

NB3800-NLWac-G

Bahn-Router mit 5G +LTE +WLAN-ac +5x ETH +GNSS +EN50155

Mit herausragender 5G Mobilfunktechnik für drahtlosen Internetzugang im Fahrzeug inkl. 5-Port Ethernet Switch.



Hauptmerkmale

Mobilfunk	1x 5G-NR, LTE-A Pro, UMTS 1x LTE, UMTS, GSM
SIM	4x Mini SIM
WiFi / WLAN	1x Dual Band IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients im Access Point Mode
Ethernet	2x Gigabit Ethernet, 3x Fast Ethernet
Speisung	24 VDC bis 48 VDC
Ortung	Multi-GNSS
Betriebstemperatur	-40 °C bis +70 °C, EN 50155 class OT4/ST0
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, freie Updates
Konformität	CE (RED), Bahn (EN50155, EN45545) , ITxPT optional
Modularität	Erweiterungen auf Anfrage

Produktbeschreibung

Der leistungsstarke NB3800 ist mit seiner Ausstattung, seinen Bahnzulassungen und Schnittstellen zur Bordelektronik z.B. ideal für Fahrgastinformation, Fahrkartensysteme oder auch Mining geeignet.

Anwendungen

- Flottenmanagement
- Mining
- Passagier-Infotainment
- Fahrkartensysteme
- Videoüberwachung
- Telematik

Spezifikation

Mobile / Cellular	Standard	<p>1x Multimode 5G-NR, LTE-A Pro, UMTS</p> <p>5G - NR n1, n2, n3, n5, n7, n8, n12*, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79</p> <p>2014/53/EU (RED): n1, n3, n7, n8, n20, n28, n38, n40, n77, n78</p> <p>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</p> <p>2014/53/EU (RED): B1, B3, B7, B8, B20, B28, B38, B40</p> <p>3G - DC-HSPA+/UMTS B1, B2, B3, B4, B5, B6, B8, B9, B19</p> <p>2014/53/EU (RED): B1 (2100), B3 (1800), B8 (900)</p> <p>5G - NR Modes Sub-6 FDD and TDD</p> <p>LTE Category Cat. 20 up to 7CA</p> <p>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</p> <p>Antenna ports 4</p> <p>Power Class 23dBm (Power Class 3)</p> <p>Data rate down / up (max) up to 5.5 Gbps DL / 2.7 Gbps UL</p> <p>Operations Modes 5G Core SA and NSA operations</p> <p>3GPP 4G/5G Rel. 15, 3G HSPA+ Rel. 8</p> <p>FCC ID RI7FN980</p> <p>Voice -</p> <p>Region Europe, Middle East and Africa (EMEA), North America (NA), Asia and Pacific (APAC)</p> <p>* future module firmware release</p> <p>1x Multimode LTE, UMTS, GSM for EMEA</p> <p>4G - LTE B1, B3, B7, B8, B20, B28A</p> <p>3G - DC-HSPA+ / UMTS B1 (2100), B3 (1800), B8 (900)</p> <p>2G - GSM/GPRS/EDGE B3 (1800), B8 (900)</p> <p>Category LTE Cat 4</p> <p>Antenna ports 2x2 MIMO</p> <p>Data rate down / up (max) 150 Mbps / 50 Mbps</p> <p>Voice CSFB, VoLTE (mit optionaler Software-Lizenz)</p> <p>FCC ID -</p> <p>Region Europe</p>
	Region Connectors SIM	<p>Europe</p> <p>6x TNC female</p> <p>4x Mini SIM - 2FF</p>
WiFi / WLAN	Standard	<p>1x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5)</p> <p>Wireless standard IEEE 802.11a/b/g/n/ac (Wi-Fi 5)</p> <p>Frequency 2.4/5 GHz</p> <p>Diversity 2x2 MIMO</p> <p>Data rate (max) 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz)</p> <p>Modes Client or access point (up to 100 clients)</p> <p>FCC ID TK4WLE600VX</p>
	Connector	2x TNC female
Ethernet	Standard	<p>2x Gigabit Ethernet</p> <p>Ethernet standard 1000BASE-T, Auto MDIX</p> <p>Speed 10/100/1000 Mbps</p> <p>3x Fast Ethernet</p> <p>Ethernet standard 100BASE-TX, Auto MDIX</p> <p>Speed 10/100 Mbps</p>
	Connector	2x M12 X-coded female, 3x M12 D-coded female
Positioning	Standard	<p>1x Multi-GNSS</p> <p>Receiver BeiDou, Galileo, GLONASS, GPS</p> <p>gpsOne Gen 9</p> <p>Antennas Active or passive</p> <p>Tracking Sensitivity Up to -161 dBm</p> <p>CEP (Circular Error Probability) < 2m (CEP 50), (Open sky conditions, Horizontal)</p> <p>Min update rate 1Hz</p> <p>Services Standalone</p>
	Connector	1x TNC female
USB	Standard	1x USB 2.0 Host
	Connector	1x Type A
Serial, Fieldbus	Protocol	<p>1x RS-232</p> <p>Protocol EIA-232</p> <p>Signals TX, RX</p> <p>Signal level High > 5 VDC, low < -5 VDC</p> <p>Bit rate Up to 115 200 Bit/s</p>
	Connector	1x M12 A-coded female
System	Core	1.3 GHz dual core, 1 GB RAM, 4 GB flash
	Module Slots	2x miniPCIe (PCIe + USB), 4x miniPCIe (USB)

Software	Features	<p>NetModule Router Software</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/GPS</p> <p>Services Server with JSON-, NMEA stream</p>
Power	Input Voltage	<p>24, 48 VDC</p> <p>Nominal voltages 24, 48 VDC</p> <p>Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %)</p> <p>Galvanic isolation 1500 VDC</p> <p>Standard EN 50155 class S2/C1</p>
	Connector Consumption	<p>1x M12 A-coded male</p> <p>25 W (max)</p>
Dimensions	W x H x D	Width 167/190 mm x height 121.1 mm x depth 106.5 mm
Weight		2000 g
Environment	Operating Temperature	-40°C to +70°C
	Ingress Protection Level	IP40
MTBF		180'576 h / 20.78 years, according SN29500 at environmental temperature 40 °C
Certifications	Compliance Domain	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS), Railway according to EN 50155 class OT4/ST0, EN 45545 Railway
Order Code		NB3800-NLWac-G