

ICR-2437

Entry-Level 4G Router



Features

- LTE Cat.4 with 450 MHz support (B31 & B72)
- 2x SIM for redundancy
- 2x Ethernet 10/100 Mbps
- 1x RS232, 1x RS485
- 1x DI, 1x DO
- Wide operational temperature range
- Wall and DIN mount options
- Linux based OS & SW customization



Introduction

Industrial cellular router ICR-2437 is designed for wireless communication in LTE 450 MHz networks as well as in standard 4G public European LTE networks. LTE 450 MHz brings deeper LTE signal penetration than standard 4G public LTE frequencies and is ideal for Industrial IoT and critical infrastructure applications.

The ICR-2437 offers a unique design supporting both LTE 450 MHz bands B31 and B72 in one single router unit. Router gateway construction provides state-of-the-art 450 MHz RF front-end design with excellent RF performance. In addition to LTE 450 MHz great performance, it allows users to communicate in standard high-speed public LTE networks (LTE Cat.4) with download speed up to 150 Mbps and upload speed up to 50 Mbps.

The router is equipped with two independently configurable Ethernet ports (LAN or WAN), 1x serial port RS232, 1x RS485, and with digital I/O connectivity (1x DI, 1x DO). The router supports VPN tunnel creation using various protocols to ensure safe communications. The router provides diagnostic functions which include automatic monitoring of the wireless and wired connections, automatic restart in case of connection losses, and a hardware watchdog that monitors the router status.



The router is based on the ICR-OS operation system. Open Linux platform enables wide possibilities of programming customer SW applications in Python and C/C++. The router supports uploading of RouterApps (User modules) that would extend standard firmware functionalities. The existing app library ready for free download by customers contains already developed software apps to enhance specific router functionality including industrial protocol conversions, support of IoT platforms such as MS Azure, Cumulocity, ThingWorx, and a lot more.



WebAccess/DMP



Order Codes

Model no. - Order Codes	REGION	2x Ethernet 10/100 Mbps	RS232 RS485	I/O	1x ANT 1x DIV	2x SIM
 ICR-2437	EMEA	✓	✓	✓	✓	✓
 ICR-2437-DE	Germany, Austria	✓	✓	✓	✓	✓

* Router is compatible with cellular networks in the indicated region. Importer/operator needs to check locale legislation (standards, national Telecom approvals etc.) and compare with standards available for product if possible to operate the router in target region legally.

Specifications

System	
CPU	ARM926EJ-S, 600 MHz
Memory	RAM - 128 MB NOR Flash - 64 MB (12 MB for Router Apps, 2 MB for customer data)
Watchdog	HW Watchdog
RTC	Battery backup RTC
Interfaces	
Ethernet	2× Ethernet (1+1), RJ45, 10/100 Mbps
Serial Lines	1× RS232 (Tx, Rx, GND, RTS, CTS) 1× RS485 (A(-), B(+), GND) (7-pin terminal block)
I / O	1× Digital Input (48 V / 0.5 mA) 1× Digital Output (Open Drain, 48 V / 100 mA) (6-pin terminal block together with PWR)
Reset Button	Reboot / Factory reset
LED Indicators	System, Signal strength, Data activity, SIM1/SIM2 status, Mobile technology, Input, Output, User, ETH

Environmental	
Power Supply	9 – 48 V DC (6-pin terminal block together with I/O)
Consumption	Idle 2.6 W / Average 3.3 W / Maximum 4.2 W
Operating Temperature	-40 to +75 °C
Storage Temperature	-40 to +85 °C
Humidity	5 to 95 %
IP Cover	IP30
Physical Characteristics	
Dimensions	103 mm × 95 mm × 25 mm
Enclosure	Metal Case, Grounding Screw
Mounting	Wall mount, * Optional DIN Rail mount
Weight	345 g

Cellular Interface	
SIM Slots	2× SIM (Micro SIM – 3FF)
Antennas	2× SMA connector (1× ANT, 1× DIV)
LTE Parameters ICR-2437	Supported FDD frequencies: B3, B7, B20, B31, B72 Transfer rate: 150 Mbps (DL), 50 Mbps (UL)
LTE Parameters ICR-2437-DE	Supported FDD frequencies: B3, B7, B20, B72 Transfer rate: 150 Mbps (DL), 50 Mbps (UL)

