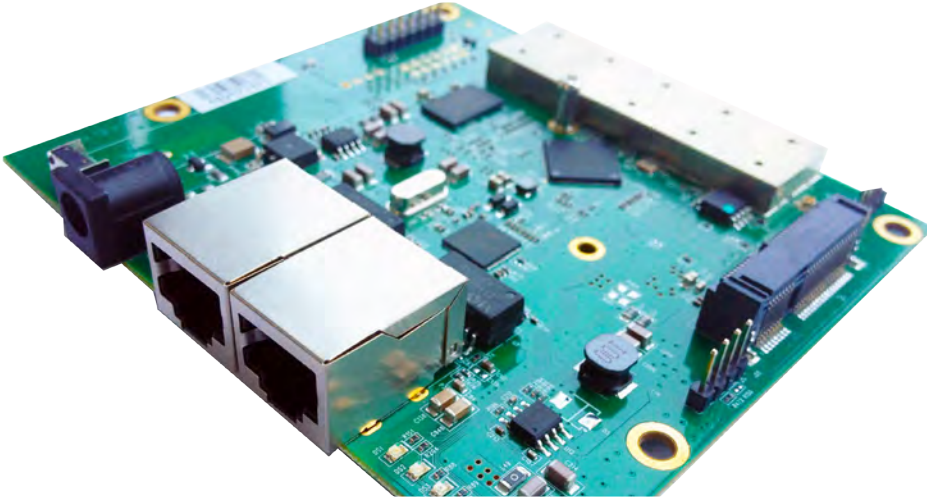# Wireless Embedded Boards

Cost Effective Solutions

THE WPJ342

WPJ342 is a capable and reliable wireless embedded board based on the Qualcomm Atheros AR9342 CPU. It features a 560MHz network processor and integrates a 2x2 internal on-board radio and 1 miniPCIe slot that supports 802.11n radio. Embedded with 64MB memory and 16MB Flash, WPJ342 provides the ideal platform for any applications. WPJ342 has integrated Power over Ethernet (PoE) features that allows WPJ342 to be used in areas where power outlets are not readily available.
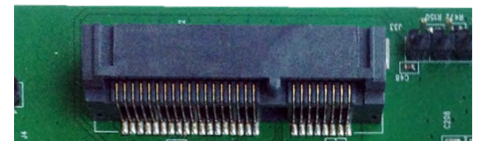
560Mhz CPU
Powered by Qualcomm Atheros AR9342 Wireless System on Chip (WiSoC)
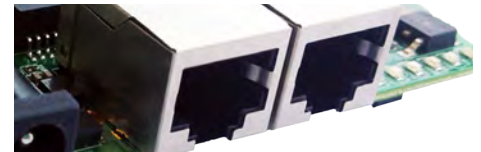
5Ghz 2x2 802.11n
WPJ342 features on-board single band 2x2 5Ghz 802.11n Wireless with speeds up to 300Mbps

MiniPCI-e Slot
Further expansion of Wireless Capabilities with the MiniPCI-e Slot, also support Cellular Card*

Dual 10/100 LAN
With Dual on-board FE or 10/100 RJ45 LAN Ports, allowing a WAN & LAN configuration or Dual LAN as well.

24V Passive PoE
WPJ342 support 24V Passive Power over Ethernet

Technical Specifications

Processor	Qualcomm-Atheros AR9342	**On-board Wireless**	2 x 2 MIMO 802.11n
System Memory	64MB DDR2	**Operating Frequency**	5.180 - 5.825Ghz
NOR Flash	16MB	**Maximum Wireless Speed**	300Mbps
PCIe Slot	9.2m height minPCIe slot	**On-board Radio Power**	26dBm (aggregate)
Ethernet	2 x FE Port with Auto MDI/X	**On-board Radio Antenna Connector**	2 x U.F L
Extras	LED Pins, Serial Port, JTAG, Reset Button, Surge Arrestor, Watchdog Timer		
Power	DC Jack & Passive PoE or IEEE 802.3af*		
Power Consumption	5.5W		
RoHS Compliance	Yes		
Humidity	Operating: 5% to 95%		
Temperature Range	Operating: -20ºC to 70ºC Storage: -40ºC to 90ºC		
Dimension	95 x 105 x 18mm (W x D x H)		
Firmware	CompexWRT or OpenWRT		

