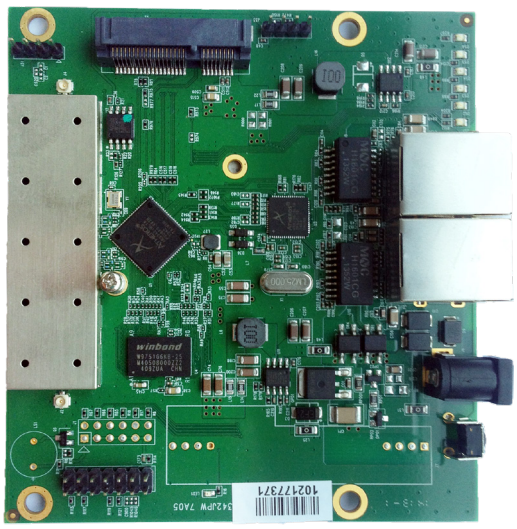
Multi-function AR9342 Embedded Board with on-board Wireless

560MHz CPU / 2x FE Port / 1 x Mini PCI-e / Designed for Dual Band 802.11n



Model: WPJ342

KEY FEATURES

- Qualcomm Atheros AR9342 MIPS 74Kc 560MHz CPU
- On-board 5GHz max 23dBm output power (per chain)
- IEEE 802.11n compliant & backward compatible with 802.11a
- 2 x 2 On-board radio up to 300Mbps physical data rate
- 1 x Mini PCI Express Slot at 9.2mm Height
- Passive 24V Power Over Ethernet
- Integrated 48V IEEE 802.3af available as Option

APPLICATIONS

- Dual Band, Dual Concurrent AP
- 802.11a/n (onboard) AP + 802.11b/g/n (card) AP
- Point to Point and Point to Multi-Point Wireless Bridge
- Wireless Base Station
- Wireless Customer-Premises Equipment (CPE)
- Support for Third Party 3G/LTE Radio Module

Specifications

Chipset	CPU: Qualcomm Atheros AR9342 560MHz
System Memory	64MB DDR2
NOR Flash	16MB
Wireless	Built in 5GHz 802.11a/n at 26dBm (aggregate) 2x U.FL connectors
Expansion	1x 9.2mm height Mini PCI-e slot for wireless card
Interface	2x Fast Ethernet Port (Auto MDI-X) 1x JTAG 14 Pin Connector[1] 1x Serial Port 4 Pin Connector[2]
Reset Button	Yes
LED	6x LED Indicators
Power Over Ethernet	Passive PoE 24V (LV version), IEEE 802.3af/at or Passive PoE 36-56V (HV version)
DC Power	1x DC Jack Connector: 12-24V
Power Consumption	5 Watt (Max)
Supported Operating System	CompexWRT, OpenWRT/LEDE[3]
Certification	FCC & CE Certification, REACH and RoHS Compliance
Environmental	Temperature: Operating: -20°C to 70°C, Storage: -40°C to 90°C Humidity (non-condensing): Operating: 5% to 95%, Storage: Max. 90%
ESD Sensitivity	Class 1A
Dimensions (W x H x D)	105 x 95 x 18 mm
Other Features	Surge Suppressor, Watchdog Timer

1. The Serial Port is a 4-pin header (TTL).A Serial Converter is available to change the TTL signals on board to RS-232 signals for debugging.

