

NB1800-NWac-G

Industrial Router with 5G + WLAN-ac + 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-NR, LTE A-Pro, UMTS
SIM	2x Micro SIM
WiFi / WLAN	1x Dual-band IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients in Access Point Mode
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, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED)
Modularity	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

Mobile / Cellular

Standard

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

5G - NR n1, n2, n3, n5, n7, n8, n12*, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79
2014/53/EU (RED): n1, n3, n7, n8, n20, n28, n38, n40, n77, n78

4G - LTE-A Pro B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29DL, B30, B32, B34, B38, B39, B40, B41, B42, B43*, B46(LAA), B48(CRS), B66, B71

2014/53/EU (RED): B1, B3, B7, B8, B20, B28, B38, B40

3G - DC-HSPA+/UMTS B1, B2, B3, B4, B5, B6, B8, B9, B19

2014/53/EU (RED): B1 (2100), B3 (1800), B8 (900)

5G NR Modes Sub-6 FDD and TDD

LTE Category Cat. 20 up to 7CA

MIMO 4x4 MIMO in 5G-NR support on n1, n2 n3, n7, n25, n38, n40, n41, n48, n66, n77, n78, n79 and LTE B1, B2, B3, B4, B7, B25, B30, B38, B39, B40, B41, B42, B43, B46, B48, B66

Antenna ports 4

Power Class 23dBm (Power Class 3)

Data rate down / up (max) up to 5.5 Gbps DL / 2.7 Gbps UL

Operation Mode 5G Core SA and NSA operations

3GPP 4G/5G Rel. 15, 3G HSPA+ Rel. 18

FCC ID RI7FN980

Voice -

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

* future Module Firmware release

Region

Europe

Connectors

4x SMA female

SIM

2x Micro SIM - 3FF

WiFi / WLAN	Standard	<p>1x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5) Wireless standard IEEE 802.11a/b/g/n/ac (Wi-Fi 5) Frequency 2.4/5 GHz Diversity 2x2 MIMO Data rate (max) 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz) Modes Client or access point (up to 100 clients) FCC ID TK4WLE600VX</p>
	Connector	2x SMA female
Ethernet	Standard	<p>2x Gigabit Ethernet Ethernet standard 1000BASE-T, Auto MDIX Speed 10/100/1000 Mbps 1x SFP SFP standard Depending on module Speed 10/100/1000 Mbps</p>
	Connector	2x RJ45, 1x SFP cage (mini GBIC)
Positioning	Standard	<p>1x Multi-GNSS Receiver BeiDou, Galileo, GLONASS, GPS gpsOne Gen 9 Antennas Active or passive Sensitivity Up to -161 dBm CEP (Circular Error Probability) <2m (Open sky conditions. Standalone) Min Update Rate 1Hz Services Standalone</p>
	Connector	1x SMA female
USB	Standard	1x USB 2.0 Host
	Connector	1x Type A
Serial, Fieldbus	Protocol	<p>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</p>
	Connector	1x Terminal block header 3.5 mm (screw locking)
Extended Storage		<p>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</p>
System	Core	1.3 GHz dual-core, 1 GB RAM, 4 GB flash
	Module Slots	2x miniPCIe (PCIe + USB), 2x Extension (USB)

Software	Features	<p>NetModule Router Software (supported features depending on product variant)</p> <p>Package The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment.</p> <p>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</p> <p>Remote Management Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS</p> <p>Cellular Networking Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license)</p> <p>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</p> <p>Link Management Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision,</p> <p>Services DHCP Client/Server, DNS Caching Server, Email, SMS Service, NTP Client/Server, SNMP 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</p> <p>Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, multicast, TCP-MSS clamping, bridging discovery protocols LLDAP, CDP, SONMP, EDP, FDP, IRDP, VRRP, STP/RSTP, VRRP, VLAN, PPPoE, VXLAN</p> <p>VPN OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service</p> <p>Firewall Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports)</p> <p>Encryption supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography)</p> <p>Quality of Service Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow)</p> <p>Programmability SDK</p> <p>Troubleshooting Logging, Ping, Traceroute, Tcpdump, Speed-test</p>
	Licenses	<p>GNSS</p> <p>Enabled service GNSS location service Server with JSON-, NMEA stream</p>
Power	Input Voltage	<p>12, 24, 48 VDC</p> <p>Nominal voltages 12, 24, 48 VDC</p> <p>Absolute voltages 12 VDC to 48 VDC (-25 % / +10 %)</p>
	Connector Consumption	<p>1x Terminal block header 3.5 mm (screw locking)</p> <p>11 W (average), 20 W (max)</p>
Mounting		DIN-Rail
Dimensions	W x H x D	Width 61 mm x height 128/140 mm x depth 121 mm
Weight		800 g
Environment	Operating Temperature	-40°C to +70°C
	Ingress Protection Level	IP40
MTBF		240'000 h / 27.4 years, according SN29500 at environmental temperature 40 °C
Scope of delivery		Device, General safety instructions, Terminal block
Certifications	Compliance	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS)
	Domain	Industrial
Order Code		NB1800-NWac-G