

# R1511P robustOS

Embedded 4G Router

2 Ethernet + Wi-Fi + 1 SIM + 1 RS232/RS485



## INTRODUCTION

The R1511P is a fully featured embedded 4G router targeted at applications such as EV Charging, traffic signs, vending machines, medical instrumentation, industrial instrumentation and many more IoT-type applications. An embedded router solves two problems that traditional routers do not – cost and size.

The R1511P is a cost-effective small footprint board with Ethernet WAN, Wi-Fi WAN and 4G WAN interfaces that can all be independently configured in the powerful onboard Operating System – **RobustOS**.

**RobustOS** is Robustel's brilliant Linux based router operating system that offers functionality that could take a software engineer many months to write and even more months to adequately test. Key features of RobustOS include:

**RobustVPN** – innovative use of Open VPN tunneling to provide a fixed IP address on the router anywhere

**RCMS** – Robustel's Cloud management platform – essential for managing an estate of routers – can be OEM branded

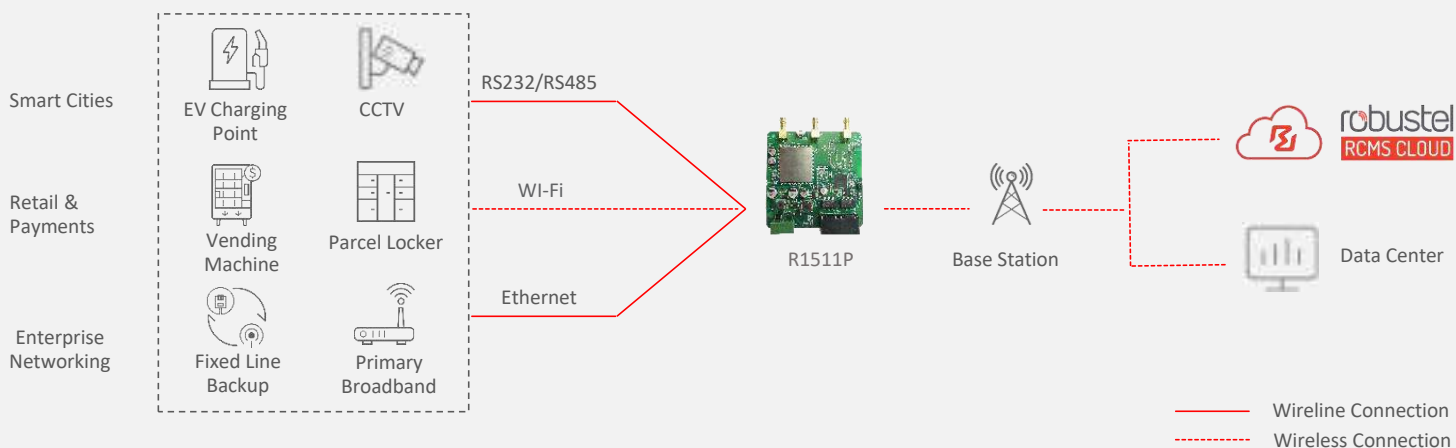
**SMS Control** – total control of the router using SMS for general status or fixing fault conditions with IP Comms

**Automated failover** – configure the router to automatically fail from WAN/Wifi to 4G with just a few clicks

## KEY FEATURES

- Small footprint powerful 4G router board – fully customizable in software
- Dual Ethernet, Wi-Fi (AP and client) and 4G/3G/2G capability
- RS232 (default) or RS485 port for connection to serial devices + integrated Modbus gateway
- Pre-certified PCB means that manufacturer certification challenges are minimized
- Fully programmable Linux environment with excellent SDK Documentation
- Can be connected directly to Raspberry Pi or similar low cost embedded PC for internet access
- Bulk packaging + shipping options to minimize addition to customer BOM cost

## APPLICATION EXAMPLE



SPECIFICATIONS

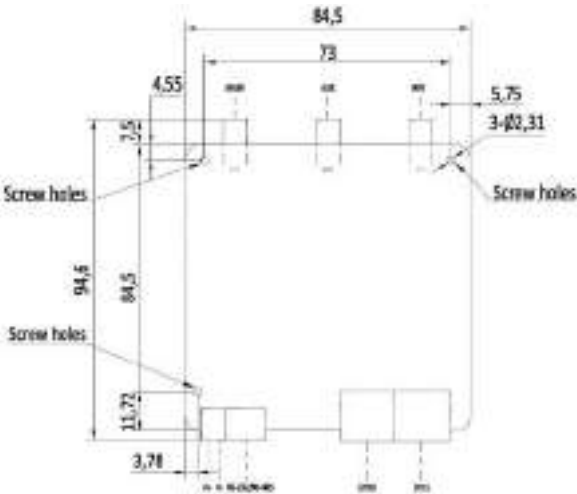
<b>Cellular Interface</b>	
Number of antennas	2 External antennas (MAIN + AUX)
Connector	SMA-K
SIM	1 Mini SIM (2FF)

