



### HYC-OLTRG-101 ATEX & IP68

Power EIRP 2x30 dBm (2x1 Watt)

#### Features:

- Highly reliable and secure for mission-critical cellular communications
- Provide flexible options to configure LAN/WAN ports
- Support multi-band connectivity with FDD LTE/ TDD LTE/ WCDMA/ GSM/ LTE Cat4
- Built-in dual SIM for network redundancy
- Dual MIMO antenna input against radio interference
- LED indicators for connection and data transmission status
- Industrial rated from -40 to +70°C for use in harsh environments
- IPv6/IPv4 dual stack and all applications are IPv6 ready
- Support various serial communication protocols for rich connectivity
- Enhance security and encryption for authentication and transmission
- IP68 Waterproof
- WiFi embedded
- High gain Antennas

**HYC-OLTR(G)-101 4G/LTE Router** is a highly reliable and secure wireless communications gateway designed for industrial networking, Operator or WISP create their own networks to share bandwidth with customers and also for marine and coastal communication applications.

It supports multi-band connectivity including FDD / TDD LTE, WCDMA and GSM for a wide range of applications and vertical machine-to-machine (M2M) markets. To enhance reliability, HUYC-OLTR(G)-101 is equipped with dual SIM that supports failover and roaming over to ensure uninterrupted connectivity for mission-critical cellular communications. With flexible LAN / WAN Ethernet options, HYC-OLTR(G)-101 series allows you to customize your professional applications in diverse environments.

It also provides enterprise-grade software features, such as Quality of Service (QoS) for traffic prioritization, IPSec, OpenVPN, Firewall security and so on.

The device is administrated via web GUI, Telnet, SSH v2 and HTTP/HTTPS. Built for secure and uninterrupted operation in harsh environments, HYC-OLTR(G)-101 series supports extended operating temperature from -40 to +70°C and a flexible input voltage range of 10-32V DC.

HYC-OLTR(G)-101 is an ideal cellular communications solution for heavy industrial use.

## Specifications

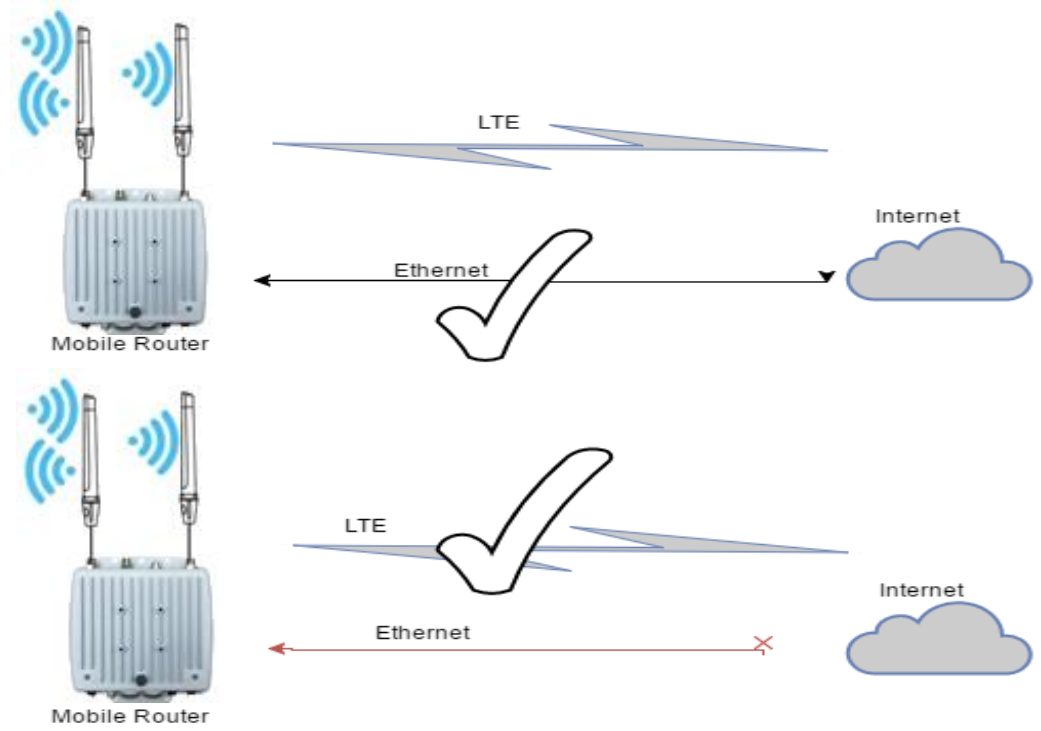
FREQUENCIES	
FDD LTE	B1 / B2 / B3 / B4 / B5 / B7 / B8 / B12 / B17 / B20 / B28
TDD LTE	B38 / B40 / B41
WCDMA	B1 / B5 / B8
GSM	900 / 1800 MHz
WiFi Access Point	2402 – 2482 MHz
OUTPUT POWER	
LTE FDD	23dBm +/- 2dB up to EIRP 30dBm
LTE TDD	23dBm +/- 2dB up to EIRP 30dBm
TD-SCDMA	24dBm +/- 3dB up to EIRP 31dBm
UMTS	24dBm +/- 3dB up to EIRP 31dBm
WiFi Access Point	27dBm +/- 1.5dB up to EIRP 34dBm
INTERFACE	
SIM Cards Slots x 2	
WAN 10/100 Mbps Ethernet M12 port x 1	
LAN 10/100 Mbps Ethernet M12 port x 1	
LTE antenna N-type port x 2	
WiFi AP N-type port x 2	
GPS N-type port x 1	
DC power M12 port x 1	
Software	
Network Protocols	IPv4, IPv6, IPv4/IPv6 dual stack, DHCP server and client, PPPoE, Static IP, SNTP, DNS Proxy
Routing & Firewall	NAT, Virtual Server, DMZ, MAC filter, URL Filter, IP Filter, VLAN, Static Routing and RIP-1/2
VPN	OpenVPN, IPSec (3DES, AES128, AES196, AES256, MD5, SHA-1, SHA256)
Wireless Connectivity	Two SIM cards for failover / roaming over / back up
	Two SIM cards data usage control
	Seamless multi WAN connections switch
	WiFi Access Point for hotspot (OLTRG-101G model)
Others	DDNS, QoS, UPnP
Alarm	SMS, VPN/WAN Disconnection, SNMP Trap, E-mail
Management	
Web GUI for remote and local management, CLI	
SNMP, TRo69	
ENVIRONMENT	
Operating Temperature	-40~70 °C
Storage Temperature	-40~85 °C
Humidity	95% non-condensing
POWER SUPPLY & CONSUMPTION	
Power consumption : 17Watts (Typical), 19Watts (Max.)	
Power Input : DC 24V	
PHYSICAL	
Dimension	259 (L) * 250 (W) * 75 (H) ; mm
Weight	1.8Kg
WARRANTY	
1 YEAR	
ORDERING INFORMATION	
HYC-OLTRG-101	Outdoor IP68 4G LTE Router (1 x WAN + 1 x LAN) with GPS
HYC-OLTRG-101G-20	Outdoor IP68 4G LTE Router (1 x WAN + 1 x LAN + 2.4GHz WiFi AP) with GPS
HYC-ANT-45270-M	450 MHz – 2700 MHz Linear Omni Marine antenna



