

# NB1810-NWac4Ep-G

## Industrie-Router mit 5G + WLAN-ac + GbE + SFP + 4x GbE-PoE + GNSS

Leistungsstarker und modularer Mobilfunk-Router mit SFP-Port sowie Gigabit Ethernet mit PoE für den Einsatz im industriellen Umfeld.



### Hauptmerkmale

<b>Mobilfunk</b>	1x 5G SA/NSA, LTE-A Pro, UMTS
<b>SIM</b>	2x Micro SIM
<b>WiFi / WLAN</b>	1x Dual-band IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients im Access Point Mode
<b>Ethernet</b>	4x Gigabit Ethernet mit PoE (4-Port Switch), 1x SFP/Gigabit Ethernet Combo, 1x Gigabit Ethernet
<b>Erweiterter Speicher</b>	
<b>Serielle / Feldbus</b>	1x RS-232/485
<b>Ortung</b>	Multi-GNSS
<b>Betriebstemperatur</b>	-40 °C bis +65 °C (@15 W PoE)
<b>Software</b>	Routing, Network Services, VPN, Firewall, Multi WAN Management, Supervisor, SDK, freie Updates, Edge-Computing unter Verwendung von LXC-Containern
<b>Konformität</b>	CE (RED)
<b>Modularität</b>	Erweiterungen auf Anfrage

### Produktbeschreibung

Der NB1810 ist ein leistungsstarker und robuster Mobilfunk-Router, der für den Einsatz im industriellen Umfeld konzipiert ist.

### Anwendungen

- Industrielle Sicherheit
- Point of Sale
- Öffentliches WLAN
- Smart Grid
- Öl & Gas
- Erneuerbare Energien
- Fabrikautomation
- Mining
- Videoüberwachung
- Intelligenter Verkehr

