I(P)WMR-3004

Industrial Mulifunction VPN Router w/up to 2x WiFi 11ac + up to 2 LTE 4G + 2 serial ports + 4 Gigabit Ethernet (PoE) Switch + 2WAN ports w/ Load Balancing, VPN, Protocol Gateway, Storage; 24V input**

- *Up to 2 concurrent WIFI 11ac and redundancy(1L-2AC model)*
- *Up to 2 concurrent mobility for 3G/4G LTE Link & GPS(2L-1AC model/4 SIMs)*
- *Support LTE Cat 6*
- *PoE model: Built-in 4 Gigabit PoE at/af Switch with budget 80W@12V/24V/48V*
- *Dual radio for 802.11ac/a/b/g/n with concurrent 5GHz & 5GHz bands up to 2.6Gbps Wi-Fi bandwidth(2AC model)*
- *WIFI radio for 802.11ac/a/b/g/n with 5GHz or 2.4GHz;*
- *Support WIFI 802.11e traffic prioritization and WMM*
- *MIMO technology 3T3R up to 6 antenna(2AC); SMA type external antennas*
- *Supports AP/ Bridge/ Client/ MESH modes*
- *Support Client-base roaming*
- *Support 802.11s Wireless Mesh Network*
- *Advanced wireless security WEP64/128bits/ WPA/ WPA-PSK (TKIP,AES)/ WPA2/ WPA2-PSK (TKIP,AES)*
- *VPN router for Multi-site VPN, OpenVPN, L2TP over IPsec, IPsec, L2 over GRE , IPGRE*
- *Load Balancing built-in 5 mechanisms*
- *Optional EMMC Flash storage on-board***
- *Support NAT and Firewall*
- *Support Modbus gateway on serial ports*
- *Support 2 RS422/RS485 ports or 2x RS232 ports*
- *Input voltage selection 9~56VDC (24V model)*
- *Environmental monitoring for router inside info with voltage, current temperature and total PoE load; WIFI & LTE graphic signal strength*
- *Editable login page of captive portal for hot-spot application*
- *Optional eSIM chip enables router with versatile data plans***
- *USB port to backup, restore the configuration file and upgrade firmware; Dual image firmware*

OVERVIEW

Lantech I(P)WMR-3004 series is a next generation industrial multi-function VPN router w/up to 2x 802.11ac Wi-Fi + up to 2x LTE modem + 4x Gigabit Ethernet (PoE) switch + 2WAN + 2 serial ports that supports advanced function of VPN, Load-Balancing, EMMC Flash Storage**, Protocol gateway(Modbus), Storage**, Wi-Fi roaming and LTE quad SIM fail-over for industrial applications. The dual core CPU with 1.6GHz + 256M flash enables the router to multi-task smoothly.

Dual concurrent LTE design 4G/3G for load-balancing
With dual LTE module design (2L model), 4 SIM card slots, it can allow auto-swap, failover & failback between multiple

service providers for real non-stop connection. With concurrent LTE modules, it can also allocate bandwidth by " Load Balancing with 8 schemes between multiple WANs.

With one mobile LTE module (1L model), 2 SIM card slots, I(P)WMR-3004 provides redundant link between two service providers.

Both GPS and Russian GLONASS systems are supported.

Support AP/Bridge/Client mode, Mesh roaming
I(P)WMR-3004 supports AP/Bridge/Client mode for different

applications.

It also supports client-base roaming to swap between the APs in a network.

Built-in Wireless Mesh network（WMN）

I(P)WMR-3004 supports Mesh network composed of different nodes. The set of SSIDs allow the wireless client to roam freely without the need for complicated account management. With Mesh protocol, it can provide a reliable, scalable, stable and seamless network topology.

Optional EMMC Flash storage**

The optional EMMC flash storage on the router can offer 8G/16G/32G capacity.

Optional eSIM**

By replacing physical SIM, optional eSIM chip will allow users to purchase data plans at low prices from local carriers in the world.

IEEE 802.11ac dual band radio up to 2.6Gbps bandwidth

With IEEE 802.11ac capability, I(P)WMR-3004 can operate either 5GHz or 2.4GHz bands, offering the maximum speed of 2.6Gbps bandwidth (1.3Gbps per 1AC). It is also compatible with 802.11b/g/n that can work with 2.4GHz for longer range transmission.

The Wi-Fi 11ac supports AP/Bridge /AP Client modes can be diverse for most of wireless application. Working with load-Balancing "Priority" mode, the AP client can enable router to transmit on Wi-Fi with first priority.

MIMO technology with 3T3R and SMA type connectors

Lantech I(P)WMR-3004 series adapts MIMO technology with smart antenna transmission and reception for 3T3R. With six external detachable omni connectors and optional antennas, I(P)WMR-3004 can have better Wi-Fi & LTE/GPS coverage.

