

# I(P)WAP-3004

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

- Up to 2 concurrent Wi-Fi 11ac and redundancy(2AC model)
- PoE model: Built-in 4 Gigabit PoE at/af Managed Switch with budget 80W@12V/24V/48V
- Managed Switch functions cover port management, QOS, VLAN, multicast, redundant ring and security function
- Dual radio for 802.11ac/a/b/g/n with concurrent 5GHz & 5GHz bands up to 2.6Gbps Wi-Fi bandwidth(2AC model)
- Wi-Fi radio for 802.11ac/a/b/g/n with 5GHz or 2.4GHz;
- Support Wi-Fi 802.11e traffic prioritization and WMM
- MIMO technology 3T3R up to 6 antenna(2AC); SMA type external antennas
- Support Client-base roaming
- Supports AP/ Bridge/Client/MESH modes
- 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
- Optional EMMC Flash storage on-board\*\*
- Load Balancing built-in 5 mechanism
- Support NAT and Firewall
- Support Modbus gateway on serial ports\*\*
- Dual input voltage selection 9~56VDC (24V model)
- Vehicle E-marking\*\* certificate
- Environmental monitoring for router inside info with voltage, current temperature and total PoE load; Wi-Fi graphic signal strength
- Editable login page of captive portal for hot-spot application
- USB port to backup, restore the configuration file and upgrade firmware; Dual image firmware



## OVERVIEW

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

### IEEE 802.11ac dual band radio up to 2.6Gbps bandwidth

With IEEE 802.11ac capability, I(P)WAP-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 802.11g/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.

### Support AP/Bridge/Client mode, Mesh roaming

I(P)WAP-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)WAP-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

#### **MIMO technology with 3T3R and SMA type connectors**

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

#### **Wireless WMM QoS**

I(P)WAP-3004 supports 802.11e standard which defines a set of Quality of Service for wireless LAN applications as well as WMM (Wi-Fi 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 threats. Lantech I(P)WAP-3004 support up to 16 SSIDs, each SSID has its independent security and encryption.

#### **Load Balancing with 5 mechanism for multi-WANs**

I(P)WAP-3004 supports Load Balancing for 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)WAP-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)WAP-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 (24V model); PoE model built-in 4 port PoE at/af with 80W@12V /24V/48V**

The I(P)WAP-3004 is able to work from 9VDC to 56VDC for 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 Wi-Fi 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\*\* alert when abnormal.

The graphic Wi-Fi 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 access 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 configuration and upgrade 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)WAP-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)WAP-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 WI-FI and E-marking\*\* certificate, the I(P)WAP-3004 is best for outdoor community, vehicle, process control automation etc application. For more usage flexibilities, I(P)WAP-3004 supports wide operating temperature from -20°C to 70°C or -40°C to 70°C(-E)

