Nano Series - n3420

microhard SYSTEMS INC.

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

Frequency	3.3 - 3.5 GHz	
Channel Bandwidth	50kHz to 400kHz	
Synthesizer Step	200Hz	
Spreading Method	Frequency Hopping	
Error Detection	32 bits of CRC, ARQ	
Encryption	Optional (See –AES option)	
Range	40+ miles (70+ km) (dependant on link rate and line of sight)	
Sensitivity	-108dBm @ 172 kbps	
Output Power	100mW - 1W (20-30dBm)	
Serial Interface	**OEM** TTL	
	Enclosed RS232/RS485/RS422	
Serial Baud Rate	300 bps to 230.4 kbps asynchronous	
Link Rate	115 to 230.4kbps	
Operating Modes	Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer	
Signals Interface	RxD1, TxD1, RTS, CTS DCD, DSR, DTR, RxD2, TxD2, RSSI LEDs, Tx/Rx LEDs, Reset, Config, Wake-up, RSmode	
Diagnostic Port	RS232: RxD, TxD	
Diagnostics	Battery Voltage, Temperature, RSSI, Real-time event logging and remote diagnostics	
Rejection	Quad Filter Stage provides excellent strong signal interference & rejection characteristics	

Input Voltage		
OEM	3.3VDC Nominal (+/- 0.3V)	
Enclosed	7-30VDC	
Connectors:		
OEM		
Antenna	MMCX	
Data	60 Pin OEM Header	
Enclosed		
Antenna	RP-SMA Female Bulkhead	
Data	Female DE9 (x2)	
Environmental	-40°F - +185°F (-40°C - +85°C) 5-95% humidity, noncondensing	
Weight		
OEM	Approx. 19 grams	
Enclosed	Approx. 210 grams	
Dimensions		
OEM	Approx. 1.25" x 2.0" x .25" (32mm x 51mm x 6.35mm)	
Enclosed	Approx. 2.25" x 3.85" x 1.50" (57mm x 98mm x 38mm)	
Approvals	**Pending**	

Order Options

n3420F	115 - 230 kbps
-AES	128-bit AES Encryption (NOT AVAILABLE for export outside of Canada and USA.)
-AES256	256-bit AES Encryption (NOT AVAILABLE for export outside of Canada and USA.)

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