NET MODULE

NB2800-2LWac-G

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

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

Keyfeatures

Mobile / Cellular	2x LTE, UMTS, GSM
SIM	4x Micro SIM
WiFi / WLAN	1x IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients in Access Point Mode
Ethernet	2x Gigabit Ethernet
Power	12 VDC to 48 VDC, Ignition Sense
Positioning	Multi-GNSS
Operation Temperature	-25 °C to +70 °C
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED), Vehicle (UNECE-R10, UNECE-R118), ITxPT optional
Modularity	Extensions on request

Product description

The NB2800 provides in-vehicle wireless Internet access.

Applications

- Fleet Management
- Passenger Infotainment
- Ticketing
- Passenger WiFi
- CCTV
- Smart Traffic
- Emergency Services

Specifications

Mobile / Cellular	Standard	2x Multimode LTE, UMTS, GSM for EMEA
		4G – LTE B1, B3, B7, B8, B20, B28A
		3G - DC-HSPA+/UMTS B1 (2100), B3 (1800), B8 (900)
		2G - GSM/GPRS/EDGE B3 (1800), B8 (900)
		Category LTE Cat 4
		Antenna ports 2x2 MIMO
		Data rate down / up (max) 150 Mbps / 50 Mbps
		Voice CSFB, VoLTE (with optional Software License)
		FCC ID -
	Region	Europe, Middle East and Africa (EMEA)
	Connectors	4x FAKRA D-coded male
	SIM	4x Micro SIM - 3FF

WiFi / WLAN	Standard	1x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5)
		Wireless standard IEEE 802.11a/b/g/n/ac (Wi-Fi 5)
		Frequency 2.4/5 GHz
		Diversity 2x2 MIMO
		Data rate (max) 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz)
		Modes Client or access point (up to 100 clients)
		FCC ID TK4WLE600VX
	Connector	2x FAKRA I-coded male

Ethernet	Standard	2x Gigabit Ethernet
		Ethernet standard 1000BASE-T, Auto MDIX
		Speed 10/100/1000 Mbps
	Connector	2x RJ45

Positioning	**Standard**	1x Multi-GNSS
		Receiver BeiDou, Galileo, GLONASS, GPS
		gpsOne Gen 9
		Antennas Active or passive
		Tracking Sensitivity Up to -160 dBm
		Services Standalone
	Connector	1x FAKRA C-coded male

USB	**Standard**	1x USB 3.0 Host
	Connector	1x Type A

Serial, Fieldbus	**Protocol**	1x RS-232
		Protocol EIA-232
		Signals TX, RX
		Signal level High > 5 VDC, low < -5 VDC
		Bit rate Up to 115 200 Bit/s
	Connector	1x Terminal block header 5 mm

System	**Core**	1.3 GHz dual-core, 1 GB RAM, 4 GB flash
	Module Slots	2x miniPCIe (PCIe + USB), 2x miniPCIe (USB)

Software	**Features**	NetModule Router Software (supported features depending on product variant)
		Package The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment.
		General 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
		Remote Management Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS
		Cellular Networking Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license)
		Wireless LAN 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
		Link Management Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision,
		Services 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
		Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, multicast, TCP-MSS clamping, bridging discovery protocols LLDP, CDP, SONMP, EDP, FDP, IRDP, VRRP, STP/RSTP, VRRP, VLAN, PPPoE, VXLAN
		VPN OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service
		Firewall Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports)
		Encryption supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography)
		Quality of Service Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow)
		Programmability SDK
		Troubleshooting Logging, Ping, Traceroute, Tcpdump, Speed-test
	Licenses	GNSS
		Enabled service GNSS location service
		Server with JSON-, NMEA stream

Power	**Input Voltage**	12, 24, 48 VDC
		Nominal voltages 12, 24, 48 VDC
		Absolute voltages 12 VDC to 48 VDC (-25 % / +25 %)
		Ignition sense Input with delayed shutdown
	Ignition Sense	Yes
	Connector	1x Terminal block header 5 mm
	Consumption	20 W (max)

Mounting		Bracket

Dimensions	**W x H x D**	Width 164/190 mm x height 58 mm x depth 139.5 mm

Weight		800 g

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

MTBF		200'000 h / 22.8 years, according SN29500 at environmental temperature 40 °C
Certifications	**Compliance Domain**	CE according to 2014/53/EU (RED), Vehicle according to UNECE-R10, UNECE-R118
		Vehicle
Order Code		NB2800-2LWac-G