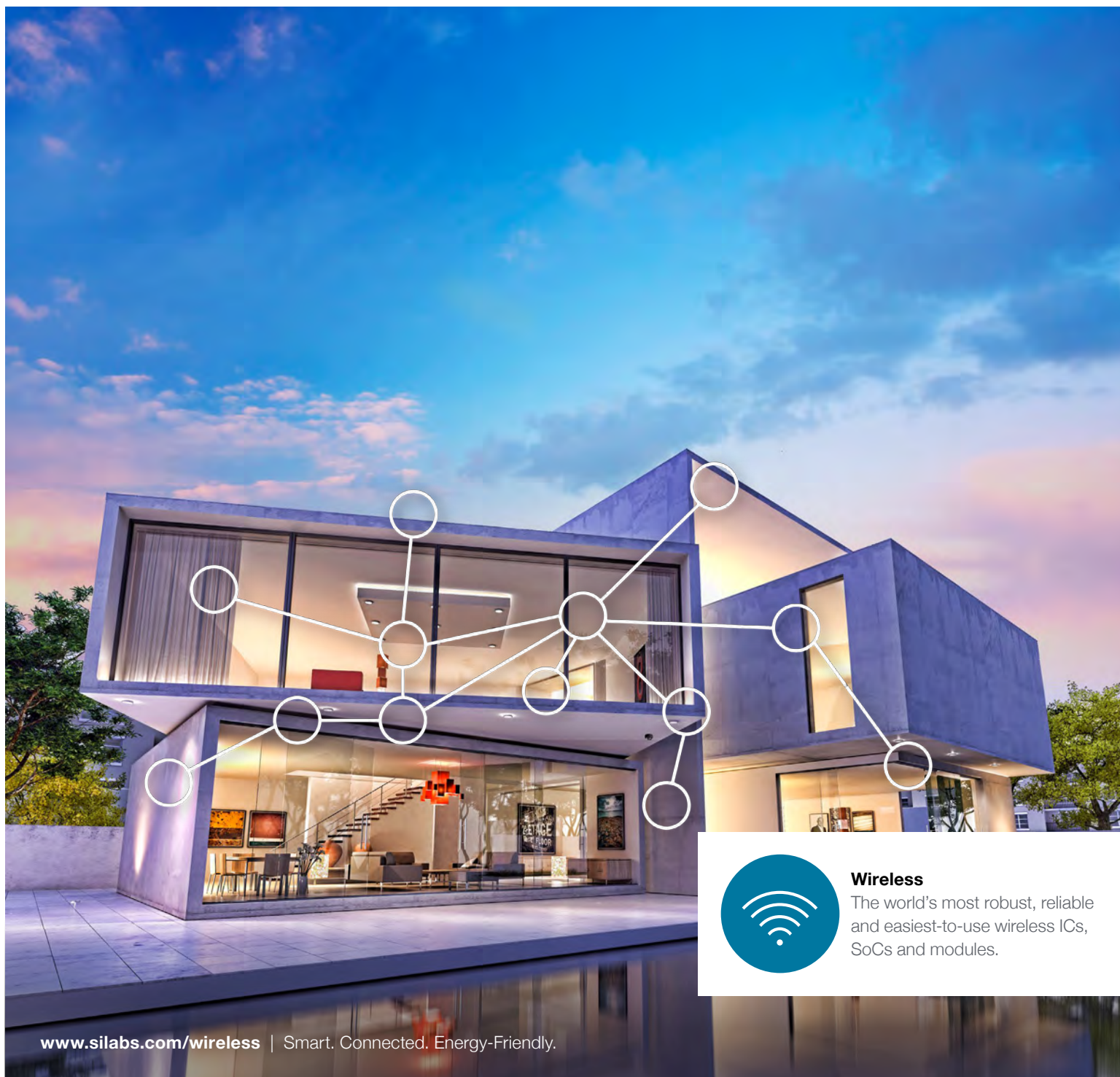




Wireless

PRODUCT SELECTOR GUIDE



Wireless

The world's most robust, reliable and easiest-to-use wireless ICs, SoCs and modules.

www.silabs.com/wireless | Smart. Connected. Energy-Friendly.

The world's most robust, reliable and easy-to-use wireless solutions.

Silicon Labs' wireless solutions bring the Internet of Things to life.

The past few years have seen an explosion in Internet of Things (IoT) applications and connected products such as wireless sensors, smart meters, home automation devices, alarm systems and wearables. Wireless connectivity is at the heart of the IoT. Silicon Labs' energy-friendly one-stop shop wireless portfolio helps you get from idea to final product quickly. We deliver an industry-leading variety of wireless protocols that includes *Bluetooth®* Smart, *Wi-Fi®*, *ZigBee®*, *Thread*, *Wireless M-Bus* and *Proprietary* protocols and support them all at the physical, network and application layers. Combine that with our innovative mixed-signal Integrated Circuits (IC), System-on-Chip (SoC) and module design and our proven no-charge software stacks and example code, and you have a first-class solution for your next IoT application.

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It's not only about connecting devices. It's about improving our way of life, the way we do business and the impact we have on our environment. It's called the Internet of Things, and it's going to change everything.



Silicon Labs Supported Protocols

Bluetooth®

The Bluetooth wireless protocol has two versions: Bluetooth low energy, which is marketed as Bluetooth Smart, and classic Bluetooth, which is the original standard version of Bluetooth. Compared to classic Bluetooth, Bluetooth Smart is designed to address the needs of new wireless applications such as ultra-low power consumption, fast connection times, reliability and security.

Silicon Labs offers products that support each protocol, as well as a dual-mode Bluetooth Smart Ready module designed to integrate both Bluetooth Smart and classic Bluetooth wireless technologies while minimizing design time, cost and complexity.



Wi-Fi is one of the most common technologies for wireless connectivity providing secure, reliable and fast Internet connectivity with IP protocol. Silicon Labs Wi-Fi modules are ideal for embedded applications that require reliable, long-range Wi-Fi connectivity in an easy-to-integrate surface-mount package.



ZigBee is an open, global-standards-based wireless protocol technology designed to address the unique needs of remote monitoring and control, and sensor network applications for the IoT. The ZigBee wireless standard enables broad-based IoT solutions and the deployment of wireless mesh networks with

low-cost, low-power solutions providing the ability for devices to run for years on inexpensive batteries in a typical monitoring application.

The ZigBee standard is instrumental in connecting and automating a host of everyday devices that would otherwise require significant energy. The ZigBee protocol is used heavily in home automation mesh networks for lighting, HVAC and appliances, as well as in other security and control devices in buildings and homes.

THREAD GROUP

Thread technology fills a critical gap in the IoT ecosystem by providing the industry's first standards-based, low-power mesh networking solution based on Internet Protocol version 6 (IPv6), enabling reliable, secure and scalable Internet connectivity for battery-powered devices in the connected home. With Thread, product developers and consumers can easily and securely connect more than 250 devices into a low-power, wireless mesh network that enables direct Internet and cloud access for every device.



For applications that require longer range or support for proprietary protocols such as home automation, security and smart metering, sub-GHz and 2.4 GHz proprietary wireless implementations offer substantive benefits over the standards-based, feature-rich protocols such as Wi-Fi, Bluetooth and ZigBee.



Bluetooth

Silicon Labs provides flexible, highly integrated Bluetooth products that meet the most demanding requirements and can be used in a wide variety of applications. The products are engineered for longevity and have the best in-class RF sensitivity and power consumption figures. In addition, Silicon Labs offers easy-to-use but powerful software solutions making application development and integration a straightforward process.