Wireless WMM QoS

I(P)WMR-3004 supports 802.11e standard which defines a set of Quality of Service for wireless LAN applications as well as WMM (WIFI multimedia)

Advanced security & 16 SSIDs

The security support standards including 64/128bits WEP, WPA/WPA2 PSK (TKIP, AES), 802.1x ensures the best security and active defense against security treads. Lantech I(P)WMR-3004 support up to 16 SSIDs, each SSID has its independent security and encryption.

Load Balancing with 5 mechanisms for multi-WANs

I(P)WMR-3004 supports Load Balancing for LTE/WAN connections. There are five schemes for Load Balancing function:

Pack	Algorithm	Description

Basic	Fixed	All traffic will be distributed to a single WAN.
	Failover	Routes connections through preferred WAN link while others stand-by. Sequentially activating another link if the preferred link fails.
	Priority	Select the active WAN according to priority.
	Weighted Round-Robin	Evenly distribute the traffic over all working WAN links in circular order according to the specified weights.
	Custom Route	Routing through the selected WAN for each specific traffic, ex: TCP/UDP port number and IP address.

2 port serial connection, Modbus gateway

It builds in 2 port serial connection for RS232, RS422, RS485.

The built-in Modbus gateway can convert Modbus RTU/ASCII to Modbus TCP for device control.

VPN and firewall

Besides traditional VPN peer to peer tunneling, I(P)WMR-3004 support latest Multi-Site VPN function that is an efficient way for Mesh tunneling. The registration is under cloud service and encrypted by SSH makes the connection easy and safe.

It supports Multi-Site VPN, OpenVPN, L2TP over IPsec, IPsec, L2 over GRE, IPGRE, and NAT for various VPN applications.

The built-in Layer-4 firewall includes DDoS, IP address filter / Mac address filter / TCP / UDP port number.

Support Routing Protocol: Static route / RIPv2 / OSPF / BGP / EIGRP

Lantech router series supports two routing methods: static routing and dynamic routing. Dynamic routing makes use of RIPv2, OSPF, EIGRP and BGP. The user can either choose one routing method to establish the routing table.

DIDO for alarm & email notice; Event log; Remote Web control

2 sets of DIDO function can support additional high/low physical contact for designate applications besides Port / Power events, for example, DIDO function can trigger alarm if the router was moved or stolen. In case of events, the I(P)WMR-3004 will immediately send email and trap.

When the router is at remote area with limited access, Web control can help to get router status or remotely reboot.

Wide range input voltage from 9V-56VDC; PoE model built-in 4 port PoE at/af switch with 80W@12V /24V/48V

The I(P)WMR-3004 is able to work from 9VDC to 56VDC and PoE model built-in PoE at/af with PoE budget 80W@12V /24V/48V that is particular good for vehicle, rail train, depot etc. application.

Environmental monitoring for inside router info& alerting; Graphic WIFI & LTE signal strength

The built-in environmental monitoring can detect router ambient temperature, voltage, current and total PoE load where can send the SNMP traps Syslog and email when abnormal.

The graphic WIFI & LTE signal strength shows connection status at a glance

Built-in Managed Switch Function

Managed switch function is built-in and provides various L2+ functions for network aggregation deployment. It delivers ports and PoE management, VLAN, QoS, multicast, redundant ring, and security functions.

USB port for back up, restore configuration and upgrade firmware; Dual image firmware

The built-in USB port can upload/download the firmware through USB dongle for router replacement

It support dual-image firmware to choose which one to start.

Editable login page of captive portal

The I(P)WMR-3004 supports editable captive portal function that allows administrator to force end-users redirect to authentication page.

Ruggedized industrial design and FCC, CE & E-marking** certificate

The I(P)WMR-3004 is designed to meet with industrial network environment with IP30 housing. It passed serious tests under extensive Industrial EMI and environmental vibration and shocks standards.

With CE & FCC radio certification for WIFI and LTE and E-marking** certificate, the I(P)WMR-3004 is best for outdoor community, vehicle, process control automation etc. For more usage flexibilities, I(P)WMR-3004 supports wide operating temperature from -40°C to 65°C.

