

NB3800-2NWacDf-GVi

Railway Router with 2x 5G + 1x WLAN-ac + 5x ETH +1 TB Storage +GNSS + EN50155

With excellent 5G mobile radio technology for wireless internet access in the vehicle incl. 5-port Ethernet switch.



Keyfeatures

Mobile / Cellular	2x 5G-NR, LTE-A Pro, UMTS
SIM	4x Mini SIM
WiFi / WLAN	1x Dual Band IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients in Access Point Mode
Ethernet	2x Gigabit Ethernet, 3x Fast Ethernet
Extended Storage	1 TB
Power	24 VDC to 48 VDC
Positioning	Multi-GNSS
Temperature Range	-25 °C to +55 °C, EN 50155 class OT1/ST2
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED), Bahn (EN50155, EN45545), UL*/IEC/EN 62368-1, FCC, PTCRB, AT&T, NFPA130, ITxPT optional
Modularity	Extensions on request

Product description

The powerful NB3800 with its features, railway approvals and interfaces to on-board electronics, is ideal for applications like passenger WiFi, passenger information systems or video surveillance.

Applications

- Fleet Management
- Mining
- Passenger Infotainment
- Ticketing
- CCTV
- Telematics

Specifications

Mobile / Cellular	Standard	<p>2x Multimode 5G-NR, LTE-A Pro, UMTS</p> <p>5G - NR n1, n2, n3, n5, n7, n8, n12, n13, n14, n20, n25, n26, n28, n30, n38, n40, n41, n48, n66, n71, n77, n78</p> <p>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</p> <p>3G - DC-HSPA+/UMTS B1, B2, B4, B5, B8</p> <p>5G -NR Modes Sub-6 FDD and TDD for global deployment</p> <p>LTE Category Cat. 19 up to 5CA</p> <p>MIMO 4x4 MIMO</p> <p>Antenna ports 4, 4x RX/TX on every port</p> <p>Power Class 23 dBm (Power Class 3) 26 dBm (Power Class 2) on B41 29 dBm (Power class 1.5) on n41, n77, n78</p> <p>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</p> <p>Operations Modes 5G SA and NSA operations</p> <p>3GPP 5G/4G Rel. 16, 3G HSPA+ Rel. 8</p> <p>Voice -</p> <p>FCC ID R17FN990A28HP</p> <p>Region Europe, Middle East and Africa (EMEA), North America (NA), Asia and Pacific (APAC)</p>
	Region	Europe, United States of America (USA)
	Connectors	8x TNC female
	SIM	4x Mini SIM - 2FF

WiFi / WLAN	Standard	<p>1x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5) Wireless standard IEEE 802.11a/b/g/n/ac (Wi-Fi 5) Frequency 2.4/5 GHz Diversity 2x2 MIMO Data rate (max) 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz) Modes Client or access point (up to 100 clients) FCC ID TK4WLE600VX</p>
	Connector	2x TNC female
Ethernet	Standard	<p>2x Gigabit Ethernet Ethernet standard 1000BASE-T, Auto MDIX Speed 10/100/1000 Mbps 3x Fast Ethernet Ethernet standard 100BASE-TX, Auto MDIX Speed 10/100 Mbps</p>
	Connector	2x M12 X-coded female, 3x M12 D-coded female
Positioning	Standard	<p>1x Multi-GNSS Receiver BeiDou, Galileo, GLONASS, GPS gpsOne Gen 9 Antennas Active or passive Sensitivity Up to -161 dBm CEP (Circular Error Probability) <2m (Open sky conditions. Standalone) Min Update Rate 1Hz 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 Protocol EIA-232 Signals TX, RX Signal level High > 5 VDC, low < -5 VDC Bit rate Up to 115 200 Bit/s</p>
	Connector	1x M12 A-coded female
Extended Storage		<p>1 TB SSD Capacity 1 TB Technology SSD Data Application data such as logs, media content, ...</p>
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 (supported features depending on product variant)</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</p> <p>Enabled service GNSS location service 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	-25°C to +55°C
	Ingress Protection Level	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 OT1/ST1, EN 45545 Railway
Order Code		NB3800-2NWacDf-GVi