Blue Gecko Wireless SoC

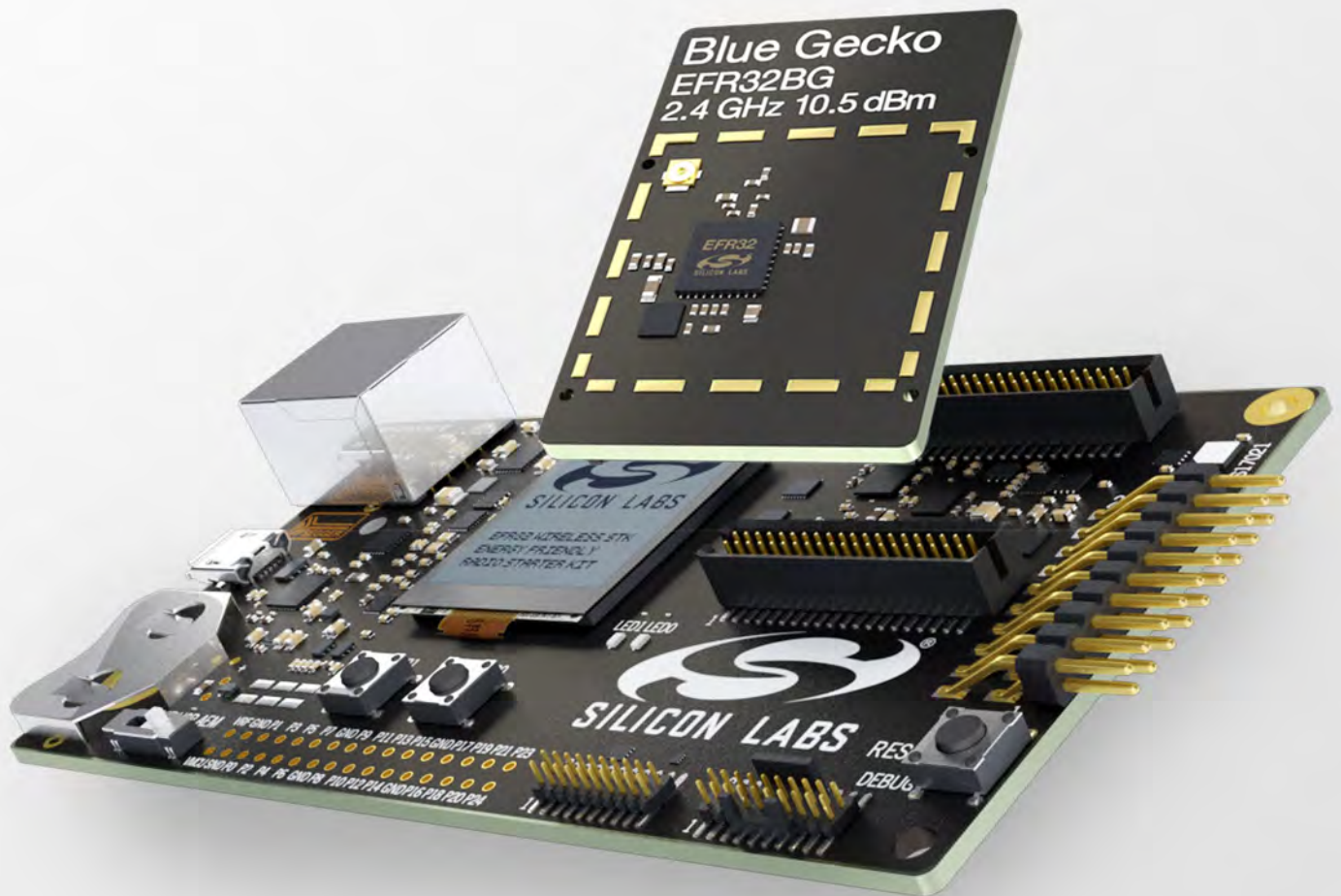
A part of Silicon Labs' multiprotocol Wireless Gecko portfolio, the new EFR32BG Blue Gecko SoC family sets a new standard for scalability, energy efficiency, security and design simplicity for Bluetooth Smart applications. Supported by best-in-class development tools and software, Blue Gecko SoCs reduce the cost and complexity of adding Bluetooth Smart to an array of applications. In addition to the wireless SoCs, the Blue Gecko portfolio includes pre-certified wireless modules, Silicon Labs' Bluetooth Smart software stack and an easy-to-use software development kit (SDK).

BLUE GECKO WIRELESS SoC HIGHLIGHTS

- Single-die SoC combining Gecko MCU technology with a 2.4 GHz RF transceiver
- Market-leading link budget: -94 dBm RX sensitivity and +19.5 dBm TX Output Power
- Among the most energy-efficient Bluetooth Smart SoCs available, consuming 8.7 mA in peak receive mode and 8.8 mA @ 0 dBm in peak transmit mode
- 40 MHz ARM® Cortex®-M4 processor with powerful floating point and DSP capabilities
- Energy-friendly Gecko MCU consumes only 63 µA/MHz in active mode
- Integrated hardware cryptographic accelerator enabling fast, energy-efficient autonomous encryption and decryption of Internet security protocols with minimal CPU intervention

PART NUMBER	PROTOCOL SUPPORT	FREQUENCY	TX POWER (dBm)	ENCRYPTION	PERIPHERALS	FLASH (KB)	RAM (KB)	GPIO	PACKAGE
EFR32BG1P332F256GM48	 	2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32BG1P332F256GM32	 	2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32
EFR32BG1P232F256GM48	 	2.4 GHz	-30 to +10.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32BG1P232F256GM32	 	2.4 GHz	-30 to +10.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32
EFR32BG1B232F256GM48		2.4 GHz	-30 to +10.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32BG1B232F256GM32		2.4 GHz	-30 to +10.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32
EFR32BG1B232F128GM48		2.4 GHz	-30 to +10.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	128	32	31	QFN48
EFR32BG1B232F128GM32		2.4 GHz	-30 to +10.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	128	32	16	QFN32
EFR32BG1B132F256GM48		2.4 GHz	-30 to +3	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32BG1B132F256GM32		2.4 GHz	-30 to +3	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32
EFR32BG1B132F128GM48		2.4 GHz	-30 to +3	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	128	32	31	QFN48
EFR32BG1B132F128GM32		2.4 GHz	-30 to +3	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	128	32	16	QFN32
EFR32BG1V132F256GM48		2.4 GHz	-30 to 0	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	256	16	31	QFN48
EFR32BG1V132F256GM32		2.4 GHz	-30 to 0	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	256	16	16	QFN32
EFR32BG1V132F128GM48		2.4 GHz	-30 to 0	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	128	16	31	QFN48
EFR32BG1V132F128GM32		2.4 GHz	-30 to 0	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	128	16	16	QFN32

NEW BLUE GECKO BLUETOOTH SMART MODULE
WIRELESS STARTER KIT



Bluetooth Smart Modules

Bluetooth low energy, also known as Bluetooth Smart, is an open standard developed by the Bluetooth SIG. Bluetooth low energy consumes 10% to 20% less power than its previous version and is able to transmit data 50 times quicker than conventional Bluetooth solutions – perfect for IoT applications.

	BGM111 BLUETOOTH SMART MODULE	BLE112* BLUETOOTH SMART MODULE	BLE112* BLUETOOTH SMART DONGLE	BLE113* BLUETOOTH SMART MODULE	BLE121LR* BLUETOOTH SMART LONG RANGE MODULE	BT121* BLUETOOTH SMART READY MODULE	BT111* BLUETOOTH SMART READY HCI MODULE
BLUETOOTH							
Version	Bluetooth 4.2	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.1	Bluetooth 4.0
Bluetooth BR/EDR	-	-	-	-	-	√	√
Roles	master/slave	master/slave	master/slave	master/slave	master/slave	master/slave	master/slave
RADIO							
TX power	+8 dBm	+2 dBm	0 dBm	0 dBm	+8 dBm	+8/12 dBm	+8 dBm
RX sensitivity	-94 dBm	-92 dBm	-89 dBm	-93 dBm	-98 dBm	-96 dBm	-89 dBm
Typical Range**	200 meters	150 meters	30 meters	100 meters	250-450 meters	200-400 meters	150 meters
ANTENNA OPTIONS							
Integrated	√	√	√	√	√	√	√
u.FL	-	√	-	-	-	-	-
INTERFACES							
UART	2 + LEUART	2	-	2	2	1	-
USB	-	2.0 device	2.0 device	-	-	-	2.0 device
SPI	2	2	-	2	2	2	-
I2C	1	1	-	1	1	2	-
PWM	3 + 4	4	-	4	4	-	-
GPIO	up to 25	up to 19	-	up to 16	up to 16	up to 22	6
ADC	12-bit, 1 Msps	7 x 12-bit	12-bit, 7.58 Ksps	7 x 12-bit	7 x 12-bit	4 x 12-bit	12-bit, 7.58 Ksps
IDAC	1	-	-	-	-	-	-
Wake-up interrupt	√	√	-	√	√	√	-
Analog Comparator	2	1	-	1	1	-	-
Timers	4 x 16-bit + 4 x 32-bit	2 x 8-bit + 1 x 16-bit	-	2 x 8-bit + 1 x 16-bit	2 x 8-bit + 1 x 16-bit	-	-
RTTC	√	-	-	-	-	√	-
Op-amp	√	√	-	√	√	-	-
Battery monitor	√	√	-	√	√	-	-
Internal Temperature sensor	√	√	-	√	√	-	-
Debug	√	√	-	√	√	-	-
IR generation	-	√	√	√	√	-	-
PCM	-	-	-	-	-	-	√
I2S	√	-	-	-	-	-	-
MICROCONTROLLER							
Core	ARM Cortex-M4	8051	8051	8051	8051	ARM Cortex-M0	-
RAM	32 kB	8 kB	8 kB	8 kB	8 kB	16 kB	-
Flash	256 kB	128 kB	128 kB	128/256 kB	256 kB	128 kB	-
CURRENT CONSUMPTION							
TX peak	8.8 mA (0 dBm)	27 mA	-	18.2 mA	27 mA	92 mA	70 mA
RX peak	8.7 mA	19.6 mA	-	17.9 mA	19.6 mA	78 mA	52 mA
Sleep (timer active)	EM4H with Cryotimer 0.6 uA	1 uA	-	1 uA	1 uA	169 uA	-
Sleep (external wake-up)	EM4S 0.03 uA	0.5 uA	-	0.5 uA	0.5 uA	3 uA	370 uA

*Branded Bluegiga. Bluegiga is a Silicon Labs company.

