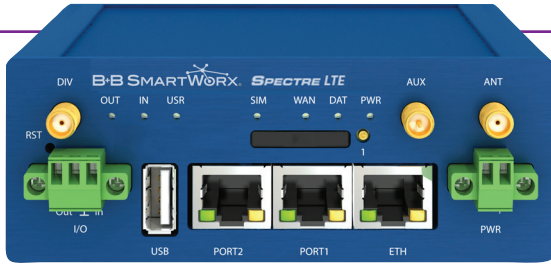# Cellular Router - LTE

Spectre™ RTLTE-300-VZ Series

PRODUCT FEATURES

- 4G LTE cellular networking
- Up to 50 Mbps upload and 100 Mbps download speeds
- Industrial design - wide operating temperature (-40 to +75 °C)
- 10-30 VDC power
- Class 1/Division 2 Certified
- Embedded Modbus/DNP 3
- Wi-Fi 802.11 b/g/n access point

Built for plug-and-play simplicity with extensive remote management, deployment and customization options, the Spectre 4G cellular industrial router is used to wirelessly connect Ethernet equipment and other devices to the Internet or intranet. It creates secure connections in locations where cable connections are impractical. Standard configuration includes a 10/100 Ethernet port, USB host port, binary input/output (I/O) port and SIM card holder. It also has 2 auxiliary ports for connecting to other types of networks such as additional Ethernet switch ports, RS-232, RS-485/422 interfaces and additional digital/analog I/O. The function of each port is dependent on the specific router model. An additional option is integrated 802.11b/g/n Wi-Fi technology, allowing the router to serve as a Wi-Fi access Point (AP) or "Hotspot".

The router supports VPN tunnel creation using IPsec, OpenVPN and L2TP to ensure safe communication. The web interface provides detailed statistics about router activities, signal strength, etc. The router supports DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS, and many other functions. The router provides diagnostic functions which include automatically monitoring the PPP connection, automatic restart in case of connection losses, and a hardware watchdog that monitors the router status. The router can automatically upgrade its configuration and firmware from your central server. This allows for mass reconfiguration of numerous routers at the same time. Additional management software, like R-SeeNet, for router monitoring are also supported.

Uniquely designed on an open source LINUX architecture, Spectre products are customizable through installation of software plug-in modules. Users can create their own with common LINUX commands and scripts, or add from B+B's existing library, including Modbus gateway, dynamic routing protocols and secure VPNs.


ORDERING INFORMATION

MODEL NUMBER	10/100 ETHERNET	RS-232	RS-422/ RS-485	12 BIT I/O	802.11B/G/N WIFI
RTLTE-300-VZ	1				
RTLTE-302-VZ	1	1			
RTLTE-304-VZ	1		1		
RTLTE-322-VZ	1	2			
RTLTE-324-VZ	1	1	1		
RTLTE-330-VZ	1			1	
RTLTE-310-VZ	2				
RTLTE-311-VZ	3				
RTLTE-312-VZ	2	1			
RTLTE-314-VZ	2		1		
RTLTE-300-W-VZ	1				1
RTLTE-310-W-VZ	2				1
RTLTE-320-W-VZ	1	1			1
RTLTE-330-W-VZ	1			1	1
RTLTE-340-W-VZ	1		1		1

MECHANICAL DIAGRAM

1.7 in (42 mm)

4.5 in (113 mm)
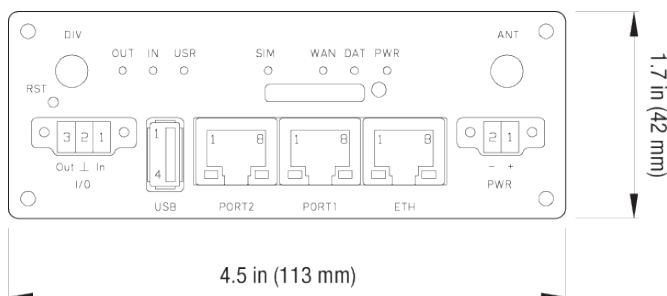
MECHANICAL DIAGRAM - WI-FI MODELS

1.7 in (42 mm)

4.5 in (113 mm)
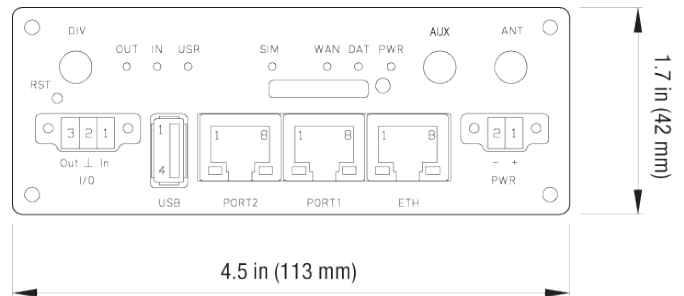
Cellular Router - LTE
Spectre™ RTLTE-300-VZ Series

SPECIFICATIONS

INTERFACES

Standard

Ethernet	10/100 Mbps
USB	USB Type A host
Binary I/O	1 input / 1 output
SIM 1	SIM card

