

MIMO New Series

Dual Band 2x2 MIMO 802.11ac/a/b/g/n Versatile Indoor Access Point 560MHz CPU / 2.4GHz 300Mbps / 5GHz 867Mbps

Model: MMN344LV-A



KEY FEATURES

- Qualcomm Atheros 560MHz Processor AR9344
- IEEE 802.11ac/a/b/g/n compliant
- 2.4GHz and 5GHz concurrent radios
- 2.4GHz 24dBm and 5GHz 24dBm aggregate power
- Data rates of up to 867Mbps in 802.11ac 80MHz channels
- Enhanced sensitivity performance
- 2x External 2dBi 2.4GHz Rubber Duck Omni Antennas
- 2x External 2dBi 5GHz Rubber Duck Omni Antennas
- Antenna Alignment LEDs
- Support wall mounting

APPLICATIONS

- Dual Band concurrent 802.11ac + 802.11b/g/n Access Point
- Single Band 802.11ac/a or 802.11b/g/n Access Point
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Specifications

Chipset	Board CPU: Qualcomm Atheros AR9344 560MHz (2.4GHz) Radio Card: Qualcomm Atheros QCA9882 (5GHz)
System Memory	128MB DDR2
NOR Flash	16MB
Antenna	2.4GHz: 2x External 2dBi Rubber Duck Omni antenna 5GHz: 2x External 2dBi Rubber Duck Omni antenna
Interface	2x Gigabit Ethernet Port (Auto MDI-X) 1x JTAG 14 Pin Connector ¹ 1x Serial Port 4 Pin Connector ¹
Reset Button	Yes
LED	Indicators: Power LED, LAN Activity, 4x Signal Indicator
DC Power	1x DC Jack Connector: 12-24V (LV version)
Power Consumption	10.5W (Max)
Operating System	Compex OS
RoHS Compliance	Yes
Environmental	Temperature: Operating: -20°C to 70°C, Storage: -40°C to 90°C Humidity (non-condensing): Operating: 5% to 95%, Storage: Max. 90%
Dimensions	129 x 129 x 51 mm
Other Features	Surge Suppressor, Watchdog Timer

1. These features can only be accessed on the Embedded Board.

RF Performance Table On-board Radio (WPJ344)

	Data Rate	TX Power	Tolerance
2.4GHz 802.11b	1Mbps	20dBm	±2dB
	2Mbps	20dBm	±2dB
	5.5Mbps	20dBm	±2dB
	11Mbps	20dBm	±2dB
2.4GHz 802.11g	6Mbps	13dBm	±2dB
	9Mbps	13dBm	±2dB
	12Mbps	13dBm	±2dB
	18Mbps	13dBm	±2dB
	24Mbps	13dBm	±2dB
	36Mbps	12dBm	±2dB
	48Mbps	10dBm	±2dB
	54Mbps	9dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	13dBm	±2dB
	MCS 1	13dBm	±2dB
	MCS 2	12dBm	±2dB
	MCS 3	12dBm	±2dB
	MCS 4	11dBm	±2dB
	MCS 5	10dBm	±2dB
	MCS 6	10dBm	±2dB
	MCS 7	09dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	13dBm	±2dB
	MCS 1	13dBm	±2dB
	MCS 2	12dBm	±2dB
	MCS 3	12dBm	±2dB
	MCS 4	11dBm	±2dB
	MCS 5	10dBm	±2dB
	MCS 6	10dBm	±2dB
	MCS 7	10dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11b	1Mbps	-95dBm	±2dB
	2Mbps	-94dBm	±2dB
	5.5Mbps	-92dBm	±2dB
	11Mbps	-90dBm	±2dB
2.4GHz 802.11g	6Mbps	-94dBm	±2dB
	9Mbps	-93dBm	±2dB
	12Mbps	-93dBm	±2dB
	18Mbps	-90dBm	±2dB
	24Mbps	-90dBm	±2dB
	36Mbps	-85dBm	±2dB
	48Mbps	-81dBm	±2dB
	54Mbps	-79dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	-93dBm	±2dB
	MCS 1	-91dBm	±2dB
	MCS 2	-89dBm	±2dB
	MCS 3	-84dBm	±2dB
	MCS 4	-82dBm	±2dB
	MCS 5	-79dBm	±2dB
	MCS 6	-79dBm	±2dB
	MCS 7	-75dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	-90dBm	±2dB
	MCS 1	-87dBm	±2dB
	MCS 2	-84dBm	±2dB
	MCS 3	-83dBm	±2dB
	MCS 4	-81dBm	±2dB
	MCS 5	-79dBm	±2dB
	MCS 6	-78dBm	±2dB
	MCS 7	-74dBm	±2dB

