NET MODULE

NB800-LWWtSu2Cm-G

IIoT Router with LTE + WLAN + BT/BLE + ETH + USB + 2x CAN-passive + GNSS

Compact and modular mobile router to connect remote locations.

Keyfeatures

Mobile / Cellular	1x LTE, UMTS, GSM
SIM	1x Micro SIM / 1x eSIM chip (on request)
WiFi / WLAN	1x Dual-band IEEE 802.11a/b/g/n (Wi-Fi 4), 1x Bluetooth Low Energy
Ethernet	1x Fast Ethernet
Serial / Fieldbus	2x CAN passive (read only)
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)
Modularity	Extensions on request

Product description

The compact NB800 is the cost-effective solution for a robust Internet connection in an industrial environment.

Applications

- Condition Monitoring
- Industrial Security
- Factory Automation
- Remote Management
- Environmental Monitoring
- Intelligent Lighting Management
- Smart Buildings

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
		FCC ID XPYTOBYL210
	Region	Europe, Middle East and Africa (EMEA)
	Connectors	2x SMA female
	SIM	1x Micro SIM - 3FF / eSIM Chip (on request)
WiFi / WLAN	**Standard**	1x Dual-band WLAN 2.4/5 GHz a/b/g/n (Wi-Fi 4) + BT 4.2 combo
		Wireless standard IEEE 802.11a/b/g/n (Wi-Fi 4)
		Bluetooth 4.2, Bluetooth Low Energy
		Frequency 2.4/5 GHz
		Antenna ports 2x2 MIMO
		Data rate (max) 144 Mbps 2.4 GHz 2x2 MIMO, 150 Mbps 5 GHz SISO
		Modes Client or access point (up to 10 clients)
		FCC ID Z64-WL18DBMOD
	Connector	2x SMA female
Ethernet	**Standard**	1x Fast Ethernet
		Ethernet standard 100BASE-TX, Auto MDIX
		Speed 10/100 Mbps
	Connector	1x RJ45

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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

Serial, Fieldbus	Protocol	2x CAN
		Protocol Controller Area Network V2.0B (ISO 11898)
		Signals CANH, CANL
		Signal level High > 2.75 V, low < 2.0 V
		Bit rate Up to 1 Mbps
		Termination No internal bus termination
		Bus access Passive - read access only
		Module CAN shield
	Connector	1x Terminal block header 3.5 mm

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

Software	Features	NetModule Router Software

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 / soft-SIM support, multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls

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) 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)
	Domain	Industrial

Order Code	NB800-LWWtSu2Cm-G