Standards & Regulations	
Radio	EN 301 511, EN 301 908-1, EN 301 908-2, EN 301 908-13
EMC	EN 301 489-1, EN 301 489-19, EN 301 489-52, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11
Safety	EN 62 368-1, IEEE 802.3
National	CE, UKCA
Mechanical	EN 60529
Climatic	EN 60068-2-1, EN 60068-2-2, EN 60068-2-14, EN 60068-2-30
Environmental	REACH, RoHS3, WEEE

Accessories

Part Number	Description	Included in the package
CON-ICR2-6-PWR	6-pin PWR / IO connector	✓
CON-ICR2-7-SER	7-pin Serial connector	✓
	Wall mount kit	✓
BB-DIN-ICR32	DIN Clip	
BB-KD-ETH	Ethernet cross cable, length 1.5m	
OPT1-ANT-450M-30	Antenna LTE450, Magnetic mount	
RPS-ICR2-EU	Power Supply EU, ICR2, 12V/1A, 6-pin, EU plug	

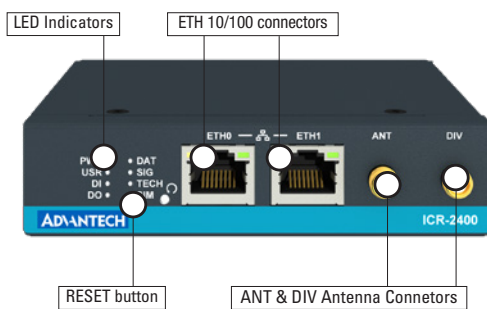
*For more Antenna accessories visit www.advantech.com

Software	
Operating System	ICR-OS (Linux based)
SW Customization	Router App
Application Development	Open Linux, *Python, BASH, C/C++
Industrial Protocols and IoT	*Modbus RTU/TCP gateway, *IEC 60870-5-101 to 104 gateway, *DF1, *DNP3, *MQTT, *LWM2M
Networking Features and Protocols	DHCP, NAT/PAT, SSH, VRRP, PPPoE, SNMP, SMTP, Dynamic DNS client, DNS proxy, VLAN, QoS, *DMVPN, NTP Client/Server, *Routing protocols RIP, BGP, OSPF, IS-IS, NHRP, Backup Routes, Port Forwarding, Host Port Routing, Ethernet Bridging, Load Balancing, IPv6 Dual Stack
Security	HTTPS, SSH, SFTP, DMZ, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering) VPN Tunneling – WireGuard, OpenVPN, *EasyVPN, IPsec with IKEv1 and IKEv2, GRE, L2TP, PPTP Authentication – RADIUS, TACACS+, 2FA, *SCEP Encryption – DES, 3DES, AES, RSA, MD5, SHA
Firmware Management	Automatic firmware updates – server, locally via LAN or remotely via WAN
Diagnostic/Log	Status – Signal Strength, Data Usage One CLICK report – Current Configuration, Factory Identification, Routing Table Log – System Log, Reboot Log, Kernel Log Remote Diagnostics (via SSH)
Event Engine	StartUp script & Up/Down script (Own rules based on Digital Inputs, Network Parameters, Data Usage, Timer) Report Types: SMS, email, SNMP Trap
Configuration	Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server, Backup & Restore configuration
Advanced Software Tools	WebAccess/DMP – Remote Device Provisioning, Monitoring & Management Platform

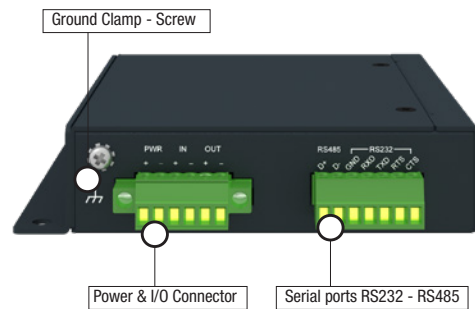
*Functionality is available with installed Router App

