

NB3800 5G Railway Router

High-Performance Wireless Router with up to two 5G-NR, WLAN, Ethernet, GNSS, SSD Storage, ITxPT and EN 50155

07.08.2023, ©NetModule AG
Product Information NB3800 5G
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Key Features

Mobile / Cellular	1 - 2x 5G-NR, LTE-A-Pro, UMTS
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
Power	24 VDC to 110 VDC
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), UKCA (RER), Railway (EN 50155, EN 45545)
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, eMobility or transmitting operation Data.

Its features include up to two 5G-NR modules which can be bundled, two WiFi access point with latest IEEE 802.11ac (Wi-Fi 5) standard, GNSS for positioning , 2 Gigabit and 3 Fast Ethernet ports and extended 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

- [Operating Data](#)
- [Passenger WiFi](#)
- [Passenger Infotainment](#)
- [CCTV](#)
- [eMobility](#)



Specifications

1 - 2x Mobile / Cellular (optional)

Multimode 5G-NR, LTE, UMTS 5G-NR

n1, n3, n7, n8, n20, n28, n38, n40, n77, n78

4G - LTE

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

3G - DC-HSPA+/UMTS

B1, B3, B8

Specification

LTE Cat. 20 up to 7CA

4x4 MIMO support in 5G n1, n3, n7, n38, n40, n77, n78 and LTE B1, B3, B7, B38, B40

up to 5.5 Gbps DL / 2.7 Gbps UL

5G NR Modes Sub-6 FDD and TDD

5G Core SA and NSA operations

3GPP LTE/5G Rel. 15, 3G HSPA+ Rel. 18

Region

EMEA (APAC or NA on request)

Connector

4 - 8x TNC female

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 Clients)

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

GNSS Receiver

BeiDou, Galileo, GLONASS, GPS

Sensitivity

Up to -161 dBm

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

System

Core

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

Extended Storage

storage up to 1TB

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 storage)

ca. 1800g (without storage)

Environment

Operating Temperature (depending on model)

-40 °C to +70 °C

EN 50155 class OT4/STO

Ingress Protection Level

IP40

MTBF

150'000 / 17.1 years, according

SN29500 at environmental

temperature 40 °C

Software

Features

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

Licenses (optional)

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),

UKCA according to Radio Equipment

Regulations 2017 No. 1206 (RER),

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 adaptation.