NET MODULE

NB1810-NWac4Ep-G

Industrial Router with 5G + WLAN-ac + GbE + SFP + 4x GbE-PoE + GNSS

High-performance and modular mobile router with SFP port and Gigabit Ethernet with PoE, for use in industrial environment.

Keyfeatures

Mobile / Cellular	1x 5G-NR, LTE A-Pro, UMTS
SIM	2x Micro SIM
WiFi / WLAN	1x Dual-band IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients in Access Point Mode
Ethernet	4x Gigabit Ethernet with PoE (4-Port Switch), 1x SFP/Gigabit Ethernet Combo, 1x Gigabit Ethernet
Extended Storage	1x SD Card
Serial / Fieldbus	1x RS-232/485
Positioning	Multi-GNSS
Operation Temperature	-40 °C to +65 °C (@15 W PoE)
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED)
Modularity	Extensions on request

Product description

The NB1810 is a powerful and robust cellular router designed for use in industrial environments.

Applications

- Industrial Security
- Point of Sale
- Public WiFi
- Smart Grid
- Oil & Gas
- Renewable Energy
- Factory Automation
- Mining
- CCTV
- Smart Traffic

Specifications

Mobile / Cellular	Standard	1x Multimode 5G-NR, LTE-A Pro, UMTS
		5G - NR n1, n3, n7, n8, n20, n28, n38, n40, n77, n78
		4G - LTE-A Pro B1, B3, B7, B8, B20, B28, B38, B40
		3G - DC-HSPA+/UMTS B1 (2100), B3 (1800), B8 (900)
		5G NR Modes Sub-6 FDD and TDD
		LTE Category Cat. 20 up to 7CA
		MIMO 4x4 MIMO in 5G-NR support on n1, n3, n7, n38, n40, n77, n78 and LTE B1, B3, B7, B38, B40
		Antenna ports 4
		Power Class 23dBm (Power Class 3)
		Data rate down / up (max) up to 5.5 Gbps DL / 2.7 Gbps UL
		Operation Mode 5G Core SA and NSA operations
		3GPP 4G/5G Rel. 15, 3G HSPA+ Rel. 18
		FCC ID RI7FN980
		Voice -
		Region Europe, Middle East and Africa (EMEA), on request: North America (NA), Asia and Pacific (APAC)
	Region	Europe, Middle East and Africa (EMEA)
	Connectors	4x SMA female
	SIM	2x Micro SIM - 3FF

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WiFi / WLAN	**Standard**	1x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5) **Wireless standard** IEEE 802.11a/b/g/n/ac (Wi-Fi 5) **Frequency** 2.4/5 GHz **Diversity** 2x2 MIMO **Data rate (max)** 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz) **Modes** Client or access point (up to 100 clients) **FCC ID** TK4WLE600VX
	Connector	2x SMA female
Ethernet	**Standard**	1x Gigabit Ethernet **Ethernet standard** 1000BASE-T, Auto MDIX **Speed** 10/100/1000 Mbps 1x Gigabit Ethernet / SFP combo (software switchable) **Ethernet standard** 1000BASE-T, Auto MDIX **SFP standard** Depending on module **Speed** 10/100/1000 Mbps **Combo port** SFP or GbE interface activated (software switchable) 4x Gigabit Ethernet PoE+ **Ethernet standard** 1000BASE-T, Auto MDIX **Speed** 10/100/1000 Mbps **PoE standard** IEEE802.3af, IEEE802.3at, including two event classification **PoE output power** max 30 W per port, 60 W in total
	Connector	2x RJ45, 1x SFP cage (mini GBIC), 4x RJ45
Positioning	**Standard**	1x Multi-GNSS **Receiver** BeiDou, Galileo, GLONASS, GPS gpsOne Gen 9 **Antennas** Active or passive **Sensitivity** Up to –161 dBm **Services** Standalone
	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 (screw locking)
Extended Storage		SD Card **Slot type** microSD **Speed (read / write)** 600 kByte / s **Application** Store user and logging data of SDK or LXC applications SD card not included
System	**Core**	1.3 GHz dual-core, 1 GB RAM, 4 GB flash
	Module Slots	2x miniPCIe (PCIe + USB), 2x Extension (USB)

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 GNSS
	Licenses	**Enabled service** GNSS location service Server with JSON-, NMEA stream
Power	**Input Voltage**	48 VDC **Nominal voltages** 48 VDC (restricted input range for PoE switch) **Absolute voltages** 48 VDC (-10 % / +10 %)
	Connector	1x Terminal block header 3.5 mm (screw locking)
	Consumption	82 W (average), 90 W (max with 60W PoE load)
Mounting		DIN-Rail
Dimensions	**W x H x D**	Width 95 mm x height 128/140 mm x depth 121 mm
Weight		1100 g
Environment	**Operating Temperature**	-40°C to +50°C
	Ingress Protection Level	IP40
MTBF		180'000 h / 20.5 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		NB1810-NWac4Ep-G