

# NB800-LWWtSu2Cm-G

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

Compact and modular mobile router to connect remote locations.



### Keyfeatures

|                              |  |
|------------------------------|--|
| <b>Mobile / Cellular</b>     | 1x LTE, UMTS, GSM  |
| <b>SIM</b>                   | 1x Micro SIM / 1x eSIM chip (on request)   |
| <b>WiFi / WLAN</b>           | 1x Dual-band IEEE 802.11a/b/g/n (Wi-Fi 4), 1x Bluetooth Low Energy                       |
| <b>Ethernet</b>              | 1x Fast Ethernet   |
| <b>Serial / Fieldbus</b>     | 2x CAN passive (read only)   |
| <b>USB</b>                   | USB 2.0 Host   |
| <b>Positioning</b>           | Multi-GNSS   |
| <b>Operation Temperature</b> | -40 °C to +70 °C   |
| <b>Software</b>              | Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates |
| <b>Compliance</b>            | CE (RED), UKCA (RER), UL/IEC/EN 62368-1, FCC,  |
| <b>Modularity</b>            | 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

|                          |                   |  |
|--------------------------|-------------------|--|
| <b>Mobile / Cellular</b> | <b>Standard</b>   | 1x Multimode LTE, UMTS, GSM for EMEA<br><b>4G - LTE</b> B1 (2100), B3 (1800), B5 (850), B7 (2600), B8 (900), B20 (800)<br><b>3G - DC-HSPA+/UMTS</b> B1 (2100), B2 (1900), B5 (850), B8 (900)<br><b>2G - GSM/GPRS/EDGE</b> B2 (1900), B3 (1800), B5 (850), B8 (900)<br><b>Category</b> LTE Cat 4<br><b>Antenna ports</b> 2x2 MIMO<br><b>Data rate down / up (max)</b> 150 Mbps / 50 Mbps<br><b>Voice</b> CSFB (with optional Software License)<br><b>FCC ID</b> XPYTOBYL210 |
|                          | <b>Region</b>     | Europe   |
|                          | <b>Connectors</b> | 2x SMA female  |
|                          | <b>SIM</b>        | 1x Micro SIM - 3FF / eSIM Chip (on request)  |
| <b>WiFi / WLAN</b>       | <b>Standard</b>   | 1x Dual-band WLAN 2.4/5 GHz a/b/g/n (Wi-Fi 4) + BT 4.2 combo<br><b>Wireless standard</b> IEEE 802.11a/b/g/n (Wi-Fi 4)<br>Bluetooth 4.2, Bluetooth Low Energy<br><b>Frequency</b> 2.4/5 GHz<br><b>Antenna ports</b> 2x2 MIMO<br><b>Data rate (max)</b> 144 Mbps 2.4 GHz 2x2 MIMO, 150 Mbps 5 GHz SISO<br><b>Modes</b> Client or access point (up to 10 clients)<br><b>FCC ID</b> POR-WL18DBMOD  |
|                          | <b>Connector</b>  | 2x SMA female  |
| <b>Ethernet</b>          | <b>Standard</b>   | 1x Fast Ethernet<br><b>Ethernet standard</b> 100BASE-TX, Auto MDIX<br><b>Speed</b> 10/100 Mbps   |
|                          | <b>Connector</b>  | 1x RJ45  |

|                         |                      |   |
|-------------------------|----------------------|---|
| <b>Positioning</b>      | <b>Standard</b>      | 1x Multi-GNSS<br><b>Receiver</b> BeiDou, Galileo, GLONASS, GPS/QZSS<br>72-channel u-blox M8 engine<br>3 concurrent GNSS channels<br><b>Antennas</b> Active or passive<br><b>Accuracy</b> Up to 2.5 m CEP<br><b>Sensitivity</b> Up to -167 dBm<br><b>Services</b> Standalone, Assisted GPS<br>Data server with JSON, NMEA data stream  |
|                         | <b>Connector</b>     | 1x SMA female   |
| <b>USB</b>              | <b>Standard</b>      | 1x USB 2.0 Host   |
|                         | <b>Connector</b>     | 1x Type A   |
| <b>Serial, Fieldbus</b> | <b>Protocol</b>      | 2x CAN<br><b>Protocol</b> Controller Area Network V2.0B (ISO 11898)<br><b>Signals</b> CANH, CANL<br><b>Signal level</b> High > 2.75 V, low < 2.0 V<br><b>Bit rate</b> Up to 1 Mbps<br><b>Termination</b> No internal bus termination<br><b>Bus access</b> Passive - read access only<br><b>Module</b> CAN shield  |
|                         | <b>Connector</b>     | 1x Terminal block header 3.5 mm   |
| <b>System</b>           | <b>Core</b>          | 1 GHz single core, 512 MB RAM, 4 GB flash, HW Rev. B02  |
|                         | <b>Module Slots</b>  | 1x Shield   |
| <b>Software</b>         | <b>Features</b>      | NetModule Router Software (supported features depending on product variant)<br><b>Package</b> The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment.<br><b>General</b> 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<br><b>Remote Management</b> Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS<br><b>Cellular Networking</b> Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license)<br><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<br><b>Link Management</b> Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision,<br><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<br><b>Routing</b> 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<br><b>VPN</b> OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service<br><b>Firewall</b> Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports)<br><b>Encryption</b> supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography)<br><b>Quality of Service</b> Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow)<br><b>Programmability</b> SDK<br><b>Troubleshooting</b> Logging, Ping, Traceroute, Tcpdump, Speed-test |
|                         | <b>Licenses</b>      | GNSS<br><b>Enabled service</b> GNSS location service<br>Server with JSON-, NMEA stream  |
| <b>Power</b>            | <b>Input Voltage</b> | 12, 24 VDC<br><b>Nominal voltages</b> 12, 24 VDC<br><b>Absolute voltages</b> 12 VDC to 24 VDC (-20 % / +20 %)   |
|                         | <b>Connector</b>     | 1x Terminal block header 3.5 mm   |
|                         | <b>Consumption</b>   | 5 W (average), 10 W (max)   |
| <b>Mounting</b>         |                      | Bracket   |
| <b>Dimensions</b>       | <b>W x H x D</b>     | Width 85/111 mm x height 32 mm x depth 110 mm   |
| <b>Weight</b>           |                      | 220 g   |

|                       |   |  |
|-----------------------|---|--|
| <b>Environment</b>    | <b>Operating Temperature</b><br><b>Ingress Protection Level</b> | -40°C to +70°C<br>IP40   |
| <b>MTBF</b>           |   | 340'000 h / 38.8 years, according SN29500 at environmental temperature 40 °C |
| <b>Certifications</b> | <b>Compliance Domain</b>  | CE according to 2014/53/EU (RED), 2011/65/EU (RoHS)<br>Industrial            |
| <b>Order Code</b>     |   | NB800-LWWtSu2Cm-G  |