



XM1209

Ultra Low Power Transceiver Board operating at 30 - 70 kHz

Features

The XM1209 is a transceiver board based on XEMICS' XE1209 single chip transceiver. The XM1209 serves for demonstration and evaluation purposes of the XE1209 short range transceiver. It interfaces to XEMICS's tool suite but can also be used in stand alone mode interfacing to most microcontrollers.

The XM1209 includes a separate ferrite antenna board, which is connected to the main board via a flat connector. This allows one to test the XM1209 with various ferrite antennas in order to optimize form factor and broadcasting range for each application. With the current ferrite antenna, measured performance shows communication over 2.5 meters when the XM1209 is used on both ends.

Combined with XEMICS' tool suite, the XM1209 allows validation of the various operating modes of the XE1209 to optimize power consumption, for example carrier detect.

Applications

- Wireless sensing
- Remote control
- Keyless entry system
- Short Range Wireless data link
- Access Control

Quick Reference Data

- Supply voltage 2.0 to 3.2 V
- Modulation 2-level FSK
- Sensitivity 70 μ Vp
- Current consumption 95 μ A (Standby mode)
200 μ A (Rx mode)

- Carrier frequency 36.86kHz
45.05kHz

- Size 3.5cm x 4cm

Ordering Information

Part	Pin-package
XM1209-A0	Board

Interface to a Microcontroller

The XM1209 can be connected to a microcontroller board or test equipment, with a 10-pin connector. In addition, the module provides easy access to the DTA and DCLK signals via 2 probe-pads. For convenience, power can be supplied to the XM1209 through separate VSS and VCC V connectors. In this case, the two supply lines of the 10-pin connector (Pin 7 & Pin 9) should not be used. The XM1209 is shown in the figure below.

- Pin #1 :** NC (Not Connected)
- Pin #2 :** "SC" (input): Serial Clock line, used to set-up configuration of the XE1209 transceiver IC.
- Pin #3 :** "DATA" (i/o): Input output bit stream or output of the peak detector.
- Pin #4 :** "SD" (input): Serial Data line, used to set-up configuration of the XE1209 transceiver IC.
- Pin #5 :** "CLKD" (output): Clock Data line. This is the clock signal for the received data. It is generated by an on-chip bit synchronizer to provide jitter free data at the output.
- Pin #6 :** "DE" (input): Data Enable line, used to set-up configuration of the XE1209 transceiver IC.
- Pin #7 :** "GND Line": Ground.
- Pin #8 :** "RE" (input): Receiver enable.

TR (register)	RE (input pin)	Mode
0	0	Standby
0	1	Carrier detector
1	0	Transmitter
1	1	Receiver

- Pin #9 :** "VDD Line": Connect to a 2.6V power-supply.
- Pin #10 :** NC (Not Connected)

For operating instruction on the XM1209, please refer to the XE1209EVK Evaluation Kit user guide.

