

Product Brief



SEMTECH WIRELESS AND SENSING PRODUCTS



XE1200 Series RF Transceivers

High-Performance Multi-Channel UHF-band Transceivers

World's Highest Link-Budget Transceivers

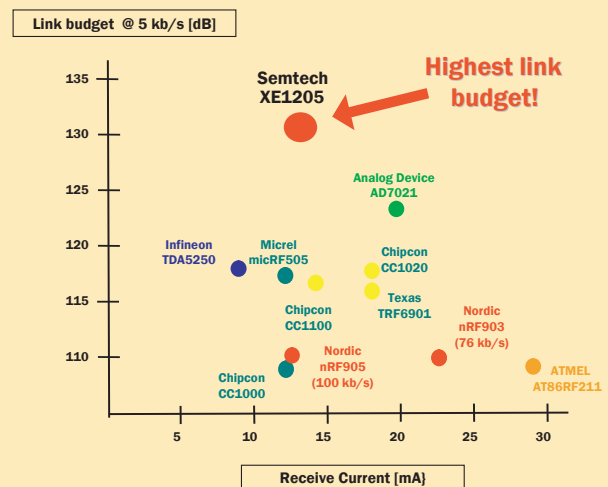
Key Features:

- Typical link budget up to 131 dB at 4.8 kbit/s, 0.1% BER WITHOUT external LNA or PA
- Rx sensitivity as low as -121 dBm (typical) @ 1.2 kbit/s, 0.1% BER (XE1205)
- Tx output +15 dBm (typical)
- Data rates from 1.2 to 304.6 kbit/s
- 100 μ s transmitter wake-up time (typical, synthesizer enabled)
- Automatic frequency-error cancellation (XE1205)
- Digital RSSI
- Two-layer, pre-certified reference designs available
- 433, 868 and 915 MHz bands
- Satisfy ETSI EN 300-220-1 and FCC 15.247 regulations without requiring an external SAW filter

Applications:

- Narrowband 25 kHz applications (XE1205)
- Short range data communication
- Home and building automation
- Security and alarm systems
- Automated meter reading
- Wireless automotive applications
- Voice-over-RF transmission

Link-Budget Comparison Chart



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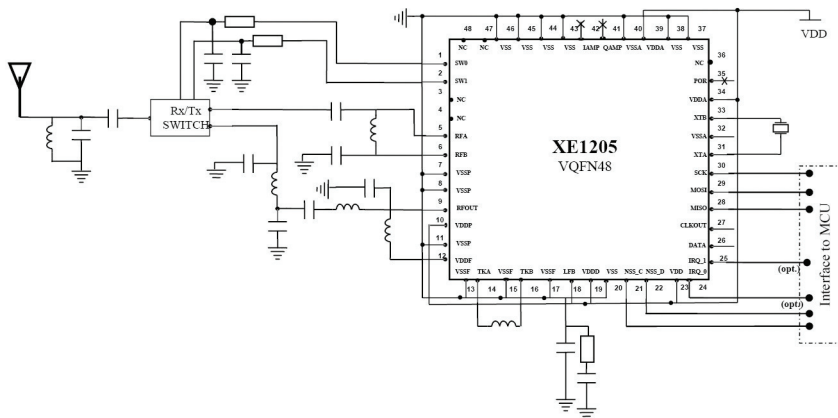
Characteristics		XE1202A			XE1203F			XE1205		
Frequency (MHz)		433	868	915	433	868	915	433	868	915
Modulation		2-FSK			2-FSK			2-FSK		
Supply voltage	Min	2.4V			2.4V			2.4V		
	Max	3.6V			3.6V			3.6V		
Typ. Current	RX	14 mA			14 mA			14 mA		
	TX (@5 dBm)	33 mA			33 mA			33 mA		
Output power (dBm)		0/+5/+10/+15			0/+5/+10/+15			0/+5/+10/+15		
RX sensitivity (BER=0.1%) (@ 4.8 kbit/s)		-114 dBm			-114 dBm			-116 dBm		
Max data rate		76.8 kbit/s			152.3 kbit/s			304.6 kbit/s		
LO generated		Fractional N PLL minimum resolution 500Hz								
FIFO data buffer ¹								•		
Full SPI interface								•		
Bit synchronizer		•			•			•		
Crystal oscillator frequency		39MHz			39MHz			39MHz		
ETSI/FCC certifiable without SAW filter		•			•			•		
Narrowband (25kHz) ²								• ³		
Package		LQFP44			VQFN48			VQFN48		

¹ 16 byte buffer; enables SPI interface alone to be used for programming and data transfer and reduces host-processor overhead

² Satisfies the ETSI EN 300-220-1 requirements for operation in the 25 kHz alarm bands

³ 10 dBm Tx power; also satisfies Korean RRL requirements

Typical Application Circuit



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