*802.3af only available on WP342HV models

SIM Enabled PIN
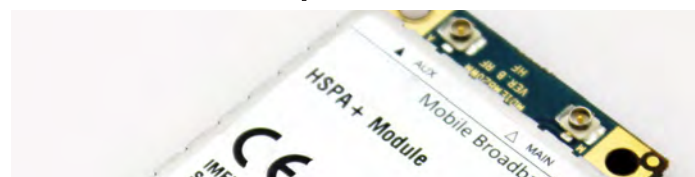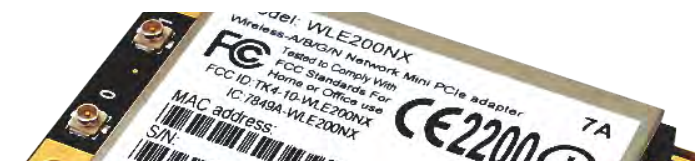With a On-board allowing a SIM card slot further expanding its usage beyond its 802.11n capabilities

Buzzer & LED Pin
Monitor WPJ342 performance and development with the on-board buzzer and 4 LED Pins.

Cost Effective Solutions

WPJ342 EXPANSIONS

MINIPCI-E SLOT X 1

Add 3G/4G Radio

WPJ342 support third-party 3G/4G miniPCI-e Radio Modules for Effective Machine to Machine (M2M) communication to widen your network with ease.

Upgrade to 802.3af

WPJ342 is available with either Passive PoE or IEE 802.3af Support

Default Passive PoE Model:
- **WPJ342LV**
- DC Jack 12 - 24V
- 24V Passive Power Over Ethernet

IEE 802.3af Model:
- **WPJ342HV**
- DC Jack 24 - 48V
- IEE 802.3af PoE
- 24V Passive PoE

Add Wireless Radio

WPJ342 support Compex 802.11n miniPCI-e Radio Modules to enable Dual Band support.

WPJ342 BOARD DIMENSIONS

Item Code	Width	Depth	Height
WPJ342LV 7A5PCW164AR-BP	105 mm	95 mm	13.5 mm
WPJ342HV 7A5PCW164AR-BP	105 mm	95 mm	16 mm

WPJ342 EXTERNAL WIRELESS MODULE COMPATIBILITY

Model	Wireless Band	Operating Frequency	Channels	Connector
Compex WLE200NX	802.11a/b/g/n	2.4Ghz / 5Ghz	2 x 2 MIMO	2 x U.FL
Compex WLE350NX	802.11a/b/g/n	2.4Ghz / 5Ghz	3 x3 MIMO	3 x U.FL
Compex WLE200N2-23	802.11b/g/n	2.4Ghz	2 x 2 MIMO	2 x U.FL
Compex WLE250NX	802.11a/b/g/n	2.4Ghz / 5Ghz	2 x 2 MIMO	2 x U.FL

WPJ342 ORDERING INFORMATION

Item Code	Firmware	Processor	Power Solutions	NOR Flash	Memory
WPJ342LV 7A5PCW164AR-BP	CompexWRT	AR9342	DC Jack 12 - 24V + 24V Passive PoE	16MB	64MB
WPJ342HV 7A5PCW164AR-BP	CompexWRT	AR9342	DC Jack 24 - 48V + PoE 802.3af/at	16MB	64MB

WPJ342 PACKAGING INFORMATION

Carton Dimension	Dimension	Weight	Dimensional Weight
Packaging Box (50pcs)	871 x 320 x 190mm	6.135kg	11kg

Cost Effective Solutions

THE WPJ531

2.4Ghz 2x2 802.11n

WPJ531 features on-board single band 2x2 2.4Ghz 802.11n Wireless with speeds up to 300Mbps

650Mhz CPU

Powered by Qualcomm Atheros AR9531 Wireless System on Chip (WiSoC)