RF Performance Table Wireless Module (WLE600VX)

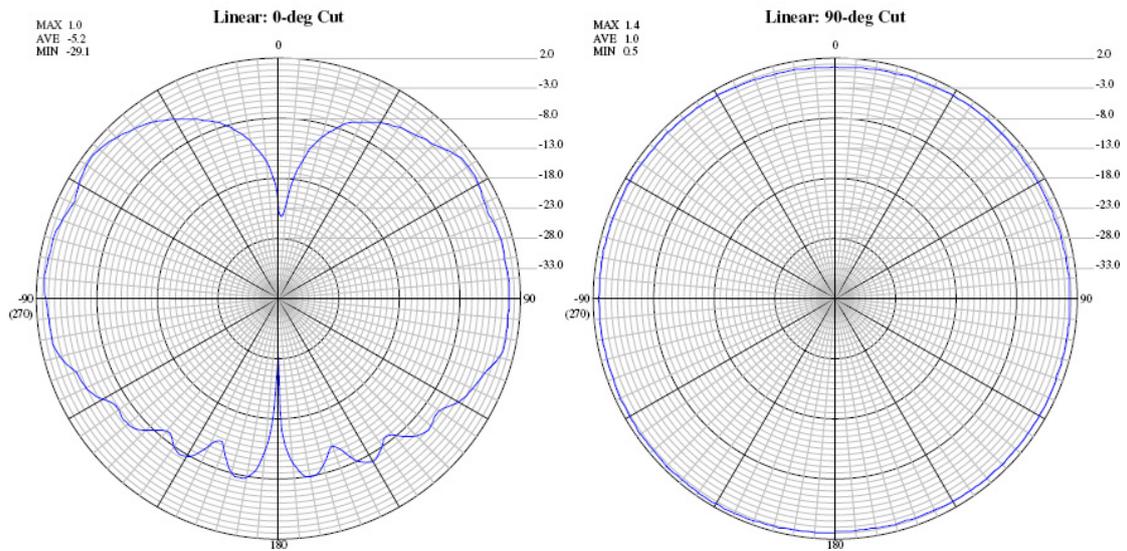
	Data Rate	TX Power	Tolerance
5GHz 802.11a	6-24Mbps	19dBm	±2dB
	36Mbps	19dBm	±2dB
	48Mbps	18dBm	±2dB
	54Mbps	16dBm	±2dB
5GHz 802.11n/ac HT20	MCS 0	22dBm	±2dB
	MCS 1	22dBm	±2dB
	MCS 2	19dBm	±2dB
	MCS 3	18dBm	±2dB
	MCS 4	18dBm	±2dB
	MCS 5	17dBm	±2dB
	MCS 6	16dBm	±2dB
	MCS 7	14dBm	±2dB
5GHz 802.11n/ac HT40	MCS 8	13dBm	±2dB
	MCS 0	21dBm	±2dB
	MCS 1	21dBm	±2dB
	MCS 2	18dBm	±2dB
	MCS 3	17dBm	±2dB
	MCS 4	17dBm	±2dB
	MCS 5	16dBm	±2dB
	MCS 6	15dBm	±2dB
	MCS 7	14dBm	±2dB
MCS 8	13dBm	±2dB	
5GHz 802.11ac HT80	MCS 9	13dBm	±2dB
	MCS 0	18dBm	±2dB
	MCS 1	18dBm	±2dB
	MCS 2	18dBm	±2dB
	MCS 3	17dBm	±2dB
	MCS 4	17dBm	±2dB
	MCS 5	16dBm	±2dB
	MCS 6	15dBm	±2dB
	MCS 7	14dBm	±2dB
	MCS 8	13dBm	±2dB
MCS 9	13dBm	±2dB	