Expansion Port Options

Ethernet 10/100 Mbps
RS-232
RS-422/485
I/O CNT:
    4 Binary inputs (2 inputs may be configured as counters)
    2 Analog inputs (4-20 mA)
    1 Binary output

ANTENNA: CELLULAR & WI-FI

SMA – 50 Ohms

LTE: 2 dBi, ultra-wide band, right angle dipole (2 included)

WiFi: 1.8 dBi right angle dipole (1 included)

FREQUENCY BANDS

4G LTE: 700 MHz, AWS

XLTE/AWS:1900, 2100 MHz

3G CDMA: 850 MHZ

POWER

Source	10 – 30 VDC
Consumption	2.3 mW receive mode Up to 3.5 W (GPRS transmission) Up to 5.5 W (UMTS/HSDPA/CDMA/LTE transmission)

MECHANICAL

Dimensions	1.7 x 3.0 x 4.5 in (42 x 76 x 113 mm), 35mm DIN rail
Enclosure	Metal
Weight	150 g

ENVIRONMENTAL

Temperature	-40 to +75°C operating; -40 to +85°C storage

INCLUDED WITH PRODUCT

2	LTE right angle dipole antenna
1	WiFi right angle dipole antenna
1	Ethernet cable – shielded
1	AC power adaptor
1	DIN rail clip

4.5 in (113 mm)

3.0 in (76 mm)
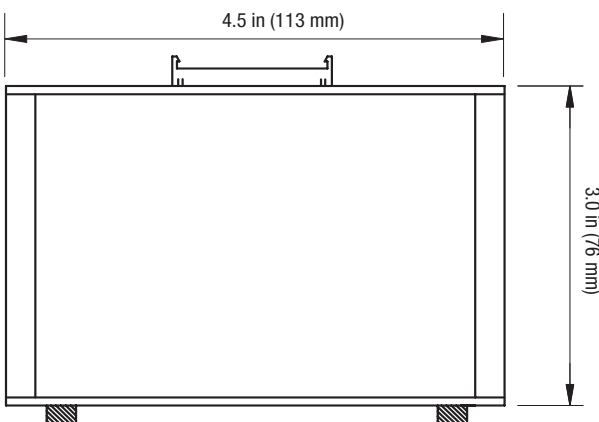
FEATURES

WiFi Specifications	802.11 b/g/n - 2.4 GHz		
RX Sensitivity	11b 11g (HT20) 11n (HT20) 11n	11 Mbps 54 Mbps MSC7 MSC7	-85 dBm -70 dBm -66 dBm -62 dBm
TX Output Power	11b 11g 802.11n 802.11n	11 Mbps 54 Mbps (HT20) (HT20)	19 dBm 16 dBm 15 dBm 15 dBm
Security Protocols	WAP-PSK, WAP2-PSK		
Authentication	64/128 WEP, TCIP, AES		

NETWORKING

DHCP – automatic IP addressing in LAN network

NAT – IP address and ports translation between inside/outside network

Firewall – filtering of addresses, ports, protocols

VRRP – virtual backup router function

DynDNS client – access to the router with a dynamic IP address

VLAN 802.11Q – virtual LAN

QoS – quality of service

Dial-in – Communicate via CSD call

PPPoE Bridge – PPP frames encapsulation inside ETH frames

VPN TUNNELING

IPsec, OpenVPN, L2TP – secure encrypted tunnels

GRE tunnel – simple tunnel without security measures

CONFIGURATION AND DIAGNOSTICS

HTTP server – configuration via web server

Telnet – configuration and access to the file system

SNMP – router diagnostics, communication with I/O and M-Bus

Cellular state signalization by LED

On-line info on cellular signal status (level, cell, neighbors)

SMS info – power on, cellular connection or disconnection

SMS control – on/off cellular connection, switch SIM, I/O, etc.

Transferred data counting, one more APN as backup

Remote router group configuration change, switching among configuration profiles

SSH – encrypted configuration and access to the file system

ADDITIONAL FUNCTIONS

Linux based: program your own applications

NTP client, NTP Server – time synchronization

SMS communication – AT commands on RS232, Ethernet and I/O

M-RAM memory inside – router statistic saved into memory

APPROVALS / CERTIFICATIONS

	FCC Part 15
CE	UL Class 1/Division 2 for hazardous locations EN 301 511, v9.0.2 EN 301 908-1&2, v3.2.1 ETSI EN 301 489-1 V1.8.1 EN 60950-1:06 ed.2 + A11:09 + A1:10
Emission	EN 55022/A
Immunity	ETS 300 342 immunity
Safety	EN 60950
Isolation	EN 60747 isolation

ACCESSORIES - OPTIONAL

MDR-20-24	24VDC, 20W, 1A Power Supply
C5UMB3FBG	Category 5E Cable, UTP, 1 m (3 ft), Beige
C5UMB10FBL	Category 5E Cable, UTP, 3 m (10 ft), Blue
RTLTE-ANT001	LTE Cellular Antenna, Penta-Band, Right-Angle SMA
RTLTE-ANT002	LTE Cellular Antenna, Penta-Band, Magnetic Mount SMA