

**Product:** [NB3800-L2WacCnl-G](#) 

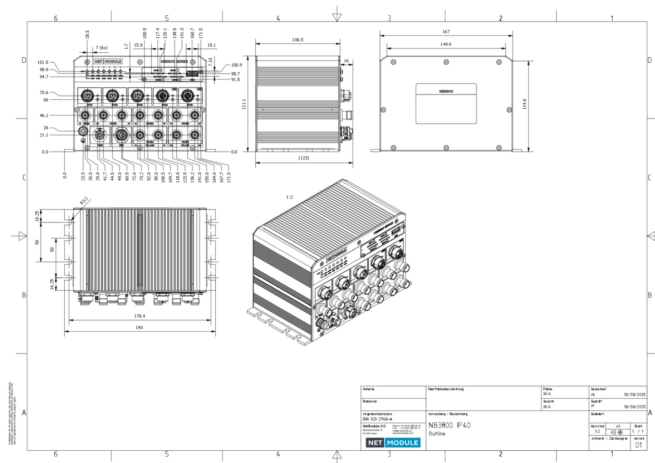


Railway Router with 2x GbE, 3x FE, -40..+70°C, LTE cat.4, 2x Wi-Fi AC, GNSS, 24-48VDC, IBIS,

### Product Description

Railway approved, modular onboard communication platform for future proof IP solutions. 2x Gigabit Ethernet. 3x Fast Ethernet. Temperature range -40...+70°C. LTE category 4 modem. With two times 802.11ac Wi-Fi modem. Global Navigation Satellite System (GNSS). Powered by 24 V DC. IBIS Bus.

### Technical Drawing



### Technical Specifications

#### Product Overview

Name:	NB3800-L2WacCnl-G
WAN:	IPv4; IPv6; IP Passthrough; DynDNS Client; PPPoE; Voice Gateway (SIP, Call Routing, Audio);
License:	NRSW 5.0 and newer version, included, if the hardware is capable: V(virtualization);V(voice);I(ITxPT);F(FMS2IP);Se(eSIM consum.);S(openVPN server);

#### Product Life Cycle

Life Cycle:	Active - Product is available
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#### General Information

Scope of delivery:	Device, General safety instructions
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#### More Interfaces

USB interface:	1 x USB 2.0 socket to connect an approved USB storage device, USB Type A socket
SIM Cards:	4x Mini SIM (2FF)
Local Management and Device Replacement:	Management via Web (HTTPs); Command Line Interface (CLI) over SSH/Serial/Web; SNMP v1/v2c/v3; Discovery via LLDP, CDP, FDP, SONMP, EDP, IRDP
Ethernet Connector Type:	2x Gigabit Ethernet (1000Base-T, Auto MDIX, 10/100/1000 Mbps, M12 X-coded female); 3x Fast Ethernet (100Base-TX, Auto MDIX, 10/100 Mbps, M12 D-coded female)
Power Supply:	1x M12 A-coded; EN50155 class S2/C1;
Serial:	1x M12 A-coded female; RS-232; Protocol EIA-232; Signals TX, RX; Signal levels: High (≥5 VDC), Low (≤ -5VDC); Bit rate up to 115kbps
IBIS Bus:	1x IBIS Slave; Protocol: VDV 300; Signals: WBED, WBME, WBSD, WBMS; Signal level: High ≥ 5 VDC, Low ≤ -5 VDC; Bit rate 1200 bps; Isolation up to 1500 VDC;
GPS (global positioning system):	Multi-GNSS, Receiver BeiDou, Galileo, GLONASS, GPS, gpsOne Gen 9, Antennas: active or passive, Sensitivity: Down to -161 dBm, CEP (Circular Error Probability) ≤2m (Open sky conditions, Standalone), Min Update Rate: 1Hz, Services: Standalone, GNSS Stream NMEA or JSON

CPU:	1.3 GHz dual-core
Memory:	1 GB RAM
Storage:	4 GB flash
LEDs:	7 LEDs (STAT, MOBx, WLANx, ...)
Reset Function:	Pin-hole push button for reboot and factory reset