MiniPCI-e Slot

Further expansion of Wireless Capabilities with the MiniPCI-e Slot, also support Cellular Card

Dual 10/100 LAN

With Dual on-board FE or 10/100 RJ45 LAN Ports, allowing a WAN & LAN configuration or Dual LAN as well.
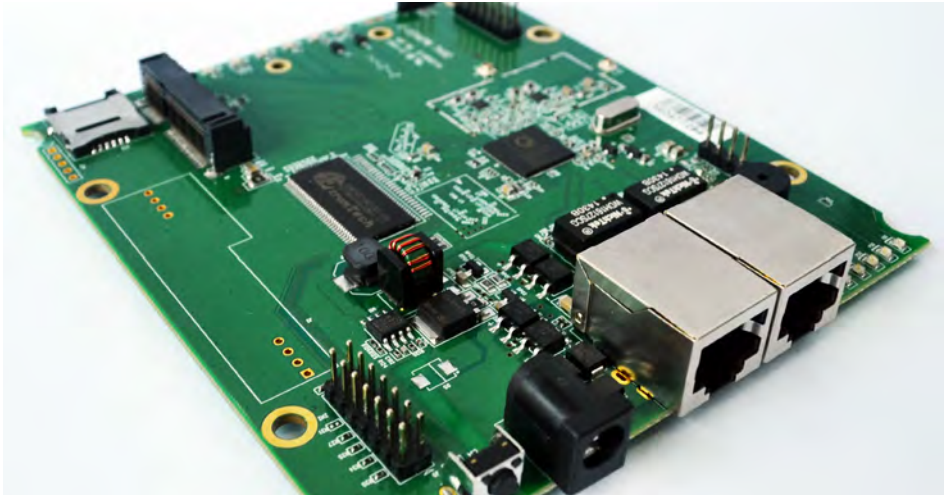
24V Passive PoE

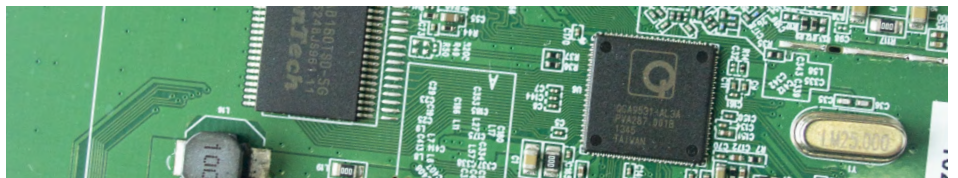WPJ531 support 24V Passive Power over Ethernet along with an integrated DC Jack.

SIM Enabled PIN

With a On-board allowing a SIM card slot further expanding its usage beyond its 802.11n capabilities

WPJ531 is a reliable and dynamic wireless embedded board based on the Atheros AR9531 CPU. It features a 550MHz network processor and integrates a 2.4Ghz 2x2 internal on-board radio and 1 miniPCIe slot that supports 802.11n radio. Embedded with 64MB memory and 8MB Flash, WPJ531 provides the ideal platform for any applications. WPJ531 has integrated Power over Ethernet (PoE) features that allows WPJ531 to be used in areas where power outlets are not readily available.

Technical Specifications

Processor	Qualcomm-Atheros AR9342	Temperature Range	Operating: -20ºC to 70ºC Storage: -40ºC to 90ºC
System Memory	64MB DDR2	Dimension	117 x 105 x 17mm (W x D x H)
NOR Flash	8MB (Upgradeable to 16MB)	Extras	LED Pin, Serial Port, JTAG, Reset Button, Surge Arrestor, Watchdog Timer
PCIe Slot	9.2m height minPCIe slot		
Ethernet	2 x FE Port with Auto MDI/X		
Power	DC Jack & Passive PoE or IEEE 802.3af*	Firmware	CompexWRT or OpenWRT
Power Consumption	TBC	On-board Wireless	2 x 2 MIMO 802.11n
RoHS Compliance	Yes	Operating Frequency	2.4Ghz
Humidity	Operating: 5% to 95% Storage: Up to 90%	Maximum Wireless Speed	300Mbps
		On-board Radio Power	26dBm (aggregate)
		On-board Radio Antenna Connector	2 x U.F L

