

# 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

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

### Product description

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

### Applications

- Industrial Security
- Point of Sale
- Public WiFi
- Smart Grid
- Oil & Gas
- Renewable Energy
- Factory Automation
- Mining
- CCTV
- Smart Traffic

### Specifications

<b>Mobile / Cellular</b>	<b>Standard</b>	<p>1x Multimode 5G-NR, LTE-A Pro, UMTS  <b>5G - NR</b> n1, n3, n7, n8, n20, n28, n38, n40, n77, n78  <b>4G - LTE-A Pro</b> B1, B3, B7, B8, B20, B28, B38, B40  <b>3G - DC-HSPA+/UMTS</b> B1 (2100), B3 (1800), B8 (900)  <b>5G NR Modes</b> Sub-6 FDD and TDD  <b>LTE Category</b> Cat. 20 up to 7CA  <b>MIMO</b> 4x4 MIMO in 5G-NR support on n1, n3, n7, n38, n40, n77, n78 and LTE B1, B3, B7, B38, B40  <b>Antenna ports</b> 4  <b>Power Class</b> 23dBm (Power Class 3)  <b>Data rate down / up (max)</b> up to 5.5 Gbps DL / 2.7 Gbps UL  <b>Operation Mode</b> 5G Core SA and NSA operations  <b>3GPP</b> 4G/5G Rel. 15, 3G HSPA+ Rel. 18  <b>FCC ID</b> R17FN980  <b>Voice</b> -  <b>Region</b> Europe, Middle East and Africa (EMEA), on request: North America (NA), Asia and Pacific (APAC)  Europe, Middle East and Africa (EMEA)</p>
	<b>Region</b> <b>Connectors</b> <b>SIM</b>	<p>4x SMA female  2x Micro SIM - 3FF</p>
<b>Ethernet</b>	<b>Standard</b>	<p>2x Gigabit Ethernet  <b>Ethernet standard</b> 1000BASE-T, Auto MDIX  <b>Speed</b> 10/100/1000 Mbps  1x SFP  <b>SFP standard</b> Depending on module  <b>Speed</b> 10/100/1000 Mbps</p>
	<b>Connector</b>	<p>2x RJ45, 1x SFP cage (mini GBIC)</p>

<b>Positioning</b>	<b>Standard</b>	1x Multi-GNSS <b>Receiver</b> BeiDou, Galileo, GLONASS, GPS gpsOne Gen 9 <b>Antennas</b> Active or passive <b>Sensitivity</b> Up to -161 dBm <b>Services</b> Standalone
	<b>Connector</b>	1x SMA female
<b>USB</b>	<b>Standard</b>	1x USB 2.0 Host
	<b>Connector</b>	1x Type A
<b>Serial, Fieldbus</b>	<b>Protocol</b>	1x RS-232/485 combo (software switchable) <b>Protocol</b> EIA-232 <b>Signals</b> TX, RX <b>Signal level</b> High > 5 VDC, low < -5 VDC <b>Bit rate</b> Up to 115 200 Bit/s <b>Protocol</b> EIA-485 <b>Signals</b> A, B <b>Signal level</b> Differential output voltage, loaded 1.5 VDC - 3.6 VDC <b>Bit rate</b> Up to 115 200 Bit/s <b>Termination</b> 120 Ω for RS-485 configurable by software
	<b>Connector</b>	1x Terminal block header 3.5 mm (screw locking)
<b>Extended Storage</b>		SD Card <b>Slot type</b> microSD <b>Speed (read / write)</b> 600 kByte / s <b>Application</b> Store user and logging data of SDK or LXC applications SD card not included
<b>System</b>	<b>Core</b>	1.3 GHz dual-core, 1 GB RAM, 4 GB flash
	<b>Module Slots</b>	2x miniPCIe (PCIe + USB), 2x Extension (USB)
<b>Software</b>	<b>Features</b>	NetModule Router Software (supported features depending on product variant) <b>Package</b> The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment. <b>General</b> 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 <b>Remote Management</b> Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS <b>Cellular Networking</b> Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license) <b>Wireless LAN</b> 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 <b>Link Management</b> Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision, <b>Services</b> 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 <b>Routing</b> 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 <b>VPN</b> OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service <b>Firewall</b> Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports) <b>Encryption</b> supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography) <b>Quality of Service</b> Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow) <b>Programmability</b> SDK <b>Troubleshooting</b> Logging, Ping, Traceroute, Tcpdump, Speed-test
	<b>Licenses</b>	GNSS <b>Enabled service</b> GNSS location service Server with JSON-, NMEA stream
<b>Power</b>	<b>Input Voltage</b>	12, 24, 48 VDC <b>Nominal voltages</b> 12, 24, 48 VDC <b>Absolute voltages</b> 12 VDC to 48 VDC (-25 % / +10 %)
	<b>Connector</b> <b>Consumption</b>	1x Terminal block header 3.5 mm (screw locking) 11 W (average), 20 W (max)
<b>Mounting</b>		DIN-Rail
<b>Dimensions</b>	<b>W x H x D</b>	Width 61 mm x height 128/140 mm x depth 121 mm

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<b>Weight</b>		800 g
<b>Environment</b>	<b>Operating Temperature</b>	-40°C to +70°C
	<b>Ingress Protection Level</b>	IP40
<b>MTBF</b>		240'000 h / 27.4 years, according SN29500 at environmental temperature 40 °C
<b>Certifications</b>	<b>Compliance Domain</b>	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS) Industrial
<b>Order Code</b>		NB1800-N-G

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