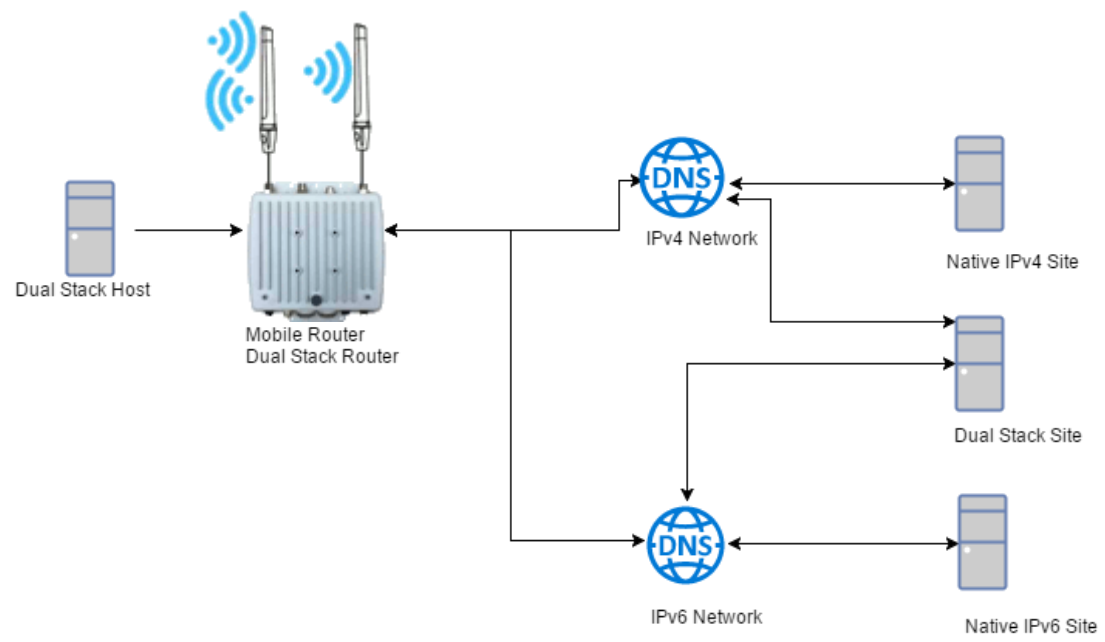
$$e = \sum_{n=1}^{\infty} \frac{1}{n!} = \lim_{n \rightarrow \infty} \left( \frac{1}{0!} + \frac{1}{1!} + \frac{1}{2!} + \dots + \frac{1}{n!} \right)$$