*802.3af only available on WP531HV models

Buzzer & LED Pin

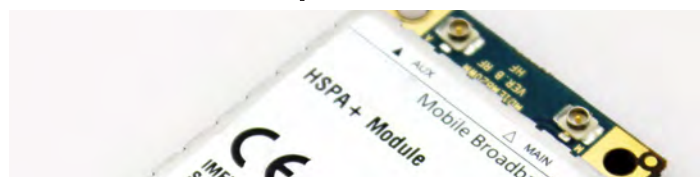Monitor WPJ531 performance and development with the on-board buzzer and 4 LED Pin.

Cost Effective Solutions

WPJ531 EXPANSIONS

MINIPCI-E SLOT X 1

Add 3G/4G Radio

WPJ531 support third-party 3G/4G miniPCI-e Radio Modules for Effective Machine to Machine (M2M) communication to widen your network with ease.

Add Wireless Radio

WPJ531 support Compex 802.11n miniPCI-e Radio Modules to enable Dual Band support.

Upgrade to 802.3af

WPJ531 is available with either Passive PoE or IEE 802.3af Support

Default Passive PoE Model:
- **WPJ531LV**
- DC Jack 12 - 24V
- 24V Passive Power Over Ethernet

IEE 802.3af Model:
- **WPJ531HV**
- DC Jack 24 - 48V
- IEE 802.3af PoE
- 24V Passive PoE

WPJ531 BOARD DIMENSIONS

Item Code	Width	Depth	Height
WPJ531LV	105 mm	95 mm	17 mm
WPJ531HV	105 mm	95 mm	17 mm

WPJ531 EXTERNAL WIRELESS MODULE COMPATIBILITY

Model	Wireless Band	Operating Frequency	Channels	Connector
Compex WLE200NX	802.11a/b/g/n	2.4Ghz / 5Ghz	2 x 2 MIMO	2 x U.FL
Compex WLE350NX	802.11a/b/g/n	2.4Ghz / 5Ghz	3 x3 MIMO	3 x U.FL
Compex WLE200N2-23	802.11b/g/n	2.4Ghz	2 x 2 MIMO	2 x U.FL
Compex WLE250NX	802.11a/b/g/n	2.4Ghz / 5Ghz	2 x 2 MIMO	2 x U.FL

WPJ531 ORDERING INFORMATION

Item Code	Firmware	Processor	Power Solutions	NOR Flash	Memory
WPJ531LV	CompexWRT	QCA9531	DC Jack 12 - 24V + 24V Passive PoE	64MB	16MB
WPJ531HV	CompexWRT	QCA9531	DC Jack 24 - 48V + PoE 802.3af/at	64MB	16MB

WPJ531 PACKAGING INFORMATION

Carton Dimension	Dimension	Weight	Dimensional Weight
Packaging Box (50pcs)	871 x 320 x 190mm	6.135kg	11kg

Mainstream Solutions

THE WPJ344

WPJ344 is a powerful and robust enterprise grade wireless embedded board based on the Qualcomm Atheros AR9344 CPU. It features a MIP32 74K 533MHz network processor and integrates a 23dbm 2.4Ghz 2x2 on-board radio and 1 miniPCIe slot that supports high powered 3x3 radio or 802.11ac radio. Embedded with 128MB memory and 16MB Flash, WPJ344 is able to provides the efficiency and power required for any suitable applications. WPJ344 on-board 2x Gigabit LAN has integrated IEEE 802.3af/at Power over Ethernet (PoE) feature that can be powered by any Industry standard IEEE 802.3af/at PoE Switch

74k 533Mhz CPU

Powered by Qualcomm Atheros AR9344 Premium Wireless System on Chip (WiSoC) based on a the MIPS32 74K architecture

2.4Ghz 2x2 802.11n

WPJ344 features on-board single band 2x2 2.4Ghz 802.11n Wireless with speeds up to 300Mbps

128MB + 16MB Flash

With 128MB NOR Memory available on-board paired with the 16MB Flash allows wide range of applications for development

MiniPCI-e Slot

Further expansion of Wireless Capabilities with the MiniPCI-e Slot, also support Cellular Card*

Dual Gigabit LAN

With Dual on-board GE or 10/100/1000 RJ45 LAN Ports, allowing a WAN & LAN configuration or Dual LAN as well.

