

# MSI PC/104 Embedded PC Series

# MSI-P700-X ZigBee/IEEE 802.15.4 Wireless Card

## FEATURES

- ◆ Indoor/urban Range: Up to 300' (100 m).
- ◆ Outdoor line-of-sight Range: Up to 1 mile (1.6 km).
- ◆ Transmit Power Output: 60 mW (18 dBm).
- ◆ Operating Frequency: 2.4 GHz.
- ◆ RF Data Rate: 250,000 bps.
- ◆ Receiver Sensitivity: -100 dBm (1% PER).
- ◆ Serial Port: Selectable for COM1 thru COM4 with optional 16-bit offset address.
- ◆ Antenna Connection: RPSMA connector
- ◆ Address and interrupt options: Jumper selectable.
- ◆ Operating temperature range: -40° C to 85° C.
- ◆ Warranty: One-year warranty from date of shipment.

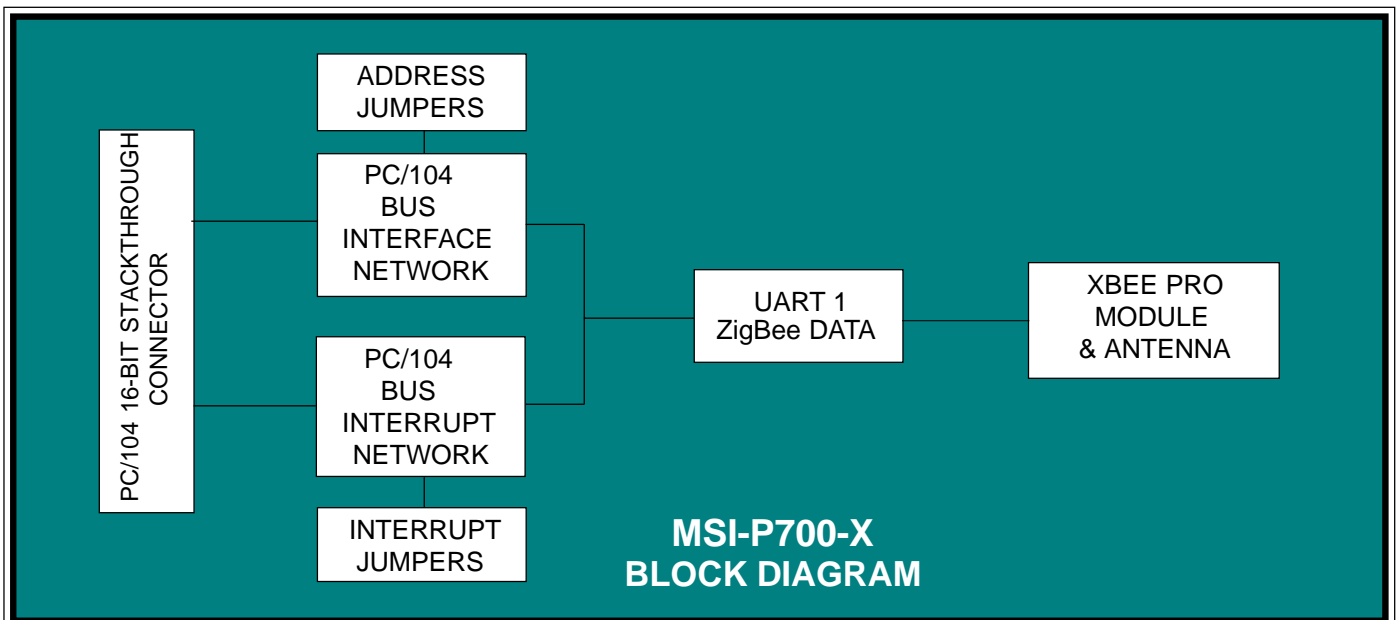


Slave relationships. Modules remain synchronized without use of master/server configurations for rapid synchronization times and fast cold start times. It can also be programmed for NonBeacon mode as either a Coordinator or End Device. The Coordinator mode can be configured to use either direct or indirect transmissions. It will also support Unicast or Broadcast communications.

A 16C550 UART interfaces the Xbee module to the PC/104 bus. The UART provides a 16 byte transmit and receive FIFO and baud rates are programmable

## DESCRIPTION

The MSI-P700 is a low cost, high performance wireless card providing ZigBee 802.15.4 protocol using the Xbee PRO module operating at an rf frequency of 2.4 GHz. The module is configured to support NonBeacon communications that operate in a Peer-to-Peer network topology not dependent upon the Master/



from 1200 to 115,200 bits/s. Automatic hardware RTS and CTS flow control is used to prevent overflow of the local receiver and remote receiver FIFOs. The card I/O address is jumper selectable for COM1 thru COM4 with an optional 16-bit offset address. Interrupts are jumper selectable for IRQ3 thru IRQ5 and IRQ9 thru IRQ15.

The antenna connection to the card is provided by a SMA bulkhead connector. A 6" cable attaches this connector to the rf module which permits its removal from the card bracket for mounting into the user enclosure as an option.

A sample BASIC test program is supplied that illustrates programming of the card for various XBee PRO commands. A BASIC interpreter for running this program is available at no charge.

## SPECIFICATIONS

**PC/104 Bus** 16-bit, stackthrough

### XBee PRO Module

Indoor/urban Range: Up to 300' (100 m).

Outdoor Range: Up to 1 mile (1.6 km) line-of-sight.

Transmit Power Output: 60 mW (18 dBm)  
100mW (20 dBm) EIRP.

Operating Frequency: 2.4 GHz.

RF Data Rate: 250,000 bps.

Receiver Sensitivity: -100 dBm (1% PER).

### Serial Port

UART: 16C550

I/O Address: Jumper selectable as COM1 thru COM4 with an optional 16-bit offset.

Interrupts: Jumper selectable for IRQ3 thru IRQ5 and IRQ9 thru IRQ15.  
Selectable 1K pull-down resistor.

### Option Jumpers

.025" square posts, 0.1" grid

### Electrical & Environmental

+5V @ 65 mA typical, idle/receive mode

+5V @ 200 mA typical, transmit mode (10 dBm)

+5V @ 280 mA typical, transmit mode (18 dBm)

+5V @ 40 mA typical, power save mode

Operating Temperature: -40° to 85° C

### Ordering Information

MSI-P700-X Excludes I/O w/RPSMA bulkhead

### Accessories

MSI-WiPort-Ant

Omni-directional "Rubber Duck" antenna,  
2.4 GHz, 3 dBi, Reverse Polarity SMA.



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