## Main Applications

### LTE / Ethernet redundant



### IPv4/IPv6 Dual Stack

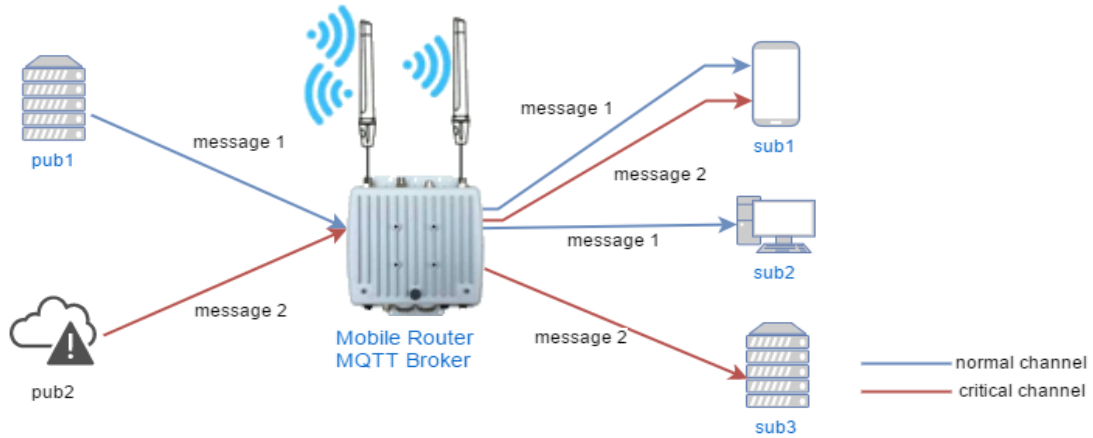




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# Main Applications

