

NB3800-NWac2D-G

Bahn-Router mit 1x 5G + 1x WLAN-ac + 5x ETH + 2x Digital I/O + GNSS + EN50155

Leistungsstarker und modularer Mobilfunk-Router mit 5-Port Ethernet Switch für drahtlosen Internetzugang im Fahrzeug.



Hauptmerkmale

Mobilfunk	1x 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 im Access Point Mode
Ethernet	2x Gigabit Ethernet, 3x Fast Ethernet
Digital I/O	2x DIO
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)
Modularität	Erweiterungen auf Anfrage

Produktbeschreibung

Der NB3800 ist mit seinen Bahnzulassungen und ITxPT Konformität und Schnittstellen zur Bordelektronik z.B. ideal für WLAN und Information für Fahrgäste oder Betriebsdatenerfassung geeignet.

Anwendungen

- Passagier-WLAN
- Passagier-Infotainment
- Intelligenter Verkehr
- Telematik
- Videoüberwachung

Spezifikation

Mobile / Cellular	Standard	
		1x Multimode 5G-NR, LTE-A Pro, UMTS
		5G - NR n1, n2, n3, n5, n7, n8, n12*, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79 2014/53/EU (RED): n1, n3, n7, n8, n20, n28, n38, n40, n77, n78
		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 2014/53/EU (RED): B1, B3, B7, B8, B20, B28, B38, B40
		3G - DC-HSPA+/UMTS B1, B2, B3, B4, B5, B6, B8, B9, B19 2014/53/EU (RED): B1 (2100), B3 (1800), B8 (900)
		5G - NR Modes Sub-6 FDD and TDD
		LTE Category Cat. 20 up to 7CA
		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
		Antenna ports 4
		Power Class 23dBm (Power Class 3)
		Data rate down / up (max) up to 5.5 Gbps DL / 2.7 Gbps UL
		Operations Modes 5G Core SA and NSA operations
		3GPP 4G/5G Rel. 15, 3G HSPA+ Rel. 8
		FCC ID R17FN980
		Voice -
		Region Europe, Middle East and Africa (EMEA), North America (NA), Asia and Pacific (APAC)
		* future module firmware release
	Region	Europe
	Connectors	4x 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 Tracking Sensitivity Up to -161 dBm CEP (Circular Error Probability) < 2m (CEP 50), (Open sky conditions, Horizontal) Min update rate 1Hz Services Standalone</p>
	Connector	1x TNC female
USB	Standard	1x USB 2.0 Host
	Connector	1x Type A
Serial, Fieldbus	Connector	1x M12 A-coded female, EP2
IOs	Type	<p>2x Digital I/O Signals 2x DI, 2x DO DI signals +, - DI level Low: 0 - 5 VDC, high 9 - 60 VDC DI isolation 1'500 VDC DO level 0 - 60 VDC/1A DO signals Relay outputs with NO, NC, COM (normally open, normally closed) DO isolation 1'500 VDC</p>
	Connector	1x M12 A-coded female, EP1
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 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, SMTP 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, Adress 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</p>
	Licenses	<p>GNSS/GPS Services Server with JSON-, NMEA stream</p>

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	1x M12 A-coded male
	Consumption	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	-40°C to +70°C
	Ingress Protection Level	IP40
MTBF		182'000 h / 20.8 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-NWac2D-G