2. The JTAG Port is a 14-pin header .A JTAG kit is for writing your self-developed loader and firmware directly

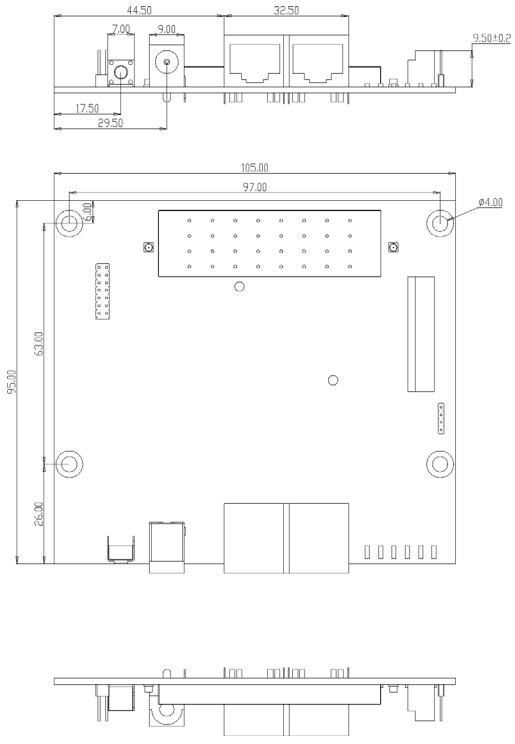
3. For more information on OpenWRT, please refer to Firmware/Software Section.

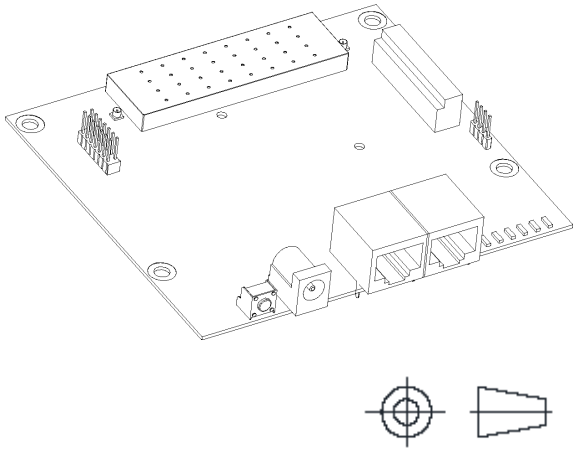
RF Performance Table

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
5GHz 802.11a	6Mbps	23dBm	26dBm	±2dB
	9Mbps	23dBm	26dBm	±2dB
	12Mbps	23dBm	26dBm	±2dB
	18Mbps	23dBm	26dBm	±2dB
	24Mbps	23dBm	26dBm	±2dB
	36Mbps	21dBm	24dBm	±2dB
	48Mbps	19dBm	22dBm	±2dB
	54Mbps	18dBm	21dBm	±2dB
5GHz 802.11n HT20	MCS 0	22dBm	25dBm	±2dB
	MCS 1	21dBm	24dBm	±2dB
	MCS 2	21dBm	24dBm	±2dB
	MCS 3	21dBm	24dBm	±2dB
	MCS 4	20dBm	23dBm	±2dB
	MCS 5	19dBm	22dBm	±2dB
	MCS 6	18dBm	21dBm	±2dB
	MCS 7	16dBm	19dBm	±2dB
5GHz 802.11n HT40	MCS 0	21dBm	24dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB
	MCS 2	20dBm	23dBm	±2dB
	MCS 3	20dBm	23dBm	±2dB
	MCS 4	19dBm	22dBm	±2dB
	MCS 5	18dBm	21dBm	±2dB
	MCS 6	17dBm	20dBm	±2dB
	MCS 7	16dBm	19dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	-94dBm	±2dB
	9Mbps	-94dBm	±2dB
	12Mbps	-92dBm	±2dB
	18Mbps	-91dBm	±2dB
	24Mbps	-90dBm	±2dB
	36Mbps	-85dBm	±2dB
	48Mbps	-80dBm	±2dB
	54Mbps	-75dBm	±2dB
5GHz 802.11n HT20	MCS 0	-94dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-89dBm	±2dB
	MCS 3	-85dBm	±2dB
	MCS 4	-80dBm	±2dB
	MCS 5	-75dBm	±2dB
	MCS 6	-74dBm	±2dB
	MCS 7	-72dBm	±2dB
5GHz 802.11n HT40	MCS 0	-90dBm	±2dB
	MCS 1	-88dBm	±2dB
	MCS 2	-85dBm	±2dB
	MCS 3	-82dBm	±2dB
	MCS 4	-80dBm	±2dB
	MCS 5	-75dBm	±2dB
	MCS 6	-73dBm	±2dB
	MCS 7	-70dBm	±2dB