## MQTT Broker



## Virtual COM > Remote Management



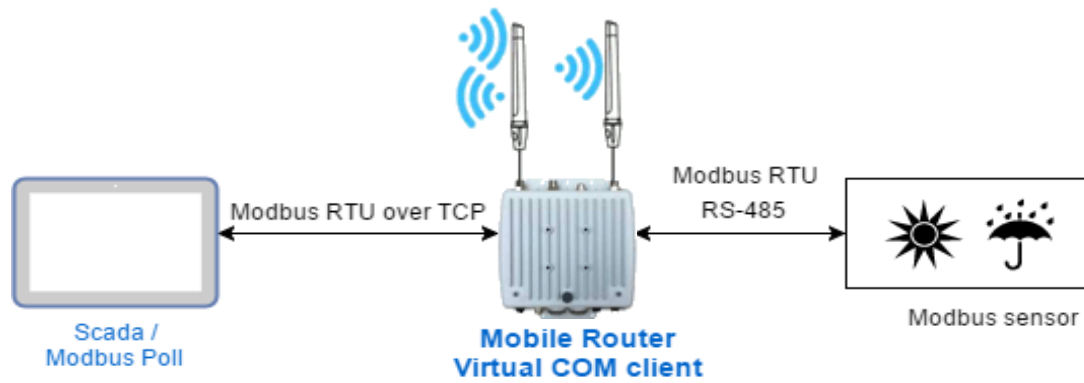
## Virtual COM > Modbus RTU over TCP



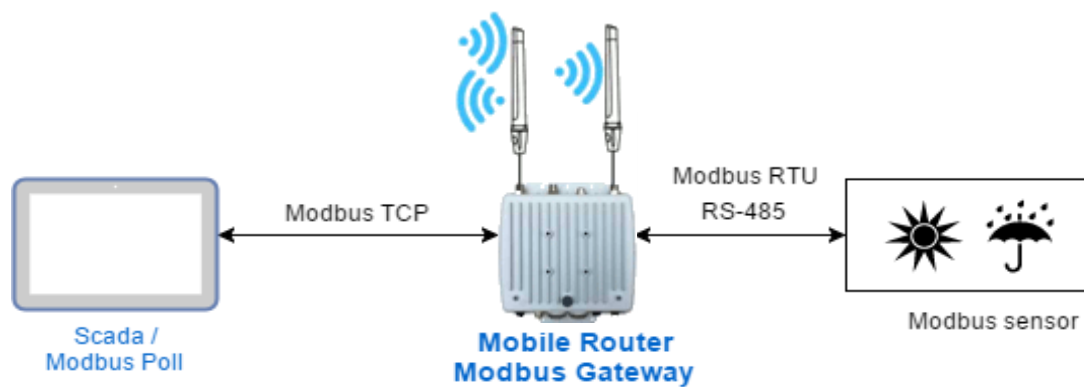


## Main Applications

### Virtual COM > Modbus RTU over TCP

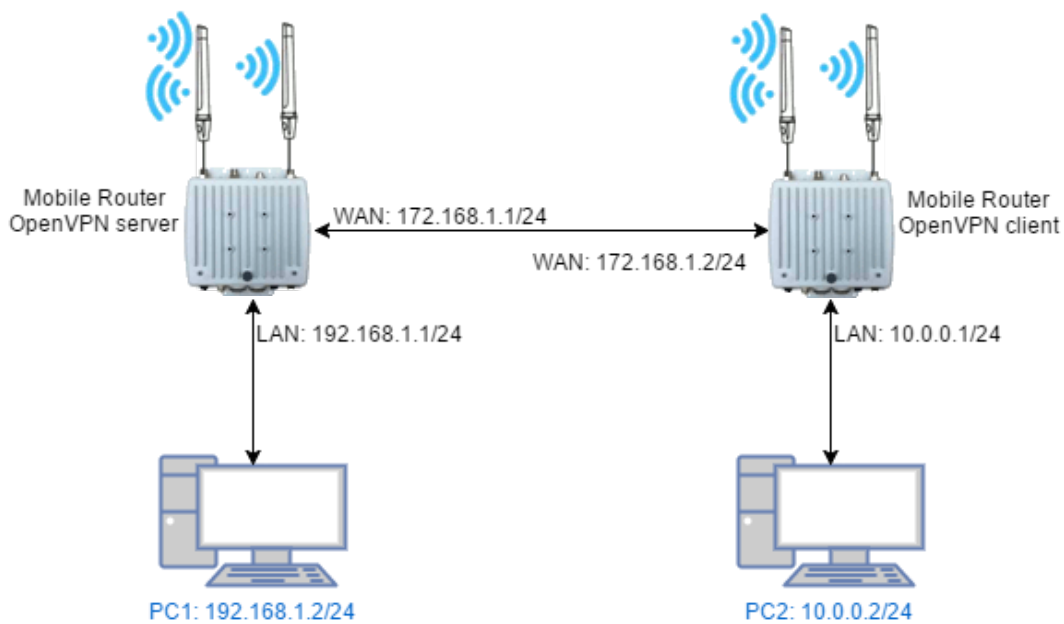