## FEATURES & BENEFITS

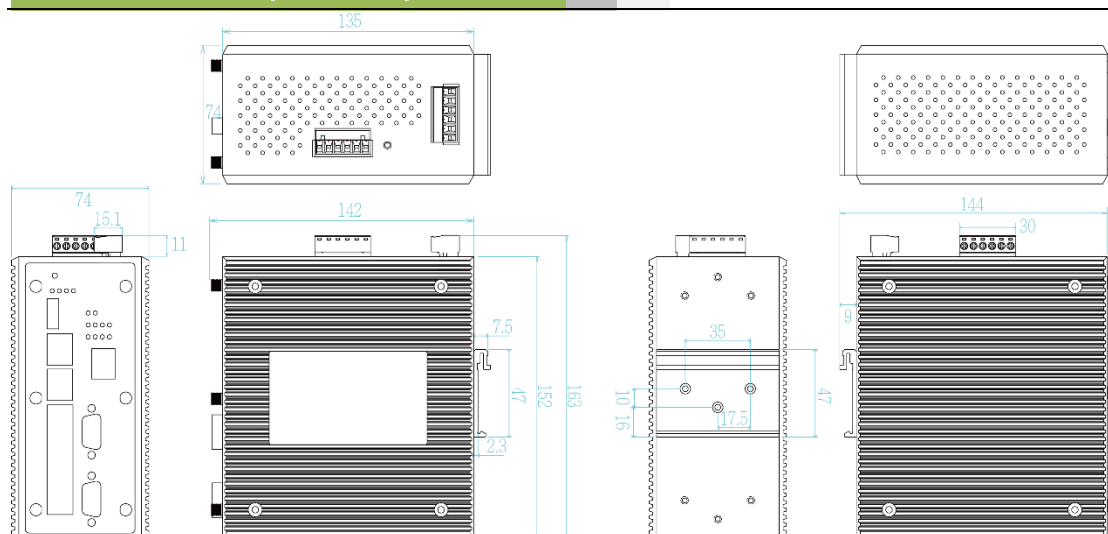
- **High Speed Air Connectivity: WLAN interface support up to 2.6Gbps link speed(2AC) or 1.3Gbps (1AC)**
- **Built-in 4 Gigabit (PoE) switch + 2 WAN port**
- **PoE model with 80W@12V /80W@24V&48V PoE budget**
- **EMMC-FLASH storage\*\*8/16/32G**
- **Dual band 2.4G and 5GHz with 802.11ac/a/b/g/n**
- **Support 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**
- **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**

- **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 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.

- **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 Wi-Fi 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 configuration 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 -20~70C or -40°C to 70°C (-E)**

