

# Dual Band Wireless Embedded Board

Model: WPJ531

Revision: 1.02 IL  
Date: 2015,03,31

## Features

- CompexWRT and OpenWRT firmware supported
- Qualcomm-Atheros 650MHz Networking Processor AR9531
- Dual Radio Solution (one on-board radio and one miniPCIe slot that supports all Compex 802.11ac/abgn WLE series)
- Integrated Power-over-Ethernet
- Support 2 x FE Port

## Applications

- Dual Band, Dual Concurrent AP
- 802.11a/n+802.11b/g/n AP
- 802.11ac+802.11b/g/n AP
- Point to Point / Point to MultiPoint
- Base Station
- CPE
- Support Third Party 3G/LTE Module and SIM holder(optional<sup>1</sup>)

## Technical Specifications

System Information						
<b>Processor</b>		Qualcomm-Atheros AR9531				
<b>System Memory</b>		64MB DDR2				
<b>NOR Flash</b>		16MB				
<b>PCIe Slot</b>		9.2mm height miniPCIe slot				
<b>Antenna Connector</b>		2 x U.F L				
<b>Extras</b>		Serial Port <sup>3</sup> , JTAG <sup>4</sup> , Reset Button, Surge Arrestor, Watchdog Timer				
<b>Power Solutions</b>	Low voltage	DC Jack Input: 9 -24V, Passive PoE: 24V				
	High voltage	IEEE 802.3af module(Optional) <sup>5</sup> ,DC Jack input:36-48V, Passive PoE:48v, compatible with802.3af/802.3at PoE switches and injectors				
<b>ROHS Compliance</b>		Yes				
<b>Humidity</b>		Operating: 5% to 95% (non-condensing) Storage: Max.90% (non-condensing)				
<b>Temperature Range</b>		Operating: -20°C to 70°C Storage: -40°C to 90°C				
<b>Dimension</b>		117 x 105 x 17 (mm)				
<b>2.4G On-board Radio</b>	<b>Transmit Power</b>	Data Rate		2.4GHz (aggregate)		
		6M		26dBm		
		54M		20dBm		
		HT20 MCS0		25dBm		
		HT20 MCS7		20dBm		
		HT40 MCS0		24dBm		
		HT40 MCS7		20dBm		
	<b>Receiver Sensitivity</b>	Data Rate				
		6Mbps		-90dBm		
		54Mbps		-75dBm		
		HT20 MCS0		-90dBm		
		HT20 MCS7		-72dBm		
		HT40 MCS0		-88dBm		
		HT40 MCS7		-70dBm		
<b>Max of concurrent associations</b>	Encryption	Client Latency	TCP [each client upload and download randomly from 384Kbps to 768Kbps]		UDP [each client upload and download 2Mbps]	
	WPA2-PSK	<100ms	Single radio	Dual radio	Single radio	Dual radio
			40 clients	70clients (35 per radio)	20 clients	30clients (15 per radio)

1 miniPCIe slot with USB Co-layout,can support SIM holder

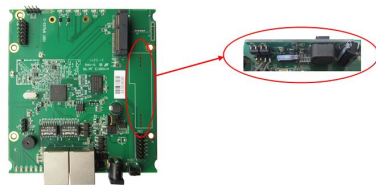
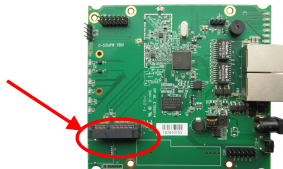
2 Depends on ordering configuration

3 Serial Port is a 4-pin header (TTL) + Serial Converter is available to change the TTL signals on board to RS232 signals for debugging.Configurations are subject to change without notification








4 JTAG Port is a 14-pin header + JTAG kit is for writing your own developed loader and firmware directly

5 This is a factory option to turn WPJ531LV to WPJ531HV, It is compatible with 802.3af/802.3at PoE switches and injectors

## Optional configuration

IEEE 802.3af module (P-3AF-M-6A01-SPL)	<p>IEEE 802.3af module</p> 	<p>This is a factory option to turn WPJ342LV to WPJ342HV, It is compatible with .3af/.3at PoE switches and injectors. (DC Jack:24-48V, Passive PoE:24-48v, 802.3af/at PoE)</p>
3G/LTE Module		<p>PCIe slot can Support mini PCIe radio or Third Party 3G/LTE Module</p>

## Related Products

802.11ac/an 5GHz miniPCIe				Passive injector/PoE Plus	
Model	WLE600VX 	WLE600VX-itemp 	WLE200N5-23 	<p>POE Plus</p>  <p>- Output Voltage: 24VDC - Max Output Watts: 12W</p>	<p>PoE2405</p>  <p>- Output Voltage: 24VDC - Max Output Watts: 12W</p>
Max data rate	876Mbps	867Mbps	300Mbps		
Model	WLE900VX 	WLE900VX-itemp 			
Max data rate	1.3Gbps	1.3Gbps			

## Complex embedded board extended applications list

Model	Extended applications			
	USB signal	USB External board (USB HUB BOARD-1.00-ST)	802.3af PoE pass-thru	802.3af PoE power supply
WPJ344	Support 1× USB 2.0 port	support 3 x USB 2.0 ports and 1 x miniPCIe-based USB 2.0 only interface	Optional (PSE pass-thru module)	support
WPJ558	Support 1× USB 2.0 port or PCIe slot Support Third Party 3G/LTE Module	support 3 x USB 2.0 ports and 1 x miniPCIe-based USB 2.0 only interface		support
WPJ342	Support 1× USB 2.0 port or PCIe slot Support Third Party 3G/LTE Module			Optional (802.3af module)
WPJ531	Support 1× USB 2.0 port or PCIe slot Support Third Party 3G/LTE Module			Optional (802.3af module)
WP546	Support 2× USB 2.0 port		Optional (PSE pass-thru module)	support
WP543	Support 2× USB 2.0 port			support