**Line-of-sight unobstructed range measured between two identical modules.

***Dependent on stack of external host.

	BGM111 BLUETOOTH SMART MODULE	BLE112* BLUETOOTH SMART MODULE	BLE112* BLUETOOTH SMART DONGLE	BLE113* BLUETOOTH SMART MODULE	BLE121LR* BLUETOOTH SMART LONG RANGE MODULE	BT121* BLUETOOTH SMART READY MODULE	BT111* BLUETOOTH SMART READY HCI MODULE
OPERATING VOLTAGE							
Operating voltage	2.4/1.85 - 3.8 V	2.0 - 3.6 V	5 V	2.0 - 3.6 V	2.0 - 3.6 V	2.2 - 3.6 V	2.3 - 5.7 V
BLUETOOTH SOFTWARE STACK							
Integrated stack	√	√	√	√	√	√	-
Features	L2CAP, ATT, GATT, GAP, SM	L2CAP, ATT, GATT, GAP, SM	L2CAP, ATT, GATT, GAP, SM	L2CAP, ATT, GATT, GAP, SM	L2CAP, ATT, GATT, GAP, SM	L2CAP, ATT, GATT, RFCOMM, GAP, SM	-
CONNECTIONS							
Simultaneous connections	8 x BLE	8	8 x BLE	8 x BLE	8 x BLE	7 x BLE + 6 x BR/EDR	5 x BLE + 7 x BR/EDR
SUPPORTED PROFILES							
BR/EDR profiles	-	-	-	-	-	SPP, iAP2, GATT	√***
BLE profiles	HR, HTM, HID, PXP, FM, etc.	HR, HTM, HID, PXP, FM, etc.	HR, HTM, HID, PXP, FM, etc.	HR, HTM, HID, PXP, FM, etc.	HR, HTM, HID, PXP, FM, etc.	HR, HTM, HID, PXP, FM, etc.	√***
Custom services	√	√	√	√	√	√	√***
SOFTWARE DEVELOPMENT							
Host API (NCP mode)	BGAPI™ serial protocol	BGAPI serial protocol	BGAPI serial protocol	BGAPI serial protocol	BGAPI serial protocol	BGAPI serial protocol	HCI
Host driver (NCP mode)	BGLIB™	BGLIB	BGLIB	BGLIB	BGLIB	BGLIB	Stack dependent
On-board app support	√	√	√	√	√	√	-
Script programming	BGScript™	BGScript	BGScript	BGScript	BGScript	BGScript	-
C SDK	IAR Embedded Workbench	IAR Embedded Workbench	IAR Embedded Workbench	IAR Embedded Workbench	IAR Embedded Workbench	-	-
Custom BLE services	Profile Toolkit™	Profile Toolkit	Profile Toolkit	Profile Toolkit	Profile Toolkit	Profile Toolkit	-
SDK/IDE	Bluegiga SDK Simplicity Studio	Bluegiga SDK	Bluegiga SDK	Bluegiga SDK	Bluegiga SDK	Bluegiga SDK	Stack dependent
CERTIFICATIONS							
Certifications	Bluetooth, CE, FCC, IC, South Korea, Japan	Bluetooth, CE, FCC, IC, South Korea, Japan	Bluetooth, CE, FCC, IC, South Korea, Japan, Brazil	Bluetooth, CE, FCC, IC, South Korea, Japan	Bluetooth, CE, FCC, IC, South Korea, Japan	Bluetooth, CE, FCC, IC, South Korea, Japan	Bluetooth, CE, FCC, IC, South Korea, Japan
DIMENSIONS							
Dimensions (W x L x H)	12.9 x 15 x 2.3 mm	12 x 18 x 2.3 mm	17 x 12 x 6.5 mm	9.15 x 15.75 x 1.9 mm	14.7 x 13.0 x 1.8 mm	11.0 x 13.9 x 2.2 mm	9.3 x 13.05 x 2.3 mm

*Branded Bluegiga. Bluegiga is a Silicon Labs company.

**Line-of-sight unobstructed range measured between two identical modules.

***Dependent on stack of external host.

Bluetooth Classic Modules

Silicon Labs' classic Bluetooth modules are completely integrated, certified and high-performance radio frequency products that include all the necessary Bluetooth profiles.

	WT12* CLASS 2 MODULE	WT11* CLASS 1 MODULE	WT41* LONG RANGE MODULE	WT32I* CLASS 2 AUDIO MODULE
BLUETOOTH				
Version	Bluetooth 2.1 + EDR	Bluetooth 2.1 + EDR	Bluetooth 2.1 + EDR	Bluetooth 3.0
Bluetooth low-energy support	-	-	-	-
BR/EDR support	√	√	√	√
RADIO				
Typical TX power	+3 dBm	+17 dBm	+19 dBm	+6.5 dBm
Typical RX sensitivity	-83 dBm	-85 dBm	-93 dBm	-90 dBm
Class	2	1	1	1.5
Typical range**	30-50 meters	200-400 meters	500-1000 meters	100-200 meters
ANTENNA OPTIONS				
Integrated chip	√	√	√	√
U.FL	-	√	√	√
INTERFACES				
UART	1	1	1	1
USB	2.0 device	2.0 device	2.0 device	2.0 device
GPIO	6 configurable	6 configurable	6 configurable	10 configurable
AIO	-	1 x 8-bit	1 x 8-bit	2 x 10-bit
Debug (SPI)	1	1	1	1
AUDIO INTERFACES				
PCM	1	1	1	1
I2S	-	-	-	1
SPDIF	-	-	-	1
Analog	-	-	-	2 inputs/outputs
MICROCONTROLLER				
Architecture	16-bit RISC (XAP2)	16-bit RISC (XAP2)	16-bit RISC (XAP2)	16-bit RISC (XAP2)
RAM	48 kB	48 kB	48 kB	48 kB
Flash	8 Mbit	8 Mbit	8 Mbit	16 Mbit
DSP	-	-	-	Kalimba DSP
OPERATING VOLTAGE				
Operating voltage	2.7 - 3.6 V	2.7 - 3.6 V	2.7 - 3.6 V	1.8 - 4.4 V
PHYSICAL CONNECTION				
Type	solder pads	castellated edges	castellated edges	solder pads
BLUETOOTH STACK FEATURES				
Version	2.1 + EDR / 3.0	2.1 + EDR / 3.0	2.1 + EDR / 3.0	3.0
Integrated Bluetooth stack	√	√	√	√
Secure Simple Pairing	√	√	√	√
Connections	1-7	1-7	1-7	1-6
Host API	ASCII commands / HCI	ASCII commands / HCI	ASCII commands / HCI	ASCII commands
HCI interface	UART/USB	UART/USB	UART/USB	-

*Branded Bluegiga. Bluegiga is a Silicon Labs company.

