



# R2110 robustOS

High Speed Smart LTE / LTE-A Router  
4 Eth + 1 RS-232 + 1 RS-485 + Bluetooth



## INTRODUCTION

The Robustel High Speed Smart LTE /LTE-A Router (R2110) is a rugged cellular router offering state-of-the-art mobile connectivity for internet of things applications.

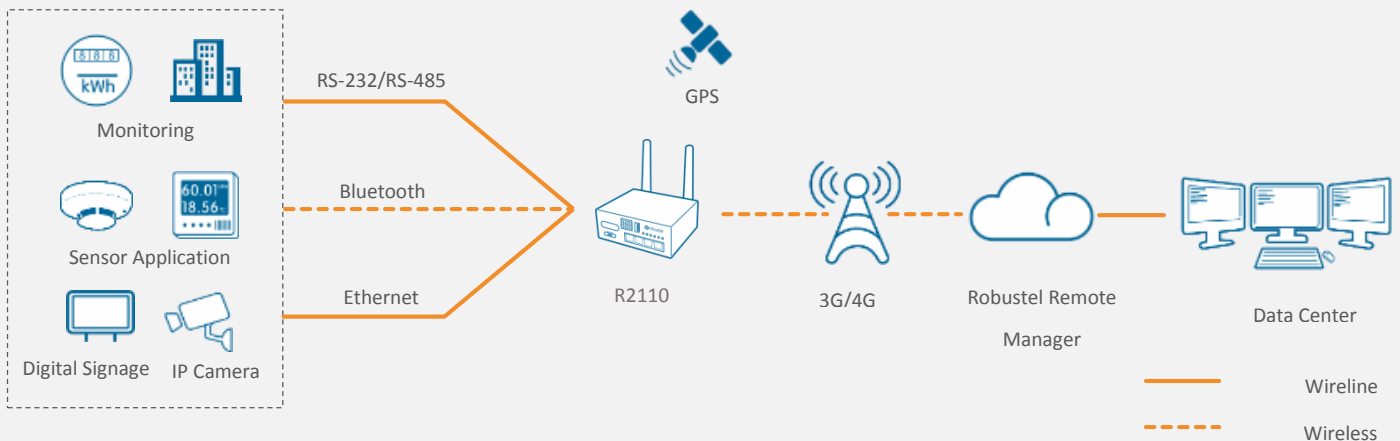
R2110 is a powerful platform developed based on **RobustOS**, a Robustel self-developed and Linux-based operating system which is designed to be used in Robustel devices. The RobustOS includes basic networking features and protocols providing customers with excellent user experience. Meanwhile, RobustOS offers **Software Development Kit (SDK)** allows partners and customers to develop IoT applications by using C, Python or Java. It also provides various **Apps** to meet fragmented IoT market demands.

Robustel is a leading global industrial IoT/M2M hardware and solution provider. Since its establishment in 2010 in Guangzhou, Robustel has been focusing on designing and manufacturing industrial cellular routers, gateways, modems, cloud platforms and E2E solutions. In order to support global business in more than 100+ countries and regions, Robustel has set up local offices in Germany, Australia, the Netherlands, the UK, Japan and Hong Kong.

## KEY FEATURES

- > Supports WWAN, WAN, WLAN link backup and ICMP detection
- > Supports cold backup , warm backup and load balancing
- > RobustOS + SDK + App
- > IPsec/OpenVPN/GRE
- > Ignition sensing(optional)
- > Management and maintenance via Web/CLI/SNMP/RCMS
- > Robust industrial design desktop or wall mounting or DIN rail mounting)

## APPLICATION EXAMPLE



## SPECIFICATIONS

### Cellular Interface

|                    |  |
|--------------------|--|
| Number of antennas | 2 (MAIN + AUX)                                       |
| Connector          | SMA-K  |
| SIM                | 2 (3 V & 1.8 V) Standard SIM;<br>UICC SIM (Optional) |

### Ethernet Interface

|                             |   |
|-----------------------------|---|
| LAN port                    | 3 x LAN (10/100/1000 Mbps)  |
| WAN port                    | Support 802.3at PD feature (optional) on ETH0<br>1 x WAN (10/100/1000 Mbps) |
| Magnet isolation protection | 1 KV  |

### WiFi Interface

|                    |   |
|--------------------|---|
| Number of antennas | 2   |
| Connector          | RP-SMA-K  |
| Standards          | 802.11a/b/g/n/ac 2*2 MIMO, supports AP and Client modes                   |
| Frequency bands    | 2.412 - 2.472 GHz (2.4 GHz ISM band)<br>5.15 - 5.825 GHz (5 GHz ISM band) |
| Security           | Open, WPA, WPA2, WEP  |
| Encryption         | AES, TKIP, WEP64  |
| Data speed         | 5G: Up to 867Mbps<br>2.4G: Up to 300Mbps                                  |

### Bluetooth Interface (Optional)

|                    |  |
|--------------------|--|
| Number of antennas | 1  |
| Connector          | RP-SMA-K                                 |
| Standards          | BLE 5.0 Compatible with BLE 4.2, BLE 4.0 |