FEATURES & BENEFITS

- **High Speed Air Connectivity: WLAN interface support up to 2.6Gbps link speed(2AC) or 1.3Gbps (1AC)**
- **Built-in 4 Gigabit (PoE) switch + 2 WAN port**
- **PoE model with 80W@12V /80W@24V&48V PoE budget**
- **Dual band 2.4G and 5GHz with 802.11ac/a/b/g/n**
- **EMMC-FLASH storage**8/16/32G**
- **eSIM** to allow data-plan globally**
- **Support 2.4Ghz operating within the following frequency bands:**
  - *2.412~2.472 GHz*
- **Support 5Ghz operating within the following frequency bands:**
  - *5.180~5.825 GHz*
- **MIMO smart antenna technology with 3T3R**
- **6 SMA type connectors for Wi-Fi & LTE, GPS**
- **Output power : <24dBM Transmit power adjustment**
- **VAP (virtual access point) support up to 16 SSIDs**
- **Operation modes : AP/ Bridge / Client**
- **IEEE 802.11h DFS and automatic TPC**
- **Support AP/Bridge/Client/Mesh mode**
- **Support Client-base roaming**
- **Support 802.11s Wireless Mesh Network**
- **Traffic control for each SSID**
- **Band preference for same SSID services on dual band**
- **Highly Security Capability: WEP64/128bits/ WPA/ WPA-PSK (TKIP,AES)/ WPA2/ WPA2-PSK (TKIP,AES)**
- **HTTP/HTTPS/Telnet/SSH & Administration access**
- **Support IPv6 & IPv4 protocol**
- **Radius Authentication, EAP-TLS, EAP-TTLS, PEAP; SSID broadcast disable supported**
- **Multiple channel bandwidths of 20MHz and 40MHz for 2.4G.**
- **Multiple channel bandwidths of 20MHz, 40MHz and 80MHz for 5G only.**
- **Wi-Fi Multimedia (WMM) and 802.11e traffic prioritization**
- **Support Multi-Site VPN for Mesh tunneling as well as Open VPN, L2TP over IPsec, IPsec, L2 over GRE , IPGRE and NAT for secured network connection**
- **Support Routing Protocol: Static route / RIPv2 / OSPF / BGP / EIGRP**
- **The built-in Layer-4 firewall includes DDoS, IP address filter / Mac address filter / TCP/ UDP port number**
- **NAT/DMZ/Port Forwarding**
- **Support SNMP v1/v2c/v3**
- **Dual concurrent LTE 4G/3G design (2L model)for auto-swap/failover/failback between multiple ISPs for continuous service (four SIM card slots)**
- **One LTE 4G/3G w/ 2 SIM card design (1L model) for mobile redundancy**
- **GPS/ GLONASS (support by LTE module) connection**
- **Load Balancing supports 5 mechanism between multiple WANs**

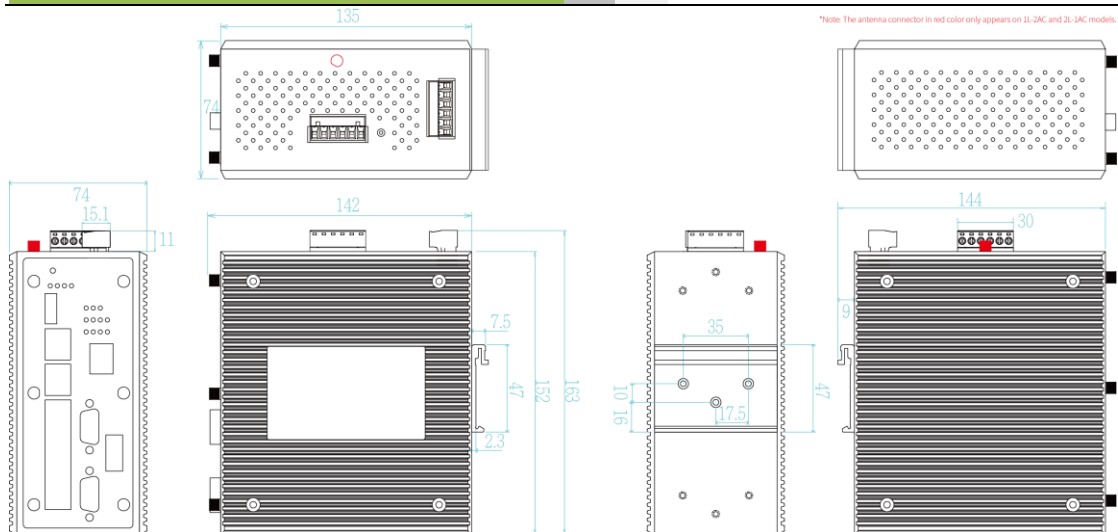| Pack	Algorithm	Description
Basic	Fixed	All traffic will be distributed to a single WAN.
	Failover	Routes connections through preferred WAN link while others stand-by. Sequentially activating another link if the preferred link fails.
	Priority	Select the active WAN according to priority.
	Weighted	Evenly distribute the traffic over all

Round-Robin	working WAN links in circular order according to the specified weights.
Custom Route	Routing through the selected WAN for each specific traffic, ex: TCP/UDP port number and IP address.

