

# Spectra 2420



## 2.4 GHz Industrial Wireless Modem

The Spectra 2420 is a 2.4 GHz Frequency Hopping Spread Spectrum Wireless Modem, which can be optimized for long distance communications of over 30 miles (50km). Spectra 2420 radios offer the fastest communication over the longest distances.

### Applications

- SCADA (PLCs, Modbus), Telemetry
- Commercial Communications
- GPS Vehicle Data/Tracking, DGPS
- Electric, Oil & Gas Utilities/Metering
- Robotics
- Display Signs
- Transparent Low Latency Communication

**Microhard Systems Inc.'s proprietary radio technology excels in the most demanding RF and physical environments.**



The Spectra 2420 features robust, high speed, low latency, secure data communications. It has a full serial port and a separate diagnostics port for real-time diagnostics without interrupting data communications. Excellent noise figure, superior interference rejection, agile frequency synthesis, digital modulation, and matched filter detection, are among the many advantages to using the Spectra 2420.

### Features of the Spectra 2420

- Transparent, low latency link, providing up to 230 kbps continuous throughput to support protocols such as MODBUS
- Communicates with virtually all PLCs, RTUs, and serial devices
- Industrial Grade - extended temperature specification
- Supports Point-to-Point, Point-to-Multipoint, Peer-to-Peer, Store and Forward Repeater, TDMA, Multimaster
- Adjustable transmit power (100mW - 1W)
- Low power consumption in Sleep Mode
- 32 bits of CRC, selectable Forward Error Correction with retransmission
- Separate diagnostics port - transparent remote diagnostics and online network control



# Spectra 2420

# Specifications



|                   |  |                      |  |                                  |
|-------------------|--|----------------------|--|----------------------------------|
| Frequency         | 2.4000 - 2.4835 GHz  | Connectors           | Antenna  | RP-TNC Female Bulkhead           |
| Spread Method     | Frequency Hopping  |                      | Data   | Female DE9                       |
| Band Segments     | Selectable via Freq. Restriction   |                      | Diagnostic   | Locking screw connector<br>RJ-45 |
| Error Detection   | 32 bits of CRC, ARQ  | Environmental        | -40°F to 185°F (-40°C to +85°C)<br>5-95% humidity, noncondensing |                                  |
| Encryption        | Optional (Canada & USA only. NOT AVAILABLE for export, see -AES option)                                | Weight               | Approx. 0.92lbs (420g)   |                                  |
| Range             | 30+ miles (50+ km) (dependant on link rate and line of sight)  | Dimensions           | Approx. 4.40" x 3.75" x 1.75"<br>(111mm x 95.3mm x 44.5mm)       |                                  |
| Sensitivity       | -108dBm @ 172kbps link rate<br>-116dBm @ 19.2kbps link rate<br>(see -SL option)                        | Enclosure            | Extruded Aluminum  |                                  |
| Output Power      | 100mW - 1W (20-30dBm)  | Mount                | Panel Mount  |                                  |
| System Gain       | 142dB w/Rubber Ducky antennas  | Approvals            | FCC Part 15.247<br>IC RSS210                                     |                                  |
| Serial Interface  | RS-232/RS485/RS422   | <b>Order Options</b> |  |                                  |
| Serial Baud Rate  | 300bps to 230.4kbps  | -DIN                 | DIN rail mount kit   |                                  |
| Link Rate         | 19.2 kbps - 230.4kbps (See Order Options)  | -FT                  | Standard FAST Mode<br>115kbps - 230.4kbps                        |                                  |
| Operating Modes   | Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer, TDMA, Multimaster         | -SL                  | Extended sensitivity / SLOW Mode<br>19.2kbps - 230.4kbps         |                                  |
| Signals Interface | RxD1, TxD1, RTS, CTS, DCD, DSR, DTR, RxD2, TxD2, RSSI LEDs, Tx/Rx LEDs, Reset, Config, Wake-up, RSmode | -C1D2                | Class 1 Div 2 (for use in hazardous environments)                |                                  |
| Diagnostics       | Battery Voltage, Temperature, RSSI, and remote diagnostics   | -AES                 | 128-AES Encryption (Canada & USA only. NOT AVAILABLE for export) |                                  |
| Rejection         | Excellent strong signal interference & rejection characteristics                                       |                      |  |                                  |
| Input Voltage     | 9-30VDC  |                      |  |                                  |

## Contact Information

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