**Line-of-sight unobstructed range measured between two identical modules.

	WT12* CLASS 2 MODULE	WT11* CLASS 1 MODULE	WT41* LONG-RANGE MODULE	WT321* CLASS 2 AUDIO MODULE
SUPPORTED PROFILES				
SPP	✓	✓	✓	✓
OBEX OPP	✓	✓	✓	✓
OBEX FTP	✓	✓	✓	✓
DUN	✓	✓	✓	✓
HID	✓	✓	✓	✓
A2DP	-	-	-	✓
AVRCP	✓	✓	✓	v. 1.5
HFP v.1.6	✓	✓	✓	✓
HSP	✓	✓	✓	✓
PBAP	✓	✓	✓	✓
HDP	✓	✓	✓	✓
MAP	✓	✓	✓	✓
DI	✓	✓	✓	✓
Apple iAP support	✓	✓	✓	iAP1 and iAP2
Over-the-Air configuration**	✓	✓	✓	✓
BGIO**	✓	✓	✓	✓
SOFTWARE DEVELOPMENT				
On-board applications	-	-	-	✓
SDK/IDE	CSR BlueLab	CSR BlueLab	CSR BlueLab	CSR BlueLab
CERTIFICATIONS				
Certifications	Bluetooth, CE, FCC, IC, South Korea, Japan, Brazil	Bluetooth, CE, FCC, IC, Japan, Brazil	Bluetooth, CE, FCC, IC, South Korea, Japan, NCC (Taiwan)	Bluetooth, CE, FCC, IC, South Korea, Japan
DIMENSIONS				
Dimensions (W x L x H)	14 x 25.6 x 2.4 mm	14.5 x 35.8 x 2.6 mm	14.5 x 35.8 x 2.6 mm	15.9 x 23.9 x 2.4 mm

*Branded Bluegiga. Bluegiga is a Silicon Labs company.

** Line-of-sight unobstructed range measured between two identical modules.

Bluetooth Development Tools

SOFTWARE	SUPPORTED DEVICES
Bluetooth Smart Ready Software Development Kit / Simplicity Studio	Bluetooth Smart Modules
Bluetooth Smart Software	Bluetooth Smart Modules
iWRAP Bluetooth Stack	Bluetooth Classic Modules

BLUETOOTH SMART READY SOFTWARE DEVELOPMENT KIT

- BGScript development tools and example code
- BGLIB source code and example application

- Profile Toolkit for building profiles
- iOS and Android applications

BLUETOOTH SMART SOFTWARE

- A fully embedded 802.11 MAC with the client and access point modes
- Built-in IPv4 stack with TCP, UDP, DHCP, mDNS and DNS protocols
- Built-in HTTP server
- Supports WPA2, WPA, WPS and WEP security algorithms

- Simple and low overhead BGAPI serial protocol over UART, USB or SPI
- Standalone applications can be created with Bluegiga BGScript™
- High throughput over TCP and UDP

iWRAP BLUETOOTH STACK

- A simple ASCII-based command and response API
- 13 integrated Bluetooth profiles
- Apple iAP1 and iAP2

- New features and profiles can be added
- Bluetooth qualified
- Proven interoperability

DEVELOPMENT KITS



NEW BLUE GECKO BLUETOOTH SMART MODULE WIRELESS STARTER KIT

The Silicon Labs Blue Gecko Wireless Starter Kit is a perfect starting point to evaluate and develop on the Blue Gecko Wireless SoC.



NEW BT121 BLUETOOTH SMART READY DEVELOPMENT KIT

Provides the optimal environment for developing Bluetooth Smart Ready applications with a ready-to-use hardware platform.



BLUETOOTH SMART READY HCI MODULE

Quickly assess the BT111 Bluetooth HCI Module and all piloting Bluetooth 4.0 applications.



BLUETOOTH AUDIO MODULE DEVELOPMENT KIT

Designed to evaluate the WT32i Bluetooth Audio Module and prototyping Bluetooth stereo and mono audio applications.



BLE112/113/121 DEVELOPMENT KITS FOR BLUEGIGA PIONEER BLUETOOTH SMART MODULES

Contains ready-to-use hardware and the Bluetooth Smart SDK, all the tools needed to develop Bluetooth Smart applications.

Wi-Fi

Wi-Fi is one of the most common technologies for wireless connectivity, providing secure, reliable and fast wireless IP connectivity. Silicon Labs' Wi-Fi modules are ideal for embedded applications that require reliable and long-range Wi-Fi connectivity in an easy-to-integrate surface mount package.

	WGM110 Wi-Fi MODULE	WF111* Wi-Fi MODULE	WF121* Wi-Fi MODULE
Wi-Fi FEATURES			
Version	802.11b/g/n	802.11 b/g/n	802.11 b/g/n
Frequency	2.4 GHz	2.4 GHz	2.4 GHz
Max. symbol rate	72.2 Mbps	72.2 Mbps	72.2 Mbps
Soft AP mode	√ (5 clients)	√ (8 clients)	√ (5 clients)
Security	WEP, WPA, WPA2	WPA, WPA2	WEP, WPA, WPA2
Encryption	TLS/SSL	-	-
RADIO PERFORMANCE			
Typical TX power	+16 dBm	+17 dBm	+17 dBm
Typical RX sensitivity	-98 dBm	-97 dBm	-97 dBm
Typical range **	300-500 meters	300-500 meters	300-500 meters
ANTENNA OPTIONS			
Integrated chip	√	√	√
U.FL	-	√	√
HOST INTERFACES			
SDIO	-	√	-
CSPI	-	√	-
UART	√	-	√
USB	√	-	√
SPI	√	-	√
PERIPHERAL INTERFACES			
SPI	up to 2	-	up to 2
UART	up to 2	-	up to 4
USB	1	-	1
Ethernet RMII	-	-	1
I2C	2	-	up to 2
GPIO	32	6	up to 38
MICROCONTROLLER			
Architecture	ARM CM3	-	MIPS 4K
MHz	48 MHz	-	80 Mhz
RAM	128 kB	-	128 kB (<64 kB free)
Flash	1024 kB	-	512 kB (<256 kB free)
AVG. CURRENT CONSUMPTION			
TX (17dBm, 802.11g)	242 mA	192 mA	142 mA
RX	81 mA	88 mA	127 mA
Idle, Associated to an AP	2.2 mA	1.7 mA	6.1 mA
Sleep	120 µA	70 µA	62 µA
OPERATING VOLTAGE			
Operating voltage	2.7 to 3.8V	1.8 V and 3.3 V	2.7 V - 3.6 V
PHYSICAL CONNECTION			
Type	solder pads	castellated edges	castellated edges
TCP/IP STACK FEATURES			
Integrated TCP/IP stack	√	-	√
DHCP client/server	√ / √	-	√ / √

*Branded Bluegiga. Bluegiga is a Silicon Labs company.

**Line-of-sight unobstructed range measured between two identical modules.

	WGM110 WI-FI MODULE	WF111* WI-FI MODULE	WF121* WI-FI MODULE
DNS	✓	-	✓
TCP client/server	✓ / ✓	-	✓ / ✓
UDP client/server	✓ / ✓	-	✓ / ✓
ICMP server	✓	-	✓
HTTP server	✓	-	✓
DHCP client/server	✓ / ✓	-	✓ / ✓
DNS client/server	✓ / ✓	-	✓ / ✓
HOST API			
BGAPI binary protocol	✓	-	✓
BGLib host library	✓	-	✓
OS DRIVERS			
Linux	Not needed	✓	Not needed
Windows	Not needed	-	Not needed
Android	Not needed	✓	Not needed
SOFTWARE DEVELOPMENT			
On-board applications	✓	-	✓
BGScript support	✓	-	✓
Native C development	-	-	-
SDK	Wizard gecko SDK	-	Bluegiga SDK
CERTIFICATIONS			
Certifications	CE, FCC, IC, Japan, South Korea	CE, FCC, IC, South Korea, Japan, Brazil	CE, FCC, IC, South Korea, Japan, Brazil
DIMENSIONS			
Dimensions (W x L x H)	14.4 x 21 x 2 mm	12 x 19 x 2.1 mm	15.4 x 26.2 x 2.1 mm

*Branded Bluegiga. Bluegiga is a Silicon Labs company.

**Line-of-sight unobstructed range measured between two identical modules.

Wi-Fi Development Tools

SILICON LABS WI-FI SOFTWARE FEATURES

- A fully embedded 802.11 MAC with the client and access point modes
- Built-in IPv4 stack with TCP, UDP, DHCP, mDNS and DNS protocols
- Built-in HTTP server
- Supports WPA2, WPA, WPS and WEP security algorithms
- Simple and low overhead BGAPI serial protocol over UART, USB or SPI
- Standalone applications can be created with Bluegiga BGScript™

DEVELOPMENT KITS



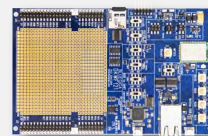
NEW WGM110 WI-FI MODULE WIRELESS STARTER KIT

The Wizard Gecko Wi-Fi Module Wireless Starter Kit is the easiest and fastest way to start evaluation and development of your own Wi-Fi IoT applications.