IEEE 802.3af/at

WPJ344 support IEEE 802.3af/at Industry standard Power over Ethernet up to 56V

Technical Specifications

Processor	Qualcomm-Atheros AR9344		Firmware	CompexWRT or OpenWRT
System Memory	128MB DDR2		On-board Wireless	2 x 2 MIMO 802.11n
NOR Flash	16MB		Operating Frequency	2.4Ghz
PCIe Slot	9.2m height minPCIe slot		Maximum Wireless Speed	300Mbps
Ethernet	2 x GE Port with Auto MDI/X		On-board Radio Power	26dBm (aggregate)
Power	DC Jack & Passive PoE or IEEE 802.3af/at*		On-board Radio Antenna Connector	2 x U.F L
Power Consumption	7.2W			
RoHS Compliance	Yes			
Humidity	Operating: 5% to 95% Storage: Up to 90%			
Temperature Range	Operating: -20ºC to 70ºC Storage: -40ºC to 90ºC			
Dimension	95 x 105 x 18mm (W x D x H)			
Extras	LED Pins, Serial Port, JTAG, Reset Button, Surge Arrestor, Watchdog Timer			

*802.3af/at only available on WP344HV models

Buzzer & LED Pin

Monitor WPJ344 performance and development with the on-board buzzer and LED Pin

Mainstream Solutions

WPJ344 EXPANSION

Passive PoE Model

WPJ344 is available with integrated IEEE 802.3af and 802.3at Support or 24V Passive PoE

IEEE 802.3af/at Model:
- **WPJ344HV-PB2***
- DC Jack 24 - 56V
- 24V Passive PoE
- IEEE 802.3af/at PoE

24V Passive PoE Model:
- **WPJ344HV-PB1***
- DC Jack 12 - 24V
- 24V Passive Power Over Ethernet

*Configuration between both modes are toggled by a Jumper on theboard
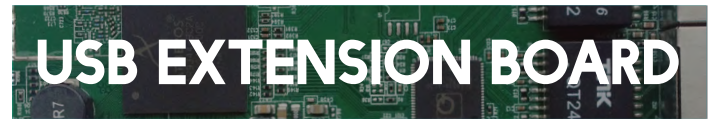
PoE Passthrough

WPJ344 support an additional PSE Module Upgrade to allow the secondary on-board Ethernet port to provide **Power** to a secondary PoE Device (e.g IP Camera) Provide 48V at 420mAh of Power. Part no: P-PSE-M-6A03-SPL

MINIPCI-E SLOT X 1

Add 802.11ac Radio

WPJ344 support a whole range of Compex 802.11ac miniPCI-e Radio Modules to enable Dual Band 11ac support for speeds up to 1300Mbps.

USB EXTENSION BOARD

3x USB + 1x MiniPCI-e

WPJ344 support an USB Extension board that provide additional 3x USB2.0 Ports and 1x MiniPCI-e slot, such as 3G/4G Radio Module. Part no: USB HUB BOARD-1.00-ST

WPJ344 BOARD DIMENSIONS

Item Code	Width	Depth	Height
WPJ344HV 6A06PCW16FBR-BP1	105 mm	117 mm	17 mm
WPJ344HV 6A06PCW16FBR-BP2	105 mm	117 mm	17 mm

WPJ344 EXTERNAL WIRELESS MODULE COMPATIBILITY

Model	Wireless Band	Operating Frequency	Channels	Connector
Compex WLE900VX	802.11a/b/g/n/ac	2.4Ghz or 5Ghz	3 x 3 MIMO	3 x U.FL
Compex WLE600V5-27	802.11a/n/ac	5Ghz	2 x 2 MIMO	2 x MMCX
Compex WLE6900V5-27	802.11a/n/ac	5Ghz	3 x 3 MIMO	2 x MMCX