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	-94dBm	±2dB
	36Mbps	-86dBm	±2dB
	48Mbps	-82dBm	±2dB
	54Mbps	-80dBm	±2dB
5GHz 802.11n/ac HT20	MCS 0	-93dBm	±2dB
	MCS 1	-91dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-85dBm	±2dB
	MCS 4	-82dBm	±2dB
	MCS 5	-78dBm	±2dB
	MCS 6	-77dBm	±2dB
	MCS 7	-75dBm	±2dB
5GHz 802.11n/ac HT40	MCS 8	-73dBm	±2dB
	MCS 0	-93dBm	±2dB
	MCS 1	-91dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-85dBm	±2dB
	MCS 4	-82dBm	±2dB
	MCS 5	-78dBm	±2dB
	MCS 6	-77dBm	±2dB
	MCS 7	-75dBm	±2dB
MCS 8	-73dBm	±2dB	
5GHz 802.11ac HT80	MCS 9	-71dBm	±2dB
	MCS 0	-89dBm	±2dB
	MCS 1	-88dBm	±2dB
	MCS 2	-85dBm	±2dB
	MCS 3	-81dBm	±2dB
	MCS 4	-79dBm	±2dB
	MCS 5	-75dBm	±2dB
	MCS 6	-74dBm	±2dB
	MCS 7	-72dBm	±2dB
	MCS 8	-70dBm	±2dB
MCS 9	-68dBm	±2dB	

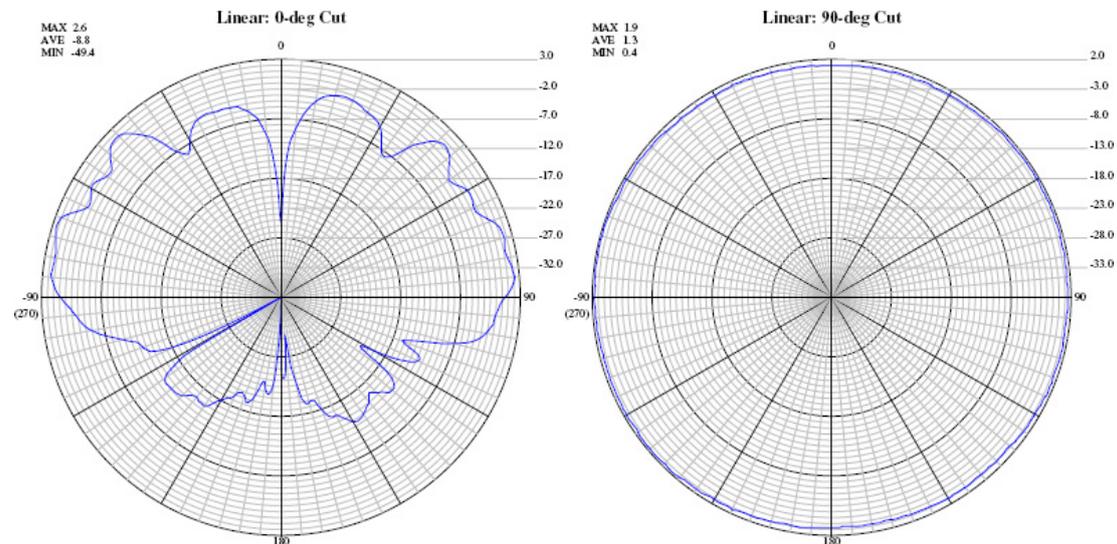
RF Performance Information

Scan Surface	Direct Far Field	Frequency	2.400 - 5.500 GHz
No. of Theta	361	Polarization	Linear
No. of Phi:	2	AUT Probe Separation	70.87
Theta (2-way)	360 degree	Reference Power	-51.56 dB
PSI (1/2 way)	180 degree		

