



### PRODUCT FEATURES

- 2-port Ethernet switch
- 2 independent LAN
- Models with Wi-Fi option: AP or client mode
- Dual-SIM fail over
- Antenna Rx Diversity
- Operating temperature up to +75°C
- Metal or plastic casing

### ORDERING INFORMATION

**Note: Check with your local distributor for availability and options. Contact Advantech B+B SmartWorx distributors.**

#### BB - LR2L710XXX

| Accessories |   |
|-------------|---|
| 0           | No Accessories (DIN holder included)    |
| 1 (set)     | Accessories with EU power supply        |
| 2 (set)     | Accessories with UK power supply        |
| 3 (set)     | Accessories with Australia power supply |
| 4 (set)     | Accessories with US power supply        |
| Enclosure   |   |
| 1           | Plastic enclosure                       |
| 2           | Metal enclosure                         |
| WiFi        |   |
| 0           | No WiFi                                 |
| 7           | WiFi                                    |

Balanced LR77v2 Libratum a LTE non-modular wireless router features high speed data rates 100 Mbps, two Ethernet 10/100 ports and dual-SIM failover capability for mission critical applications. This router is particularly suited to the demands of the "Transaction Management" industry such as point-of-sale terminals, remote ATMs and vending terminals as well as a huge variety of intelligent remote monitoring and control applications in the Transport, Energy and Security sectors.

#### Key Features

This exceptionally fast LTE LR77v2 Libratum wireless router is equipped with two Ethernet 10/100 ports and two SIM cards for backup communication in mobile operator networks and provide failover to each other. WiFi models are available.

Configuration is done via a web interface protected by password. The 4G LTE router supports creation of VPN tunnels using IPsec, OpenVPN and L2TP to assure safe communication.

Web interface provides detail statistics about router activity, signal strength, detailed log, etc. Cellular router supports functions: DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS and many other functions.

Other diagnostic functions for continuous communication include automatic inspection of PPP connection offering an automatic restart feature - in case of connection losses, or hardware watchdog which monitors the status of the router. With the help of a start up script window you may insert Linux scripts for various actions.

For some applications the key option is to create several different configurations for one LTE wireless router, the so-called profiles (maximum of 4), and the option to switch among them (for example via SMS) is essential. Cellular wireless routers may automatically upgrade configuration and firmware from server. This allows mass reconfiguration of many routers in one time.

### SELECTED APPLICATIONS

Transportation and security  
IT and communication  
Self-service terminals  
Energy and power industry  
Meteorology, alarm and warning systems

# Cellular Routers LTE

LR77 V2 Libratum



## SPECIFICATIONS

### INTERFACES

|             |                                     |
|-------------|-------------------------------------|
| 2× Ethernet | 10/100 Mbps, independent or bridged |
| 2× SIM      | 2 mini SIMs (2FF)                   |

### ANTENNA

2(3)× SMA connector, 50 Ohm

### CPU & MEMORY

|              |  |
|--------------|--|
| CPU          | 32b ARM microprocessor, 0.25 DMIPS per MHz |
| Flash memory | 16 MB DDR SDRAM                            |
| RAM          | 64 MB                                      |
| M-RAM        | 128 kB                                     |

### POWER

|             |   |
|-------------|---|
| Source      | 9 - 36 VDC  |
| Consumption | 2.3W reception<br>3.5W (GPRS transmission)<br>5.5W (LTE transmission) |

### MECHANICAL

|                         |                              |
|-------------------------|------------------------------|
| Dimensions Plastic box  | 51 x 87 x 116 mm (DIN 35 mm) |
| Dimensions Metallic box | 42 x 87 x 113 mm (DIN 35 mm) |
| Protection              | IP30                         |
| Weight Plastic box      | 150g                         |
| Weight Metallic box     | 280 g                        |

