

# Nano Series - n3420



## Miniature Wireless Modem

*For size conscious consumers, consider the Nano Series with its small footprint and design flexibility. Operating in the 3.3 - 3.5 GHz range, the n3420 offers the reliability, features, and performance of our larger modems, yet can fit almost anywhere!*

### Applications

- Licensed Band SCADA
- WiMAX Band Operation
- GPS Vehicle Data/Tracking, DGPS
- Unmanned Vehicles / Drones
- Robotics
- Wireless Video, Telemetry
- Research & Development



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

The Nano Series features robust, high speed, low latency, secure data communications. The n3420 has full serial and diagnostics data capabilities. The n3420 offers excellent noise figure, superior interference rejection, agile frequency synthesis, digital modulation, and matched filter detection.

### Features

- Supports up to 230 kbps Wireless Link Rate
- Customizable to meet different emission bandwidths
- Quad Filter Stage provides Extreme Noise & Interference Rejection
- Supports Point-to-Point, Point-to-Multipoint, Store and Forward Repeater, TDMA
- Adjustable transmit power (1W)
- Low Power consumption in Sleep and Sniff modes
- 32 bits of CRC, selectable Forward Error Correction with retransmit
- Separate diagnostics port—transparent remote diagnosis and online network control
- Very Small Footprint
- Wide temperature specification

### Interface Options

#### Enclosed Solution



#### Motherboard Solution

# n3420

# Specifications

<b>Frequency</b>	3.3 - 3.5 GHz	<b>Input Voltage</b>	OEM Enclosed	3.3VDC Nominal (+/- 0.3V) 7-30VDC
<b>Channel Bandwidth</b>	50kHz to 400kHz	<b>Connectors:</b>	OEM Antenna Data Enclosed	MMCX
<b>Synthesizer Step</b>	200Hz			60 Pin OEM Header
<b>Spreading Method</b>	Frequency Hopping			RP-TNC Female Bulkhead Female DE9 (x2)
<b>Error Detection</b>	32 bits of CRC, ARQ	<b>Environmental</b>		-40°F - +185°F (-40°C - +85°C) 5-95% humidity, noncondensing
<b>Encryption</b>	Optional (See -AES option)	<b>Weight</b>	OEM Enclosed	Approx. 19 grams Approx. 220 grams
<b>Range</b>	40+ miles (70+ km) (dependant on link rate and line of sight)	<b>Dimensions</b>	OEM Enclosed	Approx. 1.25" x 2.0" x .25" (32mm x 51mm x 6.35mm)
<b>Sensitivity</b>	-108dBm @ 172 kbps			Approx. 2.25" x 3.85" x 1.70" (57mm x 98mm x 43mm)
<b>Output Power</b>	100mW - 1W (20-30dBm) * Higher Output power available (See order options)	<b>Approvals</b>		<b>Pending</b>
<b>Serial Interface</b>	OEM Enclosed TTL RS232/RS485/RS422	<b>Order Options</b>		
<b>Serial Baud Rate</b>	300 bps to 230.4 kbps asynchronous	<b>n3420F</b>	115 - 230 kbps	
<b>Link Rate</b>	115 to 230.4kbps	<b>-AES</b>	128-bit AES Encryption (NOT AVAILABLE for export outside of Canada and USA.)	
<b>Operating Modes</b>	Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer	<b>-AES256</b>	256-bit AES Encryption (NOT AVAILABLE for export outside of Canada and USA.)	
<b>Signals Interface</b>	RxD1, TxD1, RTS, CTS DCD, DSR, DTR, RxD2, TxD2, RSSI LEDs, Tx/Rx LEDs, Re-set, Config, Wake-up, RSmode	<b>-2W</b>	Up to 2 Watts Output Power. (Military/ Government Only. Not for commercial / Industrial use) Contact Microhard for details.	
<b>Diagnostic Port</b>	RS232: RxD, TxD			
<b>Diagnostics</b>	Battery Voltage, Temperature, RSSI, Real-time event logging and remote diagnostics			
<b>Rejection</b>	Quad Filter Stage provides excellent strong signal interference & rejection characteristics			

## Contact Information

Copyright 2011 Microhard Systems Inc.  
Specifications subject to change without notice.

Microhard Systems Inc.  
150 Country Hills Landing N.W.  
Calgary, AB, Canada T3K 5P3

Email: [info@microhardcorp.com](mailto:info@microhardcorp.com)  
Tel: (403) 248-0028  
Fax: (403) 248-2762



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