<b>Ethernet Interface</b>	
Number of ports	2 x 10/100 Mbps, 2 x LAN or 1 x LAN + 1 x WAN
Magnet isolation	
Protection	1.5 KV

<b>Wi-Fi Interface</b>	
Number of antennas	2, 1 External antenna + 1 PCB antenna
Connector	RP-SMA-K (External antenna)
Standards	802.11b/g/n, supports AP and Client modes
Frequency bands	2.4 GHz
Security	WEP, WPA, WPA2, WPA3
Encryption	64/128 AES, TKIP

<b>Serial Interface</b>	
Type	1 x RS232 or 1 x RS485 (Hardware configuration)
Connector	3-pin 3.5 mm female socket
Baud rate	300bps ~ 115200bps

Dimension Diagram



<b>Others</b>	
Reset button	1 x RST
LED indicators	1 x RUN, 1 x MDM, 1 x USR, 1 x RSSI, 1 x WLAN
Watchdog	Built-in

<b>Software</b> (Basic features of RobustOS)	
Network protocols	PPPoE, TCP, UDP, DHCP, NAT, DNS, NTP, SMTP, Telnet, VLAN, SSH2, DDNS, etc.
VPN tunnel	IPSec, OpenVPN, GRE, Wireguard
Firewall	DMZ, anti-DDoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Remote Management	Web, CLI, SMS

<b>SDK</b>	
Supported programming languages	C, C++
Flash available for SDK	4 MB
RAM available for SDK	64 MB

<b>App Center</b> (Available Apps for RobustOS)	
Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, Captive Portal, WLAN Multi AP, SNMP, Language, RCMS
*Request on demand. For more Apps please visit <a href="http://www.robustel.com">www.robustel.com</a> .	

<b>Power Supply and Consumption</b>	
Connector	2-pin 3.5 mm female socket
Input voltage	9 ~ 36V DC
Power consumption	Idle: 100 mA@12 V Data link: 500 mA (peak) @12 V

<b>Physical Characteristics</b>	
Weight	65 g
Installations	Three screw holes are fixed ST2 x 8 black cross grooved pan head tapping
Operating temperature	-25 ~ +70 °C
Storage temperature	-40 ~ +85 °C
Relative humidity	5 ~ 95% RH

<b>Regulatory and Type Approvals</b>	
EMI	EN 55032 Conducted Emission Class B EN 55032 Radiated Emission Class B
EMS	EN 61000-4-2 (ESD) Contact Level 2 Air Level 3 EN 61000-4-3 (RS) Level 2 EN 61000-4-4 (EFT) Level 2 EN 61000-4-5 (Surge) Level 3 EN 61000-4-6 (CS) Level 2

ORDERING INFORMATION

Model	PN	Serial Interface	LTE Category	Frequency Bands*	Region/Country	Certification
R1511P-4L-A02EU-A	B061713	RS232	CAT4	<b>4G:</b> LTE FDD: B1/B3/B7/B8/B20/B28A <b>3G:</b> WCDMA: B1/B8 <b>2G:</b> GSM: B3/B8	EMEA	CE, UKCA
R1511P-4L-A02EU-B	B061714	RS485				
R1511P-4L-A03AU-A	B061717	RS232	CAT4	<b>4G:</b> LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 <b>3G:</b> WCDMA: B1/B2/B5/B8 <b>2G:</b> GSM: B2/B3/B5/B8	Oceania	RCM
R1511P-4L-A03AU-B	B061718	RS485				
R1511P-4L-A05NA-A	B061731	RS232	CAT4	<b>4G:</b> LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71 <b>3G:</b> WCDMA: B2/B4/B5	North America	FCC
R1511P-4L-A05NA-B	B061732	RS485				
R1511P-4L-A24EU-A	B061742	RS232	CAT4	<b>4G:</b> LTE FDD: B1/B3/B5/B7/B8/B20/B28 LTE TDD: B38/B40/B41 <b>3G:</b> WCDMA: B1/B8 <b>2G:</b> GSM: B3/B8	EMEA, SEA	CE

\* Please note that the different LTE frequency bands are model dependent and not all 4G frequencies are currently supported on a single model of 1511P router.  
\* For more information about frequency bands in different countries, please contact your Robustel sales representative.