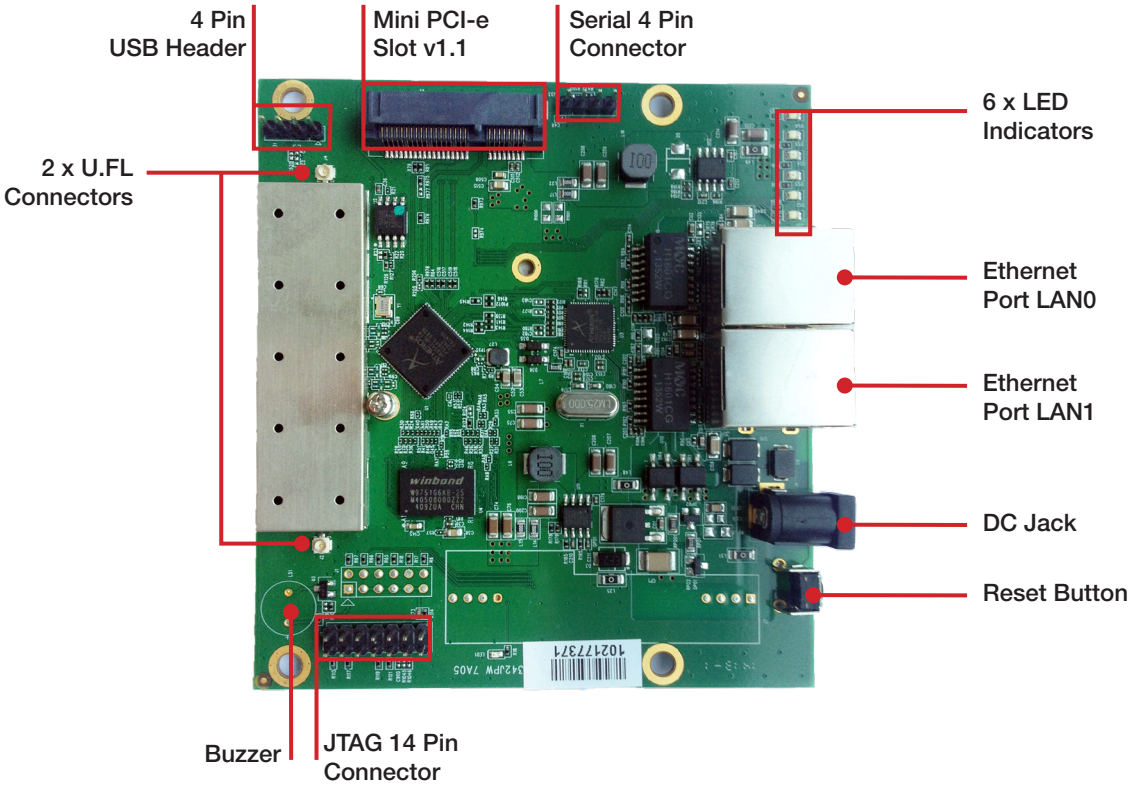
Mechanical Dimensions





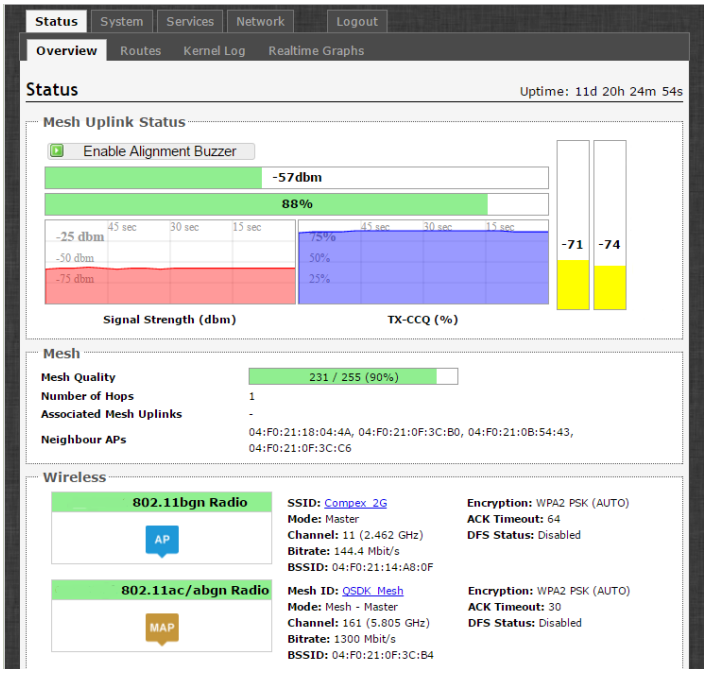
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Component Map



CompexWRT Features

It is developed based on the OpenWRT platform and features the latest Qualcomm Atheros drivers with LuCI web interface. It combines all of the best in one system. It offers many levels of customization.



