

NB3701-LWac-G

Railway Router with LTE + WLAN-ac + 5x ETH + GNSS + EN50155

Proven multi-service onboard router for light rail and railways.



Keyfeatures

Mobile / Cellular	1x LTE, UMTS, GSM
SIM	2x Mini SIM
WiFi / WLAN	1x Dual Band IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients in Access Point Mode
Ethernet	5x Fast Ethernet
IO	4x Digital I/O
Power	24 VDC to 48 VDC
Positioning	Multi-GNSS
Temperature Range	-40 °C to +70 °C, EN 50155 class OT4/ST0
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED), Railway (EN50155, EN45545)
Modularity	Extensions on request

Product description

The NB3701 is the compact router for railways and other applications where similarly high demands are placed on the hardware. It is the ideal device for applications as mining or passenger WiFi.

Applications

- Smart Traffic
- Mining
- Passenger WiFi
- Passenger Infotainment
- CCTV

Specifications

Mobile / Cellular	Standard	1x 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 (with optional Software License) FCC ID - Region Europe
	Region Connectors SIM	Europe 2x TNC female 2x Mini SIM - 2FF
WiFi / WLAN	Standard	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
	Connector	2x TNC female
Ethernet	Standard	5x Fast Ethernet Ethernet standard 100BASE-TX, Auto MDIX Speed 10/100 Mbps
	Connector	5x 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 -160 dBm Services Standalone CEP (Circular Error Probability) < 2m (CEP 50), (Open sky conditions, Horizontal)
	Connector	1x TNC female
USB	Standard Connector	1x USB 2.0 Host 1x Type A
IOs	Type	4x Digital I/O Signals 2x DI, 2x DO DI signals +, - DI level Low: 0 - 5 VDC, high: 7.2 - 40 VDC DO signals Relay outputs with NO, NC, COM (normally open, normally closed) DO level 0 - 60 VDC/1A, maximum switching capacity: 60 W Isolation 1'500 VDC
	Connector	1x M12 A-coded female
System	Core Module Slots	1.3 GHz dual-core, 1 GB RAM, 4 GB flash 2x miniPCle (PCle + USB)
Software	Features	NetModule Router Software (supported features depending on product variant) 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, 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
	Licenses	GNSS Enabled service GNSS location service 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 15 W (max)
Mounting		Bracket
Dimensions	W x H x D	Width 165/190 mm x height 85 mm x depth 104 mm
Weight		1100 g

Environment	Operating Temperature Ingress Protection Level	-40°C to +70°C IP40
MTBF		210'000 h / 24 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		NB3701-LWac-G