### ENVIRONMENTAL

|                       |                          |
|-----------------------|--------------------------|
| Operating Temperature | -40° to +75°C            |
| Storage Temperature   | -40° to +85°C            |
| Humidity              | 0 to 95%, non-condensing |

### WIFI \*optional

|                            |  |
|----------------------------|--|
| Antenna connector          | R-SMA – 50 Ohms  |
| Supported WiFi band        | 2.4 GHz  |
| Standards                  | 802.11b, 802.11g, 802.11n  |
| 2.4 GHz supported channels | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  |
| RX Sensitivity             | 11b, 11 Mbps: typ. -85 dBm<br>11g, 54 Mbps: typ. -70 dBm<br>(HT20) 11n, MSC7: typ. -66 dBm<br>(HT40) 11n, MSC7: typ. -62 dBm   |
| TX Output Power            | 11b, 11 Mbps: min. 18, typ. 19, max. 20 dBm<br>11g, 54 Mbps: min. 14.5, typ. 16, max. 17.5 dBm<br>802.11n (HT20): min. 13.5, typ. 15, max. 16.5 dBm<br>802.11n (HT40): min. 13.5, typ. 15, max. 16.5 dBm |
| Type of device             | Access point, station  |

### STANDARDS/REGULATIONS

|  |   |
|--|---|
| Telecom/Emission                           | ETSI EN 301 511 V2.5.1 (2017-03), ETSI EN 300 440 V2.1.1 (2017-03), ETSI EN 301 908-1 V1.1.1 (2016-07), ETSI EN 301 908-2 V1.1.1 (2016-07), ETSI EN 301 908-13 V1.1.1 (2016-07), ETSI EN 300 328 V2.1.1 (2016-11) |
| EMC  | ETSI EN 301 489-1 V2.1.1 (2016-11), Draft ETSI EN 301 489-19 V2.1.0 (2017-03), Draft ETSI EN 301 489-52 V1.1.0 (2016-11), ETSI EN 301 489-17 V3.1.1 (2017-02)   |
| Safety:                                    | EN 60950-1:2006 + A11:2009 + A12:2010 + A12:2011 + A2:2013 + AC:2011, EN 62311:2008   |
| E-Mark – EMC for devices in transportation | E-Mark homologation number: 10R – 04 7950   |

### PARAMETERS - LTE MODULE

|                                     |   |
|-------------------------------------|---|
| LTE                                 | Bit rate 100 Mbps (download) / 50 Mbps (upload)<br>3GPP rel. 8 standard<br>Supported bandwidths: 5 MHz, 10 MHz, 20 MHz<br>Supported frequencies: 800 / 900 / 1800 / 2100 / 2600 MHz |
| HSPA+                               | Bit rate 42 Mbps (DL) / 5,76 Mbps (UL)<br>3GPP rel. 7 standard<br>UE CAT. 1 to 6, 8, 10, 12, 14<br>3GPP data compression<br>Supported frequencies: 900 / 1800 / 2100 MHz            |
| UMTS                                | PS bit rate 384 kbps (DL) / 384 kbps (UL)<br>CS bit rate 64 kbps (DL) / 64 kbps (UL)<br>W-CDMA FDD standard<br>Supported frequencies: 900 / 1800 / 2100 MHz                         |
| GPRS/EDGE                           | Bit rate 237 kbps (DL) / 59,2 kbps (UL)<br>GPRS multislot class 10, CS 1 to 4<br>EDGE multislot class 12, CS 1 to 4,<br>MCS 1 to 9<br>Supported frequencies: 900 / 1800 MHz         |
| GPRS/EDGE - Supported Power Classes | EGSM 900: Class 4 (33 dBm)<br>GSM 1800/1900: Class 1 (30 dBm)<br>EDGE 900: Class E2 (27 dBm)<br>EDGE 1800/1900: Class E2 (26 dBm)   |

