

# NB2800-Lp2Wac-G

## Vehicle Router with LTE-A Pro + 2x WLAN-ac + 2x GbE + GNSS + E-Mark

High-performance and modular mobile router for wireless Internet access in vehicles.



### Keyfeatures

|                              |  |
|------------------------------|--|
| <b>Mobile / Cellular</b>     | 1x LTE-A Pro, UMTS   |
| <b>SIM</b>                   | 4x Micro SIM   |
| <b>WiFi / WLAN</b>           | 1x Dual-Band IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients in Access Point Mode           |
| <b>Ethernet</b>              | 2x Gigabit Ethernet  |
| <b>Power</b>                 | 12 VDC to 48 VDC, Ignition Sense   |
| <b>Positioning</b>           | Multi-GNSS   |
| <b>Operation Temperature</b> | -25 °C to +55 °C   |
| <b>Software</b>              | Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates |
| <b>Compliance</b>            | CE (RED), Vehicle (UNECE-R10, UNECE-R118), ITxPT optional                                |
| <b>Modularity</b>            | Extensions on request  |

### Product description

The NB2800 provides in-vehicle wireless Internet access.

### Applications

- Passenger Infotainment
- CCTV
- Ticketing
- Smart Traffic
- Emergency Services

### Specifications

|                          |                   |   |
|--------------------------|-------------------|---|
| <b>Mobile / Cellular</b> | <b>Standard</b>   | <p>1x Multimode LTE-A Pro, UMTS</p> <p><b>4G - LTE Advanced Pro</b> B1, B3, B7, B8, B20, B28, B38, B40</p> <p><b>3G - DC-HSPA+/UMTS</b> B1, B8</p> <p><b>Category</b> LTE Cat 12</p> <p><b>Antenna ports</b> 2x2 MIMO</p> <p><b>Data rate down / up (max)</b> 600 Mbps / 150 Mbps</p> <p><b>3GPP</b> 4G Rel. 12 / 3G DC-HSPA+</p> <p><b>Voice -</b></p> <p><b>FCC ID</b> R17LN920</p> <p><b>Region</b> Europe, Middle East and Africa (EMEA), on request: North America (NA), Asia and Pacific (APAC)</p> |
|                          | <b>Region</b>     | Europe, Middle East and Africa (EMEA)   |
|                          | <b>Connectors</b> | 2x FAKRA D-coded male   |
|                          | <b>SIM</b>        | 4x Micro SIM - 3FF  |
| <b>WiFi / WLAN</b>       | <b>Standard</b>   | <p>2x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5)</p> <p><b>Wireless standard</b> IEEE 802.11a/b/g/n/ac (Wi-Fi 5)</p> <p><b>Frequency</b> 2.4/5 GHz</p> <p><b>Diversity</b> 2x2 MIMO</p> <p><b>Data rate (max)</b> 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz)</p> <p><b>Modes</b> Client or access point (up to 100 clients)</p> <p><b>FCC ID</b> TK4WLE600VX</p>  |
|                          | <b>Connector</b>  | 4x FAKRA I-coded male   |
| <b>Ethernet</b>          | <b>Standard</b>   | <p>2x Gigabit Ethernet</p> <p><b>Ethernet standard</b> 1000BASE-T, Auto MDIX</p> <p><b>Speed</b> 10/100/1000 Mbps</p>   |
|                          | <b>Connector</b>  | 2x RJ45   |

