

NB3800 Railway Router

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 Product Information NB3800
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High-Performance Wireless Router with Multiple LTE Advanced, WLAN, Ethernet, GNSS, SSD Storage, ITxPT and EN 50155



Key Features

Mobile / Cellular	1 - 4x LTE Advanced Pro, UMTS, GSM
SIM	4x Mini SIM
WiFi / WLAN	1 - 2x Dual-band IEEE 802.11ac (Wi-Fi 5)
Ethernet	2x Gigabit Ethernet 3x Fast Ethernet
Extended Storage	Up to 1TB SSD
Positioning	Multi-GNSS
Temperature	-40°C to +70 °C
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, LXC, SDK, free updates
Compliance	CE (RED), Railway (EN 50155, EN 45545), ITxPT
Modularity	Extensions on request

Product Description

The NB3800 is a high-speed and ruggedized cellular router designed for rail environments. Its rail industry approvals, versatility, security features and performance make it ideal for applications such as Passenger WiFi, Passenger Infotainment or eMobility .

Its features include multiple LTE Advanced Pro modules which can be bundled, two WiFi access points with latest IEEE 802.11ac (Wi-Fi 5) standard, GNSS for positioning , 2 Gigabit and 3 Fast Ethernet ports and up to 1TB internal storage capacity .

The router is compliant with the mandatory requirements of EN 50155 and EN 45545. Communications interfaces include hardened connectors, including M12 for Ethernet, as well as TNC connectors for antenna connections.

The software is based on well proven components including an embedded Linux operating system and a powerful communication protocol suite. Customer specific software extensions may be implemented via a sophisticated SDK or Linux containers (LXC).

Applications

- [Passenger WiFi](#)
- [Passenger Infotainment](#)
- [CCTV](#)
- [Voice Communication](#)
- [eMobility](#)

Specifications

1 - 4x Mobile / Cellular (optional)

4G - LTE

B1, B3, B7, B8, B20, B28

3G - DC-HSPA+/UMTS

B1, B3, B8

2G - GSM/GPRS/EDGE

B3, B8

LTE Specification

LTE Cat 4, 2x2 MIMO
DL 150 Mbps / UL 50 Mbps

Voice

CSFB, VoLTE (with optional License)

Region

EMEA

1 - 2x Mobile / Cellular

Multimode LTE Advanced Pro, UMTS

4G - LTE

B1, B3, B7, B8, B20, B28, B38, B40

3G - DC-HSPA+/UMTS

B1, B8

LTE Specification

LTE Cat 12, 2x2 MIMO
DL 600 Mbps / UL 150 Mbps

Region

EMEA, (APAC or NA on request)

Connector

2 - 4x FAKRA D-coded

SIM

4x Mini SIM - 2FF

1 - 2x WiFi / WLAN (optional)

Standard

IEEE 802.11a/b/g/n/ac (Wi-Fi 5)
Dual-band 2.4/5 GHz
2x2 MIMO

Bit rate (max)

300 Mbps 2.4 GHz, 866 Mbps 5 GHz

Modes

Client or Access Point (max. 100 Cl.)

Connector

2 - 4x TNC female

5x Ethernet

2x Gigabit Ethernet
3x Fast Ethernet

Standard

1000Base-TX, Auto MDIX
100Base-TX, Auto MDIX

Connector

2x M12 X-coded female
3x M12 D-coded female

1x USB

USB 2.0 Host Port

Connector

1x Type A

Positioning (optional)

GNSS Receiver (depending on model)

BeiDou, Galileo, GLONASS, GPS/QZSS

Sensitivity

Up to -167 dBm, up to 2.5m CEP

Antennas

Active or passive

Connector

1x TNC female

1x Serial, Fieldbus

Protocol

RS-232

Signals

TX, RX

Bit rate

Up to 115 200 Bit/s

Connector

1x M12 A-coded female

1 - 2x Module Options

Instead of Serial, Fieldbus

Options

RS-232I, RS-485I, CAN, Audio, IBIS,
Digital-I/O, GSM-R

Connector

1x M12 A-coded female

System

Core

1.3 GHz dual-core, 1 GB RAM, 4 GB flash

Extended Storage

Up to 1 TB SSD

Power

Input voltages

24, 36, 48 VDC (-30 % / +30 %)

Optional:

72, 96, 110 VDC (-30 % / +30 %)

Maximal Power Consumption

25 W

Standard

EN 50155 class S2 / C1

Connector

1x M12 A-coded male

Other

Mounting

Brackets (wall mounting)

Dimensions

Width 167/190 mm x height 121.1 mm x
depth 106.5 mm

Weight

ca. 2000 g (with SSD storage)
ca. 1800g (without SSD storage)

Environment

Operating Temperature (depending on
model)

-40 °C to +70 °C

EN 50155 class OT4/STO

Ingress Protection Level

IP40

MTBF

125'000 h / 14.3 years - 170'000 h
/ 19.4 years (depending on model),
according SN29500 at environmental
temperature 40 °C

Software

Features

Routing, Network Services, VPN,
Firewall, Link Management, Supervisor,
SDK, free updates

Licenses (optional)

Voice Gateway, OpenVPN- and
DynDNS Server, GNSS, LXC
Virtualization, ITxPT, Enhanced RF
Configuration, FMS2IP

Certifications

Compliance

CE according to 2014/53/EU (RED),
2011/65/EU (RoHS)

Railway according to EN 50155,
EN 45545-2

ITxPT (requires license)

Vehicle according to UNECE-R118,
UNECE-R10 (on request)

Ordering options

Contact our sales team for our standard
models, options or project specific
adaptations