WPJ344 ORDERING INFORMATION

Item Code	Firmware	Jumper Position	Power Solutions	NOR Flash	Memory
WPJ344HV 6A06PCW16FBR-BP1	CompexWRT	J11 / J17	DC Jack 12 - 24V + 24V Passive PoE	16MB	128MB
WPJ344HV 6A06PCW16FBR-BP2	CompexWRT	J15 / J16	DC Jack 24 - 48V + PoE 802.3af/at		
USB HUB BOARD-1.00-ST	USB Extension Board Add-on				
P-PSE-M-6A03-SPL	PoE Passthrough PSE Module Add-on				

WPJ344 PACKAGING INFORMATION

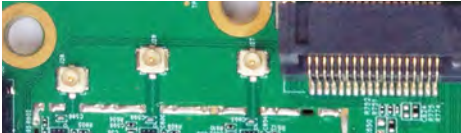| Carton Dimension	Dimension	Weight	Dimensional Weight
Packaging Box (50pcs)	871 x 320 x 190mm	7.28kg	11kg

★ Premium Solutions

THE WPJ558

74k 700Mhz CPU

Powered by High powered Qualcomm Atheros AR9558 Premium Wireless System on Chip (WiSoC) based on a the MIPS32 74K architecture

450Mbps 802.11n

WPJ558 features on-board single band 3x3 MIMO 2.4Ghz 802.11n Wireless with speeds up to 450Mbps

128MB + 16MB Flash

With 128MB NOR Memory available on-board paired with the 16MB Flash allows wide range of applications for development

MiniPCI-e Slot

Further expansion of Wireless Capabilities with the MiniPCI-e Slot, also support Cellular Card*
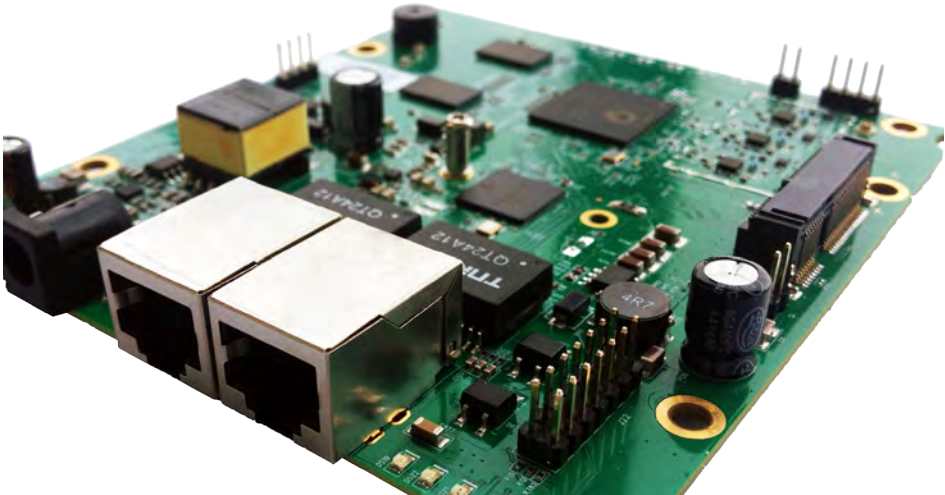
Dual Gigabit LAN

With Dual on-board GE or 10/100/1000 RJ45 LAN Ports, allowing a WAN & LAN configuration or Dual LAN as well.

802.3af/at PoE

WPJ558 support IEEE 802.3af/at Industry standard Power over Ethernet up to 56V

WPJ558 is an exceedingly powerful and impressive enterprise grade wireless embedded board based on the Qualcomm-Atheros QCA9558 CPU. It features a MIP32 74K 700MHz network processor and integrates an internal on-board 3x3 MIMO radio and 1 miniPCIe slot that supports a secondary high powered 3x3 radio or 802.11ac radio. Embedded with 128MB memory and 16MB Flash, WPJ558 provides the best possible platform for any suitable applications. WPJ558 on-board 2x Gigabit LAN port has integrated IEEE 802.3af and 802.3at Power over Ethernet (PoE) that allows WPJ558 to be compatible with Industry standard IEEE 802.3af or 802.3at compliant devices bring more flexbility.

