



NB1800-N-G

Industrial Router with 5G + 2x GbE + SFP + GNSS

High-performance and modular mobile router with Gigabit Ethernet and SFP port for use in industrial environment.



Keyfeatures

Mobile / Cellular	1x 5G SA/NSA, LTE A-Pro, UMTS		
SIM	2x Micro SIM		
Ethernet	1x SFP, 2x Gigabit Ethernet		
Extended Storage	1x SD Card		
Serial / Fieldbus	1x RS-232/485		
Positioning	Multi-GNSS		
Operation Temperature	-40 °C to +70 °C		
Software	Routing, Network Services, VPN, Firewall, Multi WAN Management, Supervisor, SDK, free updates, Edge computing utilizing LXC Containers (LXC)		
Compliance	CE (RED)		
Modularity	Extensions on request		

Product description

The NB1800 is a powerful and robust cellular router designed for use in industrial

Applications

- Industrial Security
- Point of SalePublic WiFi
- Smart GridOil & Gas
- Renewable Energy
- Factory Automation
- MiningCCTV
- Smart Traffic

Specifications

Mobile / Cellular

Standard

1x Multimode 5G-NR, LTE-A Pro, UMTS

5G - NR n1, n2, n3, n5, n7, n8, n12, n13, n14, n20, n25, n26, n28, n30, n38, n40, n41, n48, n66, n71, n77, n78

B43. B48. B66. B71

3G - DC-HSPA+/UMTS B1, B2, B4, B5, B8

5G -NR Modes Sub-6 FDD and TDD for global deployment

LTE Category Cat. 19 up to 5CA

MIMO 4x4 MIMO

Antenna ports 4, 4x RX/TX on every port

Power Class 23 dBm (Power Class 3) 26 dBm (Power Class 2) on B41 29 dBm (Power class 1.5) on n41, n77, n78

Module Data rate down / up (max) 5G NSA up to: 3.4 Gbps DL / 0.46 Gbps UL 5G SA up to: 2.5 Gbps DL / 0.90 Gbps UL 4G up

to: 1.6 Gbps DL / 211 Mbps UL 3G up to: 42 DL/11 UL Mbps

Operations Modes 5G SA and NSA operations **3GPP** 5G/4G Rel. 16, 3G HSPA+ Rel. 8

FCC ID RI7FN990A28HP

Region Europe, Middle East and Africa (EMEA), North America (NA), Asia and Pacific (APAC)

Region Europe Connectors 4x SMA female SIM 2x Micro SIM - 3FF Ethernet Standard 2x Gigabit Ethernet

Connector

Ethernet standard 1000BASE-T, Auto MDIX

Speed 10/100/1000 Mbps

1x SFP

SFP standard Depending on module

Speed 10/100/1000 Mbps 2x RJ45, 1x SFP cage (mini GBIC)

Positioning

Standard 1x Multi-GNSS

Receiver BeiDou, Galileo, GLONASS, GPS

gpsOne Gen 9

Antennas Active or passive

Tracking Sensitivity Up to -161 dBm

CEP (Circular Error Probability) <2m (Open sky conditions. Standalone)

Min update rate 1Hz Services Standalone

Connector

1x SMA female

USB

Standard Connector 1x USB 2.0 Host 1x Type A

Serial, Fieldbus

Protocol

1x RS-232/485 combo (software switchable)

Protocol EIA-232 Signals TX, RX

Signal level High > 5 VDC, low < -5 VDC

Bit rate Up to 115 200 Bit/s Protocol EIA-485 Signals A, B

Signal level Differential output voltage, loaded 1.5 VDC - 3.6 VDC

Bit rate Up to 115 200 Bit/s

Termination 120 Ω for RS-485 configurable by software 1x Terminal block header 3.5 mm (screw locking)

Connector

Extended Storage

SD Card

Slot type microSD

Speed (read / write) 600 kByte / s

Application Store user and logging data of SDK or LXC applications

SD card not included

System

Module Slots

1.3 GHz dual-core, 1 GB RAM, 4 GB flash 2x miniPCle (PCle + USB), 2x Extension (USB)

Software

Features

NetModule Router Software (supported features depending on product variant)

Package The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment.

General Fail-safe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI & WebGUI, RADIUS authentication, Simple Certificate Enrollment Protocol (SCEP), Hardware- und Software Watchdog

Remote Management Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS Cellular Networking Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license)

Wireless LAN Access Point, Client Mode, Mesh Point or Dual Modes (Mesh Access Point / Access Point - Client), WLAN Pseudo-Bridge Client Mode: Multiple Client SSID Profile, Encryption: Open, WEP, WPA1/2/3-Personal, WPA1/2/3-Enterprise. Fast Roaming: Fast BSS Transition (802.11r), PreAuthentication, Protected Management Frames (802.11w) AP Mode: Multi-SSIDs (up to 8) Encryption: Open WPA1/2/3-Personal, WPA1/2/3-Enterprise Fast Roaming: Fast BSS Transition (802.11r), PreAuthentication, DFS support Protected Management Frames (802.11w) Client Tracking, Band Steering, Hide SSID broadcasting, Isolate Clients, Accounting, Short guard Intervall Mesh Mode (802.11s): Encryption: None, SAE. Gateway announcements

Link Management Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision, Services DHCP Client/Server, DNS Caching Server, Email, SMS Service, NTP Client/Server, SNTP Server, DynDNS, SSH Server, SNMP Agent, HTTP/HTTPS/FTP Server, IPv6 for WAN, 802.1x over Ethernet, MQTT Broker Voice Gateway (SIP, Call Routing, Audio with optional license) Coovachilli Hotspot

Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, multicast, TCP-MSS clamping, bridging discovery protocols LLDP, CDP. SONMP, EDP. FDP. IRDP. VRRP. STP/RSTP. VRRP. VLAN, PPPoE. VXLAN

VPN OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service

Firewall Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports)

Encryption supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography)

Quality of Service Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow) **Programmability SDK**

Troubleshooting Logging, Ping, Traceroute, Tcpdump, Speed-test

Enabled service GNSS location service Server with JSON-, NMEA stream

Licenses

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Power	Input Voltage Connector Consumption	12, 24, 48 VDC Nominal voltages 12, 24, 48 VDC Absolute voltages 12 VDC to 48 VDC (-25 % /+10 %) 1x Terminal block header 3.5 mm (screw locking) 11 W (average), 20 W (max)
Mounting		DIN-Rail
Dimensions	WxHxD	Width 61 mm x height 128/140 mm x depth 121 mm
Weight		800 g
Environment	Operating Temperature Ingress Protection Level	-40°C to +70°C
МТВБ		240'000 h / 27.4 years, according SN29500 at environmental temperature 40 °C
Scope of delivery		Device, General safety instructions, Terminal block
Certifications	Compliance Domain	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS) Industrial
Order Code		NB1800-N-G