- **Built-in 2 x serial ports (RS232/RS422/RS485)**
- **Supports 2DI / 2DO (Digital Input / Output)**
- **Built-in Modbus gateway converting Modbus RTU/ASCII to Modbus/TCP for serial ports**
- **Event alerting by Syslog, SNMP Trap, Email, Relay ; Permanent local log rotation / Maxi 1K records**
- **Remote Web control to get status or re-boot by Web**
- **Graphic LTE & WIFI signal strength**
- **Support SNTP to synchronize system clock**
- **Support LLDP discovery protocol**
- **Support DHCP Server and Client**

- **Built-in environmental monitoring for system input voltage, current and ambient temperature; Able to set alert when abnormal**
- **Dual image firmware to choose which to start**
- **Firmware upgradeable through TFTP/HTTP**
- **Configuration backup and restoration**
  - *Supports text configuration file for system quick installation*
  - *USB port to upload/download firmware by USB dongle*
- **Reset button for factory default mode**
- **Support editable captive portal login page**
- **IP30 housing for industrial environment**
- **DIN-Rail and Wall-mount** installation**
- **Operation temperature -40°C to 65°C**

DIMENSIONS (unit=mm)

*Note: The antenna connector in red color only appears on 1L-2AC and 2L-1AC models.

SPECIFICATION

WLAN Interface

		802.11b/g/n(2.4Gbps)	18dBm @ 1~11Mbps
Radio Frequency Type	DSSS, OFDM		18dBm @ 6~54Mbps
			20/20dBm @ MCS0~MCS7 (HT20/40)
Wireless Standard	IEEE 802.11ac/n/a 5GHz		**Receiver Sensitivity Rx +/- 2dB**
	IEEE 802.11b/g/n 2.4GHz		≦-95dBm @ 1~11Mbps
Wireless bandwidth	5GHz: Up to 1300Mbps		≦-92dBm @ 6~18Mbps
	2.4GHz: Up to 450Mbps		≦-88dBm @ 24Mbps
Modulation	**802.11b: DSSS**		≦-85dBm @ 36Mbps
	802.11a/g:		≦-81dBm @ 48Mbps
	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)		≦-80dBm @ 54Mbps
	802.11n:		≦-94dBm @ MCS0 (HT20/40)
	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)		≦-76dBm @ MCS7 (HT20/40)
	802.11ac:	IEEE 802.11a/n/ac(5Gbps)	**Output Power Tx +/- 2dB(per chain)**
	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)		20dBm @ 6~24Mbps
Operating Frequency	IEEE 802.11 a/b/g/n ISM Band,		16dBm @ 36~54Mbps
	2.412GHz~2.472GHz, 5150MHz~5850MHz		19/18dBm @ MCS0 (HT20/40)
Transmission Rate	IEEE802.11ac: up to 1300Mbps		16/16dBm @ MCS7 (HT20/40)
	IEEE802.11b: 1 / 2 / 5.5 / 11 Mbps		19/18/18dBm @ MCS0 (VHT20/40/80)
	IEEE802.11a/g: 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps		13/13/13dBm @ MCS8 (VHT20/40/80)
	IEEE802.11n: up to 450Mbps		13/13dBm @ MCS9 (VHT40/80)
IEEE	**Output Power Tx +/- 2dB(per chain)**		**Receiver Sensitivity Rx +/- 2dB**
			≦-92dBm @ 6~18Mbps

	≦-86dBm @ 24Mbps
	≦-84dBm @ 36Mbps
	≦-81dBm @ 48Mbps
	≦-80dBm @ 54Mbps
	≦-93dBm @ MCS0 (HT20/40)
	≦-71dBm/≦-80dBm @ MCS7 (HT20/40)
	≦-90dBm @ MCS0 (VHT20/40/80)
	≦-69dBm @ MCS8 (VHT20/40/80)
	≦-66dBm @ MCS9 (VHT40/80)
Encryption Security	WEP : (64-bit ,128-bit key supported)
	WPA /WPA2 : IEEE802.11i(WEP and AES encryption)
	WPA-PSK (256-bit key pre-shared key supported)
	EAP-TLS,EAP-TTLS, and PEAP
Wireless Security	SSID broadcast disable