### Modbus Gateway

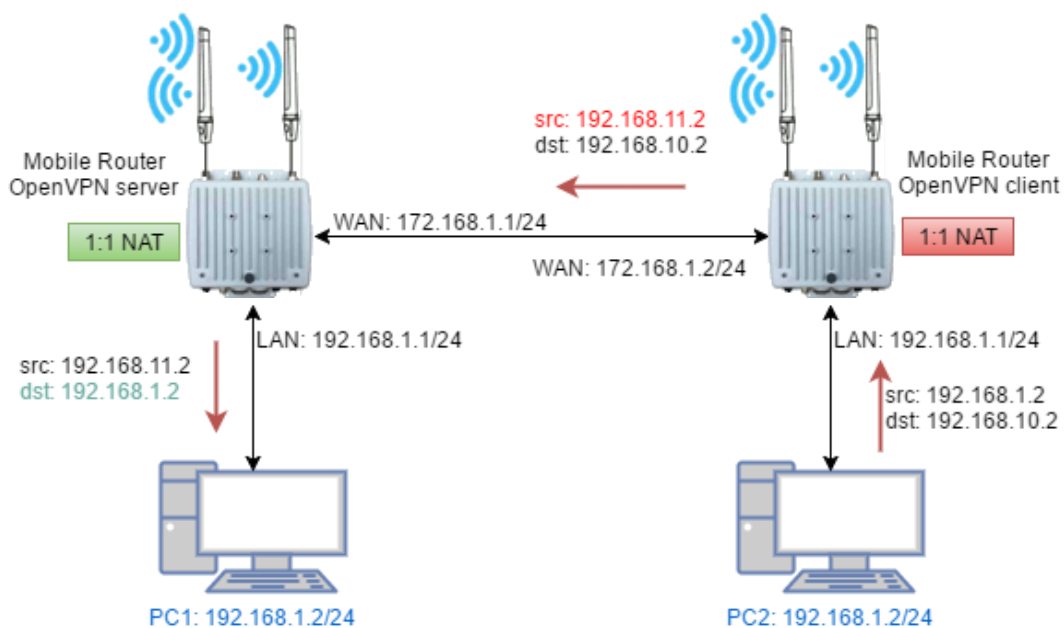


## Main Applications

### OpenVPN Net-to-Net

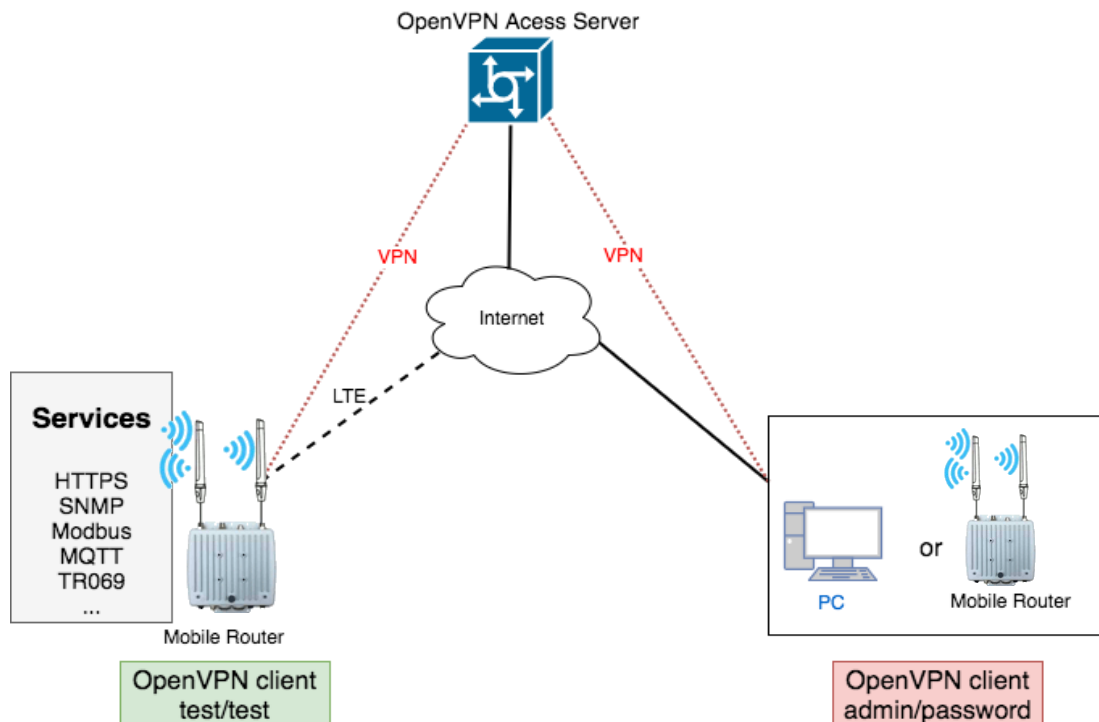
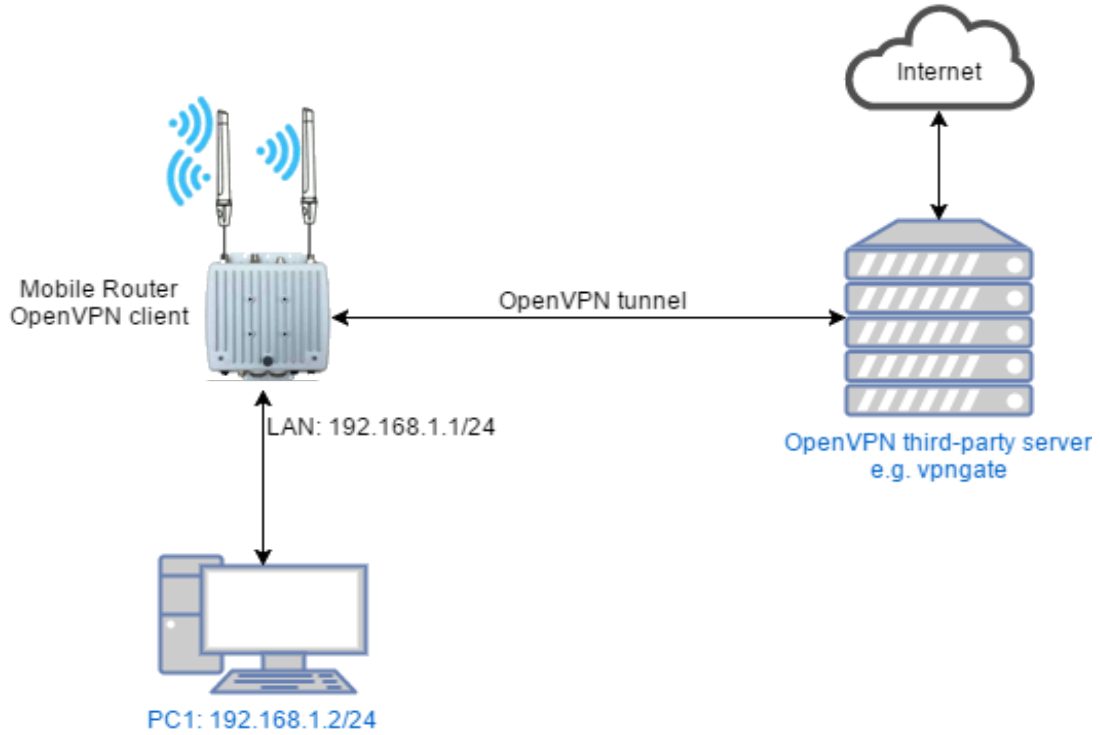


