

# NB1810-LpWac4E-G

## Industrial Router with LTE-A Pro + WLAN-ac + GbE + SFP + 4x GbE + GNSS

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



### Keyfeatures

<b>Mobile / Cellular</b>	1x 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 in Access Point Mode
<b>Ethernet</b>	4x Gigabit Ethernet (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 +70 °C
<b>Software</b>	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
<b>Compliance</b>	CE (RED), UKCA (RER), UL/IEC/EN 62368-1, FCC, PTCRB, AT&T
<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-A Pro, UMTS <b>4G - LTE Advanced Pro</b> B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B38, B39, B40, B41, B42, B43, B48 (CBRS), B66, B71 2014/53/EU (RED): B1, B3, B7, B8, B20, B28, B38, B40 <b>3G - DC-HSPA+/UMTS</b> B1, B2, B4, B5, B6, B8, B9, B19 2014/53/EU (RED): B1, B8 <b>Category</b> LTE Cat 12 <b>Antenna ports</b> 2x2 MIMO <b>Data rate down / up (max)</b> 600 Mbps / 150 Mbps <b>3GPP</b> 4G Rel. 12, 3G DC-HSPA+ <b>Voice</b> - <b>FCC ID</b> R17LN920 <b>Region</b> Europe, Middle East and Africa (EMEA), North America (NA), Asia and Pacific (APAC) Europe, United States of America (USA)
	<b>Region Connectors SIM</b>	2x SMA female 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  <b>Ethernet standard</b> 1000BASE-T, Auto MDIX  <b>Speed</b> 10/100/1000 Mbps</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 -158 dBm  <b>CEP (Circular Error Probability)</b> &lt; 2m (CEP 50), (Open sky conditions, Horizontal)  <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</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>	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 (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 LLDP, 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>12, 24, 48 VDC</p> <p><b>Nominal voltages</b> 12, 24, 48 VDC</p> <p><b>Absolute voltages</b> 12 VDC to 48 VDC (-25 % / +10 %)</p>
	<b>Connector Consumption</b>	<p>1x Terminal block header 3.5 mm (screw locking)</p> <p>15 W (average), 25 W (max)</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>		950 g
<b>Environment</b>	<b>Operating Temperature</b>	-40°C to +70°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 Domain</b>	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS), UL/IEC/EN 62368-1, FCC, PTCRB, AT&T Industrial
<b>Order Code</b>		NB1810-LpWac4E-G