Product Description

The NB2800 provides in-vehicle wireless Internet access. The router can be equipped with multiple LTE Advanced modules that can be bundled, two WiFi access points with the latest IEEE 802.11ac standard, GNSS for location, 2 Gigabit Ethernet ports and up to 1 TB of internal storage capacity. Thanks to the integrated ignition detection, the NB2800 can remain switched on even after the vehicle has been switched off. This allows the safe completion of all tasks.

The router meets the UN ECE R10 (E-Mark) and UN ECE R118 regulations. This, combined with its numerous features and high performance, makes it the ideal device for applications such as Passenger WiFi, Passenger Information and Voice Communication.

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).

Keyfeatures

<table>
<thead>
<tr>
<th>Category</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile / Cellular</td>
<td>1 - 4x LTE Advanced, UMTS, GSM</td>
</tr>
<tr>
<td>SIM</td>
<td>4x Micro SIM</td>
</tr>
<tr>
<td>WiFi / WLAN</td>
<td>1 - 2x Dual-band IEEE 802.11ac</td>
</tr>
<tr>
<td>Ethernet</td>
<td>2x Gigabit Ethernet</td>
</tr>
<tr>
<td>Extended Storage</td>
<td>Up to 1 TB SSD</td>
</tr>
<tr>
<td>Power</td>
<td>12 - 48 VDC, Ignition Sense</td>
</tr>
<tr>
<td>Positioning</td>
<td>Multi-GNSS with Dead Reckoning</td>
</tr>
<tr>
<td>Temperature</td>
<td>-25 °C to +70 °C</td>
</tr>
<tr>
<td>Software</td>
<td>Routing, Network Services, VPN, Firewall, Link Management, Supervisor, LXC, SDK, free updates</td>
</tr>
<tr>
<td>Compliance</td>
<td>CE (RED), Vehicle (UN ECE R10, UN ECE R118), ITxPT</td>
</tr>
<tr>
<td>Modularity</td>
<td>Extensions on request</td>
</tr>
</tbody>
</table>

Applications

- Passenger WiFi
- Passenger Infotainment
- CCTV
- Voice Communication
- eMobility
## Specifications

### 1 - 4x 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)
  OR
- Multimode LTE Advanced, UMTS
  4G – LTE
  - B1 (2100), B2 (1900), B3 (1800), B4 (AWS), B7 (2600), B12 (700ac), B13 (700c), B20 (800DD), B5 (850), B25 (1900), B26 (800), B29 (700), B41 (TDD2500), B30 (WCS)
  3G – DC-HSPA+/UMTS
  - B1 (2100), B2 (1900), B3 (1800), B4 (1700), B5 (850), B8 (900)

**LTE Specification**

- LTE Cat 6, 2x2 MIMO
- DL 300 Mbps / UL 50 Mbps

**Region**
- EMEA, NA (APAC on request)

**Connector**
- 2 - 8x FAKRA D-coded or SMA female

**SIM**
- 4x Micro SIM – 3FF

### 1 - 2x WiFi / WLAN (optional)

**Standard**
- IEEE 802.11a/b/g/n/ac
- 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 FAKRA I-coded or SMA female

### 2x Ethernet

**Standard**
- 1000Base-TX, Auto MDIX

**Speed**
- 10 / 100 / 1000 Mbps

**Connector**
- 2x RJ45

**1x USB**
- USB 3.0 Host Port

**Connector**
- 1x Type A

**Positioning (optional)**

- GNSS Receiver (depending on model)
- BeiDou, Galileo, GLONASS, GPS/QZSS, optional with Dead Reckoning

**Sensitivity**
- Up to -167 dBm, up to 2.5m CEP

**Antennas**
- Active or passive

**Connector**
- 1x FAKRA C-coded or SMA female

### 1x Serial, Fieldbus

**Protocol**
- RS-232

**Signals**
- TX, RX

**Bit rate**
- Up to 1 Mbps

**Connector**
- 1x Terminal block header 5 mm

### 1x Module Option

**Options**
- RS-232I, RS-485I, CAN, Audio, PTT, IBIS, Digital I/Os

**Connector**
- 1x RJ45

**System**

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

**Extended Storage**
- Up to 1 TB SSD

### Power

**Nominal Input voltages**
- 12, 24, 48 VDC (+25 % / +20 %)

**Maximal Power Consumption**
- 20 W

**Ignition Sense**
- Input with delayed shutdown

**Connector**
- 1x Terminal block header 5 mm

### Other

**Mounting**
- Bracket

**Dimensions**
- Width 164/190 mm x height 58 mm x depth 139.5 mm

**Weight**
- ca. 1200 g

**Environment**
- Operating Temperature
  - -25 °C to +70 °C
- Ingress Protection Level
  - IP40

### Software

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

**Licenses (optional)**
- Voice Gateway, OpenVPN- and DynDNS Server, GNSS, LXC Virtualization, E-Mark, ITxPT, Enhanced RF Configuration, FMS2IP

### Certifications

**Compliance**
- CE according to 2014/53/EU (RED), Vehicle according to UN ECE R10, UN ECE R118, ITxPT

**Standards**
- EN 300328, EN 300440, EN 301489-1, EN 301489-17, EN 301511, EN 301893, EN 301908-2, EN 302250, EN 55032, EN 61000-6-2, EN 61000-6-3, EN 50121-3-2, EN 62311, EN 62368-1, EN 55035, EN 301908-1, EN 301489-52, UN ECE R10, UN ECE R118

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