### OpenVPN 1:1 NAT



## Main Applications

### OpenVPN with third-party server



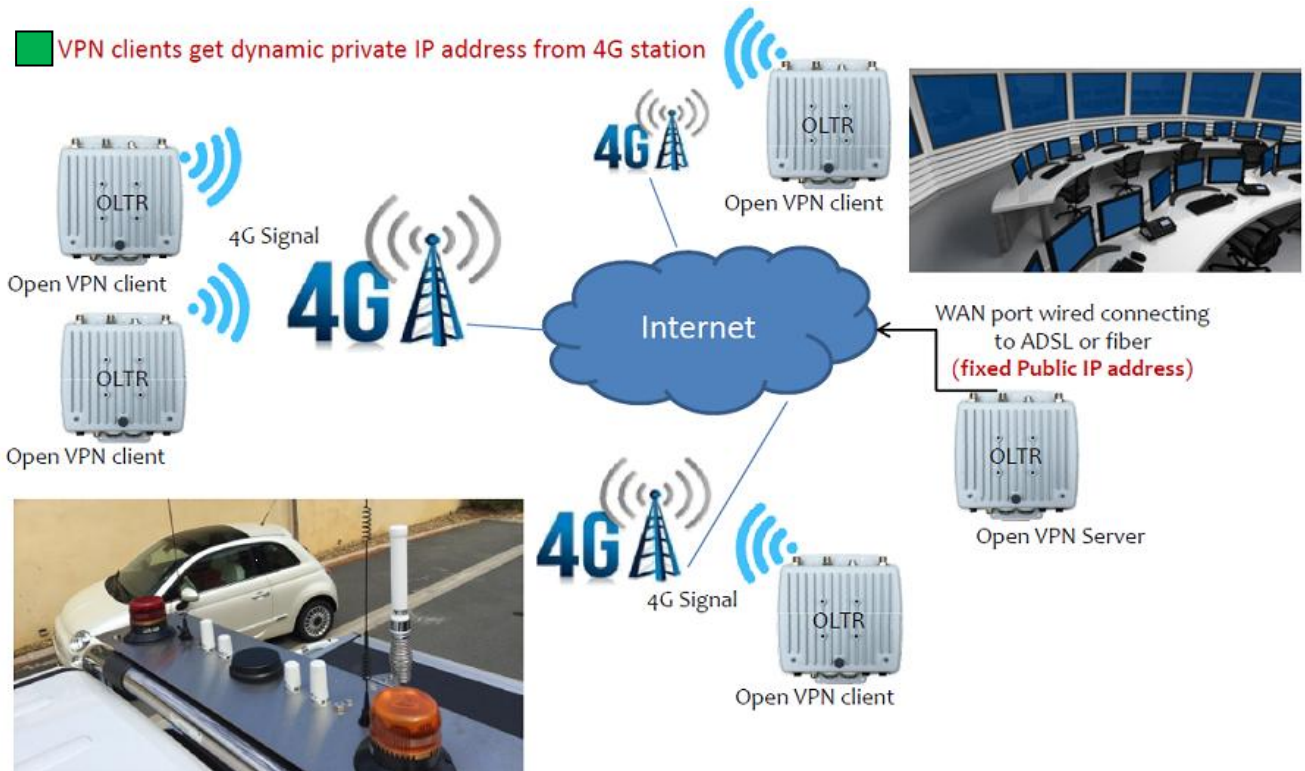
## Video & Data Unbreakable VPN Tunnels Communications

Maximum 8 VPN clients supported

VPN clients get dynamic private IP address from 4G station



VPN clients get dynamic private IP address from 4G station







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# EIRP High Power 30dBm 2x1 Watt