WF111 WI-FI MODULE DEVELOPMENT KIT

Designed to seamlessly and quickly test the WF111 Wi-Fi module with SDIO with systems having Linux OS.



WF121 WI-FI MODULE DEVELOPMENT KIT

Provides a proper environment for developing and prototyping embedded Wi-Fi applications with WF121 module.

ZigBee and Thread

Mighty Gecko Wireless SoC

The Mighty Gecko is the next step in Silicon Labs' family of mesh networking ICs and allows us to continue our leadership role in ZigBee and Thread networks. Mighty Gecko not only meets the technical requirements of mesh networking, but also provides lower cost, faster time to market and an upgrade path that prevents their products from being stranded to older technology or standards. Mighty Gecko is the next generation of mesh technology solutions that provides all of this through our low energy architecture, integration, advanced development tools, and multiple protocol support.

MIGHTY GECKO WIRELESS SoC HIGHLIGHTS

- Single-die SoC combining Gecko MCU technology with a 2.4 GHz RF transceiver
- Market-leading link budget: -101 dBm RX sensitivity and +19.5 dBm TX Output Power, including integrated balun
- Among the most energy-efficient ZigBee SoCs available, consuming 9.8 mA in peak receive mode and 8.8 mA @ 0 dBm in peak transmit mode
- 40 MHz ARM Cortex-M4 processor with powerful floating point and DSP capabilities
- Energy-friendly Gecko MCU consumes only 63 μ A/MHz in active mode
- Integrated hardware cryptographic accelerator enabling fast, energy-efficient autonomous encryption and decryption of Internet security protocols with minimal CPU intervention
- Wake-on-radio capabilities with RFSense for wakeup from a strong RF signal
- Hardware support of antenna diversity for robust performance in applications where fading occurs

PART NUMBER	PROTOCOL SUPPORTED	FREQUENCY	TX Power (dBm)	ENCRYPTION	PERIPHERALS	FLASH (KB)	RAM (KB)	GPIO	PACKAGE
EFR32MG1P232F256GM48		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32MG1P232F256GM32		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32
EFR32MG1P132F256GM48		2.4 GHz	-30 to +16.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32MG1P132F256GM32		2.4 GHz	-30 to +16.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32
EFR32MG1B232F256GM48		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32MG1B232F256GM32		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32
EFR32MG1B132F256GM48		2.4 GHz	-30 to +16.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32MG1B132F256GM32		2.4 GHz	-30 to +16.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32
EFR32MG1V132F256GM48		2.4 GHz	-30 to +8	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	256	32	31	QFN48
EFR32MG1V132F256GM32		2.4 GHz	-30 to +8	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	256	32	16	QFN32

ZigBee and Thread Networking Systems

Silicon Labs is the platform of choice for OEMs developing ZigBee networking into their products. The Ember® ZigBee platform is the most integrated, complete and feature-rich ZigBee solution available — a single-chip, high-performance 2.4 GHz ZigBee transceiver and ARM Cortex-M3 processor integrated with the most reliable, scalable and advanced ZigBee PRO® software and supported by best-in-class development tools.

Silicon Labs' Thread solution offers a simple, secure and scalable way to wirelessly interconnect hundreds of connected home devices and to seamlessly bridge those devices to the Internet. Thread software provides a self-healing, IPv6-based mesh network capable of scaling to 250+ nodes with no single point of failure. The protocol provides extensive support for “sleepy” end nodes to enable years of low-energy operation using a single battery as well as simplified commissioning. Users can easily add nodes to a network using a smartphone or browser. Silicon Labs' Thread stack uses banking-class, end-to-end security to join nodes to the network and proven AES-128 cryptography to secure all networking transactions.

The EM358x and EM359x families are optimized for both ZigBee and Thread networking stacks.

PART NUMBER	PROTOCOL SUPPORT	FREQUENCY RANGE (MHz)	TX POWER	TX CURRENT	RX CURRENT	DATA RATE (kbps)	USB	ADJ CH REJECT (15.4)	ALT CH REJECT (15.4)	DEEP SLEEP CURRENT	VOLTAGE (V)	TEMP RANGE	FLASH (kB)	RAM (kB)	GPIO	PACKAGE
EM3581		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	256	32	24	QFN48
EM3582		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	✓	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	256	32	24	QFN48
EM3585		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	512	32	24	QFN48
EM3586		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	✓	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	512	32	24	QFN48
EM3587		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	512	64	24	QFN48
EM3588		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	✓	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	512	64	24	QFN48
EM3591		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	256	32	32	QFN56
EM3592		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	✓	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	256	32	32	QFN56
EM3595		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	512	32	32	QFN56
EM3596		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	✓	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	512	32	32	QFN56
EM3597		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	512	64	32	QFN56
EM3598		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	✓	35 dB	46 dB	1.08 µA (no timer)	2.1 to 3.6	-40 to +125 °C	512	64	32	QFN56
EM351		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	0.4 µA (no timer)	2.1 to 3.6	-40° to +125 °C	128	12	24	QFN48
EM357		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	0.4 µA (no timer)	2.1 to 3.6	-40 to +125 °C	192	12	24	QFN48

EM34x ZigBee Remote Control

The EM34x family contains three parts that are optimized for specific ZigBee Remote Control uses:

EM341 - Optimized for remote controls and includes support for key peripherals, including keypad, IR, analog/digital sensors and LEDs.

EM342 - Optimized for target devices such as set-top boxes and TVs and includes support for serial interfaces to the host application processor.

EM346 - Supports a multi network ZigBee HA and ZigBee Remote Control network coprocessor solution, allowing a single IC to participate on both networks.

PART NUMBER	PROTOCOL SUPPORT	FREQUENCY RANGE (MHz)	TX POWER	TX CURRENT	RX CURRENT	DATA RATE (kbps)	USB	ADJ CH REJECT (15.4)	ALT CH REJECT (15.4)	DEEP SLEEP CURRENT	VOLTAGE (V)	TEMP RANGE	FLASH (kB)	RAM (kB)	GPIO	PACKAGE
EM341		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	0.4 µA (no timer)	2.1 to 3.6	-40 to +85 °C	128	12	24	QFN48
EM342		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	0.4 µA (no timer)	2.1 to 3.6	-40 to +85 °C	128	12	16	QFN48
EM346		2400 - 2500	-55 dBm to +8 dBm (boost)	31 mA (normal @ +3 dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	0.4 µA (no timer)	2.1 to 3.6	-40 to +85 °C	192	12	16	QFN48

ZigBee and Thread Modules

Silicon Labs provides best-in-class ZigBee and Thread module solutions to bring wireless connectivity to any device without the need for RF experience and expertise.

The ETRX357 is based on the third generation Ember EM357 ZigBee SoC offering the highest wireless networking performance and application code space at low power consumption. The modules' unique AT-style command line interface allows designers to quickly integrate ZigBee technology without complex software engineering.

The Silicon Labs ETRX3587 module is footprint compatible with the ETRX357 module but it brings significant additional flash memory and RAM. 512 kB of flash memory and 64 kB of RAM this powerful product has more than enough capacity to deal with the most code intensive applications. The radio chip in the ETRX3587 module is a single-chip, high-performance 2.4 GHz ZigBee transceiver and ARM Cortex-M3 processor integrated with the rigorously tested and field-proven EmberZNet ZigBee PRO networking protocol stack, as well as Thread.

