

NOVA NODE-4



WIRELESS MESH NODE

- » Intelligent, robust platform enabling a wide variety of IP network services, such as VoIP, video streaming, file sharing, serial data broadcast, etc
- » Auto-configuring and self-healing 3rd generation mesh network
- » Quad-radio architecture allowing high throughput over multiple hops
- » Sectorized multi-antenna array with 2x2 MIMO per sector
- » Smart channel management minimizes interference and maximizes bandwidth
- » Integrated dual GPS receiver
- » Integrated Iridium modem for easy remote management
- » Easy installation: compact all-outdoor single unit
- » ATEX version available on request

NOVA NODE (The nCentric Field Coverage node) has been designed specifically for offshore markets to provide state-of-the-art, reliable and flexible broadband communication between rigs, vessels and onshore personnel. By providing seamless mobility, critical applications like VoIP, video streaming, and data transmission are not interrupted as they move through the network.

Power and flexibility with quad-radio configuration

At the heart of each Nova Node is a high-performance network controller, equipped with four high-power radios. The radio modules operate on the 5GHz ISM band, which is worldwide unlicensed. The use of an onboard hardware cryptographic accelerator, translates into leading-edge security without compromising real time voice, data and video communications.

Multi-antenna array for high range

To provide 360° coverage without sacrificing range and bandwidth nCentric has developed a unique antenna array consisting of four overlapping sectors. Every sector is comprised of a number of directional antennas, thus combining the range and bandwidth of a point-to-point system with the flexibility of a point-to-multi-point system.

Intelligent mesh platform

Powering this high-end hardware platform is an equally exceptional, fully distributed, wireless mesh operating system. Managing all radios so channels are selected as intelligently as possible, Nova Node maximizes throughput, even over multiple hops.

Instead of an ordinary ad hoc routing protocol, a mobile-optimized, proactive mesh routing algorithm is employed resulting in a robust, self-configuring, and auto-healing network.

RADIO & MODEM

Unit type

All outdoor, rugged mesh node

Quad-configuration with 2x2 MIMO

Radio operation

OFDM

Frequency bands

- » 5475MHz - 5725MHz (CE)
- » 5745MHz - 5825MHz (FCC)

Radio output power

23dBm (depending on country settings)

Channel bandwidth

20MHz / 40MHz

Supported modulations

BPSK (up to 6.5Mbit/s), QPSK (up to 78Mbit/s), 16-QAM (up to 156Mbit/s), 64-QAM

ANTENNA

Main sectorized antenna array

- » **Gain** 17dBi per sector
- » **Polarization** Dual linear
- » **Coverage** 360 deg
- » **Hpol Beam width** 90 deg
- » **Vpol Beam width** 90 deg
- » **Elevation Beam width** 8 deg
- » **ETSI specification** EN 302 326

GPS antenna

- » **Frequency** 1575.42 MHz
- » **Average Gain** 28 dBi
- » **Polarization** Right Hand Circular

Cellular antenna

- » **Frequency bands** WCDMA 850/900/1900/2100 MHz
- » **Average gain** 2.2 dBi

Iridium antenna

- » **Frequency** 1616~1626.5MHz
- » **Average gain at zenith** 2.0 dBi

AIS dual antenna

- » **Frequency** 161.975 / 162.025 MHz
- » **Average gain at zenith** 0 dBi

NETWORKING

Multicast (emulated)

SNMP, ICMP, HTTP, ARP, TCP, UDP, TFTP

DHCP Server / Relay and DHCP Client

DNS Relay / Proxy

NAT

NTP Client

SECURITY

Wired Equivalent Privacy (WEP)

Wi-Fi Protected Access (WPA-PSK,

WPA-EAP, WPA2)

Virtual Private Network (VPN)

Stateful firewall

MAC filtering

IP filtering

Specifications are subject to change ©nCentric Inc.

INTERFACES

Ethernet

three GbE interface

Status connector (requires optional cable)

Aux 12VDC, RS232, USB

Mobile interface

HSUPA / HSDPA / EDGE / GPRS / GSM

PHYSICAL AND ELECTRICAL

Size

202 mm (7.9 in) diameter x 515 mm (20.3 in) height

Weight

7 kg (16lbs)

Typical power consumption

26 Watt

Power supply

90-264 VAC / 120-370 VDC / 12-48VDC

Wall/pole mounting kits available

ENVIROMENTAL

Operating temperature

-25°C (-13F) to 65°C (149F)

Storage temperature

-30°C (-22) to 70°C (158F)

Operating humidity

5 to 95% non-condensing

STANDARDS COMPLIANCE

Radio

FCC part 15

Class A Digital Device, intentional radiator

EMC

FCC 47 CFR part 15

Safety

IEC60950-1 CB report / UL60950-1 / TUV EN60950-1

RF safety

FCC OET Bulletin 65

MIL-STD-167A pending

MIL-STD-810G pending

IP66

CE mark

PATENTS

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