### GPS(Optional)

|                              |                              |
|------------------------------|------------------------------|
| Number of antennas           | 1                            |
| GNSS technology              | GPS                          |
| Connector                    | SMA-K with 50 ohms impedance |
| Tracking sensitivity         | GPS: greater than -148 dBm   |
| Horizontal position accuracy | GPS: 2.5 m                   |

### Serial Interface

|                 |                                |
|-----------------|--------------------------------|
| Number of ports | 1 x RS-232 + 1 x RS-485        |
| Connector       | 2 x 3-pin 3.5 mm female socket |
| ESD protection  | ±15 KV                         |
| Baud rate       | 300bps to 115200bps            |

### DI/DO

|                      |                                 |
|----------------------|---------------------------------|
| Type                 | 1x DI + 1 x DO, wet contact     |
| Connector            | 2 x 2-pin 3.5 mm female socket  |
| Isolation            | 3.75KV DC                       |
| Absolute maximum VDC | "V+" +30V DC (DI), +30V DC (DO) |
| Absolute maximum ADC | 100 mA                          |

### Others

|                |  |
|----------------|--|
| Reset button   | 1 x Tact Switch  |
| SD             | 1 x Micro SD interface                                   |
| Expansion      | 1 x USB2.0 Host; 5V/500mA                                |
| LED indicators | 1 x RUN, 1 x Modem, 1 x USR, 1 x RSSI, 1 x NET, 1 x WIFI |
| Built-in       | Watchdog   |

### Software (Basic features of RobustOS)

|                   |   |
|-------------------|---|
| Network protocols | PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, HTTPS, DNS, ARP, NTP, SMTP, Telnet, SSH2, DDNS, etc. |
| VPN tunnel        | IPsec, OpenVPN, GRE   |
| Firewall          | DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control               |
| Management        | Web, CLI, SMS   |
| Serial port       | Transparent, TCP Client/Server, UDP, Modbus RTU to TCP  |

### App Center (Available Apps for RobustOS)

|       |   |
|-------|---|
| Apps* | L2TP, PPTP, DMVPN, RobustVPN, VRRP, QoS<br>SNMP, Language, RobustLink, Bluetooth,<br>Dynamic route, |
|-------|---|

\*Request on demand. For more Apps please visit [www.robustel.com](http://www.robustel.com).

### Power Supply and Consumption

|                   |  |
|-------------------|--|
| Connector         | 3-pin 3.5 mm female socket with lock   |
| Input voltage     | 9 to 36V DC (without Ignition sensing) ;<br>10 to 30V DC (with Ignition sensing) |
| Power consumption | Idle: 500 mA@12 V<br>Data link: 1.3 A (peak) @12 V                               |

### Physical Characteristics

|                    |                               |
|--------------------|-------------------------------|
| Ingress protection | IP30                          |
| Housing & Weight   | Aluminum, 500 g               |
| Dimension          | 125 x 100 x 48 mm             |
| Installations      | Desktop, wall mount, DIN-Rail |

### Approvals

|               |                           |
|---------------|---------------------------|
| Regulatory    | CE, RCM, Telec, JATE, BQB |
| Carrier       | Telstra                   |
| Application   | E-mark(Vehicle)           |
| Environmental | RoHS2.0, WEEE             |

## ORDERING INFORMATION

| Model                        | R2110-4L  |   |
|------------------------------|---|---|
| Router Type                  | LTE Router  | LTE-A Router  |
| Air Interface                | LTE/WCDMA/HSDPA/HSUPA/HSPA+/DC-HSPA+/TD-SCDMA/CDMA/GSM/GPRS/EDGE  | LTE-A /LTE /WCDMA/HSDPA/HSUPA/HSPA+/DC-HSPA+/TD-SCDMA   |
| Frequency Bands              |   |   |
| <b>4G*</b>                   | Global: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28, B38/B39/B40/B41<br>EMEA: B1/ B3/B7/B8/B20/B28A;<br>JP: B1/B3/B8 /B18/B19/B26; B41<br>CN: B1/B3/B5/B8; B38/B39/B40/B41 | APAC/EMEA: B1/B3/B5/B7/B8/B18/B19/B20/B26/B28A/B28B; B38/B39/B40/B41<br>NA: B2/B4/B5/B7/B12/B13 |
| <b>3G</b>                    | Global: B1/B2/B4/B5/B6/ B8/B19<br>EMEA: B1/B8<br>JP: B1/B6/B8/B19<br>CN: B1/B5/B8; B34/B39, BC0   | APAC/EMEA: B1/B3/B5/B6/B8, B34/B39<br>NA: B2/B4/B5  |
| <b>2G</b>                    | Global: B2/B3/B5/B8<br>EMEA/CN: B3/B8   | APAC/EMEA: B3/B8<br>NA: B2/B3/B5/B8   |
| <b>Operating Temperature</b> | Normal operation: -20 to +55 °C<br>Extended operation: -25 to +70 °C  | Normal operation: -20 to +55 °C<br>Extended operation: -25 to +70 °C                            |
| <b>Storage Temperature</b>   | -40 to +85 °C   | -40 to +85 °C   |
| <b>Relative Humidity</b>     | 5 to 95% RH   | 5 to 95% RH   |

\*For more information about frequency bands in different countries, please contact your Robustel sales representative.