LED Indicators

System & Power	Per unit: Power 1 (Green), Power 2 (Green), P-Fail (Red) , Ring Master(Green), Storage(Green), Serial1/Serial2(Green) ,Ready(Green)
10/100/1000Base-T(X) port indicator	Link/Activity (Green), Speed (Yellow), PoE (Green, PoE model)
SIM	Green for Link/Act
GPS	Green for Link/Act
Fault	Red: Ethernet link down or power down
Fault contact	IEEE 802.11 a/b/g/n ISM Band, 2.412GHz~2.472GHz, 5150MHz~5850MHz
Relay	Relay output to carry capacity of 1A at 24VDC
Power	**Output Power Tx +/- 2dB(per chain)**
	18dBm @ 1~11Mbps
	18dBm @ 6~54Mbps
	20/20dBm @ MCS0~MCS7 (HT20/40)
	Receiver Sensitivity Rx +/- 2dB
	≦-95dBm @ 1~11Mbps
	≦-92dBm @ 6~18Mbps
	≦-88dBm @ 24Mbps
	≦-85dBm @ 36Mbps
	≦-81dBm @ 48Mbps
	≦-80dBm @ 54Mbps
	≦-94dBm @ MCS0 (HT20/40)
	≦-76dBm @ MCS7 (HT20/40)
Input power	Dual DC input, 9~56VDC (24V model)
PoE Budget	80W@12V/24V/48V
Power consumption (Typ.)	30.5W (1L1AC)

Cellular Interface

Location Solutions	GPS, Glonass
Band Options	**Europe & North America (EUNA model)**
	LTE = B1, B2※, B3, B4※, B5※, B7, B8, B12※, B13 ※, B20, B25※, B26※, B29※, B30※, B41※ (TDD)
	DC-HSPA+/ HSPA+/ HSPA/ UMTS = B1, B2※, B3, B4※, B5※, B8
Data Rates – LTE	**Europe & North America (EUNA model)**
	Downlink (Cat 6):
	FDD: 300 Mbps
	TDD: 222 Mbps
	Uplink (Cat 6):
	FDD: 50 Mbps
	TDD: 26 Mbps

Software

IPv6/4	Present
Operation Mode	Supports AP/ Bridge/ Client/ MESH modes
WMM	WIFI multimedia and 802.11e traffic prioritization
VPN	Multi-site VPN, Open VPN, L2TP over IPSec, IPSec, L2 over GRE, IPGRE and NAT
Firewall	DDoS, IP address filter / Mac address filter / TCP/UDP port number.
Load Balancing	5 schemes for multiple WAN

Basic

Fixed	All traffic will be distributed to a single WAN.
Failover	Routes connections through preferred WAN link while others stand-by. Sequentially activating another link if the preferred link fails.
Priority	Select the active WAN according to priority.
Weighted Round-Robin	Evenly distribute the traffic over all working WAN links in circular order according to the specified weights
Custom Route	Routing through the selected WAN for each specific

	traffic ex: TCP/UDP port number and IP address.
Security	WEP64/128bits/ WPA/ WPA-PSK (TKIP,AES)/ WPA2/ WPA2-PSK (TKIP,AES)/SSH/SSL/HTTPS
Roaming	Client-base roaming
MESH	Support 802.11s Wireless Mesh Network
Authentication	Radius Authentication, EAP-TLS, EAP-TTLS, PEAP; SSID broadcast disable supported
SSID	16 sets
Login Security	Supports IEEE802.1x Authentication/RADIUS
Access Security	HTTP/HTTPS/Telnet/SSH & Administration; SNMP v1/v2/v3 access for authentication via MD5/SHA(v3) and Encryption via DES/AES(v3)
Protocol	PPPoE Client, DHCP server/client, Adjustable MTU, Port forwarding (NAPT), DMZ; NAT, SNTP, Firewall(Firewall(DDoS/ IP address filter / Mac address filter / TCP/UDP port name),VRRP, DDNS
Routing	Static route / RIPv2 / OSPF / BGP / EIGRP
Protocol Gateway	Modbus on serial ports
Management	SNMP v1,v2c,v3/ Web/Telnet/CLI
Environmental Monitoring	System status for input voltage, current , ambient temperature to be shown in GUI and sent alerting if any abnormal status
Graphic signal display	Graphic WIFI & LTE signal strength & TX/RX rate display
Timer	Built-in Real Time Clock to keep track of time always(RTC)
Discovery	IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
SNMP trap	Device cold / warm start
	Port link up / link down
	DI/DO high / low
Remote Web control	To reboot or get status of router by Web UI
Captive portal	Editable captive portal login page
Maintenance	Firmware upgradeable through TFTP/ HTTP
Configuration backup & restore	Supports text configuration file for system quick installation
	USB port to upload/download firmware by USB dongle

