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 a 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



M H X - 2 4 0 0	Specifications	Pinout
Frequency	2.4000 - 2.4835 GHz	2100
Spreading Code	Frequency Hopping	100
Output Power	1W user configurable	P P
Sensitivity	-108 dBm	in 1 40 "
Data Rate	2400 to 115.2kbps uncompressed	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Range	60 miles line off sight with gain antenna	3500
Rejection	70dB out of band; 60dB in band; 50dB adjacent channel	D D D D D D D D D D D D D D D D D D D
Operating Modes	Point-to-Point, Point-to-Multipoint, Repeater, TDMA, Multimaster	70 ZO
Hopping Patterns	49 user selectable	O O View
Diagnostics	Remote control, remote statistics, remote diagnostics	77 4 dia
Error Detection	32 bits of CRC with optional FEC	dia. 90
Data Interface	Asynchronous RS-232, 5V TTL levels	275
RS-232 Signals	Gnd, TxD, RxD, CTS, RTS, DTR, DSR, DCD	200 1900
User Interface	AT Command Interface	<b>k</b> 1900
Status Signals	RX/Sync, TXMode, RSSI1,2,3	AVCC - 1,2 RSSI1 - 29
Operating Voltage	4.9VDC to 5.5VDC	\Config - 9 RSSI2 - 30
Current Consumption	550mA max at 1W Tx Power; 210mA typ. in Rx mode	CTS - 28 RSSI3 - 31 DCD - 21 RTS - 27
Operating Environment	-40 to +70 C; 5-95% non-condensing	DSR - 26 RxD - 22
Weight	Approx 75 grams	DTR - 24 RX/Sync - 33
Dimensions	Approx. 3.5" x 2.1" x 0.7"	DVCC - 3-7 TxD - 23
Antenna Connector	MCX	GND - 11-17 TXMODE - 32
Approvals	FCC Part 15.247, IC RSS210, opt. CE	\Reset - 10 Specifications subject to change without notice

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