## Specification for the model HYC-OLTRG-101

### LTE Interface

- FDD LTE: B1/B3/B5/B7/B8/B20
- TDD LTE: B38/B40/B41
- WCDMA: B1/B5/B8
- GSM: 900/1800 MHz
- LTE Cat4

### Processor & I/O Interface

- High performance 528 MHz CPU with 512 Mbytes of DDR3 memory
- 2 x SIM Card Slots
- 1 x LAN 10/100 Mbps Ethernet port (Model: OLTRG-101)
- 3 x LAN 10/100 Mbps Ethernet ports (Model: LTR / LTRG-102)
- 1 x WAN 10/100 Mbps Ethernet port
- Reset Button
- Console: 1 x RS232 (9-pin Sub-D)
- 2 x SMA connectors for detachable LTE antenna
- 1 x GPS detachable antenna (Optional)
- 1 x RS485 (D+ / D-)
- 1 x RS232 (TXD / RXD)
- 2 x DI, 1 x DO (Alarm +/-)

### Physical Characteristics

- Enclosure : Metal moulded Shell
- Housing : IP68 Protection
- Dimensions (W x H x D) : 259 x 250 x 75 mm
- Installation : Mast tube or Wall Mount

### LED Display

- 1 x System status LED (Green)
- 1 x VPN status LED (Green)
- 1 x SIM1 status LED (Green)
- 1 x SIM2 status LED (Green)
- Ethernet status LEDs (Green for LINK/ACT, Yellow for SPEED)
- 2 x Mobile connection strength LEDs (Green)

### Power Supply

- Power Consumption :10 Watts(Max)
- Power Input :10 ~ 32V DC or nominal 24 VDC

### MTBF (mean time between failures)

- OLTRG-101: 155,899 hrs (MIL-HDBK-217-FN2)

### Software

- **Network Protocols:**  
IPv4, IPv6, IPv4/IPv6 dual stack, DHCP server and client, PPPoE, Static IP, SNTP, DNS Proxy, Modbus, VRRP, OSPF, Message Queue Telemetry Transport (MQTT Broker)
- **Routing/Firewall:**  
NAT, Virtual Server, DMZ, MAC Filter, URL Filter, IP Filter, VLAN, Static Routing and RIP-1/2
- **VPN:**  
OpenVPN, IPSec (3DES, AES128, AES196, AES256, MD5, SHA-1, SHA256)
- **Wireless Connectivity:**  
Two SIM cards for failover/ roaming over/ back up  
Two SIM cards data usage control  
Seamless multi WAN connections switch
- **Others:**  
DDNS, QoS, Virtual COM, UPnP
- **Alarm:**  
DI, DO, SMS, VPN/WAN Disconnect, SNMP Trap, E-mail

### Management Software

- Web GUI for remote and local management, CLI
- Dual Image firmware upgrade by Web GUI
- Syslog monitor
- SNMP, TR069
- Remote management via SSH v2, HTTPS
- Local management via Telnet, SSH v2, HTTP/HTTPS

### Environment

- Operating Temperature -40 ~ +70°C
- Storage Temperature -40 ~ +85°C
- Ambient Relative Humidity 10 ~ 95% (non-condensing)
- Humidity 0 ~ 95% (non-condensing)

### Standards and Certifications

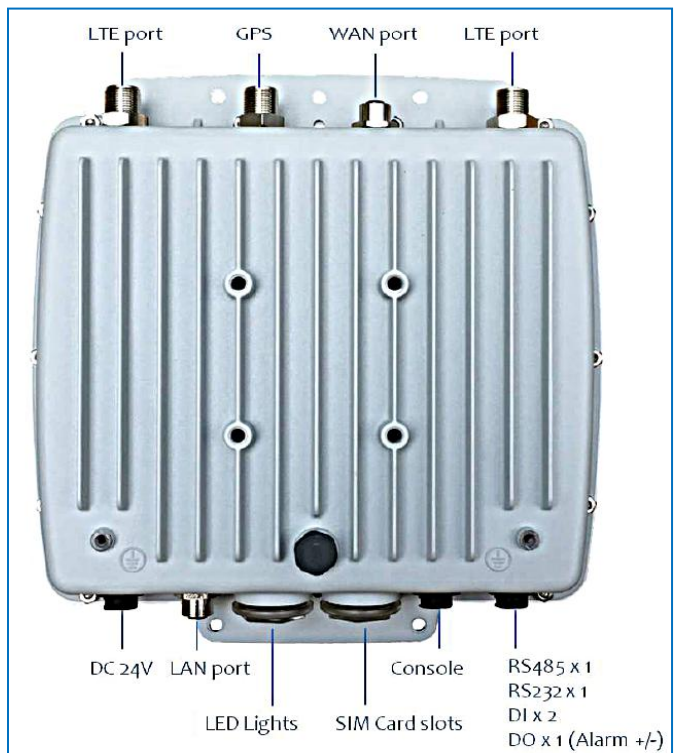
- **EMC** : CE, FCC
- **EMI** : EN 55032 Class A, FCC Part 15 Subpart B Class A
- **EMS** : EN 55024 / EN 61000-4-2 (ESD) Level 3 / EN 61000-4-3 (RS) Level 3 / EN 61000-4-4 (EFT) Level 4 / EN 61000-4-5 (Surge) Level 3 / EN 61000-4-6 (CS) Level 3 / EN 61000-4-8 (PFMF) Level 4 / EN 61000-4-11 / EN 61000-6-2 (Industrial) / EN 61000-6-4 (Industrial)
- **Rail Traffic** : EN50121-4
- **Vibration** : IEC60068-2-6
- **Safety** : EN60950-1
- **Highly Accelerated Life Test (HALT)**

