EZRadio® and EZRadioPRO®

Complete family of transmitters, transceivers and receivers

Si4432

EZRadioPRO FEATURES

- 240–960 MHz continuous frequency coverage
- Configurable output power up to +20 dB
- Up to 141 dB link budget for extended communication ranges
- Optimized low power modes to support extended battery life
- GFSK, FSK, OOK modulations
- Fast frequency-hopping support
- Configurable data packet handler
- Embedded antenna diversity algorithm
- Integrated low battery detector, temperature sensor, power-on-reset, general purpose ADC, and 32.768 KHz RC or XTAL
- Integrated 64-byte transmitter and receiver FIFOs

EZRadio FEATURES

- Optimized one-way link solutions
- Highly integrated with minimal BOM
- Very easy design-in
- Crystal-less operation (Si401x family)
- Complete SoC solutions with integrated MCU (Si4010)
- Automatic antenna tuning
- Direct loop/IFA antenna support

APPLICATIONS

- Remote keyless entry (RKE)
- Automated meter readers (AMR)
- Aftermarket car alarms
- Remote controls, IR replacement/extension
- Wireless weather stations
- Home security and automation
- Garage and gate door openers
- Active RFID
- Baby monitors
- Sensor nodes
- Energy displays

DESCRIPTION

Silicon Labs' family of EZRadio® and EZRadioPRO® single-chip ISM band transceivers, receivers and transmitters are highly integrated, low power, low cost solutions designed to support a wide range of wireless applications. The EZRadioPRO family features industry leading performance and an extensive set of advanced features to reduce overall system cost and complexity. The EZRadio family offers a complete solution for applications where cost and space are at a premium. EZRadio and EZRadioPRO support proprietary and standards-based point-to-point, star, and mesh networks.

THE NEW STANDARD IN WIRELESS SOLUTIONS.

Si4432 BLOCK DIAGRAM

SILICON LABS
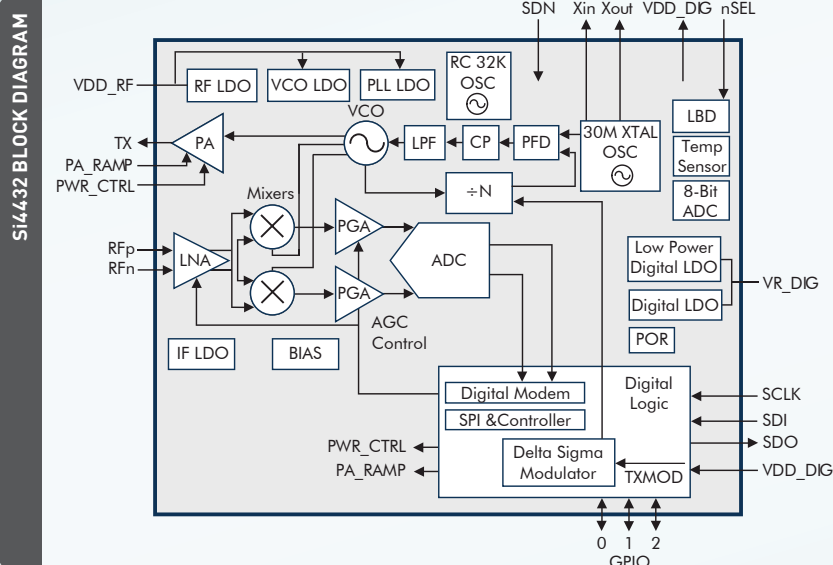
EZRadio® and EZRadioPRO®

Complete family of transmitters, transceivers and receivers

Electricity Meter

Electricity Meters measure the kilowatt hours consumed, the power factor of the load and the time of the electricity consumption to support multi-rate metering. The communications system in these meters requires reliability and range, which Silicon Labs provides with its EZRadioPRO embedded wireless transceivers, C8051F900 MCUs, Si84xx digital isolators and CP2400 LCD Controllers.
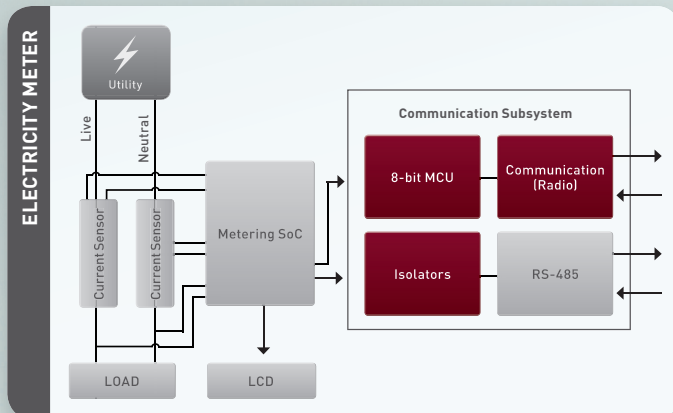

EZMac® Embedded Media Access Control Software

EZMac® media access control module is developed in C code for use with our ISM transceiver products and MCUs to create very low cost mesh networks. EZMac software provides designers a simplified interface to the physical radio layer that manages signal delivery and associated packets from the transmitter to the receiver and between nodes.