## DIMENSIONS (unit=mm)



## SPECIFICATION

WLAN Interface	
Radio Frequency Type	DSSS, OFDM
Wireless Standard	IEEE 802.11ac/n/a 5GHz IEEE 802.11b/g/n 2.4GHz
Wireless bandwidth	5GHz: Up to 1300Mbps 2.4GHz: Up to 450Mbps
Modulation	<b>802.11b: DSSS</b> <b>802.11a/g:</b> OFDM (BPSK, QPSK, 16-QAM, 64-QAM) <b>802.11n:</b> OFDM (BPSK, QPSK, 16-QAM, 64-QAM) <b>802.11ac:</b> OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)
Operating Frequency	IEEE 802.11 a/b/g/n ISM Band, 2.412GHz~2.472GHz, 5150MHz~5850MHz
Transmission Rate	IEEE802.11ac: up to 1300Mbps IEEE802.11b: 1 / 2 / 5.5 / 11 Mbps IEEE802.11a/g: 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps IEEE802.11n: up to 450Mbps
IEEE 802.11b/g/n(2.4Gbps)	<b>Output Power Tx +/- 2dB(per chain)</b> 18dBm @ 1~11Mbps 18dBm @ 6~54Mbps 20/20dBm @ MCS0~MCS7 (HT20/40) <b>Receiver Sensitivity Rx +/- 2dB</b> ≤ -95dBm @ 1~11Mbps ≤ -92dBm @ 6~18Mbps ≤ -88dBm @ 24Mbps ≤ -85dBm @ 36Mbps ≤ -81dBm @ 48Mbps ≤ -80dBm @ 54Mbps ≤ -94dBm @ MCS0 (HT20/40) ≤ -76dBm @ MCS7 (HT20/40)
IEEE 802.11a/n/ac(5Gbps)	<b>Output Power Tx +/- 2dB(per chain)</b> 20dBm @ 6~24Mbps 16dBm @ 36~54Mbps 19/18dBm @ MCS0 (HT20/40) 16/16dBm @ MCS7 (HT20/40) 19/18/18dBm @ MCS0 (VHT20/40/80) 13/13/13dBm @ MCS8 (VHT20/40/80) 13/13dBm @ MCS9 (VHT40/80) <b>Receiver Sensitivity Rx +/- 2dB</b> ≤ -92dBm @ 6~18Mbps
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, PEAP
Wireless Security	SSID broadcast disable
Software	
IPv6/4	Present
Operation Mode	AP/Bridge/Client/MESH mode
WMM	Wi-Fi 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	8 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)		Max. input current:8mA 2 Digital Output(DO): Open collector to 40 VDC, 200mA
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	<b>LED Indicators</b>	
Routing	Static route / RIPv2 / OSPF / BGP / EIGRP	System & Power	Per unit: Power 1 (Green), Power 2 (Green), P-Fail (Red) , Ring Master(Green), Storage(Green), Serial1/Serial2(Green) ,Ready(Green)
Protocol Gateway	Modbus on serial ports**	10/100/1000Base-T(X) port indicator	Link/Activity (Green), Speed (1000T: Yellow; 10/100TX: off), PoE (Green, PoE model)
Management	SNMP v1,v2c,v3/ Web/Telnet/CLI	Fault	Red: Ethernet link down or power down
Environmental Monitoring	System status for input voltage, current , ambient temperature to be shown in GUI and sent alerting if any abnormal status	<b>Fault contact</b>	
Graphic signal display	Graphic WI-FI signal strength	Relay	Relay output to carry capacity of 1A at 24VDC
Timer	Built-in Real Time Clock to keep track of time always(RTC)	<b>Power</b>	
Discovery	IEEE 802.1ab Link Layer Discovery Protocol (LLDP)	Input power	Dual DC input, 9~56VDC (24V model)
SNMP trap	Device cold / warm start Port link up / link down DI/DO high / low	PoE Budget (PoE model)	80W@12V/24V/48V
Remote Web control	To reboot or get status of router by Web UI	Power consumption (Typ.)	30.5W (1L1AC)
Captive portal	Editable captive portal login page	<b>Physical Characteristic</b>	
Maintenance	Firmware upgradeable through TFTP/HTTP	Enclosure	IP 30 Metal case
Configuration backup & restore	Supports text configuration file for system quick installation USB port to upload/download configuration by USB dongle	Dimension	74 (W) x 142 (D) x 152 (H) mm
<b>Physical Ports &amp; System</b>		Weight	900g
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 RP-SMA connector for Wi-Fi 2AC: 6 (female) RP-SMA connector for Wi-Fi 1AC: 3 (female) Power & P-Fail connector: 1 x 6-pole terminal block DIDO: 1 x 5-pole terminal block	<b>Environmental</b>	
Serial Baud Rate	1000Kbps high data rate, 250kbps normal for RS232 ; 20Mbps high data rate, 250kbps normal for RS422/RS485	Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Serial Data Bits	5, 6, 7, 8	Operating Temperature	-20°C ~ 70°C (-4°F ~ 158°F) -40°C ~ 70°C (-40°F ~ 158°F) –E model
Serial Parity	odd, even, none, mark, space	Operating Humidity	5% to 95% Non-condensing
Serial Stop Bits	1, 1.5, 2	<b>Regulatory approvals</b>	
RS-232	TxD, Rx D, RTS, CTS, DTR, DSR, DCD, GND	Safety	EN 62368
RS-422	Tx+,Tx-, Rx+, Rx-,GND	EMC	FCC Part 15B Class A, EN 55032: 2015, EN 55024: 2010 IEC 61000-6-2, IEC 61000-6-4
RS-485 (2-wire)	Data+, Data-,GND	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)
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)	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 62311
EMMC Storage**	8/16/32 GB	Vehicle certificate	E13**
DI/DO	2 Digital Input (DI) : Level 0: -30~2V / Level 1: 10~30V	MTBF	NA
		Warranty	5 years

\*Future Release

\*\*Optional

## 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
5GHz 802.11n/ac VHT40	MCS 8	13dBm	18dBm	±2dB	-71dBm	±2dB
	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
5GHz 802.11n/ac VHT80	MCS 7	14dBm	19dBm	±2dB	-73dBm	±2dB
	MCS 8	13dBm	18dBm	±2dB	-70dBm	±2dB
	MCS 9	13dBm	18dBm	±2dB	-68dBm	±2dB
	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
5GHz 802.11ac VHT80	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