|                         |   |   |
|-------------------------|---|---|
| <b>Positioning</b>      | <b>Standard</b>   | 1x Multi-GNSS<br><b>Receiver</b> BeiDou, Galileo, GLONASS, GPS<br>gpsOne Gen 9<br><b>Antennas</b> Active or passive<br><b>Sensitivity</b> Up to -161 dBm<br><b>Services</b> Standalone  |
|                         | <b>Connector</b>  | 1x FAKRA C-coded male   |
| <b>USB</b>              | <b>Standard</b>   | 1x USB 3.0 Host   |
|                         | <b>Connector</b>  | 1x Type A   |
| <b>Serial, Fieldbus</b> | <b>Protocol</b>   | 1x RS-232<br><b>Protocol</b> EIA-232<br><b>Signals</b> TX, RX<br><b>Signal level</b> High > 5 VDC, low < -5 VDC<br><b>Bit rate</b> Up to 115 200 Bit/s  |
|                         | <b>Connector</b>  | 1x Terminal block header 5 mm   |
| <b>System</b>           | <b>Core</b>   | 1.3 GHz dual-core, 1 GB RAM, 4 GB flash   |
|                         | <b>Module Slots</b>   | 2x miniPCle (PCle + USB), 2x miniPCle (USB)   |
| <b>Software</b>         | <b>Features</b>   | NetModule Router Software (supported features depending on product variant)<br><b>Package</b> The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment.<br><b>General</b> Fail-safe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI & WebGUI, RADIUS authentication, Simple Certificate Enrollment Protocol (SCEP), Hardware- und Software Watchdog<br><b>Remote Management</b> Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS<br><b>Cellular Networking</b> Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license)<br><b>Wireless LAN</b> Access Point, Client Mode, Mesh Point or Dual Modes (Mesh Access Point / Access Point - Client), WLAN Pseudo-Bridge Client Mode: Multiple Client SSID Profile, Encryption: Open, WEP, WPA1/2/3-Personal, WPA1/2/3-Enterprise. Fast Roaming: Fast BSS Transition (802.11r), PreAuthentication, Protected Management Frames (802.11w) AP Mode: Multi-SSIDs (up to 8)<br>Encryption: Open WPA1/2/3-Personal, WPA1/2/3-Enterprise Fast Roaming: Fast BSS Transition (802.11r), PreAuthentication, DFS support Protected Management Frames (802.11w) Client Tracking, Band Steering, Hide SSID broadcasting, Isolate Clients, Accounting, Short guard Intervall Mesh Mode (802.11s): Encryption: None, SAE. Gateway announcements<br><b>Link Management</b> Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision,<br><b>Services</b> DHCP Client/Server, DNS Caching Server, Email, SMS Service, NTP Client/Server, SNMP Server, DynDNS, SSH Server, SNMP Agent, HTTP/HTTPS/FTP Server, IPv6 for WAN, 802.1x over Ethernet, MQTT Broker Voice Gateway (SIP, Call Routing, Audio with optional license) Coovachilli Hotspot<br><b>Routing</b> Destination, policy, multipath, mobile-IP, OSPF, BGP, multicast, TCP-MSS clamping, bridging discovery protocols LLDAP, CDP, SONMP, EDP, FDP, IRDP, VRRP, STP/RSTP, VRRP, VLAN, PPPoE, VXLAN<br><b>VPN</b> OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service<br><b>Firewall</b> Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports)<br><b>Encryption</b> supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography)<br><b>Quality of Service</b> Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow)<br><b>Programmability</b> SDK<br><b>Troubleshooting</b> Logging, Ping, Traceroute, Tcpdump, Speed-test |
|                         | <b>Licenses</b>   | GNSS<br><b>Enabled service</b> GNSS location service<br>Server with JSON-, NMEA stream  |
| <b>Power</b>            | <b>Input Voltage</b>  | 12, 24, 48 VDC<br><b>Nominal voltages</b> 12, 24, 48 VDC<br><b>Absolute voltages</b> 12 VDC to 48 VDC (-25 % / +25 %)<br><b>Ignition sense</b> Input with delayed shutdown  |
|                         | <b>Ignition Sense</b><br><b>Connector</b><br><b>Consumption</b> | Yes<br>1x Terminal block header 5 mm<br>20 W (max)  |
| <b>Mounting</b>         |   | Bracket   |
| <b>Dimensions</b>       | <b>W x H x D</b>  | Width 164/190 mm x height 58 mm x depth 139.5 mm  |
| <b>Weight</b>           |   | 800 g   |
| <b>Environment</b>      | <b>Operating Temperature</b>                                    | -25°C to +55°C  |
|                         | <b>Ingress Protection Level</b>                                 | IP40  |

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|-----------------------|--------------------------|--|
| <b>MTBF</b>           |                          | 230'000 h / 26.3 years, according SN29500 at environmental temperature 40 °C         |
| <b>Certifications</b> | <b>Compliance Domain</b> | CE according to 2014/53/EU (RED), Vehicle according to UNECE-R10, UNECE-R118 Vehicle |
| <b>Order Code</b>     |                          | NB2800-Lp2Wac-G  |

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