



## XM1205 TrueRF™ – 433 / 868 / 915 MHz

### Transceiver board for narrow and wide band Applications

#### GENERAL DESCRIPTION

The XM1205 TrueRF transceiver module is designed to be both cost effective and have low power consumption. Based on the highly integrated XE1205 TrueRF chip, the RF module has a direct digital interface for data, RSSI output, FEI (Frequency Error Indicator) output and antenna Rx/Tx switch control.

As with the XE1205, the XM1205 transceiver module offers the unique advantage of narrow-band and wide-band communication. The XM1205 is optimized for high data rates up to 152.3 kbit/s, this without the need to modify the number or parameters of the external components. The XM1205 is optimized for low power consumption while offering high RF output power and exceptional receiver sensitivity. The device is suitable for circuit applications which have to satisfy either the European (ETSI-300 220-1) or the North American (FCC part 15.231) regulatory standards.

The XM1205 transceiver module allows straightforward evaluation or application development.

#### ORDERING INFORMATION

Part	Pin-package
XM1205-C915	Board – 20 pins
XM1205-C868	Board – 20 pins

#### .KEY PRODUCT FEATURES

- Direct digital interface
- Rx / Tx switch on board
- Frequency synthesizer step: 500 Hz
- Narrow band operation: 25 kHz channels for data rates up to 4.8 kbit/s, NRZ coding. Transmitter pre-filtering to enable adjacent channel power below -37 dBm at 25 kHz
- Output power is programmable: up to 15 dBm
- High reception sensitivity: down to -116 dBm at 4.8 kbit/s, -121 dBm at 1.2 kbit/s
- Data rate up to 152.3 kbit/s
- Low Power consumption:  
RX=14 mA; TX=62 mA @15 dBm (typical)
- Supply voltage down to 2.4V
- 16 byte FIFO for transmits and receives data buffering and transfer via SPI bus.
- Incoming data pattern recognition
- Synchronized clock output
- Bit Synchronizer
- RSSI (Received Signal Strength Indicator)
- FEI (Frequency Error Indicator)

## I/O LINES

The XM1205 can be connected to the main application board, test equipment or XEMICS development tools via a 20 pins connector shown in the figure below.

### Pin #1

"SCK": (Input), Serial Clock line, used to set-up configuration of the XE1205 transceiver IC.

### Pin #2

"VDD": Connect to a 3.3V power supply.

### Pin #3

"MOSI": (Input), SPI Master Output Slave Input.

### Pin #4

"GND": Connect to Ground

### Pin #5

"IRQ1": (Output), Interrupt: DCLK / FIFOFULL.

### Pin #6

NC.

### Pin #7

"NSS\_CONFIG": (Input), SPI Select Configuration.

### Pin #8

"MISO": (Output), SPI Master Input Slave Output.

### Pin #9

"CLKOUT": (Output), Output clock at reference frequency divided by 4, 8, 16, 32.

### Pin #10

NC.

### Pin #11

"SW(0)", (Input / Output) Transmit/Receive/Stand-by/Sleep Mode Select

### Pin #12

"IRQ\_0": (Output), Interrupt: PATTERN / FIFOEMPTY

### Pin #13

"SW(1)", (Input / Output) Transmit/Receive/Stand-by/Sleep Mode Select

### Pin #14

NC

### Pin #15

"IRQ1": (Output), Interrupt: DCLK / FIFOFULL

### Pin #16

NC

### Pin #17

"DATA": (Input / Output), Transmitter input data or Receiver output data.

### Pin #18

NC

### Pin #19

"NS\_DATA": (Input), SPI Select DATA / DATAIN.

### Pin #20

NC

For convenience, the XM1205 can be supplied through separate VDD and GND pins. In this case, the two supply lines of the 20-pin connector should not be used, the jumper "VDD1" should be removed.