Powerful Wireless Features

- Qualcomm Atheros Drivers
- Native 802.11ac Support
- Wireless Distribution System (WDS) AP and Client Mode
- Seamless Mesh Networking

Enhanced Control

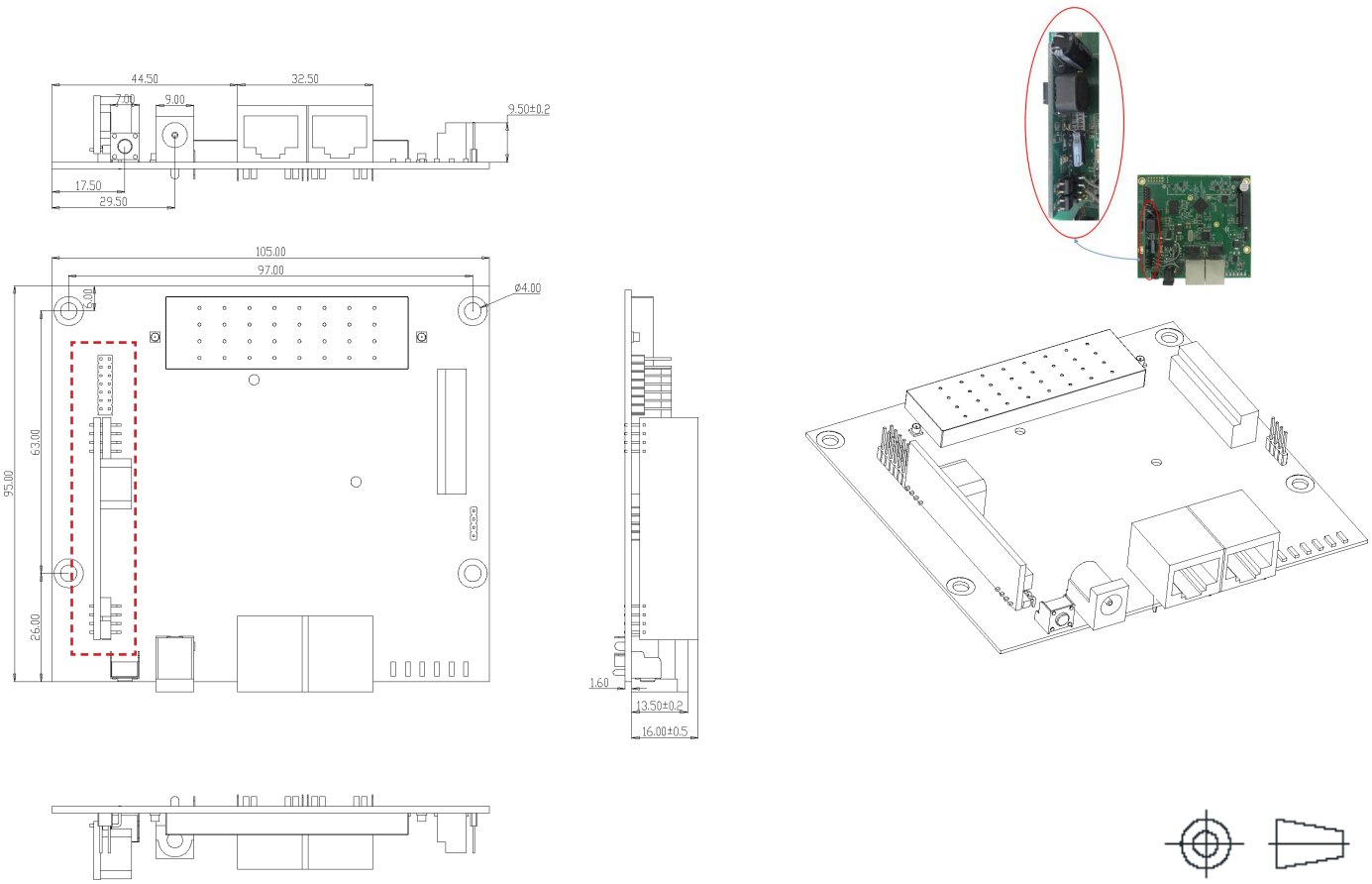
- User-friendly LuCI Graphical User Interface
- Works with Compex Network Management System (CNMS)
- Powerful Network Diagnostic Utilities
- Real-time Network Load Graphs