\* Features and specifications are subject to change without prior notice.

## Ordering Information

Model	Description
HYC-OLTRG-101	Outdoor IP68 Industrial 4G LTE Router (1 x WAN + 1 x LAN) with GPS

## HYC-OLTRG-101 the ODU and 7 dB gain antenna



*Outdoor or indoor radio 3-4G Modem ATEX and Waterproof IP68 enclosure*



**Product Overview**

 450 - 470 690 - 960 & 1710 - 2700 MHz	 7 dBi	 OMNIDIRECTIONAL	 Increase x Mb/s	 M2M	
 -20°C to +70°C	 IP 67	 UL 94 V-1			



- Next Generation Marine qualified High Performance Omni Directional Antenna
- Easy mounting with feed through 1 inch marine standard mounts
- Robust and All weather proof
- Various mounting options available\*
- UV and Saltwater protected against tempestuous weather conditions.



WIRELESS MOBILE MESH NETWORKS

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## Main Applications



Marine & Coastal 15km offshore Mobile Access  
– Internet Service on boat



Outdoor 4G modem HYC-OLTRG-101 on terrestrial vehicle



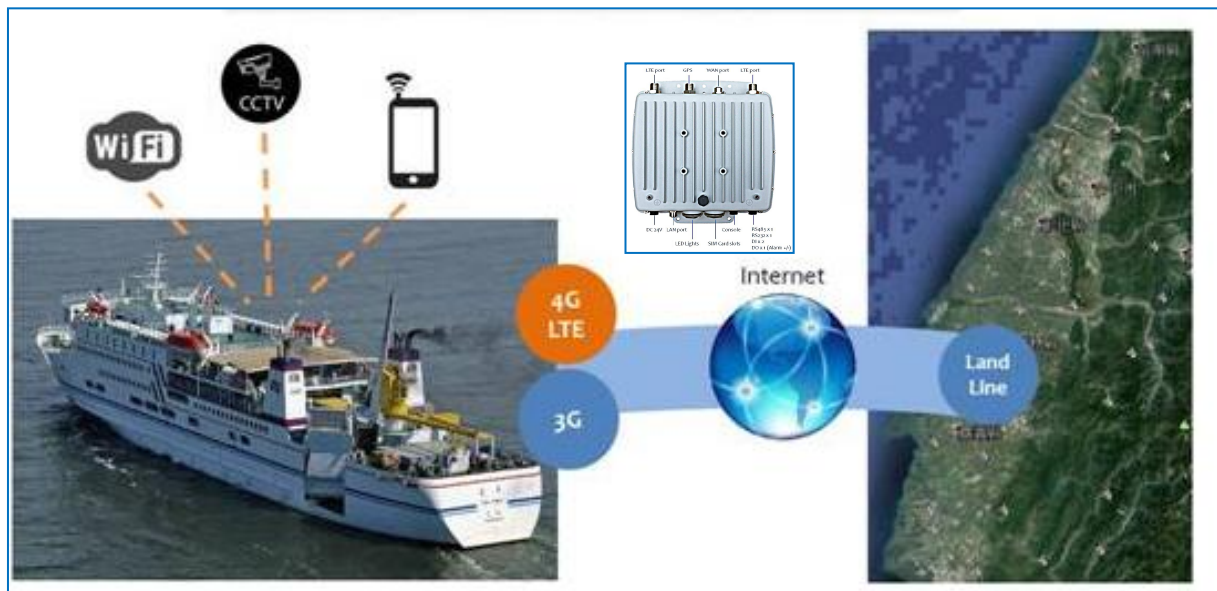
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## Main Applications



Outdoor 4G modem HYC-OLTRG-101 on vehicle & Control Center



Outdoor 4G modem HYC-OLTRG-101 on boats connected to the Shore