NB2710 MultiVehicle

E-Mark Certified Router for Multiple 4G and WiFi 802.11abgn Links

Typical Applications

- Passenger WiFI
- Passenger information systems
- Infotainment
- Digital signage
- Ticketing
- Remote monitoring
- Voice communication/VoIP
- CCTV

The NB2710 MultiVehicle provides wireless Internet access over multiple LTE and WiFi connections for data-intensive applications like passenger WiFi and information or condition monitoring. Numerous additional communication interfaces guarantee an excellent interaction with onboard electronics.

Thanks to its functional and robust design, the usability in a temperature range from -25 °C to +70 °C and its E1 automotive certification, the NB2710 is excellently suited for use in buses and other road vehicles. The NB2710 enables wireless access to the Internet by use of up to two LTE modules. The usage of multiple mobile communications modules allows channel bonding and thus a higher data transmission speed. Thanks to the integrated load balancing function, the data traffic can optimally be distributed. Depending on the network coverage, the router switches seamlessly between LTE, UMTS, or GSM using of the Mobile IP protocol. The router can manage up to six SIM cards, which, together with the modern WAN Link Manager, assure a high availability in network connections from different providers.

To enable WiFi for passengers, an WiFi access point according to standard IEEE 802.11 a/b/g/n is integrated and also a 5 port Ethernet switch is part of the equipment. The RS-232 serial interface can act as serial device server or system console. Furthermore, the serial line can be assigned to the SDK and be controlled from there. The NB2710 comes also with two isolated binary inputs and two relay outputs for direct connection of sensors and actuators. The logic for the inputs/outputs is implemented by the user in the SDK environment on the router. The USB port enables configuration and firmware update from memory stick. You may also configure it as a device server. Please ask for support of your special USB device.

The router firmware supports common VPN technologies such as IPsec and OpenVPN in both, server and client mode. Simplified handling of a Public Key Infrastructure lets the user securely connect two NB2710 through a VPN tunnel without knowledge about cryptography.

Key Features

- Automotive E1-Mark
- Multiple LTE/UMTS modems
- Up to 6 SIMs
- Multiple WiFi AP/clients
- 5 port Ethernet switch
- VLAN, RSTP, LLDP
- Multipath routing, load balancing
- Digital I/Os
- Options: SIP/GSM gateway, MobileIP
- Options: audio, RS-232, RS-485, CAN, IBIS

Specifications

Mobile / Cellular	1-2 Multimode LTE, UMTS and GSM modules 4G - LTE/FDD Bands: B1(2100), B2(1900), B3(1800), B5(850), B7(2600), B8(900), B20(800) 3G - DC-HSPA+/UMTS: B5(850), B8(900), B2(1900), B1(2100) 2G - EDGE/GPRS/GSM: B5(850), B8(900), B3(1800), B2(1900) Data rates: LTE max. 100 Mbps downlink / 50 Mbps uplink (DC-HSPA+ 42/5.76) Antenna connector: 4 SMA female supporting MIMO or standard antenna SIM slots: 6 Mini-SIM ISO/IEC 7810:2003, ID-000
WLAN / WiFi	IEEE 802.11 a/b/g/n up to 300 Mbps 2.4/5GHz MIMO Access Point or Client Number of supported clients in access point mode: 100 by definition, not limited by software Antenna connector: 2 SMA female, supporting MIMO or standard antenna
Ethernet	4 port Ethernet switch, 10/100 Mbps, auto MDX - Connector type: RJ45
GPS	GPS data server with JSON or NMEA data stream, tracking sensitivity -154 dBm (typical) Antenna connector: SMA female, support for active and passive antennas
USB	USB 2.0 Host; USB A connector type
Serial	Protocol: RS-232 3-wire - Connector type: 3 pins of the 13-pin terminal block
Digital I/O	2 digital inputs, level 0 (not set): 0-4.0 VDC level 1 (set): 7.2-40 VDC 2 digital outputs, 0-60 VDC/1A, maximum switching capacity: 60 W Connector: 8 pins of the 13-pin terminal block
Extension port	Options: Audio, RS-232, RS-485, CAN, IBIS RJ45 connector
Dimensions, weight	Width 165/190mm x height 45mm x depth 104mm, approx. 800g
Power	Input voltage: 12V DC to 48V DC (- 25% /+ 20%; eff. 9-57,6V), max. power consumption: 8W
Environment	Temperature range: -25 °C to +70°C IP40 with SIM and USB covers mounted; MTBF 131'000h
EMC standards	EN55022:2010, EN 61000-6-3: 2007+A1:2012, EN 50121-3-2: 2006+AC:2008 (Emission) EN55024:2010, EN 50121-3-2: 2006+AC:2008 (Immunity)
Safety standards	EN60950-1:2006+A11:2009+A1:2010+A12:2011
Type Approvals	CE according to directive 1995/5/EC (R&TTE) Automotive: E1 according to Regulation No. 10, FCC according to 47 CFR, Part 15
Order numbers NB2710-LWA-GV NB2710-LWC-G NB2710-LWI-G NB2710-2LW-G	(contact sales for more models, options or project specific adaptations) LTE, WLAN Router + Audio + GPS + Voice LTE, WLAN Router + CAN + GPS LTE, WLAN Router + IBIS + GPS Dual-LTE, WLAN Router + GPS

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