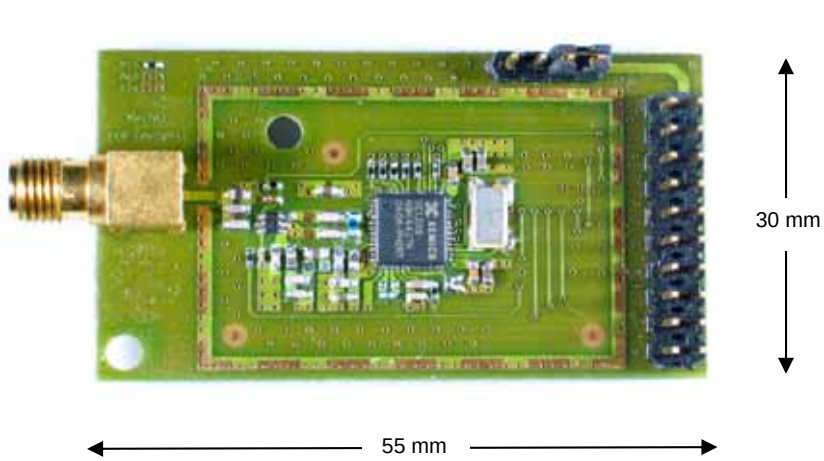
XEMICS

Product Brief
XM1203F RF Module

trueRF™



XM1203F

433 / 868 / 915 MHz TrueRF™ Transceiver Module

GENERAL DESCRIPTION

The XE1203F module is a complete radio solution based on the highly integrated XE1203F integrated ISM-band radio transceiver. Designed for performance evaluation purposes, the RF module has a direct digital interface for data, RSSI output, FEI (Frequency Error Indicator) output and antenna Rx/Tx switch control.

The XM1203F transceiver module enables high data rate communication at rates up to 152.3 kbit/s. The module is optimized for low power consumption in receive and standby modes. In transmit mode typical output power is +15 dBm without any external power amplifier. Three frequency ranges are available to satisfy either the European (ETSI-300 220-1) or the North American (FCC part 15.231) standards.

XM modules may also be ordered as part of a Starter Kit, which includes a microcontroller interface and a PC-based graphical user interface to enable range testing and more detailed product evaluation.

ORDERING INFORMATION

Part	Version	Pin-package
XM1203F-C433XEM-1	TrueRF™	Board with Antenna
XM1203F-C868XEM-1	TrueRF™	Board with Antenna
XM1203F-C868XEM-1	TrueRF™	Board with Antenna

KEY PRODUCT FEATURES

- Direct digital interface
- Minimum external component count
- Elimination of high-cost external components (e.g. SAW-filter)
- Frequency synthesizer minimum resolution: 500 Hz
- Output power programmable: up to 15 dBm (typ.)
- High reception sensitivity: down to -114 dBm (typ.)
- Data rate up to 153.2 kbit/s
- Low Power consumption:
  RX=14 mA; TX=65 mA @15 dBm (typ.)
- 11-bit Barker encoder/decoder for robust transmission in the presence of interference
- Incoming data pattern recognition for receive-only with microcontroller wake up
- Synchronized clock output
- Bit Synchronizer (data recovery)
- RSSI (Received Signal Strength Indicator)
- FEI (Frequency Error Indicator)

I/O LINES

The XM1203F TrueRF™ can be connected to test equipment or XEMICS' development tools via a 20 pins connector.

Pin #1
"SCK": (Input), Serial Clock line, used to set-up configuration of the transceiver IC.

Pin #2
"VDD": Connect to a 3.3V power supply.

Pin #3
"SI": (Input), Serial Input, used to set-up configuration of the transceiver IC.

Pin #4
"GND": Connect to Ground

Pin #5
"SO": (Output), Serial Output, used to read configuration register of the transceiver IC.

Pin #6
"TX": (Input), Transmit, used to set-up the antenna switch in transmitter.

Pin #7
"EN": (Input), Chip Enable.

Pin #8
"RX": (Input), Receive, used to set-up the antenna switch in Receiver.

Pin #9
"SWITCH": (Input / Output), Receiver or Transmitter mode selection

Pin #10
"CLKOUT": (Output), Output clock at reference frequency divided by 4,8,16,32.

Pin #11
NC, grounded

Pin #12
"PATTERN": (Output), Output of the pattern recognition block.

Pin #13
NC, grounded

Pin #14
NC, grounded

Pin #15
"DCLK": (Output), Recovered received Data Clock.

Pin #16
NC, grounded

Pin #17
"DATA": (Input / Output), Transmitter input data or Receiver output data.

Pin #18
NC, grounded

Pin #19
"DATAIN": (Input), Transmit Data.

Pin #20
NC, grounded

For convenience, the XM1203F 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, as that removes the jumper "VDD1"