WIRELESS SOLUTIONS

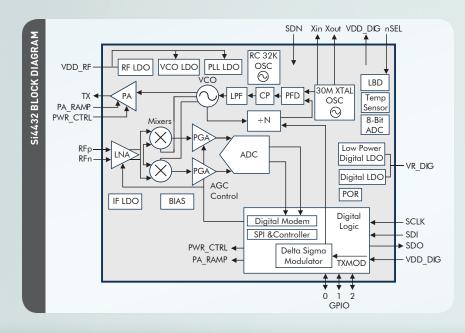
EZRadio[®] and EZRadioPRO[®]

Complete family of transmitters, transceivers and receivers



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.



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, 00K 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

THE NEW STANDARD IN WIRELESS SOLUTIONS.

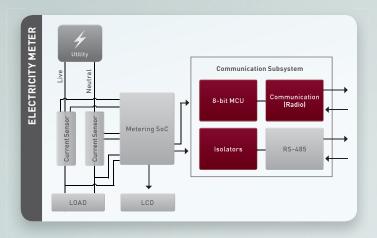


EZRadio[®] and EZRadioPRO[®]

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 multirate 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.

7 432 MHz # 432 MHz 17 880 MHz 17 351 MHz 17 351 MHz	Contribution Co	Here Here	
Exem Schapav Exem IN/IPD	Cyrtel load copacitance: 23 pF		Quanties Setting Commun. 0018
Center frequences (Fill) 400 H	Pr PLL Inspersy das (*18		Harris Setting Concess
F Endin for winner Endin for senten Endi	fection and an and	And in the second second	eer Hanagameer it Camman 0200
Festerdiardet: 20 -	an Lingan mar 2 Second Maratin 2	Politikecter Politikecter Statespring /* V51 oxford	Tacar-in Cantal Comme
Polaty of modulators (D+d +)	Decision des 19	to Par Par 1	overable Softing commune 9800
Cyntol Deollater Lose Passer Mede Passer Detector Delay Disador PL1 Differing:	all Dock mis and fail two cars	Mar 26 Mar -	PLL Setting Comman
When the flow (Law Daty-Code) The Walks or from the Plastic Management of	e des multiples lites		House Service Fathers
A [18	R T	111 11	FILE
Cast a person configuration		April a second at the	Update Calum Service

WIRELESS DEVELOPMENT SUITE

PART NUMBER	TYPE		ON SCHEME KBPS) (00K)	FRE 315	QUENCY 434	BANDS (M 868	4Hz) 915	OUTPUT POWI 868 MHz BAND	ER MAX (dBm) 434 MHz BAND	SUPPLY VOLTAGE (V)	SENSITIVITY (dBm)	PACKAGE	
Si4010	MCU +TX	100	50		27 -	960		1	0	1.8-3.6	_	MSOP10/SOIC14	
Si4012	ТХ	100	50		27 -	960		10		1.8-3.6	—	MSOP10/SOIC14	
Si4021	ТХ	115	512		•	•	•	6	8	2.2-5.4	_	TSS0P16	
Si4022	ТХ	115	_			•	•	6	8	2.2-3.8	_	TSS0P16	
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	TSS0P16	

EZRadio Universal ISM Band RF ICs

EZRadioPRO Radio with Enhanced Features

PART NUMBER	TYPE		DN SCHEME KBPS) (00K)	FREQUENCY RANGE (MHz)	OUTPUT POWER RANGE (dBm)	SENSITI\ (2.0 KBPS) (FSK)	(ITY (dBm) (4.8 KBPS) (00K)	RX CURRENT (mA)	0 dBm ·		ENT (mA) +13 dBm		PACKAGE
Si4030	ΤX	256	40	900-960	-8 to +13	_	_	-	18	-	30	-	QFN20
Si4031	TX	256	40	240-930	-8 to +13	_	_	-	18	-	30	-	QFN20
Si4032	ΤX	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



© 2010, Silicon Laboratories Inc. EZMac, EZRadio, EZRadioPRO, EZLink, Silicon Laboratories and the Silicon Labs logo are trademarks or registered trademarks of Silicon Laboratories Inc. All other product or service names are the property of their respective owners. For the most up to date information please see your sales representative or visit our website at www.silabs.com. CSI, 2500, July 10, Rev E SEL-SRW-2010E