### SOFTWARE FEATURES

|   |
|---|
| Linux based, possibility to program your own application    |
| NTP client, NTP Server – time synchronization               |
| SMS communication – AT commands on RS232, Ethernet and I/O  |
| M-RAM memory inside – router statistic's saving into memory |

### NETWORKING

|   |
|---|
| DHCP – automatic IP addressing in LAN network                             |
| NAT/PAT – IP address and ports translation between inside/outside network |
| VRRP – virtual backup router function                                     |
| DynDNS client – access to the router with a dynamic IP address            |
| Dial-in – the ability to communicate over dial CSD call                   |
| PPPoE Bridge – PPP frames encapsulation inside ETH frames                 |

### VPN TUNNELING

|   |
|---|
| IPsec, OpenVPN, L2TP – secure encrypted tunnels |
|---|

### CONFIGURATION AND DIAGNOSTIC

|  |
|--|
| HTTP server – configuration via web server                                       |
| Telnet – configuration and access to the file system                             |
| SNMP – router diagnostics, communication with I/O and M-Bus                      |
| GPRS state signalization by LED  |
| On-line info on GSM signal status (level, cell, neighbors)                       |
| SMS info – power on, GPRS connection or disconnection                            |
| SMS control – on/off GPRS 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                      |

# Cellular Routers

## LTE

### LR77 V2 Libratum

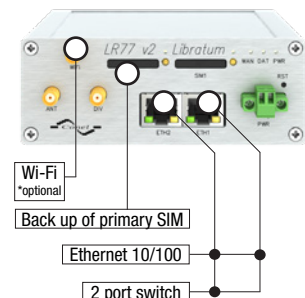


## ACCESSORIES

| ORDER CODE        | DESCRIPTION  | INCLUDED IN PACKAGE | INCLUDED IN SET PACKAGE | SOLD SEPARATELY |
|-------------------|--|---------------------|-------------------------|-----------------|
| BB-SBD40          | Metal DIN holder for Metal versions of routers v2  | ✓                   | ✓                       | ✓               |
| BB-CPD2-B         | Plastic DIN holder for Plastic versions of routers v2  | ✓                   | ✓                       | ✓               |
| BB-GA.110.101111  | Magnet mount antenna LTE 698MHz to 960MHz, 1575.42MHz, 1710MHz to 2700MHz, 3500MHz, 1M RG174 Cable, SMA(M) Connector Typical 40% Efficiency and 3dBi Peak Gain |                     |                         | ✓               |
| BB-TG.10.0113     | Antenna LTE/UMTS/GSM, Terminal, SMA-M  |                     | 2×                      | ✓               |
| BB-AO-ABASE-C16   | Magnetic mount base for terminal antenna, 3m cable, SMA connector  |                     |                         | ✓               |
| BB-AW-A24G-M5SRP  | Antenna WiFi stick 5dB, SMA-RP connector   |                     | ✓                       | ✓               |
| BB-CON-WR2        | 2-pin Terminal block for Power Supply  | ✓                   |                         | ✓               |
| BB-RPS-v2-WR2-EU  | Power supply with WR connector (2 pins) - 12V/1A - EU plug   |                     | ✓                       | ✓               |
| BB-RPS-v2-WR2-US  | Power supply with WR connector (2 pins) - 12V/1A - US plug   |                     | ✓                       | ✓               |
| BB-RPS-v2-WR2-UK  | Power supply with WR connector (2 pins) - 12V/1A - UK plug   |                     | ✓                       | ✓               |
| BB-RPS-v2-WR2-AUS | Power supply with WR connector (2 pins) - 12V/1A - AUS plug  |                     | ✓                       | ✓               |
| BB-KD-ETH         | Ethernet cross cable 1.5m  |                     | ✓                       | ✓               |
| Quick Start Guide |  | ✓                   | ✓                       |                 |

### LR77 v2 LIBRATUM

2× SIM card holder  
2× LAN port, Wi-Fi optional



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Advantech:](#)

[BB-LR2L710011](#)