

## Miniature OEM Wireless Ethernet / Serial / USB Gateway

The Nano IP Series adds Ethernet capability to the miniature, yet a powerful Nano platform. This incredibly small Ethernet Bridge and Serial Gateway provides robust wireless communication of simultaneous serial data and IP / Ethernet packets to extend data and IP networks.

The Nano IP platform is the smallest form factor (2" x 1.25" x 0.5" in size and weighing only 25 grams) available which offers a full Ethernet / Serial / USB bridge and routing functionality. The Nano IP OEM module can be directly integrated into OEM systems or applications using a variety of interface options. With the LAN out interface ready to wire directly to CAT5 cable, OEM can integrated this unit quickly and efficiently. The Nano IP Series also features flexible maintenance utilities, secure firewall features and network management facilities. Robust Frequency Hopping with excellent receiver sensitivity and interference rejection allow for long range, high speed communications.



Key features of the Nano IP Series:

- Low Power Consumption
- Up to 1.2 Mbps Wireless Link Rate
- Master, Slave, Repeater operation in a single unit
- HV Option provides a quick wiring solution with Ethernet and Serial Levels and Power (7 - 30 VDC)
- 2 Serial Com Ports, 1 USB Port and 1 Ethernet Port
- Supports Point-to-Point, Point-to-Multipoint, Repeater, Peer-to-Peer
- Adjustable transmit power (100mW - 1W)
- Radius Server Support
- Full VLAN Support (for separate management and Data networking)
- User Interface through local console, telnet and web browser
- Network management capability with SNMP V1, V3, V3
- Local and remote wireless firmward upgrading through FTP
- QoS Routing on Serial, IP or Logic Ports

Options	
C1D2	Class 1 Div 2 (for use in harzardous environments)
AES	128 / 256-bit
EXP	Export version, removes encryption
869	869.4 - 869.65 MHz operation
IPn920F	115 kbps - 230 kbps
IPn920T	345 kbps - 1.2 Mbps

# Technical Specifications

Specifications	
Frequency	902 - 928 MHz
Spread Method	Frequency Hopping / DTS
Link Rate	Up to 1.2 Mbps
Error Detection	32 bits of CRC, ARQ
Encryption	128-bit WEP / WPA (Canada & USA only)
Range	Up to 30+ miles (50+ km) @ 1.2 Mbps Up to 50+ miles (100+ km) @ 172 kbps
Sensitivity	-108 dBm @ 172 kbps link rate -106 dBm @ 230 kbps link rate -97 dBm @ 1.2 Mbps link rate
Output Power	100 mW - 1W (20 -30 dBm)
Serial Interface	RS232, RS485, RS422
Serial Baud Rate	300 bps to 921 kbps
USB	USB 2.0, USB Console Port, USB to Serial Data Routing, USB to Ethernet Data Routing
Ethernet	10/100 BaseT, Auto - MDI/X, IEEE 802.3
Network Protocols	TCP, UDP, TCP/IP, TFTP, ARP, ICMP, DHCP, HTTP, HTTPS, SSH, SNMP, FTP, DNS, Serial over IP, QoS
Operating Modes	Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer
Management	Local Serial Port Console, Telnet, WebUI, SNMP, FTP & Wireless Upgrade, RADIUS authentication, VLAN
Diagnostics	Battery Voltage, Temperature, RSSI and remote diagnostics
Rejection	Excellent strong signal interference & rejection characteristics
Input IP3	+12 dBm (Antenna Connector)
Input Voltage	OEM 3.3 VDC Nominal Enclosed 7 - 30 VDC Interface card 7 30 VDC
Power Consumption (Typical with n920F @ 12V with Motherboard)	Sleep: <1 mA Idle: 35 mA Rx: 110 mA to 145 mA Tx: 350 mA to 500 mA
Connectors	OEM - Antenna - Data Enclosed - Antenna - Data OEM - MMCX OEM - 60 Pin OEM Header x2 RP - TNC Female Bulkhead RJ-45 (Ethernet); Female DB9; Mini-USB
Environmental	Temperature -40 to +85°C (-40 to 185°F) Humidity 5 - 95%, non-condensing
Weight	OEM Approx. 25 grams Enclosed Approx. 250 grams w/ Interface Board Approx. 70 grams (No Conn. 50g)
Dimensions	OEM 32mm x 51mm x 13mm (Approx. 1.25" x 2" x 0.5") Enclosed 57mm x 98mm x 43mm (Approx. 2.25" x 3.85" x 1.7")
Approvals	FCC Part 15.247 IC RSS210

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9415 202 Street  
Langley BC  
Canada  
V1M 4B5

T: 604-455-2000  
F: 604-888-2712  
sales@tascsystems.com  
www.tascsystems.com