

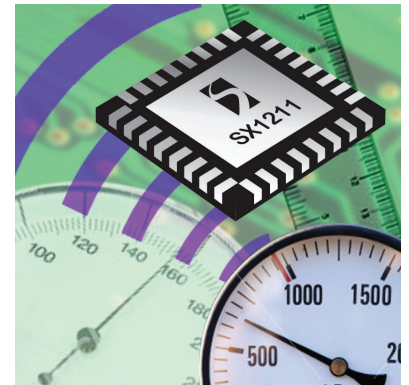
Product Brief



SEMTECH WIRELESS & SENSING PRODUCTS

SX1211

Ultra-low Power Multi-Channel UHF-band Transceiver



WORLD'S LOWEST RECEIVE CURRENT TRANSCEIVER (<3mA)

3x lower RX current than competitive devices

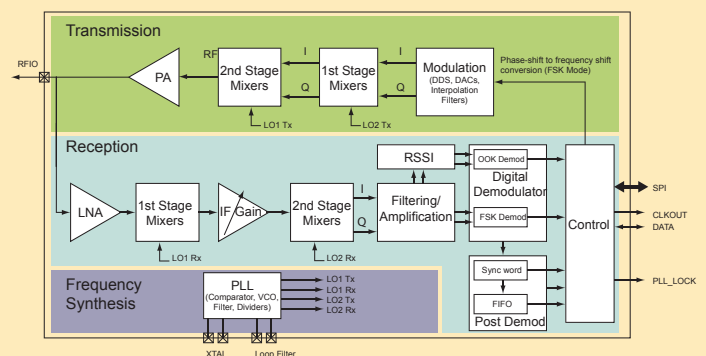
Key Features:

- 3mA current consumption in receive mode
- Rx sensitivity -107 dBm @ 25 kbit/s (FSK), -110 dBm @ 2 kbit/s (OOK)
- Programmable RF output power: up to +12.5 dBm in 8 steps
- FSK and OOK modulation
- Data rates programmable from 1.56 to 200 kbit/s (FSK)
- 64-byte FIFO for transmit/receive data buffering and transfer via SPI bus
- RSSI (Received Signal Strength Indicator) range from noise floor to 0 dBm
- Packet Handling, CRC generation and Data Whitening
- Incoming sync word recognition
- Built-in bit-synchronizer for incoming data and clock synchronization and recovery
- 868, 915 and 960 MHz frequency bands
- 5 x 5 mm TQFN32 RoHS-compliant
- Low external component count
- FCC DTS compliant (US ISM-band operation without frequency-hopping)
- Satisfies ETSI EN 300-220-1 and FCC part 15.247 & 15.249 regulations

Applications:

- Security and Alarm Systems
- Wireless Sensor Networks
- Sub-Metering
- Personal Area Network
- Sports & Health Equipment
- Home and Building Automation
- KONNEX™ Systems
- Industrial Monitoring and Control

Block Diagram:



Product Brief

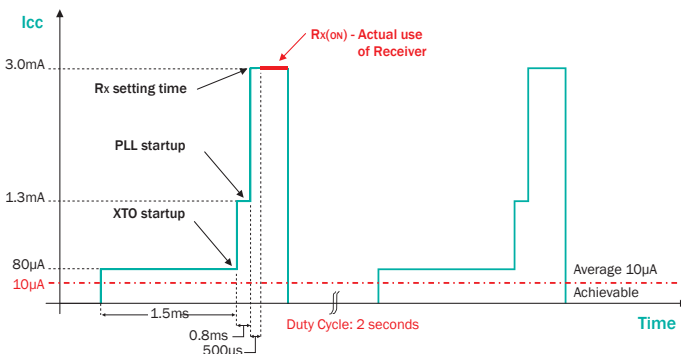
SX1211 Ultra-low Power Multi-Channel UHF-band Transceiver

Characteristics

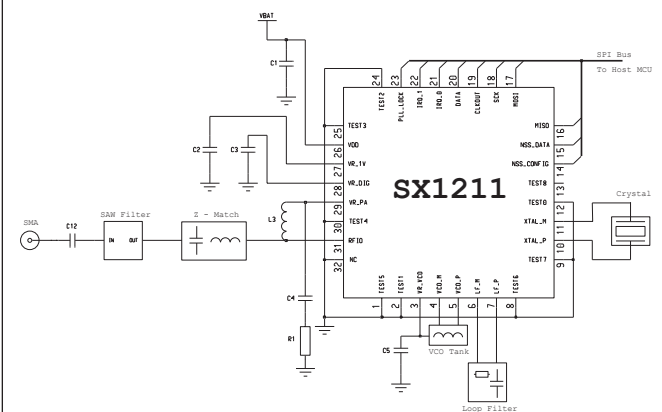
Parameter	Min	Typ	Max	Unit	Condition
Operating Conditions					
Operating temperature range	-40		85	°C	
Operating supply voltage	2.1		3.6	V	
Current Consumption					
Current consumption R_X		3		mA	
Current consumption T_X		16.0		mA	+1 dBm
		25.0		mA	+10 dBm
Current consumption, sleep mode		0.2	2	μ A	
RF Characteristics					
Frequency range	863		870	MHz	
	902		928	MHz	
	950		960	MHz	
Data rate (programmable)	1.56		200	kbit/s	FSK
	1.56		32	kbit/s	OOK
T_X output power (programmable)	-8.5		12.5	dBm	
R_X sensitivity		-107		dBm	
		-110		dBm	OOK Modulation: 2 kb/s NRZ, Carrier Frequency=869 MHz

Conditions: Temp=25°C, VDD=3.3V, crystal frequency=12.8 MHz, carrier frequency= 915 MHz, modulation FSK, data rate=25 kb/s, Δf =50 kHz, BW(SSB)=100 kHz, BER=0.1%, unless otherwise specified.

STARTUP TIME CHART



TYPICAL APPLICATION CIRCUIT



Visit our website to locate the most current product specifications, datasheets and contact information for your local Semtech Field Applications Engineer.

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