NET MODULE

NB800-LSu-GE

Vehicle Router with LTE + ETH + USB + GNSS + E-Mark

Compact general purpose onboard communciation unit for special vehicles.

Keyfeatures

Mobile / Cellular	1x LTE, UMTS, GSM
SIM	1x Micro SIM / 1x eSIM chip (on request)
Ethernet	1x Fast Ethernet
USB	USB 2.0 Host
Positioning	Multi-GNSS
Operation 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)
Modularity	Extensions on request

Product description

The compact NB800 is the cost-effective solution for a robust on-board Internet connection in vehicles.

Applications

- Emergency Services
- Smart Traffic
- CCTV
- Tracking
- Voice Communication
- Ticketing
- CCTV
- Fleet Management

Specifications

Mobile / Cellular	Standard	1x Multimode LTE, UMTS, GSM for EMEA **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) **Category** LTE Cat 4 **Antenna ports** 2x2 MIMO **Data rate down / up (max)** 150 Mbps / 50 Mbps **Voice** CSFB (with optional Software License) **FCC ID** XPYTOBYL210
	Region	Europe, Middle East and Africa (EMEA)
	Connectors	2x SMA female
	SIM	1x Micro SIM - 3FF / eSIM Chip (on request)

Ethernet	Standard	1x Fast Ethernet **Ethernet standard** 100BASE-TX, Auto MDIX **Speed** 10/100 Mbps
	Connector	1x RJ45

Positioning	Standard	1x Multi-GNSS **Receiver** BeiDou, Galileo, GLONASS, GPS/QZSS 72-channel u-blox M8 engine 3 concurrent GNSS channels **Antennas** Active or passive **Accuracy** Up to 2.5 m CEP **Sensitivity** Up to –167 dBm **Services** Standalone, Assisted GPS Data server with JSON, NMEA data stream
	Connector	1x SMA female

USB	**Standard**	1x USB 2.0 Host
	Connector	1x Type A

System	**Core**	1 GHz single core, 512 MB RAM, 4 GB flash, HW Rev. B02
	Module Slots	1x Shield

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 VDC
		Nominal voltages 12, 24 VDC
		Absolute voltages 12 VDC to 24 VDC (-20 % / +20 %)
	Connector	1x Terminal block header 3.5 mm
	Consumption	5 W (average), 10 W (max)

Mounting		Bracket

Dimensions	**W x H x D**	Width 85/111 mm x height 32 mm x depth 110 mm

Weight		220 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

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

Order Code		NB800-LSu-GE