

NB3701 Railway Router

Wireless Router with Multiple LTE, WLAN, Ethernet, GNSS and EN 50155

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Product Information NB3701
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Key Features

Mobile / Cellular	1 - 2x LTE, UMTS, GSM
SIM	2x Mini SIM
WiFi / WLAN	1 - 2x Dual-band IEEE 802.11ac (Wi-Fi 5)
Ethernet	5x Fast Ethernet
IO	4x Digital I/O
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 45545-2)
Modularity	Extensions on request

Product Description

The NB3701 is the compact communication gateway for railway and other applications where similarly high demands are placed on the hardware. It comes with several LTE modules, a WiFi access point, digital inputs and outputs and 5 Fast Ethernet ports. Its small form factor paired with its performance and features make it the ideal device for applications such as Passenger Infotainment, CCTV and Mining.

The router is compliant with the mandatory requirements of EN 50155 and EN 45545-2. 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.

Applications

- Passenger WiFi
- Passenger Infotainment
- CCTV
- Mining
- Fleet Management



Specifications

1 - 2x Mobile / Cellular (optional)

Multimode LTE, UMTS and GSM 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

Connector

2 - 4x TNC female

SIM

2x 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

Standard

100Base-TX, Auto MDIX

Speed

10 / 100 Mbps

Connector

5x M12 D-coded female

1x USB

USB 2.0 Host Port

Connector

1x Type A

Positioning (optional)

GNSS Receiver

BeiDou, Galileo, GLONASS, GPS/QZSS

Sensitivity

Up to -167 dBm, up to 2.5m CEP

Antennas

Active or passive

Connector

1x TNC female

4x IOs

2x Digital In

Level 0 (0-5 VDC), level 1 (7.2-40 VDC), isolation 1500 VDC

2x Digital Out

0-60 VDC/1A, isolation 1500 VDC

Connector

1x M12 A-coded female

1x Serial, Fieldbus (instead of IOs)

RS-232

Connector

1x M12 A-coded female

System

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

Power

Input voltages

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

Optional:

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

Maximal Power Consumption

15 W

Standard

EN 50155 class S2 / C1

Connector

1x M12 A-coded male

Other

Mounting

Brackets (wall mounting)

Dimensions

Width 165/190 mm x height 85 mm x depth 104 mm

Weight

ca. 1100 g

Environment

Operating Temperature
(depending on model)

-40 °C to +70 °C

EN 50155 class OT4/ST0

Ingress Protection Level

IP40

MTBF

210'000 h / 24 years, 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, Enhanced RF
Configuration

Certifications

Compliance

CE according to 2014/53/EU (RED),
UKCA according to Radio Equipment
Regulations 2017 No. 1206 (RER),
2011/65/EU (RoHS), Railway according
to EN 50155, EN 45545-2

Ordering options

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models, options or project specific
adaptations