Find out more at http://wiki.compex.com.sg/

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Optional Add-on

Type	Functionality	Remark
IEEE 802.3af Powered Device (PD) module	To convert from LV to HV version. DC Jack input: 12-24V, Passive PoE: 36-56V, IEEE 802.3af/at PoE supported.	WPJ342 Dimensions will increase to 105 x 95 x 21 mm

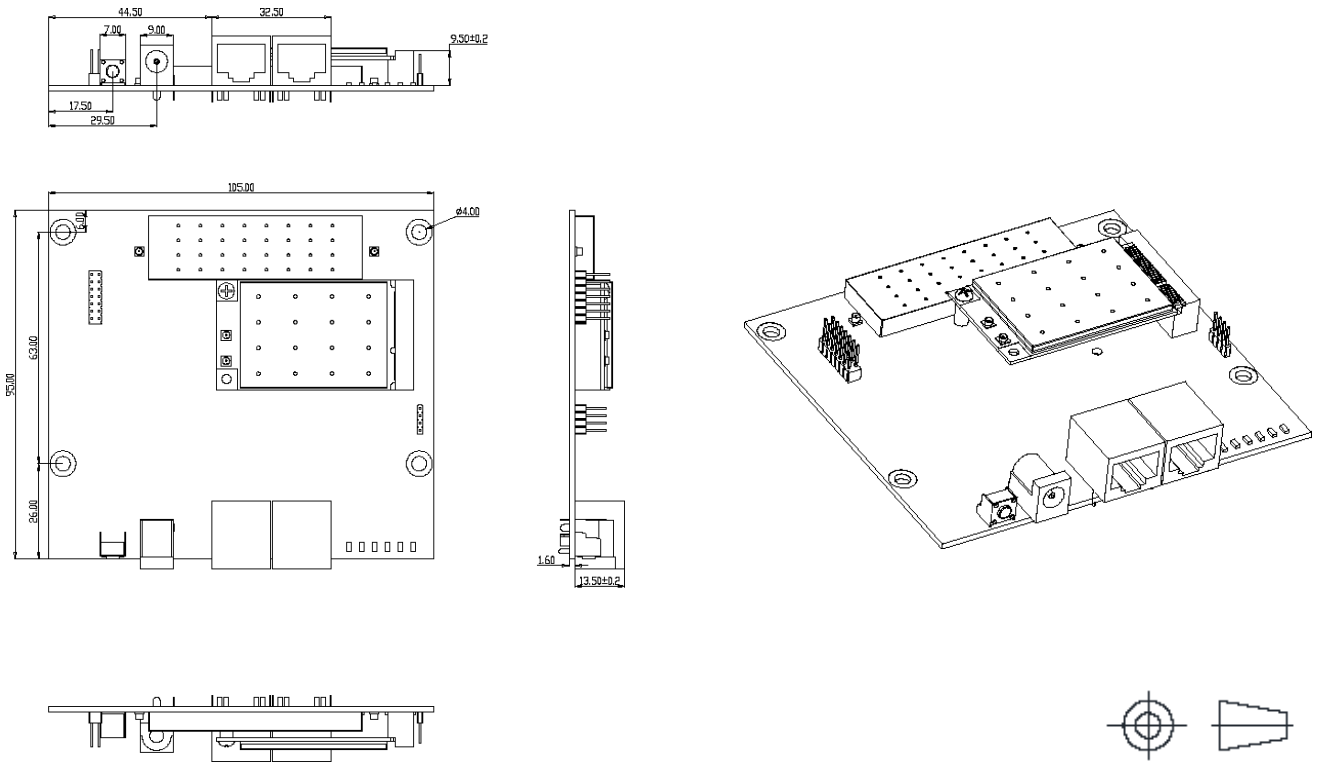


Dimensional Drawing of WPJ342 with IEEE 802.3af PD Module

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Wireless Module Compatibility

Model	Wireless Band	Operating Frequency	Channels	Connector	Board Dimension
WLE200N2-23	802.11b/g/n	2.4GHz	2 x 2 MIMO	2 x U.FL	105 x 95 x 18 mm
WLE200N5-23	802.11a/n	5GHz	2 x 2 MIMO	2 x U.FL	105 x 95 x 18 mm



Dimensional Drawing of WPJ342 with WLE200N2-23 (Standard Card Form Factor)

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Customization Options

The WPJ342 can be customized for volume applications. Contact our sales representatives for more information.

Increase System Memory up to 128 MB	Reduce NOR Flash to 8 MB	Removing of Peripherals