### Spezifikation

<b>Mobile / Cellular</b>	<b>Standard</b>	1x Multimode 5G-NR, LTE-A Pro, UMTS <b>5G - NR</b> n1, n2, n3, n5, n7, n8, n12, n13, n14, n20, n25, n26, n28, n30, n38, n40, n41, n48, n66, n71, n77, n78 <b>4G - LTE Advanced Pro</b> B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B20, B25, B26, B28, B30, B34, B38, B40, B41, B42, B43, B48, B66, B71 <b>3G - DC-HSPA+/UMTS</b> B1, B2, B4, B5, B8 <b>5G -NR Modes</b> Sub-6 FDD and TDD for global deployment <b>LTE Category</b> Cat. 19 up to 5CA <b>MIMO</b> 4x4 MIMO <b>Antenna ports</b> 4, 4x RX/TX on every port <b>Power Class</b> 23 dBm (Power Class 3) 26 dBm (Power Class 2) on B41 29 dBm (Power class 1.5) on n41, n77, n78 <b>Module Data rate down / up (max)</b> 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 <b>Operations Modes</b> 5G SA and NSA operations <b>3GPP</b> 5G/4G Rel. 16, 3G HSPA+ Rel. 8 <b>Voice -</b> <b>FCC ID</b> R17FN990A28HP <b>Region</b> Europe, Middle East and Africa (EMEA), North America (NA), Asia and Pacific (APAC) <b>Region</b> Europe <b>Connectors</b> 4x SMA female <b>SIM</b> 2x Micro SIM - 3FF
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<b>WiFi / WLAN</b>	<b>Standard</b>	<p>1x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5)  <b>Wireless standard</b> IEEE 802.11a/b/g/n/ac (Wi-Fi 5)  <b>Frequency</b> 2.4/5 GHz  <b>Diversity</b> 2x2 MIMO  <b>Data rate (max)</b> 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz)  <b>Modes</b> Client or access point (up to 100 clients)  <b>FCC ID</b> TK4WLE600VX</p>
	<b>Connector</b>	2x SMA female
<b>Ethernet</b>	<b>Standard</b>	<p>1x Gigabit Ethernet  <b>Ethernet standard</b> 1000BASE-T, Auto MDIX  <b>Speed</b> 10/100/1000 Mbps  1x Gigabit Ethernet / SFP combo (software switchable)  <b>Ethernet standard</b> 1000BASE-T, Auto MDIX  <b>SFP standard</b> Depending on module  <b>Speed</b> 10/100/1000 Mbps  <b>Combo port</b> SFP or GbE interface activated (software switchable)  4x Gigabit Ethernet PoE+  <b>Ethernet standard</b> 1000BASE-T, Auto MDIX  <b>Speed</b> 10/100/1000 Mbps  <b>PoE standard</b> IEEE802.3af, IEEE802.3at, including two event classification  <b>PoE output power</b> max 30 W per port, 60 W in total</p>
	<b>Connector</b>	2x RJ45, 1x SFP cage (mini GBIC), 4x RJ45
<b>Positioning</b>	<b>Standard</b>	<p>1x Multi-GNSS  <b>Receiver</b> BeiDou, Galileo, GLONASS, GPS  gpsOne Gen 9  <b>Antennas</b> Active or passive  <b>Tracking Sensitivity</b> Up to -161 dBm  <b>CEP (Circular Error Probability)</b> &lt;2m (Open sky conditions. Standalone)  <b>Min update rate</b> 1Hz  <b>Services</b> Standalone</p>
	<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>	<p>1x RS-232/485 combo (software switchable)  <b>Protocol</b> EIA-232  <b>Signals</b> TX, RX  <b>Signal level</b> High &gt; 5 VDC, low &lt; -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</p>
	<b>Connector</b>	1x Terminal block header 3.5 mm (screw locking)
<b>Extended Storage</b>		<p>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</p>
<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>	<p>NetModule Router Software</p> <p><b>Package</b> The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment.</p> <p><b>General</b> Fail-safe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI &amp; WebGUI, RADIUS authentication, Simple Certificate Enrollment Protocol (SCEP), Hardware- und Software Watchdog</p> <p><b>Remote Management</b> Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS</p> <p><b>Cellular Networking</b> Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license)</p> <p><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</p> <p><b>Link Management</b> Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision,</p> <p><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</p> <p><b>Routing</b> 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><b>VPN</b> OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service</p> <p><b>Firewall</b> Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports)</p> <p><b>Encryption</b> supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography)</p> <p><b>Quality of Service</b> Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow)</p> <p><b>Programmability</b> SDK</p> <p><b>Troubleshooting</b> Logging, Ping, Traceroute, Tcpdump, Speed-test</p>
	<b>Licenses</b>	<p>GNSS/GPS</p> <p><b>Services</b> Server with JSON-, NMEA stream</p>
<b>Power</b>	<b>Input Voltage</b>	<p>48 VDC</p> <p><b>Nominal voltages</b> 48 VDC (restricted input range for PoE switch)</p> <p><b>Absolute voltages</b> 48 VDC (-10 % / +10 %)</p>
	<b>Connector Consumption</b>	<p>1x Terminal block header 3.5 mm (screw locking)</p> <p>82 W (average), 90 W (max with 60W PoE load)</p>
<b>Mounting</b>		DIN-Rail
<b>Dimensions</b>	<b>W x H x D</b>	Width 95 mm x height 128/140 mm x depth 121 mm
<b>Weight</b>		1100 g
<b>Environment</b>	<b>Operating Temperature</b>	-40°C to +50°C
	<b>Ingress Protection Level</b>	IP40
<b>MTBF</b>		180'000 h / 20.5 years, according SN29500 at environmental temperature 40 °C
<b>Lieferumfang</b>		Device, General safety instructions, Terminal block
<b>Certifications</b>	<b>Compliance</b>	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS)
	<b>Domain</b>	Industrial
<b>Order Code</b>		NB1810-NWac4Ep-G