

# NB2800-LWac2Cm-GFlx

**Fahrzeug-Router mit LTE + WLAN-ac + 2x GbE + 2x CAN-passiv + GNSS + FMS2IP + ITxPT + E-Mark**

Leistungsstarker und modularer Mobilfunk-Router für drahtlosen Internetzugang im Fahrzeug.



## Hauptmerkmale

<b>Mobilfunk</b>	1x LTE, UMTS, GSM
<b>SIM</b>	4x Micro SIM
<b>WiFi / WLAN</b>	1x IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients im Access Point Mode
<b>Ethernet</b>	2x Gigabit Ethernet
<b>Serielle / Feldbus</b>	2x CAN passiv (Lesezugriff) mit FMS zu IP Gateway
<b>Speisung</b>	12 VDC bis 48 VDC, Zündungserkennung
<b>Ortung</b>	Multi-GNSS
<b>Betriebstemperatur</b>	-25 °C bis +70 °C
<b>Software</b>	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, FSM2IP freie Updates
<b>Konformität</b>	CE (RED), Fahrzeug (UNECE-R10, UNECE-R118), ITxPT
<b>Modularität</b>	Erweiterungen auf Anfrage

## Produktbeschreibung

Der NB2800 bietet drahtlosen Internetzugang im Fahrzeug.

## Anwendungen

- eMobility
- Telematik
- Flottenmanagement
- Intelligenter Verkehr

## Spezifikation

<b>Mobile / Cellular</b>	<b>Standard</b>	1x Multimode LTE, UMTS, GSM for EMEA <b>4G - LTE</b> B1 (2100), B3 (1800), B5 (850), B7 (2600), B8 (900), B20 (800) <b>3G - DC-HSPA+/UMTS</b> B1 (2100), B2 (1900), B5 (850), B8 (900) <b>2G - GSM/GPRS/EDGE</b> B2 (1900), B3 (1800), B5 (850), B8 (900) <b>Category</b> LTE Cat 4 <b>Antenna ports</b> 2x2 MIMO <b>Data rate down / up (max)</b> 150 Mbps / 50 Mbps <b>Voice</b> CSFB (mit optionaler Software-Lizenz) <b>FCC ID</b> XPYTOBYL210
	<b>Region</b> <b>Connectors</b> <b>SIM</b>	Europe, Middle East and Africa (EMEA) 2x FAKRA D-coded male 4x Micro SIM - 3FF
<b>WiFi / WLAN</b>	<b>Standard</b>	1x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5) <b>Wireless standard</b> IEEE 802.11a/b/g/n/ac (Wi-Fi 5) <b>Frequency</b> 2.4/5 GHz <b>Diversity</b> 2x2 MIMO <b>Data rate (max)</b> 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz) <b>Modes</b> Client or access point (up to 100 clients) <b>FCC ID</b> TK4WLE600VX
	<b>Connector</b>	2x FAKRA I-coded male
<b>Ethernet</b>	<b>Standard</b>	2x Gigabit Ethernet <b>Ethernet standard</b> 1000BASE-T, Auto MDIX <b>Speed</b> 10/100/1000 Mbps
	<b>Connector</b>	2x RJ45

<b>Positioning</b>	<b>Standard</b>	<p>1x Multi-GNSS  <b>Receiver</b> BeiDou, Galileo, GLONASS, GPS/QZSS  72-channel u-blox M8 engine  3 concurrent GNSS channels  <b>Antennas</b> Active or passive  <b>Accuracy</b> Up to 2.5 m CEP  <b>Sensitivity</b> Up to -167 dBm  <b>Services</b> Standalone, Assisted GPS  Data server with JSON, NMEA data stream</p>
	<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>	<p>1x RS-232  <b>Protocol</b> EIA-232  <b>Signals</b> TX, RX  <b>Signal level</b> High &gt; 5 VDC, low &lt; -5 VDC  <b>Bit rate</b> Up to 115 200 Bit/s  2x CAN  <b>Protocol</b> Controller Area Network V2.0B (ISO 11898)  <b>Signals</b> CANH, CANL  <b>Signal level</b> High &gt; 2.75 V, low &lt; 2.0 V  <b>Bit rate</b> Up to 1 Mbps  <b>Isolation</b> 1500 VDC  <b>Termination</b> No internal bus termination  <b>Bus access</b> Passive - read access only  Active - read and write access on request (option -2Cn)</p>
	<b>Connector</b>	1x Terminal block header 5 mm, 1x RJ45
<b>System</b>	<b>Core</b>	1.3 GHz dual core, 1 GB RAM, 4 GB flash
	<b>Module Slots</b>	2x miniPCIe (PCIe + USB), 2x miniPCIe (USB)
<b>Software</b>	<b>Features</b>	<p>NetModule Router Software (Unterstützte Features abhängig von Produktvariante)  <b>Package</b> The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment.  <b>General</b> Fail-safe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI &amp; WebGUI, RADIUS authentication, Simple Certificate Enrollment Protocol (SCEP), Hardware- und Software Watchdog  <b>Remote Management</b> Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS  <b>Cellular Networking</b> Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license)  <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) 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  <b>Link Management</b> Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision,  <b>Services</b> DHCP Client/Server, DNS Caching Server, Email, SMS Service, NTP Client/Server, SNTP 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  <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  <b>VPN</b> OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service  <b>Firewall</b> Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports)  <b>Encryption</b> supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography)  <b>Quality of Service</b> Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow)  <b>Programmability</b> SDK  <b>Troubleshooting</b> Logging, Ping, Traceroute, Tcpdump, Speed-test</p>
	<b>Licenses</b>	<p>GNSS,  <b>Enabled service</b> GNSS location service  Server with JSON-, NMEA stream  FMS2IP,  <b>Enabled services</b> Automatic translation of CAN messages into IP datagrams according to FMS Standard.  <b>Services</b> FMStoIP, VEHICLEtoIP  <b>Compliance</b> According to ITxPT  ITxPT  <b>Enabled services</b> Inventory, Time, FMS2IP (requires -F option), Vehicle2IP (requires -F option), Location (requires -G option)  <b>Standard</b> ITxPT software compliance</p>

<b>Power</b>	<b>Input Voltage</b>	12, 24, 48 VDC <b>Nominal voltages</b> 12, 24, 48 VDC <b>Absolute voltages</b> 12 VDC to 48 VDC (-25 % / +25 %) <b>Ignition sense</b> Input with delayed shutdown
	<b>Ignition Sense</b>	Ja
	<b>Connector</b>	1x Terminal block header 5 mm
	<b>Consumption</b>	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 +70°C
	<b>Ingress Protection Level</b>	IP40
<b>MTBF</b>		230'000 h / 26.3 years, according SN29500 at environmental temperature 40 °C
<b>Certifications</b>	<b>Compliance</b>	CE according to 2014/53/EU (RED), Vehicle according to UNECE-R10, UNECE-R118, ITxPT (Hardware compliance requires adapter cables)
	<b>Domain</b>	Vehicle
<b>Order Code</b>		NB2800-LWac2Cm-GFlx