For -40~70C operational temperature model, the model name will add -E

- **IPWAP-3004-1AC-24V.....P/N: 8665-017**  
One WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router + 4 Giga PoE at/af Managed Switch + 2WAN ports; dual input 9V~56VDC; -20°C ~ 70°C
  - **IPWAP-3004-2AC-24V.....P/N: 8665-018**  
Two WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router + 4 Giga PoE at/af Managed Switch + 2WAN ports; dual input 9V~56VDC; -20°C ~ 70°C
  - **IPWAP-3004-1AC-2S-24V.....P/N: 8665-011**  
One WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/ 2 RS232 serial ports and 4 Giga PoE at/af Managed Switch + 2WAN ports; dual input 9V~56VDC; -20°C ~ 70°C
  - **IPWAP-3004-1AC-2SA-24V.....P/N: 8665-012**  
One WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS422 serial ports and Giga ports 6incl. 4 PoE at/af ports + 2WAN ports Managed switch; dual input 9V~56VDC; -20°C ~ 70°C
  - **IPWAP-3004-1AC-2SB-24V.....P/N: 8665-015**  
One WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS485 serial ports and Giga ports 6incl. 4 PoE at/af ports + 2WAN ports Managed switch; dual input 9V~56VDC; -20°C ~ 70°C
  - **IPWAP-3004-2AC-2S-24V.....P/N: 8665-013**  
Two WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/ 2 RS232 serial ports and 4 Giga PoE at/af Managed Switch + 2WAN ports; dual input 9V~56VDC; -20°C ~ 70°C
  - **IPWAP-3004-2AC-2SA-24V.....P/N: 8665-014**  
Two WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS422 serial ports and 4 Giga PoE at/af Managed Switch + 2WAN ports; dual input 9V~56VDC; -20°C ~ 70°C
  - **IPWAP-3004-2AC-2SB-24V.....P/N: 8665-016**  
Two WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS485 serial ports and 4 Giga PoE at/af Managed Switch + 2WAN ports; dual input 9V~56VDC; -20°C ~ 70°C
  - **IWAP-3004-1AC-24V.....P/N: 8662-024**  
One WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router and 4 Giga Ethernet Managed switch + 2WAN ports; dual input 9V~56VDC; -20~70C
  - **IWAP-3004-1AC-2S-24V.....P/N: 8662-011**  
One WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/ 2 RS232 serial ports and 4 Giga Ethernet Managed switch + 2WAN ports; dual input 9V~56VDC; -20~70C
  - **IWAP-3004-1AC-2SA-24V.....P/N: 8662-012**  
One WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS422 serial ports and 4 Giga Ethernet Managed switch + 2WAN ports; dual input 9V~56VDC; -20~70C
  - **IWAP-3004-1AC-2SB-24V.....P/N: 8662-019**  
One WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS485 serial ports and 4 Giga Ethernet Managed switch + 2WAN ports; dual input 9V~56VDC; -20~70C
  - **IWAP-3004-2AC-24V.....P/N: 8662-025**  
Two WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router and 4 Giga Ethernet Managed switch + 2WAN ports; dual input 9V~56VDC; -20~70C
  - **IWAP-3004-2AC-2S-24V.....P/N: 8662-013**  
Two WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/ 2 RS232 serial ports and 4 Giga Ethernet Managed switch + 2WAN ports; dual input 9V~56VDC; -20~70C
  - **IWAP-3004-2AC-2SA-24V.....P/N: 8662-014**  
Two WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS422 serial ports and 4 Giga Ethernet Managed switch + 2WAN ports; dual input 9V~56VDC; -20~70C
  - **IWAP-3004-2AC-2SB-24V.....P/N: 8662-020**  
Two WI-Fi 11ac/a/b/g/n Load Balancing Multifunction Router w/2 RS485 serial ports and 4 Giga Ethernet Managed switch + 2WAN ports; dual input 9V~56VDC; -20~70C
- 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

## 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



## Lantech Communications Global Inc.

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