PART NUMBER	PROTOCOL SUPPORT	FREQUENCY RANGE (MHz)	TX POWER	TX CURRENT	RX CURRENT	DATA RATE (kbps)	USB	ADJ CH REJECT (15.4)	ALT CH REJECT (15.4)	DEEP SLEEP CURRENT	VOLTAGE (V)	TEMP RANGE	FLASH (kB)	RAM (kB)	GPIO	PACKAGE
ETRX357		2400-2483.5	-55dBm to +8dBm (boost)	31mA (normal @3dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	0.4 µA (no timer)	2.1 to 3.6	-40° to 85°	192	12	24	25mm x 19mm SMD with on-board antenna
ETRX357HR		2400-2483.5	-55dBm to +8dBm (boost)	31mA (normal @3dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	0.4 µA (no timer)	2.1 to 3.6	-40° to 85°	192	12	24	25mm x 19mm SMD with U.FL antenna socket
ETRX357-LRS		2400-2483.5	1dBm to 21dBm	140mA @20dBm	31.5 mA	250	-	40 dB	52 dB	1 µA	2.1 to 3.6	-40° to 85°	192	12	22	25mm x 19mm SMD with on-board antenna
ETRX357HR-LRS		2400-2483.5	1dBm to 21dBm	140mA @20dBm	31.5 mA	250	-	40 dB	52 dB	1 µA	2.1 to 3.6	-40° to 85°	192	12	22	25mm x 19mm SMD with U.FL antenna socket
ETRX3587	 	2400-2483.5	-55dBm to +8dBm (boost)	31mA (normal @3dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	1.08 µA	2.1 to 3.6	-40° to 85°	512	32	24	25mm x 19mm SMD with on-board antenna
ETRX3587HR	 	2400-2483.5	-55dBm to +8dBm (boost)	31mA (normal @3dBm)	26.5 mA (normal)	250	-	35 dB	46 dB	1.08 µA	2.1 to 3.6	-40° to 85°	512	32	24	25mm x 19mm SMD with U.FL antenna socket
ETRX3587-LRS	 	2400-2483.5	1dBm to 21dBm	140mA @20dBm	31.5 mA	250	-	40 dB	52 dB	1 µA	2.1 to 3.6	-40° to 85°	512	32	22	25mm x 19mm SMD with on-board antenna
ETRX3587HR-LRS	 	2400-2483.5	1dBm to 21dBm	140mA @20dBm	31.5 mA	250	-	40 dB	52 dB	1 µA	2.1 to 3.6	-40° to 85°	512	32	22	25mm x 19mm SMD with U.FL antenna socket

ZigBee USB Stick

The ETRX3 family is designed to easily integrate wireless into designs without the need for any RF or embedded expertise. Using the latest version of Ember's ZNet PRO ZigBee-compliant platform the ETRX3 family of USB stick form factor modules allows designers to add ZigBee wireless mesh networking technology without complex software engineering.

PART NUMBER	PROTOCOL SUPPORT	FREQUENCY RANGE (MHz)	TX POWER	TX CURRENT	RX CURRENT	DATA RATE (kbps)	USB	ADJ CH REJECT (15.4)	ALT CH REJECT (15.4)	DEEP SLEEP CURRENT	VOLTAGE (V)	TEMP RANGE	FLASH (kB)	RAM (kB)	PACKAGE
ETRX3USB		2400-2483.5	-55dBm to +8dBm (boost)	54mA (normal @3dBm)	52.5mA (normal)	250	✓	35 dB	46 dB	23 mA	4.5 to 5.5	-20° to 85°	192	12	USB stick
ETRX3USB-LRS		2400-2483.5	1dBm to 21dBm	249mA @20dBm	57.5mA	250	✓	40 dB	52 dB	23 mA	4.5 to 5.5	-20° to 85°	192	12	USB stick

Mesh Networking Development Tools for ZigBee and Thread

SOFTWARE

SUPPORTED DEVICES

Simplicity Studio™

ZigBee and Thread Networking Systems

EmberZNet PRO ZigBee Protocol Stack Software

ZigBee

Silicon Labs Thread

Thread

SIMPLICITY STUDIO

Silicon Labs' Simplicity Studio tools make wireless development fast and simple. Easy access to the Simplicity IDE, configuration tools, demos, examples, datasheets, application notes, community forum and Silicon Labs support, plus support for the necessary compilers IAR EWARM (EZR32) and Keil (8-bit WMCUs).

App Builder is an easy-to-use graphical tool with an embedded software framework and scenario templates for rapid development. This tool allows developers to start a new project based on an existing framework of best practices developed and tested by Silicon Labs. This framework sits on top of a wireless networking stack to interface with the Hardware Abstraction Layer (or HAL) and provide application layer functionality.

The Network Analyzer tool combines a packet tracer with unique network analysis features, API tracing and a virtual UART. This provides developers with network-aware energy debugging to get the most robust networks and the smallest batteries. When the Network Analyzer tool is used with the Energy Profiler, developers can create designs that are phenomenally energy-friendly in a fraction of the time.

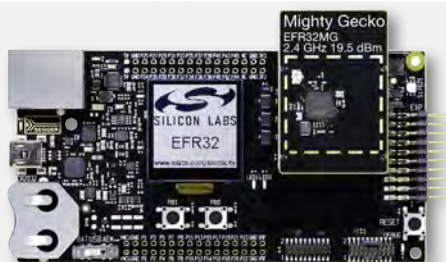
EMBERZNET PRO ZIGBEE PROTOCOL STACK SOFTWARE

EmberZNet PRO ZigBee Protocol Stack Software is a complete ZigBee protocol software package containing all the elements required for robust and reliable mesh networking applications on Silicon Labs' Ember platforms.

SILICON LABS THREAD

Thread Protocol Stack Software aids development by giving you access to the protocol software and development tools to construct multi-node Thread-based mesh networks, monitor and debug multiple nodes simultaneously and visually analyze system performance.

DEVELOPMENT KITS



NEW MIGHTY GECKO WIRELESS STARTER KIT

The Silicon Labs Mighty Gecko Wireless Starter Kit is a perfect starting point to evaluate and develop on the Mighty Gecko Wireless SoC.



EM35X MESH NETWORKING DEVELOPMENT KIT SERIES

Provides all the tools needed to start building development and test networks for ZigBee and Thread.



ETRX357-DVK DEVELOPMENT KIT

Includes all the tools to begin development and evaluation of the ETRX357 series low power 2.4 GHz ZigBee modules.



EM34X ZIGBEE DEVELOPMENT KIT

Allows for full development of both the ZRC controller and target devices.



THREAD BORDER ROUTER

A key component for off-network IP connectivity that enables end-to-end IPv6 connectivity between Thread and other IP-connected devices.

Proprietary

Flex Gecko Wireless SoC

Flex Gecko is a family of 2.4 GHz wireless SoCs targeted at the proprietary wireless market. Flex Gecko meets the market needs with lower power consumption, the addition of new modulation schemes and the ability to run the customer's proprietary protocol stack on the integrated ARM Cortex-M4 and 2.4 GHz transceiver. Flex Gecko is flexible enough to handle a broad range of proprietary wireless applications with an intuitive radio abstraction and interface layer (RAIL) while maintaining hardware platform compatibility with other Wireless Gecko devices. Proprietary wireless stacks typically require less memory than standards based stacks so we offer a range of memory options described in the table below. Security is critical to the success of IoT products and Flex Gecko has an integrated crypto engine (ECC, SHA) which goes beyond just AES encryption. This allows for computationally efficient and secure public and private key cryptography to be implemented in the customer's product.

FLEX GECKO WIRELESS SoC HIGHLIGHTS

- Single-die SoC combining Gecko MCU technology with a 2.4 GHz RF transceiver
- Market-leading link budget: -101 dBm RX sensitivity at 250 kbps and +19.5 dBm TX Output Power
- Among the most energy-efficient and configurable Proprietary Wireless SoCs available, consuming 8.7 mA in peak receive mode and 34.1 mA @ 10.5 dBm in peak transmit mode
- 40 MHz ARM Cortex-M4 processor with powerful floating point and DSP capabilities
- Energy-friendly Gecko MCU consumes only 63 μ A/MHz in active mode
- Integrated hardware cryptographic accelerator enabling fast, energy-efficient autonomous encryption and decryption of Internet security protocols with minimal CPU intervention

PART NUMBER	PROTOCOL SUPPORTED	FREQUENCY	TX POWER (DBM)	ENCRYPTION	PERIPHERALS	FLASH (kB)	RAM (kB)	PACKAGE
EFR32FG1P132F128GM32		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	QFN48
EFR32FG1P132F128GM48		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	256	32	QFN32
EFR32FG1P132F256GM32		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	128	32	QFN48
EFR32FG1P132F256GM48		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	128	32	QFN32
EFR32FG1P132F64GM32		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	64	16	QFN48
EFR32FG1P132F64GM48		2.4 GHz	-30 to +19.5	AES-128/256, SHA-1, SHA-224, SHA-256, ECC	USART (2), I2C, LEUART, ADC, Timers	64	16	QFN32
EFR32FG1V132F128GM32		2.4 GHz	-30 to +16.5	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	256	32	QFN48
EFR32FG1V132F128GM48		2.4 GHz	-30 to +16.5	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	256	32	QFN32
EFR32FG1V132F256GM32		2.4 GHz	-30 to +16.5	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	128	16	QFN48
EFR32FG1V132F256GM48		2.4 GHz	-30 to +16.5	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	128	16	QFN32
EFR32FG1V132F32GM32		2.4 GHz	-30 to +16.5	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	64	16	QFN48
EFR32FG1V132F32GM48		2.4 GHz	-30 to +16.5	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	64	16	QFN32
EFR32FG1V132F64GM32		2.4 GHz	-30 to +16.5	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	32	8	QFN48
EFR32FG1V132F64GM48		2.4 GHz	-30 to +16.5	AES-128/256	USART (2), I2C, LEUART, ADC, Timers	32	8	QFN32

Wireless Transceivers

EZRadio® Universal ISM Band RF ICs

Silicon Labs' EZRadio family of fully integrated, low-power, cost-effective wireless ICs is designed to meet the needs of OEMs developing ISM applications for the consumer, industrial and automotive markets. The EZRadio ISM band transceivers and transmitters target low-power, wireless link applications such as remote keyless entry (RKE), garage door openers, remote controls, home automation and security devices.

