

# NB1810-LdWac4Ep-G

## Industrial Router with LTE-Adv + WLAN-ac + GbE + SFP + 4x GbE-PoE + GNSS

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



### Keyfeatures

<b>Mobile / Cellular</b>	1x LTE Advanced, 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 in Access Point Mode
<b>Ethernet</b>	4x Gigabit Ethernet with PoE (4-Port Switch), 1x SFP/Gigabit Ethernet Combo, 1x 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 +65 °C (@15 W PoE)
<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 NB1810 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

### Specifications

<b>Mobile / Cellular</b>	<b>Standard</b>	1x Multimode LTE Advanced, UMTS for EMEA, NA <b>4G - LTE</b> B1 (2100), B2 (1900), B3 (1800), B4 (AWS), B7 (2600), B12 (700ac), B13 (700c), B20 (800DD), B5 (850), B25 (1900), B26 (850), B29 (700), B41 (TDD2500), B30 (WCS) <b>3G - DC-HSPA+/UMTS</b> B1 (2100), B2 (1900), B3 (1800), B4 (1700), B5 (850), B8 (900) <b>2G - GSM/GPRS/EDGE</b> n.a. <b>Category</b> LTE Cat 6 <b>Antenna ports</b> 2x2 MIMO <b>Data rate down / up (max)</b> 300 Mbps / 50 Mbps <b>Voice</b> n.a.
	<b>Region</b>	Europe
	<b>Connectors</b>	2x SMA female
	<b>SIM</b>	2x Micro SIM - 3FF
<b>WiFi / WLAN</b>	<b>Standard</b>	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
	<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</p> <p>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)</p> <p>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>	<p>2x RJ45, 1x SFP cage (mini GBIC), 4x RJ45</p>
<b>Positioning</b>	<b>Standard</b>	<p>1x GNSS  <b>Receiver</b> BeiDou, GLONASS, GPS  <b>Antennas</b> Active or passive  <b>Sensitivity</b> -160 dBm  <b>Services</b> Standalone, assisted GPS  Data server with JSON, NMEA data stream</p>
	<b>Connector</b>	<p>1x SMA female</p>
<b>USB</b>	<b>Standard</b>	<p>1x USB 2.0 Host</p>
	<b>Connector</b>	<p>1x Type A</p>
<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</p> <p><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>	<p>1x Terminal block header 3.5 mm (screw locking)</p>
<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>	<p>1.3 GHz dual-core, 1 GB RAM, 4 GB flash</p>
	<b>Module Slots</b>	<p>2x miniPCIe (PCIe + USB), 2x Extension (USB)</p>

<b>Software</b>	<b>Features</b>	<p>NetModule Router Software (supported features depending on product variant)</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, 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><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</p> <p><b>Enabled service</b> GNSS location service 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>Scope of delivery</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-LdWac4Ep-G