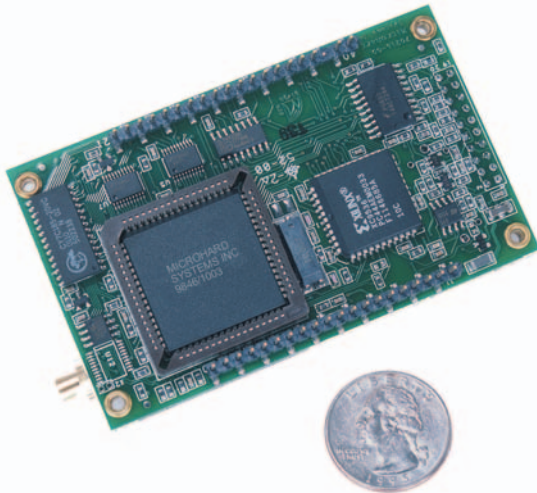


MHX-2400

OEM Industrial Wireless Modem

*The MHX-2400 frequency-hopping 2.4 GHz spread-spectrum communications module is the industry's most robust and cost-effective means of providing embedded long-range data communications between industrial serial communications devices.*



**Applications:**

- SCADA
- Telemetry
- Vehicle Data/Tracking
- Utilities/Metering
- Display Signs
- Traffic Control
- Many More

*With superior noise rejection, sensitivity, and extended temperature range, the MHX-2400 excels where many other transceivers fail.*

The MHX-2400 is based on Microhard Systems' high-performance proprietary radio core which ensures consistent distance and throughput performance even in close proximity to noisy paging and cell towers. The MHX series has proven this performance in tens of thousands of installations throughout the world.

Features of the MHX-2400

- Extremely robust long range frequency-hopping data radio
- License-free communication in the 2.4000 - 2.4835 GHz ISM band
- Transparent, low-latency communications providing true 115 kbaud operation
- Industrial temperature specification
- Supports point-to-point, point-to-multipoint, repeater, TDMA, Multimaster, modbus and remote diagnostics modes
- Maximum allowable transmit power (1W)
- Repeater units can also act as a slave with no restriction on the number of repeaters in the system
- Internal CRC and user-selectable forward error correction

Development Kit



MHX-2400	Specifications	Pinout
Frequency	2.4000 - 2.4835 GHz	
Spreading Code	Frequency Hopping	
Output Power	1W user configurable	
Sensitivity	-108 dBm	
Data Rate	2400 to 115.2kbps uncompressed	
Range	60 miles line off sight with gain antenna	
Rejection	70dB out of band; 60dB in band; 50dB adjacent channel	
Operating Modes	Point-to-Point, Point-to-Multipoint, Repeater, TDMA, Multimaster	
Hopping Patterns	49 user selectable	
Diagnostics	Remote control, remote statistics, remote diagnostics	
Error Detection	32 bits of CRC with optional FEC	
Data Interface	Asynchronous RS-232, 5V TTL levels	
RS-232 Signals	Gnd, TxD, RxD, CTS, RTS, DTR, DSR, DCD	
User Interface	AT Command Interface	
Status Signals	RX/Sync, TXMode, RSSI1,2,3	
Operating Voltage	4.9VDC to 5.5VDC	
Current Consumption	550mA max at 1W Tx Power; 210mA typ. in Rx mode	
Operating Environment	-40 to +70 C; 5-95% non-condensing	
Weight	Approx 75 grams	
Dimensions	Approx. 3.5" x 2.1" x 0.7"	
Antenna Connector	MCX	
Approvals	FCC Part 15.247, IC RSS210, opt. CE	

AVCC - 1,2	RSSI1 - 29
\Config - 9	RSSI2 - 30
CTS - 28	RSSI3 - 31
DCD - 21	RTS - 27
DSR - 26	RxD - 22
DTR - 24	RX/Sync - 33
DVCC - 3-7	TxD - 23
GND - 11-17	TXMODE - 32
\Reset - 10	

Copyright 2003 Microhard Systems Inc.  
Specifications subject to change without notice.

Contact Information
Microhard Systems Inc. #17, 2135-32nd Ave N.E. Calgary, AB, Canada T2E 6Z3 email: <a href="mailto:info@microhardcorp.com">info@microhardcorp.com</a> Tel: (403) 248-0028 Fax: (403) 248-2762



# Microhard Systems Inc.™

[www.microhardcorp.com](http://www.microhardcorp.com)