For more customization, contact us at sales@compex.com.sg

Firmware / Software

The WPJ342 is shipped with CompexWRT firmware. SDKs with QCA binary drivers are available for software developers.

Supported Operating System	• CompexWRT Operating System • OpenWRT/LEDE Operating System[1]
Supported Mass Management Software	• CNMS AP Controller Software[2]

1. OpenWRT SDK is available without any technical support by Compex unless otherwise stated.

2. CNMS AP Controller only compatible with WPJ342 running CompexWRT.

Ordering Options

Item Code	Model	Description
WPJ342LV-A 7A08PO1664A-BP	WPJ342LV-A 7A08	U.FL antenna connector
WPJ342HV-A 7A08PO1664B-BP	WPJ342HV-A 7A08	U.FL antenna connector
WPJ342LV-A 7A07PO1664A-BP	WPJ342LV-A 7A07	U.FL antenna connector
WPJ342HV-A 7A07PO1664A-BP	WPJ342HV-A 7A07	U.FL antenna connector
WPJ342HV-A 7A07PO1664B-BP	WPJ342HV-A 7A07	MMCX antenna connector
SUVGE24080CEY	PoEGP2408	Gigabit Passive 24V PoE Injector
P-JTAG PROGRAMMER	JTAG programmer	Onboard 14-pin to parallel port bridge
P-SERIAL CONVERTER	Serial converter	Onboard 4-pin to COM port bridge

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