Physical Ports & System

Connectors	10/100/1000T: 6x ports RJ 45 with 2 WAN ports and 4 PoE ports (PoE model)
	USB x 1
	RS-232 connector: 1 x RJ 45
	Serial connector : 2 DB9
	SIM card slots : 4(2L) or 2(1L)
	2L-1AC model
	SMA connector for LTE: 4 (female)
	SMA connector for GPS: 1 (female)
	RP-SMA connector for Wi-Fi: 2 (female)
	1L-2AC model
	SMA connector for LTE: 2 (female)
	SMA connector for GPS: 1 (female)
	RP-SMA connector for Wi-Fi: 4 (female)
	1L-1AC model
	SMA connector for LTE: 2 (female)
	SMA connector for GPS: 1 (female)
	RP-SMA connector for Wi-Fi: 3 (female)
	Power & P-Fail connector: 1 x 6-pole terminal block
	DIDO: 1 x 5-pole terminal block
Serial Baud Rate	1000Kbps high data rate,250kbps normal for RS232 ; 20Mbps high data rate,250kbps normal for RS422/RS485
Serial Data Bits	5, 6, 7, 8
Serial Parity	odd, even, none, mark, space
Serial Stop Bits	1, 1.5, 2
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+,Tx-, Rx+, Rx-,GND
RS-485 (2-wire)	Data+, Data-,GND
Isolation protection	Input power to I/O: 1.5KV isolation
	Input power to Ethernet 1.5KV isolation
	Input power to PoE port 1.5KV isolation (PoE model)
EMMC Storage**	8/16/32 GB
DI/DO	2 Digital Input (DI) :
	Level 0: -30~2V / Level 1: 10~30V
	Max. input current:8mA
	2 Digital Output(DO): Open collector to 40 VDC, 200mA

LED Indicators

System & Power	Per unit: Power 1 (Green), Power 2 (Green), P-Fail (Red) , Ring Master(Green), Storage(Green), Serial1/Serial2(Green) ,Ready(Green)
10/100/1000Base-	Link/Activity (Green), Speed (1000T: Yellow; 10/100TX: off), PoE (Green, PoE model)

T(X) port indicator	
SIM	Green for Link/Act
GPS	Green for Link/Act
Fault	Red: Ethernet link down or power down

Fault contact
Relay	Relay output to carry capacity of 1A at 24VDC

Power
Input power	Dual DC input, 9~56VDC (24V model)
PoE Budget (PoE model)	80W@12V/24V/48V
Power consumption (Typ.)	30.5W (1L1AC)

Physical Characteristic
Enclosure	IP30 Metal case
Dimension	74 (W) x 142 (D) x 152 (H) mm (1L-1AC model) 74 (W) x 142 (D) x 159 (H) mm (1L-2AC / 2L-1AC model)
Weight	900g

Environmental
Storage Temperature	-40ºC ~ 85ºC (-40ºF ~ 185ºF)
Operating Temperature	-40ºC ~ 65ºC (-4ºF ~ 149ºF)
Operating Humidity	5% to 95% Non-condensing

Regulatory approvals
Safety	EN 62368
EMC	FCC Part 15B Class A,

	EN 55032: 2015, EN 55024: 2010 IEC 61000-6-2, IEC 61000-6-4
EMS	IEC 61000-4-2 (ESD), IEC 61000-4-3 (RS), IEC 61000-4-4 (EFT), IEC 61000-4-5 (Surge), IEC 61000-4-6 (CS), IEC 61000-4-8 (PFMF)
Radio Frequency	EN 301 489-1, EN 301 489-17, EN 301 489-19, EN 301 489-52 EN 302 502, EN 301 893, EN 300 328, EN 301 908-1※, EN 303 413, EN 62311
Vehicle certificate	E13**
MTBF	1,361,618hrs (IEC-62380)
Warranty	5 years

*Future Release

**Optional

※Standard test of the following bands are not listed in EN 301 908-1 report:
(EUNA not listed bands) LTE = B2, B4, B5, B12, B13, B25, B26, B29, B30, B41
WCDMA = B2, B4, B5;