Silicon Labs offers the Si4455 Sub-GHz Transceiver for cost-effective two-way communications. The Si4055 RF Transceiver or the Si4010 crystal-less system-on-chip (SoC) RF transmitter or Si4012 crystal-less RF transmitter can be paired with the Si4355 Sub-GHz Receiver or Si4356 Pin-strapped Sub-GHz Receiver for one-way communications.

PART NUMBER	MODULATION SCHEME (MAX KBPS)		FREQUENCY RANGE (MHZ)				OUTPUT POWER MAX (DBM)		SUPPLY VOLTAGE (V)	SENSITIVITY (DBM)	TYPE	PACKAGE
	FSK	OOK	315	434	868	915	868 MHZ BAND	434 MHZ BAND				
Si4055	500	120	✓	✓	✓	✓	12	13	1.8 - 3.6	—	TX	QFN20
Si4355	500	120	✓	✓	✓	✓	—	—	1.8 - 3.6	-116	RX	QFN20
Si4356	120	120	✓	✓	✓	✓	—	—	1.8 - 3.6	-113	RX	QFN20
Si4455	500	120	✓	✓	✓	✓	12	13	1.8 - 3.6	-116	TRX	QFN20

EZRadioPRO® Enhanced Feature Universal ISM Band RF ICs

While including all the attractive features of the EZRadio RF transmitters, receivers and transceivers, such as high integration, low cost, flexibility, low BOM and easy design-in, these EZRadioPRO ICs target more sophisticated ISM band applications and offer several enhanced parameters and features, including outstanding RF performance and standards support for 802.15.4g and Wireless M-Bus, frequency coverage from 119 to 1050 MHz and output power up to +20 dBm with industry-leading PA efficiency. Also included are built-in features such as wake-up timer, low battery detector, transmit and receive data FIFOs, power-on reset circuit and general-purpose digital I/Os.

PART NUMBER	MODULATION SCHEME (MAX KBPS)		FREQUENCY RANGE (MHZ)	OUTPUT POWER RANGE (DBM)	TX CURRENT (DBM)				RX CURRENT (MA)	SENSITIVITY (DBM)		TYPE	PACKAGE
	FSK	OOK			0	+11	+13	+20		2.0 KBPS FSK	4.8 KBPS OOK		
Si4060	1000	120	142 - 1050 Major Bands	-40 to +13	18				—	—	—	TX	QFN20
Si4063	1000	120	142 - 1050 Major Bands	-20 to +20				85	—	—	—	TX	QFN20
Si4362	1000	120	142 - 1050 Major Bands	—					10/13 mA	-124	-112	RX	QFN20
Si4438	500	120	425 - 525	-20 to +20					14 mA	-121	-110	TRX	QFN20
Si4460	1000	120	142 - 1050 Major Bands	-40 to +13	18	25	75		10/13 mA	-124	-112	TRX	QFN20
Si4461	1000	120	142 - 1050 Major Bands	-30 to +16		31			10/13 mA	-124	-112	TRX	QFN20
Si4463	1000	120	142 - 1050 Major Bands	-20 to +20				85	10/13 mA	-124	-112	TRX	QFN20
Si4464	1000	120	119 - 960 Banded	-20 to +20				85	10/13 mA	-124	-112	TRX	QFN20
Si4467	1000	120	142 - 1050 Major Bands	-40 to +13				85	10/13 mA	-124	-112	TRX	QFN20
Si4468	1000	120	142 - 1050 Major Bands	-20 to +20				85	10/13 mA	-124	-112	TRX	QFN20

Wireless Sub-GHz MCUs

Silicon Labs wireless MCU devices provide high-performance wireless connectivity and ultra-low-power 8-bit and 32-bit microcontroller options. These devices support major frequency bands in the 142-1050 MHz range, with multiple pin-compatible MCU and RF options. With all the RF performance benefits of the EZRadio and EZRadioPRO transceivers, a rich set of MCU peripherals, ultra-low power modes and fast wake-up times, these devices can be used to develop a broad range of IoT systems. These devices are designed to be compliant with worldwide regulatory standards including the FCC, ETSI and ARIB.

EZR32™ 32-bit Sub-GHz Wireless MCUs

The EZR32 family of devices includes highly integrated, low-power wireless MCUs. The devices provide tremendous design flexibility with pin-compatible parts that scale from 64 to 256 kB of flash, and include an optional USB interface, as well as various transceiver options and RF output power levels, including support for 802.15.4g and Wireless M-Bus. The ultra-low-power operating modes and fast wake-up times of the Silicon Labs energy-friendly EFM32 32-bit MCUs, combined with the low standby, transmit and receive power consumption of the sub-GHz radio, result in a wireless solution optimized for battery-powered applications.

PART NUMBER	FLASH (KB)	RAM (KB)	MHZ	DIG I/O PINS	TIMERS (16-BIT)	COMMUNICATION	ADC	MODULATION SCHEME (MAX kbps)		OUTPUT POWER	TEMP SENSOR	COMP.	TX CURRENT		PACKAGE
								FSK	OOK				+11/+20 DBM	+13 DBM	
EZR32LG230F64R55G	64	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	500 kbps	120 kbps	13 dBm	✓	2	18 mA (at +10 dBm)	24 mA	QFN64
EZR32LG230F64R60G	64	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	18 mA/—	25 mA	QFN64
EZR32LG230F64R61G	64	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-30 to +16	✓	2	—/—	31 mA	QFN64
EZR32LG230F64R63G	64	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F64R67G	64	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F64R68G	64	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F64R69G	64	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F128R55G	128	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 M sps	500 kbps	120 kbps	13 dBm	✓	2	18 mA (at +10 dBm)	24 mA	QFN64
EZR32LG230F128R60G	128	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	18 mA/—	25 mA	QFN64
EZR32LG230F128R61G	128	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-30 to +16	✓	2	—/—	31 mA	QFN64
EZR32LG230F128R63G	128	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F128R67G	128	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F128R68G	128	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F128R69G	128	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F256R55G	256	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	500 kbps	120 kbps	13 dBm	✓	2	18 mA (at +10 dBm)	24 mA	QFN64
EZR32LG230F256R60G	256	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	18 mA/—	25 mA	QFN64
EZR32LG230F256R61G	256	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-30 to +16	✓	2	—/—	31 mA	QFN64
EZR32LG230F256R63G	256	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F256R67G	256	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F256R68G	256	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG230F256R69G	256	32	48	41	4	2 x I2C; 2 x SPI; 2 x UART; 2 x LEUART	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG330F64R55G	64	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	500 kbps	120 kbps	13 dBm	✓	2	18 mA (at +10 dBm)	24 mA	QFN64
EZR32LG330F64R60G	64	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	18 mA/—	25 mA	QFN64
EZR32LG330F64R61G	64	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-30 to +16	✓	2	—/—	31 mA	QFN64
EZR32LG330F64R63G	64	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG330F64R67G	64	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	—/85 mA	44 mA	QFN64
EZR32LG330F64R68G	64	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	Yes	2	—/85 mA	44 mA	QFN64
EZR32LG330F64R69G	64	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG330F128R55G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	500 kbps	120 kbps	13 dBm	✓	2	18 mA (at +10 dBm)	24 mA	QFN64
EZR32LG330F128R60G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	18 mA/—	25 mA	QFN64
EZR32LG330F128R61G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-30 to +16	✓	2	—/—	31 mA	QFN64
EZR32LG330F128R63G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32LG330F128R67G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-40 to +13	✓	2	—/85 mA	44 mA	QFN64
EZR32LG330F128R68G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1 Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64

