NET MODULE

NB800-LWWtScSu-G

IIoT Router with LTE + WLAN + BT/BLE + ETH + RS-232/485 + DIO + USB + 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
Positioning	Multi-GNSS
IO	2x Digital I/O
Serial / Fieldbus	1x RS-232/485
USB	USB 2.0 Host
Operation Range	-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
- Tracking
- Industrial Security
- Remote Management
- Smart Buildings
- Point of Sale
- Digital Signage
- Intelligent Lighting 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)
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

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	1x RS-232/485 combo (software switchable)
		Protocol EIA-232
		Signals TX, RX
		Signal level High > 5 VDC, low < -5 VDC
		Bit rate Up to 115'200 Bit/s
		Protocol EIA-485
		Signals A, B
		Signal level Differential output voltage, loaded 1.5 VDC – 3.6 VDC
		Bit rate Up to 115'200 Bit/s
		Termination 120 Ω for RS-485 configurable by software
	Connector	1x Terminal block header 3.5 mm

IOs	Type	2x Digital I/O
		Signals 1x DI, 1x DO
		DI signals +, -
		DI level Low: 0 - 3 VDC, high: 9 - 32 VDC
		DO signals Relay outputs with NO, NC, COM (normally open, normally closed)
		DO level 0 - 32 VDC/1A
		Isolation 1'500 VDC
		Module COM-I/O 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 (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)
	Domain	Industrial
Order Code		NB800-LWWtScSu-G