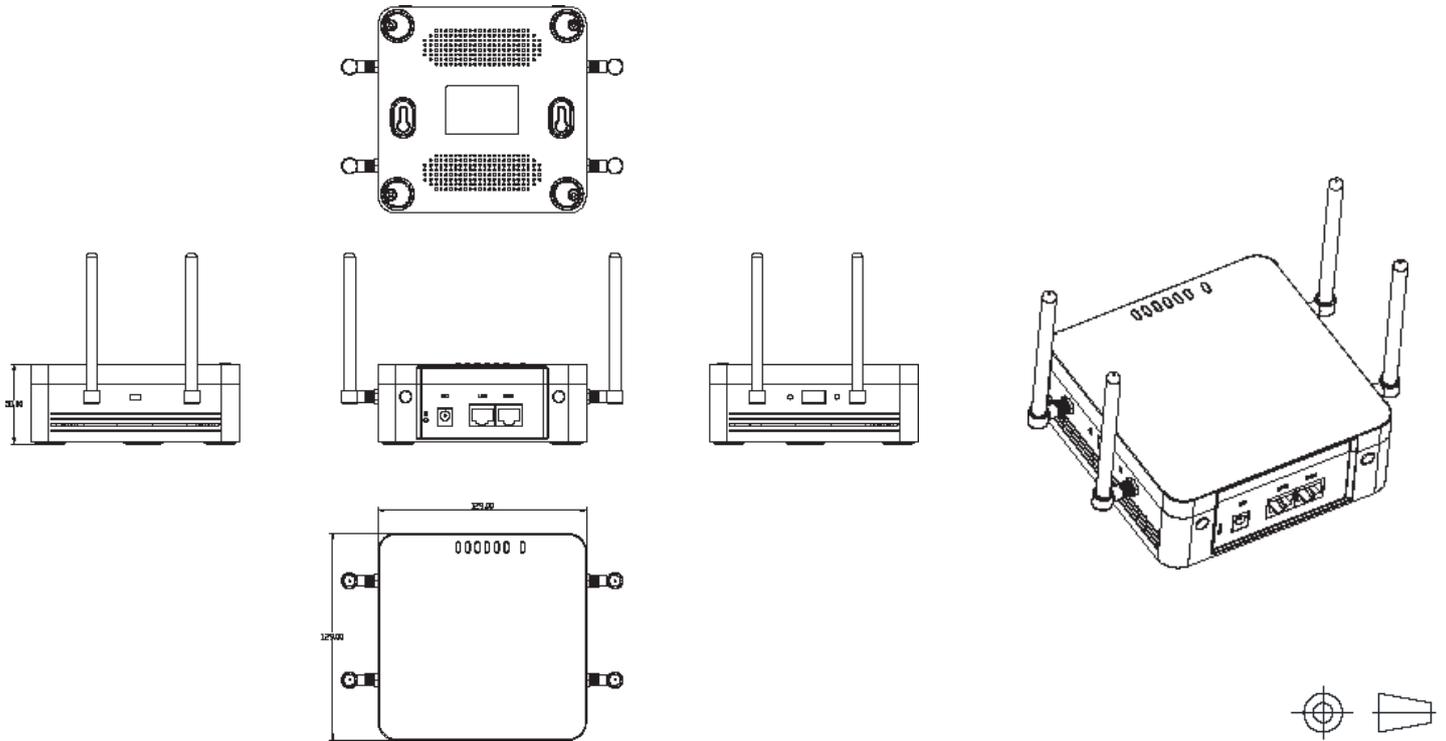
Far Field Patterns for 2.400 GHz Frequency



Far Field Patterns for 5.500 GHz Frequency



Dimensional Drawing



Federal Communications Commission (FCC) Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.