NB1810 LTE & WLAN

High-Performance Router with LTE, GbE with PoE+, SFP and WLAN-ac Connectivity

Applications

- Egde computing
- VPN server
- Industrial firewall
- WiFi hotspot
- CCTV server
- Security router

The industrial NB1810 provides resilient Internet access over multiple LTE, WiFi, Gigabit Ethernet and fiber connections.

For reliable network connectivity, the NB1810 router supports up to two LTE Advanced or WiFi IEEE 802.11ac modules as well as five Gigabit Ethernet ports and one SFP/GbE combo port usable for fiber or Ethernet. Multiple WAN connections may be used for fallback connections to ensure uninterruptible network access. The basic features include a USB host port and a serial interface with RS-232 or RS-485 mode. Two extension slots serve for additional application specific interfaces.

DIN rail mounting, wide operating temperature range and the IP40 metal housing allow operation under harsh conditions.

For applications like video surveillance, the Gigabit Ethernet switch can be extended with PoE+ to directly power connected cameras and simultaneously collect the high-quality video-stream for further transmission or preprocessing. This simplifies the wiring considerably.

Customers can easily integrate their specific applications with the script-based SDK environment or the LXC Linux virtualization separated to the router's host system. For example, the NB1810 can be used as a protocol converter by preprocessing interface data locally and forwarding it to the router's network interfaces. Thanks to the integrated SD card reader, data can also be stored locally.

The router software is based on well proven components including an embedded Linux operating system. The dual-SIM feature and the sophisticated WAN Link Manager are offering redundancy and load balancing to achieve maximum connection availability using multiple network providers. VLANs can be used to separate the networks and to provide dedicated communication paths for different applications. Quality of Service support allows traffic prioritization to avoid that less important tasks are blocking high priority data transfers. With its VPN protocol suite and firewall functions, which are both part of the extensive NetModule Router software by default, remote devices can easily and securely be connected. The dual core CPU provides the necessary performance. The router comes with wide range of communication and routing protocols as MobileIP, OSPF, BGP and RSTP. Other features include E-Mail and SMS for alarming and notifications, a web server and RADIUS authentication and hidden SSID's for WLAN.

Key Features

- Multiple LTE Adv./LTE/UMTS
- Dual SIM
- Multiple WiFi-ac AP/clients
- PoE+ Gigabit Ethernet Switch
- SD card reader
- Fiber (SFP/GBIC)
- RS-232/485
- Extension slots
- Feature-rich software
- SDK scripting, LXC virtualization
- DIN rail mounting

Performance

- Dual-Core, 1.3GHz ARM CPU
- 1000 Mbps ETH to ETH routing
- >200 Mbps LTE to WiFi/ETH

Specifications

Mobile / Cellular	Up to 2 Multimode LTE Advanced, UMTS/3G modules with seamless hand-over LTE Advanced: B30 (2300 WCS), B41 (TDD 2500), B29 (US 700de Lower), B26 (US 850 Ext), B25 (1900), B5 (850), B20 (800DD), B13 (700c), B12 (700ac), B7 (2600), B4 (AWS), B3 (1800), B2 (1900), B1 (2100) 3G - DC-HSPA+/UMTS: 1800, 1700, 900, 850, 1900, 2100 LTE Advanced Cat. 6 max. 300 Mbps downlink / 50 Mbps uplink, DC-HSPA+ 42/5.76 Up to 4 SMA female antenna connectors supporting 2x2MIMO or standard antennas
SIM	2 micro SIM card (3FF) ETSI TS 102 221 V9.0.0
WLAN / WiFi	Up to 2 IEEE 802.11 a/b/g/n/ac up to 867 Mbps 2.4/5GHz 2x2 MIMO, AP or Client Clients in access point mode: at least 100, no limitation by software Up to 4 SMA female antenna connectors supporting MIMO or standard antennas
Ethernet / SFP	1 Ethernet port: 10/100/1000 Mbps (GbE), Auto-MDIX, RJ45 connector 1 Combo port: SFP 1000 base port or 10/100/1000 Mbps (GbE), Auto-MDIX, RJ45 connector; SFP fiber module on request
Ethernet Switch	4 Ethernet ports 10/100/1000 Mbps (GbE), switched, Auto-MDIX, RJ45 connectors Optional: PoE+ source with max 30W per port, 60W in total
GNSS (optional)	GPS, Glonass, Beidou, Galileo; Data server with JSON or NMEA data stream, tracking sensitivity -160 dBm Antenna connector: SMA female, support for active* and passive antennas (*) active antenna support available Q3 2019
USB	USB 2.0 Host; USB A connector
Serial	1 Serial combo interface, RS-232 (TxD, RxD, GND) or RS-485 (A, B) modes configurable; bit rates: up to 1Mbps; Connector: 3 pins of 5-pin terminal block (w. screw), 3.5mm pitch
Storage	4GB internal eMMC flash (shared with host system); external micro SD card slot
Extensions EXT1,2 (optional)	Up to 2 Extension modules; FXS analog phone port and digital IOs coming, others on request; Connector type: module specific
Power	Input voltage: 12V DC to 24V DC, -25% / +10% (will be extended to 12V DC to 48V DC) Input voltage with PoE+ option: 48VDC, -10% / +10% Max. power consumption: 20W (without PoE+ devices attached); with PoE+ max. 90W Connector: 2 pins of 5-pin terminal block (w. screw), 3.5mm pitch
Dimensions, Weight	Width 95mm x height 128/140mm x depth 121mm, approx. 1100g
Environment	Temperature range: -40 °C to +70 °C; with PoE+ 15W: -40 °C to +65 °C; with PoE+ 60W: -40 °C to +50°C; Ingress Protection Rating: IP40
MTBF	>150'000h
Compliance	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS), 2012/19/EU (WEEE), 1907/2006/EC (REACH); FCC according to 47 CFR, Part 15B
Standards	EN 62368-1, EN 62311, EN 55035, EN 55032, EN 61000-6-2, EN 61000-6-3, EN 301 489-1, EN 301 489-3, EN 301 489-7, EN 301 489-17, EN 301 489-19, EN 301 489-24, EN 301 489-52, EN 300 328, EN 301 511, EN 301 893, EN 301 908-1, EN 301 908-2, EN 301 908-13, EN 303 413
Order numbers: NB1810-LdWac4Ep	(contact sales for more models, options or project specific adaptations) LTE-Adv. +WLAN-ac +4xGbE-PoE

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