- Supports ISM band transceivers
- Internal baud rate generator
- 16 byte payload per packet
- Dedicated crystal oscillator for exact timing
- DQD (data quality detector) for FSK fast frequency hopping
- Configurable packet filtering
- Multiple error detection

Wireless Development Suite

The Wireless Development Suite (WDS) provides developers a comprehensive toolset to quickly and easily create and deploy efficient, robust and low-cost wireless applications. WDS can be used for demonstrating part capabilities, testing performance, and prototyping application examples, with little or no RF design and measurement experience.
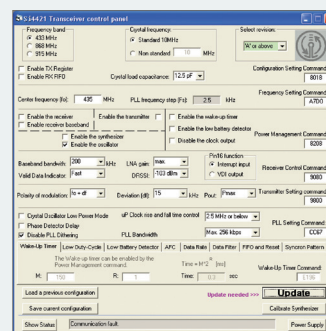
WIRELESS DEVELOPMENT SUITE

EZRadio Universal ISM Band RF ICs

| PART NUMBER | TYPE | MODULATION SCHEME (MAX KBPS) | | FREQUENCY BANDS (MHz) | | | | OUTPUT POWER MAX (dBm) | | SUPPLY VOLTAGE (V) | SENSITIVITY (dBm) | PACKAGE |
		(FSK)	(OOK)	315	434	868	915	868 MHz BAND	434 MHz BAND			
Si4010	MCU +TX	100	50	27 - 960				10		1.8-3.6	—	MSOP10/SOIC14
Si4012	TX	100	50	27 - 960				10		1.8-3.6	—	MSOP10/SOIC14
Si4021	TX	115	512		•	•	•	6	8	2.2-5.4	—	TSSOP16
Si4022	TX	115	—			•	•	6	8	2.2-3.8	—	TSSOP16
Si4311	RX	10	—	•	•			—	—	2.7-3.6	-104	QFN20
Si4312	RX	—	10	•	•			—	—	2.7-3.6	-110	QFN20
Si4313	RX	256	40	•	•	•	•	—	—	1.8-3.6	-118/-107	QFN20
Si4322	RX	256	—			•	•	—	—	2.2-3.8	-104	TSSOP16

EZRadioPRO Radio with Enhanced Features

| PART NUMBER | TYPE | MODULATION SCHEME (MAX KBPS) | | FREQUENCY RANGE (MHz) | OUTPUT POWER RANGE (dBm) | SENSITIVITY (dBm) | | RX CURRENT (mA) | TX CURRENT (mA) | | | | PACKAGE |
		(FSK)	(OOK)			(2.0 KBPS) (FSK)	(4.8 KBPS) (OOK)		0 dBm	+11 dBm	+13 dBm	20 dBm	
Si4030	TX	256	40	900-960	-8 to +13	—	—	—	18	—	30	—	QFN20
Si4031	TX	256	40	240-930	-8 to +13	—	—	—	18	—	30	—	QFN20
Si4032	TX	256	40	240-930	+1 to +20	—	—	—	—	35	—	85	QFN20
Si4330	RX	256	40	240-960	—	-121	-110	18.5	—	—	—	—	QFN20
Si4430	TRX	256	40	900-960	-8 to +13	-121	-110	18.5	18	—	30	—	QFN20
Si4431	TRX	256	40	240-930	-8 to +13	-121	-110	18.5	18	—	30	—	QFN20
Si4432	TRX	256	40	240-930	+1 to +20	-121	-110	18.5	—	35	—	85	QFN20

SILICON LABORATORIES INC. | 400 W. CESAR CHAVEZ | AUSTIN, TX 78701 | 877-444-3032 | SILABS.COM/WIRELESS

SILICON LABS

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Silicon Laboratories](#):
  4021-DKDB2 4022-DKDB13 4421-DKDB1 4320-DKDB2 4420-DKDB1 4021-DKDB10 4322-DKDB1 4032-T-B1 B 868 4430-T-B1 D 950