RF Performance Table

	Data Rate	TX Power (per chain)	TX Power (3 chains)	Tolerance	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11b	1Mbps	20dBm	25dBm	±2dB	-95dBm	±2dB
	2Mbps	20dBm	25dBm	±2dB	-94dBm	±2dB
	5.5Mbps	20dBm	25dBm	±2dB	-92dBm	±2dB
	11Mbps	20dBm	25dBm	±2dB	-90dBm	±2dB
2.4GHz 802.11g	6Mbps	21dBm	26dBm	±2dB	-94dBm	±2dB
	9Mbps	21dBm	26dBm	±2dB	-93dBm	±2dB
	12Mbps	21dBm	26dBm	±2dB	-93dBm	±2dB
	18Mbps	21dBm	26dBm	±2dB	-90dBm	±2dB
	24Mbps	21dBm	26dBm	±2dB	-90dBm	±2dB
	36Mbps	20dBm	25dBm	±2dB	-85dBm	±2dB
	48Mbps	19dBm	24dBm	±2dB	-82dBm	±2dB
	54Mbps	18dBm	23dBm	±2dB	-80dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	21dBm	26dBm	±2dB	-94dBm	±2dB
	MCS 1	21dBm	26dBm	±2dB	-92dBm	±2dB
	MCS 2	21dBm	26dBm	±2dB	-89dBm	±2dB
	MCS 3	20dBm	25dBm	±2dB	-84dBm	±2dB
	MCS 4	20dBm	25dBm	±2dB	-83dBm	±2dB
	MCS 5	20dBm	25dBm	±2dB	-80dBm	±2dB
	MCS 6	18dBm	23dBm	±2dB	-79dBm	±2dB
	MCS 7	16dBm	21dBm	±2dB	-77dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	20dBm	25dBm	±2dB	-93dBm	±2dB
	MCS 1	20dBm	25dBm	±2dB	-91dBm	±2dB
	MCS 2	20dBm	25dBm	±2dB	-89dBm	±2dB
	MCS 3	19dBm	24dBm	±2dB	-84dBm	±2dB
	MCS 4	19dBm	24dBm	±2dB	-82dBm	±2dB
	MCS 5	19dBm	24dBm	±2dB	-80dBm	±2dB
	MCS 6	18dBm	23dBm	±2dB	-79dBm	±2dB
	MCS 7	16dBm	21dBm	±2dB	-75dBm	±2dB

	Data Rate	TX Power (per chain)	TX Power (3 chains)	Tolerance	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	20dBm	25dBm	±2dB	-94dBm	±2dB
	9Mbps	20dBm	25dBm	±2dB	-94dBm	±2dB
	12Mbps	20dBm	25dBm	±2dB	-92dBm	±2dB
	18Mbps	20dBm	25dBm	±2dB	-91dBm	±2dB
	24Mbps	20dBm	25dBm	±2dB	-90dBm	±2dB
	36Mbps	18dBm	23dBm	±2dB	-86dBm	±2dB
	48Mbps	16dBm	21dBm	±2dB	-83dBm	±2dB
	54Mbps	15dBm	20dBm	±2dB	-80dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	19dBm	24dBm	±2dB	-93dBm	±2dB
	MCS 1	19dBm	24dBm	±2dB	-90dBm	±2dB
	MCS 2	19dBm	24dBm	±2dB	-87dBm	±2dB
	MCS 3	18dBm	23dBm	±2dB	-83dBm	±2dB
	MCS 4	18dBm	23dBm	±2dB	-80dBm	±2dB
	MCS 5	17dBm	22dBm	±2dB	-77dBm	±2dB
	MCS 6	16dBm	21dBm	±2dB	-74dBm	±2dB
	MCS 7	14dBm	19dBm	±2dB	-73dBm	±2dB
	MCS 8	13dBm	18dBm	±2dB	-71dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 0	18dBm	23dBm	±2dB	-90dBm	±2dB
	MCS 1	18dBm	23dBm	±2dB	-88dBm	±2dB
	MCS 2	18dBm	23dBm	±2dB	-85dBm	±2dB
	MCS 3	17dBm	22dBm	±2dB	-82dBm	±2dB
	MCS 4	17dBm	22dBm	±2dB	-80dBm	±2dB
	MCS 5	16dBm	21dBm	±2dB	-75dBm	±2dB
	MCS 6	15dBm	20dBm	±2dB	-73dBm	±2dB
	MCS 7	14dBm	19dBm	±2dB	-73dBm	±2dB
	MCS 8	13dBm	18dBm	±2dB	-70dBm	±2dB
	MCS 9	13dBm	18dBm	±2dB	-68dBm	±2dB
5GHz 802.11ac VHT80	MCS 0	18dBm	23dBm	±2dB	-89dBm	±2dB
	MCS 1	18dBm	23dBm	±2dB	-87dBm	±2dB
	MCS 2	18dBm	23dBm	±2dB	-85dBm	±2dB
	MCS 3	17dBm	22dBm	±2dB	-83dBm	±2dB
	MCS 4	17dBm	22dBm	±2dB	-80dBm	±2dB
	MCS 5	16dBm	21dBm	±2dB	-78dBm	±2dB
	MCS 6	15dBm	20dBm	±2dB	-75dBm	±2dB
	MCS 7	14dBm	19dBm	±2dB	-72dBm	±2dB
	MCS 8	13dBm	18dBm	±2dB	-70dBm	±2dB
	MCS 9	13dBm	18dBm	±2dB	-68dBm	±2dB