Views

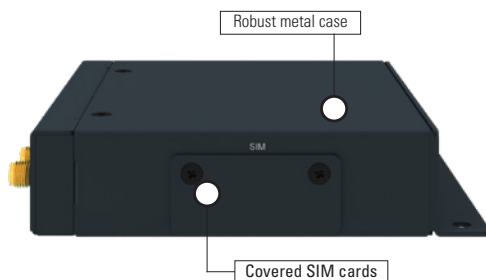
FRONT VIEW



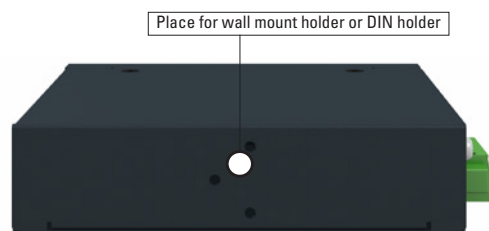
LEFT SIDE VIEW



RIGHT SIDE VIEW



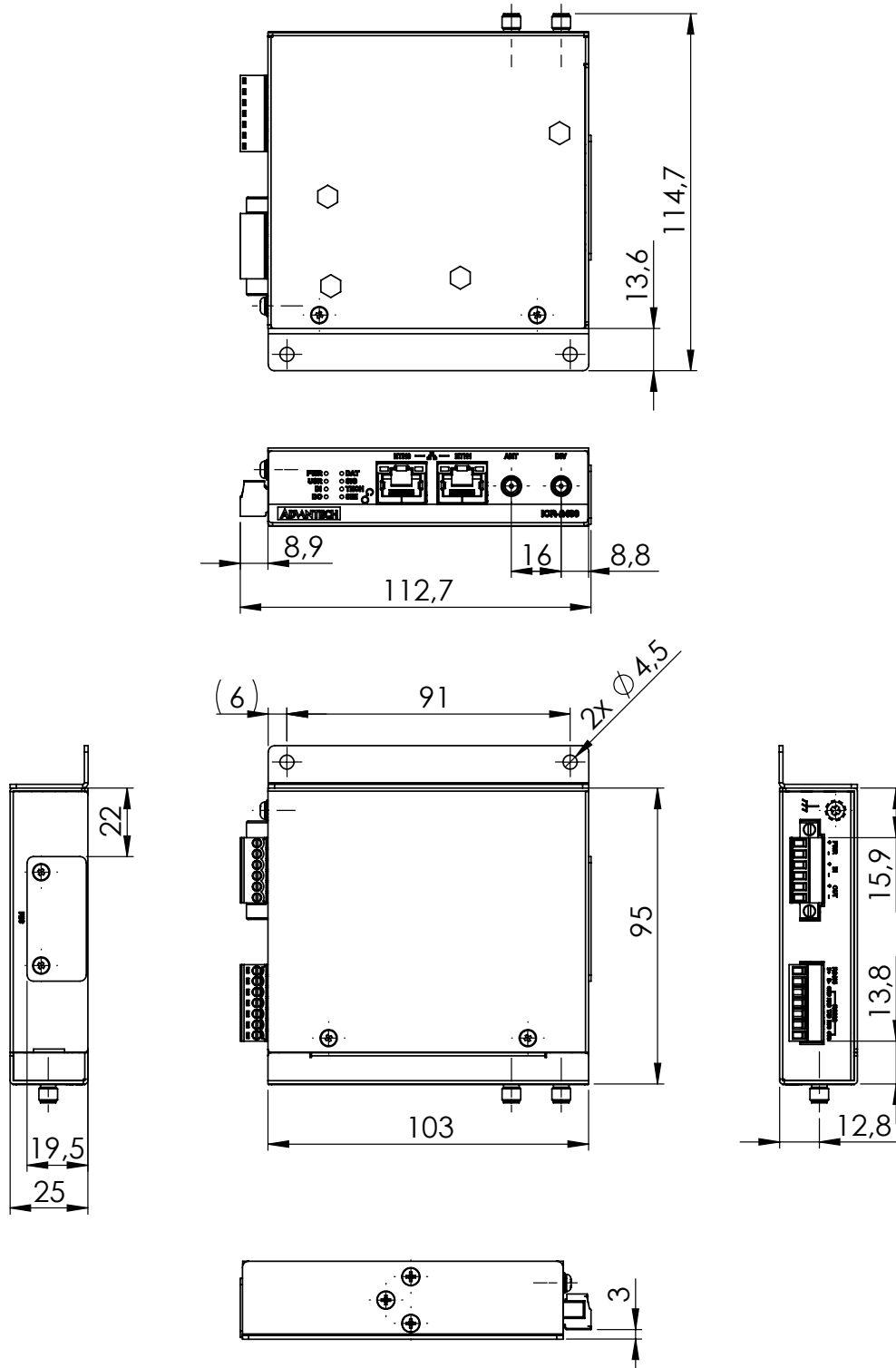
REAR VIEW



Dimensions - Technical Drawing

Version with L holder (Wall mount)

Unit: mm



Dimensions - Technical Drawing

Version with DIN holder (*Optional Accessories)

Unit: mm