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PART NUMBER	FLASH (KB)	RAM (KB)	MHZ	DIG I/O PINS	TIMERS (16-BIT)	COMMUNICATION	ADC	MODULATION SCHEME (MAX kbps)		OUTPUT POWER	TEMP SENSOR	COMP.	TX CURRENT		PACKAGE
								FSK	OOK				+11/+20 DBM	+13 DBM	
EZR32WG330F64R69G	64	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32WG330F128R55G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	500 kbps	120 kbps	13 dBm	✓	2	18 mA (at +10dBm)	24 mA	QFN64
EZR32WG330F128R60G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-40 to +13	✓	2	18 mA/—	25 mA	QFN64
EZR32WG330F128R61G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-30 to +16	✓	2	—/—	31 mA	QFN64
EZR32WG330F128R63G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32WG330F128R67G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-40 to +13	✓	2	—/85 mA	44 mA	QFN64
EZR32WG330F128R68G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32WG330F128R69G	128	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32WG330F256R55G	256	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	500 kbps	120 kbps	13 dBm	✓	2	18 mA (at +10 dBm)	24 mA	QFN64
EZR32WG330F256R60G	256	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-40 to +13	✓	2	18 mA/—	25 mA	QFN64
EZR32WG330F256R61G	256	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-30 to +16	✓	2	—/—	31 mA	QFN64
EZR32WG330F256R63G	256	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32WG330F256R67G	256	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-40 to +13	✓	2	—/85 mA	44 mA	QFN64
EZR32WG330F256R68G	256	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64
EZR32WG330F256R69G	256	32	48	38	4	2 x I2C; 2 x SPI; UART; 2 x LEUART; USB	12-bit, 8-ch, 1Msps	1000 kbps	120 kbps	-20 to +20	✓	2	—/85 mA	44 mA	QFN64

8-bit Sub-GHz Wireless MCUs

PART NUMBER	FLASH (KB)	RAM (KB)	MHZ	DIG I/O PINS	TIMERS (16-BIT)	COMMUNICATION	ADC 1	MODULATION SCHEME (MAX kbps)		OUTPUT POWER	TEMP SENSOR	COMP.	TX CURRENT (DBM)		PACKAGE
								FSK	OOK				+11/+20	+13	
Si1060	64 kB	4	25	15	4	I2C; SPI; UART	10-bit, 18-ch., 300 ksps	512 kbps	120 kbps	-20 to +20	✓	2	18 mA/85 mA	29 mA	QFN36
Si1061	32 kB	4	25	15	4	I2C; SPI; UART	10-bit, 18-ch., 300 ksps	512 kbps	120 kbps	-20 to +20	✓	2	18 mA/85 mA	29 mA	QFN36
Si1062	64 kB	4	25	15	4	I2C; SPI; UART	10-bit, 18-ch., 300 ksps	512 kbps	120 kbps	-40 to +13	✓	2	18 mA	29 mA	QFN36
Si1063	32 kB	4	25	15	4	I2C; SPI; UART	10-bit, 18-ch., 300 ksps	512 kbps	120 kbps	-40 to +13	✓	2	18 mA	29 mA	QFN36
Si1064	64 kB	4	25	15	4	I2C; SPI; UART	10-bit, 15-ch., 300 ksps	512 kbps	120 kbps	-40 to +13	✓	2	18 mA	29 mA	QFN36
Si1065	32 kB	4	25	15	4	I2C; SPI; UART	10-bit, 18-ch., 300 ksps	512 kbps	120 kbps	-40 to +13	✓	2	18 mA	29 mA	QFN36
Si1080	16 kB	0.7	25	15	4	I2C; SPI; UART	10-bit, 18-ch., 300 ksps	512 kbps	120 kbps	-20 to +20	✓	2	18 mA/85 mA	29 mA	QFN36
Si1081	8 kB	0.7	25	15	4	I2C; SPI; UART	10-bit, 18-ch., 300 ksps	512 kbps	120 kbps	-20 to +20	✓	2	18 mA/85 mA	29 mA	QFN36
Si1082	16 kB	0.7	25	15	4	I2C; SPI; UART	10-bit, 18-ch., 300 ksps	512 kbps	120 kbps	-40 to +13	✓	2	18 mA	29 mA	QFN36
Si1083	8 kB	0.7	25	15	4	I2C; SPI; UART	10-bit, 15-ch., 300 ksps	512 kbps	120 kbps	-40 to +13	✓	2	18 mA	29 mA	QFN36
Si1084	16 kB	0.7	25	15	4	I2C; SPI; UART	10-bit, 15-ch., 300 ksps	512 kbps	120 kbps	-40 to +13	✓	2	18 mA	29 mA	QFN36
Si1085	8 kB	0.7	25	15	4	I2C; SPI; UART	10-bit, 15-ch., 300 ksps	512 kbps	120 kbps	-40 to +13	✓	2	18 mA	29 mA	QFN36

8-bit Sub-GHz Wireless MCUs (TX only)

PART NUMBER	FREQUENCY RANGE (MHZ)	OTP (KB)	RAM (KB)	MODULATION SCHEME (MAX KBPS)		Tx CURRENT (@10 dBm)		OUTPUT POWER MAX (DBM)	SUPPLY VOLTAGE (V)	TYPE	PACKAGE
				FSK	OOK	FSK	OOK				
Si4010	27 - 960	8	4	100	50	20 mA	14 mA	10	1.8 - 3.6	TX	MSOP, SOIC
Si4012	27 - 960	N/A	N/A	100	50	20 mA	14 mA	10	1.8 - 3.6	TX	MSOP

Wireless M-Bus Software for EZR32, EFM32 and EZRadioPRO

Wireless M-Bus is a European standard for the remote reading of water, gas, electricity and heat meters. Silicon Labs WM-Bus solution includes a complete protocol stack that provides support for the S (868 MHz), T (868 MHz), C (868 MHz) and N (169 MHz) wireless M-Bus modes specified by the latest version of EN 13757. The entire solution is highly optimized for RF performance, low power and small memory footprint and supports all the region-specific requirements in Europe, including Italy and France.

Proprietary Development Tools

SOFTWARE	SUPPORTED DEVICES
Simplicity Studio	EZR32, Flex Gecko
Wireless Development Suite	EZRadio, EZRadioPRO, 8-bit Sub-GHz WMCUs
Wireless M-Bus Stack	EZR32, EFM32, EZRadioPRO

SIMPLICITY STUDIO

Silicon Labs' Simplicity Studio tools make wireless development fast and simple. Easy access to the Simplicity IDE, configuration tools, demos, examples, data sheets, application notes, community forum and Silicon Labs support, plus support for IAR EWARM and Keil compilers. The Radio Abstraction and Interface Layer (RAIL) SDK is available to use with Simplicity Studio with initial support for EFR32FG

WIRELESS DEVELOPMENT SUITE

Silicon Labs' Wireless Development Suite (WDS) provides wireless application developers a comprehensive toolset to quickly and easily create and deploy efficient, robust and low-cost wireless applications with little or no specific RF design and measurement experience. WDS supports EZRadio, EZRadioPRO and 8-bit WMCUs with a range of sample applications and radio configuration tools that enable software development as well as RF evaluation.

DEVELOPMENT KITS



NEW FLEX GECKO WIRELESS STARTER KIT

The Silicon Labs Flex Gecko Wireless Starter Kit is a perfect starting point to evaluate and develop on the Flex Gecko Wireless SoC.



EZRADIO AND EZRADIOPRO WIRELESS DEVELOPMENT KIT

Provides the tools necessary to evaluate the EZRadio and EZRadioPRO devices.



EZRADIO SI4455 TWO-WAY SUB-GHz TO LED RF STICK

Contains everything you need to familiarize yourself with and evaluate the Si4455 Sub-GHz transceiver.



EZRADIO SI4010/SI4355 ONE-WAY SUB-GHz KEY FOB TO LED RF STICK

Contains everything you need to familiarize yourself with and evaluate the Si4010 RF SoC transmitter and the Si4355 receiver.



ANTENNA MATRIX DEVELOPMENT KIT

Designed to simplify antenna design and selection. The antenna designs can be copied into any design after evaluation of various types of antennas in the matrix.

EZR32 LEOPARD/WONDER GECKO STARTER KIT

The Silicon Labs EZR32 Leopard/Wonder Gecko Wireless Starter Kit is a perfect starting point to evaluate and develop on the EZR32 Leopard/Wonder Gecko Wireless MCUs.





Smart. Connected. Energy-Friendly.