Technical Specifications

Processor	Qualcomm-Atheros AR9558	Humidity	Operating: 5% to 95% Storage: Up to 90%
System Memory	128MB DDR2		
NOR Flash	16MB	Temperature Range	Operating: -20ºC to 70ºC Storage: -40ºC to 90ºC
PCIe Slot	9.2m height minPCIe slot		
Ethernet	2 x GE Port with Auto MDI/X	Dimension	117 x 105 x 17mm (W x D x H)
Power	DC Jack 24 - 56V, Passive PoE 36 - 56V, and IEEE 802.3af/at PoE	Extras	LED Pin, Serial Port, JTAG, Reset Button, Surge Arrestor, Watchdog Timer
PW Consumption	8.6W	Firmware	CompexWRT or OpenWRT
RoHS Compliance	Yes	On-board Wireless	3 x 3 MIMO 802.11n
		Operating Frequency	2.4Ghz
		Maximum Wireless Speed	450Mbps
		On-board Radio Power	28dBm (aggregate)
		On-board Radio Antenna Connector	3 x U.F L

Buzzer & LED Pin

Monitor WPJ558 performance and development with the on-board buzzer and LED Pin

⭐ Premium Solutions

THE WPJ558

MINIPCI-E SLOT X 1

Speeds up to 1.3Gbps

With 700Mhz high performance CPU, WPJ558 provide sufficient processing power to attain 802.11ac speeds up to 1300Mbps at 5Ghz paired with 3x3 MIMO WLE900V5-27 leveraging Next-gen high bandwidth 802.11ac transfers

WPJ558 is able to attain 802.11ac speeds up to 867Mbps at 5Ghz paired with 2x2 MIMO WLE600V5-27 leveraging high bandwidth transfers with optimal performance

PoE Passthrough

WPJ558 support an additional PSE Module Upgrade to allow the secondary on-board Ethernet port to provide Power to a secondary PoE Device (e.g IP Camera)
Provide 48V at 420mAh of Power. Part no: P-PSE-M-6A03-SPL

USB EXTENSION BOARD

3x USB + 1x MiniPCI-e

WPJ558 support an USB Extension board that provide additional 3x USB2.0 Ports and 1x MiniPCI-e slot, such as 3G/4G Radio Module. Part no: USB HUB BOARD-1.00-ST

WPJ558 BOARD DIMENSIONS

Item Code	Width	Depth	Height
WPJ558HV 6A05PCW8128	105 mm	117 mm	17 mm

WPJ558 EXTERNAL WIRELESS MODULE COMPATIBILITY

Model	Wireless Band	Operating Frequency	Channels	Connector
Compex WLE900VX	802.11a/b/g/n/ac	2.4Ghz or 5Ghz	3 x 3 MIMO	3 x U.FL
Compex WLE600V5-27	802.11a/n/ac	5Ghz	2 x 2 MIMO	2 x MMCX
Compex WLE6900V5-27	802.11a/n/ac	5Ghz	3 x 3 MIMO	2 x MMCX

WPJ558 ORDERING INFORMATION

Item Code	Firmware	Processor	Power Solutions	NOR Flash	Memory
WPJ558HV 6A05PCW8128	CompexWRT	QCA9558	DC: 24-56V, Passive PoE: 36-56V, IEEE 802.3af/at PoE	16MB	128MB
USB HUB BOARD-1.00-ST			USB Extension Board Add-on		
P-PSE-M-6A03-SPL			PoE Passthrough PSE Module Add-on		

WPJ558 PACKAGING INFORMATION

Carton Dimension	Dimension	Weight	Dimensional Weight
Packaging Box (50pcs)	871 x 320 x 190mm	7.28kg	11kg