

NB800 Vehicle IoT Router

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Product Information NB800
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Compact Wireless Router with LTE, WLAN, Bluetooth, Ethernet, Serial Interfaces, GNSS and E-Mark



Key Features

Mobile / Cellular	1x LTE, UMTS, GSM
SIM	1x Micro SIM or 1x eSIM Chip (on request)
WiFi / WLAN	1x Dual-band IEEE 802.11a/b/g/n (Wi-Fi 4) 1x Bluetooth Low Energy
Ethernet	1x Fast Ethernet
IO	2x Digital IO
USB	USB 2.0 Host
Serial / Fieldbus	1x RS-232/485
Positioning	Multi-GNSS
Temperature	-40 °C to +70 °C
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED), Vehicle (UNECE-R10, UNECE-R118)

Product Description

The compact NB800 is the cost-effective solution for a robust Internet connection in a harsh environment. The small form factor and reduced features make it ideal for simple connectivity tasks. Its modular design supports a wide range of protocols for the rapidly spreading Internet of Things (IoT).

Its features include an LTE module for wireless Internet connection, a small WiFi access point with Bluetooth LE and an Ethernet port. A hardware shield concept offers additional flexibility to extend the NB800 to an application optimized device or to follow future technology trends. By now, shields with dual CAN, digital I/Os and serial interfaces are available. The router also meets UNECE-R10 (E-Mark) regulation and can therefore be used in busses and other road vehicles, even under tough operating conditions.

This, combined with its versatile features, makes it the ideal device for applications such as Condition Monitoring, Remote Management or Ticketing.

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

- Fleet Management
- Ticketing
- Tracking
- Condition Monitoring

Specifications

1x Mobile / Cellular (optional)

Multimode LTE, UMTS and GSM 4G - LTE

B1 (2100), B3 (1800), B5 (850), B7 (2600), B8 (900), B20 (800)

3G - DC-HSPA+/UMTS

B1 (2100), B2 (1900), B5 (850), B8 (900)

2G - GSM/GPRS/EDGE

B2 (1900), B3 (1800), B5 (850), B8 (900)

LTE Specification

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

Voice

CSFB

Region

EMEA (APAC or NA on request)

Connector

2x SMA female

SIM

1x Micro SIM - 3FF or
1x eSIM Chip (on request)

1x WiFi / WLAN (optional)

Standard

IEEE 802.11a/b/g/n (Wi-Fi 4) +
Bluetooth Low Energy combo

Dual-band 2.4/5 GHz
2.4 GHz 2x2 MIMO, 5 GHz SISO

Bit rate (max)

144 Mbps 2.4 GHz, 150 Mbps 5 GHz

Modes

Client or Access Point (max. 10 Clients)

Connector

2x SMA female

1x Ethernet

Standard

100Base-TX, Auto MDIX

Speed

10 / 100 Mbps

Connector

1x RJ45

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 SMA female

Serial, Fieldbus (optional)

Protocol

1x RS-232/485 combo (software
switchable)

Signals

TX, RX / A, B

Bit rate

Up to 1 Mbps

Termination

120 Ω for RS-485 configurable by
software

OR

Protocol

2x CAN V2.0B (ISO 11898)

Bit rate

Up to 1 Mbps

Termination

120 Ω configurable by software

Bus access

Passive: read access only (write access
on request)

Connector

1x Terminal block header 3.5 mm

2x IOs (optional)

1x Digital In

Level 0 (0-3 VDC), level 1 (9-32 VDC),
isolation 1'500 VDC

1x Digital Out

0-32 VDC/1A, isolation 1'500 VDC

Connector

1x Terminal block header 3.5 mm

System

1 GHz single core, 512 MB RAM, 4 GB
flash, HW Rev. B02

Power

Nominal Input voltages

12 VDC, 24 VDC (+/- 20%)

Average Power Consumption

5 W

Maximal Power Consumption

10 W

Connector

1x Terminal block header 3.5 mm

Other

Mounting

Brackets, DIN-Rail with adapter

Dimensions

Width 85/111 mm x height 32 mm x
depth 110 mm

Weight

ca. 250 g

Environment

Operating Temperature

-40 °C to +70 °C

Ingress Protection Level

IP40

MTBF

340'000 h / 38.8 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, LXC Virtualization,
OpenVPN- and DynDNS Server,
GNSS, FMS2IP, E-Mark, Enhanced RF
Configuration, eUICC SIM profile

Certifications

Compliance

CE according to 2014/53/EU (RED),
2011/65/EU (RoHS)
Vehicle according to UNECE-R10,
UNECE-R118

Standards

EN 62368-1, EN 62311, EN 55032,
EN 55035, EN 61000-6-2,
EN 61000-6-3, EN 301489-1,
EN 301489-3, EN 301489-7,
EN 301489-17, EN 301489-24,
EN 301489-52, EN 300328, EN 301511,
EN 301893, EN 301908-1, EN 301908-2,
EN 301908-13, EN 301489-19,
EN 303413

Ordering options

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