ORDERING INFORMATION

- **IPWMR-3004-2L-1AC-2S-24V-EUNA…..…………...………......P/N: 8663-011**
  Industrial Dual LTE (Quad SIM) One WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/ 2 RS232 serial ports and 4 Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C
- **IPWMR-3004-2L-1AC-2SA-24V-EUNA…..…………...………....P/N:8663-0111**
  Industrial Dual LTE (Quad SIM) One WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/2 RS422 serial ports and 4 Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C
- **IPWMR-3004-2L-1AC-2SB-24V-EUNA…..…………...………....P/N:8663-0112**
  Industrial Dual LTE (Quad SIM) One WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/2 RS485 serial ports and 4 Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C
- **IPWMR-3004-1L-1AC-2S-24V-EUNA…..…………...………......P/N: 8663-021**
  Industrial One LTE (Dual SIM) One WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/2 RS232 serial ports and 4 Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C
- **IPWMR-3004-1L-1AC-2SA-24V-EUNA…..…………...………....P/N:8663-0211**
  Industrial One LTE (Dual SIM) One WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/2 RS422 serial ports and 4 Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C
- **IPWMR-3004-1L-1AC-2SB-24V-EUNA…..…………...………....P/N:8663-0212**
  Industrial One LTE (Dual SIM) One WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/2 RS485 serial ports and 4 Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C
- **IPWMR-3004-1L-2AC-2S-24V-EUNA…..…………...………......P/N: 8663-031**
  Industrial One LTE (Dual SIM) Two WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/ 2 RS232 serial ports and 4

- **IPWMR-3004-1L-2AC-2SA-24V-EUNA**…....……….....….……..**P/N:8663-0311**
  Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C
  Industrial One LTE (Dual SIM) Two WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/2 RS422 serial ports and 4
  Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C

- **IPWMR-3004-1L-2AC-2SB-24V-EUNA**…....……….....….……..**P/N:8663-0312**
  Industrial One LTE (Dual SIM) Two WIFI 11ac/a/b/g/n Load Balancing AP VPN Mobile Router w/2 RS485 serial ports and 4
  Giga PoE at/af Switch + 2WAN ports; EU and US band; dual 9V~56VDC input; -40~65C

- **IWMR-3004-2L-1AC-2S-24V-EUNA**…....……….....….……..**P/N: 8620-011**
  Industrial Dual LTE (Quad SIM) One WIFI 11ac/a/b/g/n Load Balancing Multifunction Router w/ 2 RS232 serial ports and 4
  Giga Ethernet managed switch + 2WAN ports; EU and US band; dual input 9V~56VDC; -40~65C

- **IWMR-3004-2L-1AC-2SA-24V-EUNA**…....……….....….……..**P/N: 8620-0111**
  Industrial Dual LTE(Quad SIM) One WIFI 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS422 serial ports and 4 Giga
  Ethernet managed switch + 2WAN ports; EU and US band ; dual input 9V~56VDC; -40~65C

- **IWMR-3004-2L-1AC-2SB-24V-EUNA**…....……….....….……..**P/N: 8620-0112**
  Industrial Dual LTE(Quad SIM) One WIFI 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS485 serial ports and 4 Giga
  Ethernet managed switch + 2WAN ports; EU and US band ; dual input 9V~56VDC; -40~65C

- **IWMR-3004-1L-1AC-2S-24V-EUNA**…....……….....….……..**P/N: 8620-021**
  Industrial One LTE (Dual SIM) One WIFI 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS232 serial ports and 4 Giga
  Ethernet managed switch + 2WAN ports; EU and US band; dual input 9V~56VDC; -40~65C

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EMMC Flash Storage
- **8G**…....……….....….……...……….......…….....**P/N: 8850-113**
- **16G**…....……….....….……...……….......…….....**P/N: 8850-114**
- **32G**…....……….....….……...……………….......**P/N: 8850-115**

OPTIONAL ACCESSORIES

Management System

- **InstaAir**…....……….....….......**P/N: 9000-121**
  Cloud Based Fleet Management System for Routers

GPS Antenna

- **ANT12000001**   SMA GPS antenna, 28dB, 300m

Cellular Antenna

- **ANT11000041**   2G/3G/4G dipole antenna, 791-960/1710~2170/2500~2700MHz, 3dBi, SMA plug, EU

- **ANT11000042**   2G/3G/4G dipole antenna, 704-960/1710~2170MHz, 3dBi, SMA plug, US

■ **ANT11000046**   LTE hinge rotatable antenna, 698-960MHz, 1710-2690MHz, Diameter 10mm, Length 108mm, SMA Connector

Wi-Fi Antenna

■ **ANT11000051**   2.4/5GHz SMA dipole Wi-Fi antenna, 3dBi (2.4GHz), 4dBi (5GHz)

■ **ANT11000056**   Wi-Fi hinge rotatable antenna, WiFi Dual Bands 2.4/5.8GHz, SMA Connector

Antenna Base

■ **ADA11000052**   Magnetic antenna base for Wi-Fi, RP SMA Jack Base, Length : 1M

■ **ADA11000053**   Magnetic antenna base for 3G/4G, RP SMA Jack Base, Length : 1M

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