

# NB3800-LGrWac-G

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

Railway approved, modular onboard communication platform for future proof IP solutions.



### Keyfeatures

<b>Mobile / Cellular</b>	1x GSM-R, 1x LTE, UMTS, GSM
<b>SIM</b>	4x Mini SIM
<b>WiFi / WLAN</b>	1x Dual Band IEEE 802.11a/b/g/n/ac, 100 Clients in Access Point Mode
<b>Ethernet</b>	2x Gigabit Ethernet, 3x Fast Ethernet
<b>Power</b>	24 VDC to 48 VDC
<b>Positioning</b>	Multi-GNSS
<b>Temperature Range</b>	40 °C to +70 °C, EN 50155 class OT4/ST0
<b>Software</b>	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
<b>Compliance</b>	CE (RED), Railway (EN50155, EN45545), ITxPT optional
<b>Modularity</b>	Extensions on request

### Product description

The powerful NB3800, with its equipment, rail approvals and interfaces to on-board electronics, is ideal for applications such as fleet management, telematics or ticketing systems.

### Applications

- Fleet Management
- Passenger Infotainment
- Ticketing
- Telematics
- Smart Traffic

### Specifications

<b>Mobile / Cellular</b>	<b>Standard</b>	<p>1x Multimode LTE, UMTS, GSM for EMEA</p> <p><b>4G - LTE</b> B1 (2100), B3 (1800), B5 (850), B7 (2600), B8 (900), B20 (800)</p> <p><b>3G - DC-HSPA+/UMTS</b> B1 (2100), B2 (1900), B5 (850), B8 (900)</p> <p><b>2G - GSM/GPRS/EDGE</b> B2 (1900), B3 (1800), B5 (850), B8 (900)</p> <p><b>Category</b> LTE Cat 4</p> <p><b>Antenna ports</b> 2x2 MIMO</p> <p><b>Datarate down / up (max)</b> 150 Mbps / 50 Mbps</p> <p><b>Voice</b> CSFB</p> <p><b>FCC ID</b> XPYTOBYL210</p> <p>1x GSM-R for EMEA</p> <p><b>4G - LTE</b> n.a.</p> <p><b>3G - DC-HSPA+/UMTS</b> n.a.</p> <p><b>2G - GSM/GPRS</b> GSM-R (876-880 / 921-925), B8 (900), B3 (1800)</p> <p><b>Category</b> GPRS Multislot class 10</p> <p><b>Output Power</b> GSM-R Power Class 4 (2W)</p> <p><b>Antenna ports</b> SISO</p> <p><b>Datarate down / up (max)</b> 85.6 kbps / 42.8 kbps</p> <p><b>Voice</b> GSM (HR/FR/EFR/AMR)</p> <p><b>ASCI</b> n.a.</p>
	<b>Region</b>	Europe, Middle East and Africa (EMEA)
	<b>Connectors</b>	4x TNC female
	<b>SIM</b>	4x Mini SIM - 2FF
<b>WiFi / WLAN</b>	<b>Standard</b>	<p>1x Dual-band WLAN 2.4/5 GHz a/b/g/n/ac</p> <p><b>Wireless standard</b> IEEE 802.11a/b/g/n/ac</p> <p><b>Frequency</b> 2.4/5 GHz</p> <p><b>Diversity</b> 2x2 MIMO</p> <p><b>Datarate (max)</b> 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz)</p> <p><b>Modes</b> Client or access point (up to 100 clients)</p> <p><b>FCC ID</b> TK4WLE600VX</p>
	<b>Connector</b>	2x TNC female

<b>Ethernet</b>	<b>Standard</b>	2x Gigabit Ethernet <b>Ethernet standard</b> 1000BASE-T, Auto MDIX <b>Speed</b> 10/100/1000 Mbps 3x Fast Ethernet <b>Ethernet standard</b> 100BASE-TX, Auto MDIX <b>Speed</b> 10/100 Mbps
	<b>Connector</b>	2x M12 X-coded female, 3x M12 D-coded female
<b>Positioning</b>	<b>Standard</b>	1x Multi-GNSS <b>Receiver</b> BeiDou, Galileo, GLONASS, GPS/QZSS 72-channel u-blox M8 engine 3 concurrent GNSS channels <b>Antennas</b> Active or passive <b>Accuracy</b> Up to 2.5 m CEP <b>Sensitivity</b> Up to -167 dBm <b>Services</b> Standalone, Assisted GPS Data server with JSON, NMEA data stream
	<b>Connector</b>	1x TNC female
<b>USB</b>	<b>Standard</b>	1x USB 2.0 Host
	<b>Connector</b>	1x Type A
<b>Serial, Fieldbus</b>	<b>Protocol</b>	1x RS-232 <b>Protocol</b> EIA-232 <b>Signals</b> TX, RX <b>Signal level</b> High > 5 VDC, low < -5 VDC <b>Bit rate</b> Up to 1 Mbps
	<b>Connector</b>	1x M12 A-coded female
<b>System</b>	<b>Core</b>	1.3 GHz dual-core, 1 GB RAM, 4 GB flash
	<b>Module Slots</b>	2x miniPCIe (PCIe + USB), 4x miniPCIe (USB)
<b>Software</b>	<b>Features</b>	NetModule Router Software <b>Package</b> The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment. <b>General</b> Fail-safe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI & WebGUI, RADIUS authentication, Simple Certificate Enrollment Protocol (SCEP), logging <b>Remote Management</b> Manage and monitor devices with SNMP, telnet, SSH, or HTTP/HTTPS <b>Cellular Networking</b> Multi-SIM / soft-SIM support, multi-APN support, signal strength monitoring, dedicated bearers, GSM/CSFB calls <b>Wireless LAN</b> Client or Access Point mode, multi client support, multi / hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WPA-EAP-TLS, IEEE 802.11w, RADIUS accounting, CAPWAP <b>Link Management</b> Link prioritisation, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision <b>Network Services</b> DHCP Client, DNS server, email, SMS service, NTP Client, NTP server, DynDNS, SSH server, SNMP agent, HTTP/HTTPS/FTP server, voice gateway, SIP call routing, coovachilli hotspot <b>Routing</b> Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, EDP, FDP, IRDP, VRRP, VLAN, PPPoE <b>VPN</b> OpenVPN, IPsec, PPTP, GRE, CSD dial-in <b>Firewall</b> Stateful firewall, connection tracking, NAT, masquerading, bridge filtering
	<b>Licenses</b>	GNSS <b>Enabled service</b> GNSS location service Server with JSON-, NMEA stream
<b>Power</b>	<b>Input Voltage</b>	24, 48 VDC <b>Nominal voltages</b> 24, 48 VDC <b>Absolute voltages</b> 24 VDC to 48 VDC (-30 % / +30 %) <b>Galvanic isolation</b> 1500 VDC <b>Standard</b> EN 50155 class S2/C1
	<b>Connector</b> <b>Consumption</b>	1x M12 A-coded male 25 W (max)
<b>Dimensions</b>	<b>W x H x D</b>	Width 167/190 mm x height 121.1 mm x depth 106.5 mm
<b>Weight</b>		1900 g
<b>Environment</b>	<b>Operating Temperature</b>	-40°C to +70°C
	<b>Ingress Protection Level</b>	IP40
<b>MTBF</b>		150'000 h / 17.1 years, according SN29500 at environmental temperature 40 °C

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**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

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**Order Code**

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