## Radio technology

### Modules

Description	2G	3G	4G	MIMO	Antenna Connector	Additional Radio Features	Radio Protocol	Frequency Band	Access Point Functionality	Client / STA Functionality
Module 1					GNSS: 1x TNC female;					
Module 2	GSM/GPRS/EDGE Bands: B3 (1800), B8 (900)	DC-HSPA+/UMTS Bands: B1 (2100), B3 (1800), B8 (900)	LTE Cat. 4 Bands: B1, B3, B7, B8, B20, B28A	2x2 MIMO	4G: 2x TNC female;	CSFB; VoLTE;				
Module 4				On each (2x) WLAN module: 2x2 MIMO	On each (2x) WLAN: 2x TNC female		On each (2x) WLAN module: 802.11 a/b/g/n/ac (Wi-Fi 5)	On each (2x) WLAN module: WLAN 2.4/5 GHz	On each (2x) WLAN module: Access Point (8 SSIDs, 128 clients total); Mesh (802.11s); Bridged; Routed; IAPP; 802.11r (FT); DFS supported; Client Tracking; Band Steering; Isolate Clients Function; Accounting; Coovachilli Hotspot;	On each (2x) WLAN module: Client; 802.11r (FT); Roaming Thresholds; Background Scan; Multiple Client SSID Profiles;

Load Balance: Link Prioritization and Aggregation; Load Balancing; Diffserv; SFQ; HTB; Priority based Queuing

## Power requirements

Operating Voltage:	24 ... 48 VDC (±30%);
Power Consumption:	max. 25W

## Diagnostics features

Alarm and event actions:	Email; SMS sending
Monitoring:	Watchdogs (Hard- and Software); Link Supervision; MQTT Broker

## Security features

Multipoint VPN:	VXLAN, CSD dial-in, OpenVPN, IPSec, GRE, L2TP, PPTP, IKEv1/v2
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## Service

Other services:	DNS Cache;
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## Software

Firmware Storage:	Fail-safe update (FOTA); Software Update via USB, HTTP(s) (push), FTP (pull), SFTP (pull), TFTP (pull)
Radius Server:	External Radius Server Management User Authentication
Software features:	Software Development Kit (SDK);
Software Version:	5.0 (updates free of charge)
Operating system:	NRSW (NetModule Router Software)
Switching:	VLAN (802.1Q)
Redundancy:	Multipath TCP, VRRP (Virtual Router Redundancy Protocol), RSTP (Rapid Spanning Tree Protocol)
Diagnostics:	Netflow (Softflow), Ping, Traceroute, Tcpdump, Speed Test/GNSS Diagnostics
Configuration:	DHCP Client and Server
Security:	Certificate Management (SCEP Client, Signing Requests), Certificate formats: PKCS12, PKCS7, PEM/DER, RSA/Ed25519 (OpenSSH/Dropbear), "Let's encrypt" support, Elliptic Curve Certificates (ECC), 802.1x for LAN, Stateful Firewall, Connection Tracking, Bridge Filtering
Time synchronisation:	NTP Client and Server, SNTP Server
Routing:	Destination, Policy, Multipath, OSPF, BGP, Multicast, TCP-MSS Clamping, NAT, NAT, Masquerading, Mobile-IP
Management Software:	Compatible with "Connectivity Suite"
Cellular Functions:	Multi-APN; Signal Strength Monitoring; Dedicated Bearers

## Ambient conditions

Degree of Protection when Installed:	IP40
Operating temperature:	-40-+70 °C

## Mechanical construction

Dimensions (WxHxD):	167/190 mm x 121.1 mm x 106.5 mm
Weight:	1800 g
Mount Type:	Flat surface mounting
Mating Side:	all from front

## EMC emitted immunity

EMV 06:	Yes
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## Approvals

Basis Standard:	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS)
Transportation:	EN 45545, EN 50155 class OT4/ST0
Wireless standards:	WLAN FCC ID: TK4WLE600VX;
UK Regulation Compliance:	UKCA Mark
Suitability - Indoor:	Yes

## Reliability

Guarantee:	5 years
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## WLAN Access Point

Security:	WPA3/2/1, WPA Personal (TKIP, CCMP), WPA Enterprise (Radius: EAP-PEAP/MSCHAPv2, EAP-TLS), Opportunistic Wireless Encryption (OWE), Mesh (Open, SAE)
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## WLAN Client

Security:	WPA3/2/1, WPA Personal (TKIP, CCMP), WPA Enterprise (Radius: EAP-PEAP/MSCHAPv2, EAP-TLS)
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## Further Instructions

Software Download:	<a href="https://share.netmodule.com/public/system-software/latest/">https://share.netmodule.com/public/system-software/latest/</a>
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## History

Update and Revision:	Revision Number: 0.20 Revision Date: 05-12-2026
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## Variants

Item #	Type
942998434	NB3800-L2WacCnl-G

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