

NB3800-N2L-G

Bahn-Router mit 1x 5G + 2x LTE + 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 2x LTE, UMTS, GSM
SIM	4x Mini SIM
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	
		1x Multimode 5G-NR, LTE-A Pro, UMTS 5G - NR n1, n2, n3, n5, n7, n8, n12, n13, n14, n20, n25, n26, n28, n30, n38, n40, n41, n48, n66, n71, n77, n78 4G - LTE Advanced Pro 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 3G - DC-HSPA+/UMTS B1, B2, B4, B5, B8 5G -NR Modes Sub-6 FDD and TDD for global deployment LTE Category Cat. 19 up to 5CA MIMO 4x4 MIMO Antenna ports 4, 4x RX/TX on every port Power Class 23 dBm (Power Class 3) 26 dBm (Power Class 2) on B41 29 dBm (Power class 1.5) on n41, n77, n78 Module Data rate down / up (max) 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 Operations Modes 5G SA and NSA operations 3GPP 5G/4G Rel. 16, 3G HSPA+ Rel. 8 Voice - FCC ID R17FN990A28HP Region Europe, Middle East and Africa (EMEA), North America (NA), Asia and Pacific (APAC) 2x Multimode LTE, UMTS, GSM for EMEA 4G - LTE B1, B3, B7, B8, B20, B28A 3G - DC-HSPA+/UMTS B1 (2100), B3 (1800), B8 (900) 2G - GSM/GPRS/EDGE B3 (1800), B8 (900) Category LTE Cat 4 Antenna ports 2x2 MIMO Data rate down / up (max) 150 Mbps / 50 Mbps Voice CSFB, VoLTE (mit optionaler Software-Lizenz) FCC ID - Region Europe Europe 8x TNC female 4x Mini SIM - 2FF
	Region	
	Connectors	
	SIM	

Ethernet	Standard	2x Gigabit Ethernet Ethernet standard 1000BASE-T, Auto MDIX Speed 10/100/1000 Mbps
	Connector	3x Fast Ethernet Ethernet standard 100BASE-TX, Auto MDIX Speed 10/100 Mbps 2x M12 X-coded female, 3x M12 D-coded female
Positioning	Standard	1x Multi-GNSS Receiver BeiDou, Galileo, GLONASS, GPS gpsOne Gen 9 Antennas Active or passive Tracking Sensitivity Up to -161 dBm CEP (Circular Error Probability) < 2m (CEP 50), (Open sky conditions, Horizontal) Min update rate 1Hz Services Standalone
	Connector	1x TNC female
USB	Standard	1x USB 2.0 Host
	Connector	1x Type A
Serial, Fieldbus	Protocol	1x RS-232 Protocol EIA-232 Signals TX, RX Signal level High > 5 VDC, low < -5 VDC Bit rate Up to 115 200 Bit/s
	Connector	1x M12 A-coded female
System	Core	1.3 GHz dual core, 1 GB RAM, 4 GB flash
	Module Slots	2x miniPCle (PCle + USB), 4x miniPCle (USB)
Software	Features	NetModule Router Software Package The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment. 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 Remote Management Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS Cellular Networking Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license) 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 Link Management Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision, Services 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 Routing 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 VPN OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service Firewall Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Address translation (based on SRC and DST ports) Encryption supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography) Quality of Service Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow) Programmability SDK Troubleshooting Logging, Ping, Traceroute, Tcpdump, Speed-test
	Licenses	GNSS/GPS Services Server with JSON-, NMEA stream
Power	Input Voltage	24, 48 VDC Nominal voltages 24, 48 VDC Absolute voltages 24 VDC to 48 VDC (−30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class S2/C1
	Connector Consumption	1x M12 A-coded male 25 W (max)
Dimensions	W x H x D	Width 167/190 mm x height 121.1 mm x depth 106.5 mm
Weight		1800 g

Environment	Operating Temperature Ingress Protection Level	-40°C to +70°C IP40
MTBF		150'000 h / 17.1 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-N2L-G