



## AML-H0101/0102/0103 Series Outdoor 802.11a/g/n Wireless Bridge



AML-H0101/0102/0103 series is an enterprise and carrier-grade 802.11n Outdoor Wireless Access Point which offers robust and high performing solution for PTP/PTMP/Hot-zone applications in both license-free 2.4GHz and 5GHz bands.

The AML-H0103 is the best solution for WISP (Wireless Internet Service Providers) to deliver carrier-grade wireless services to multiple market segments such as campuses, hospital and healthcare, warehousing and metropolitan area wireless access deployments.

### FLEXIBLE WIRELESS BACKBONE DEPLOYMENT OPTIONS

Max. 3 separated radio interfaces could be integrated onto our core data switching backplane inside the AML-H0101/0102/0103 series. Each radio interface can be configured independently to fulfill different connectivity requirements. With the fast data switching design between radio interfaces, the throughput will remain high even after several relays among APs.

### HIGH-PERFORMANCE WIRELESS BACKBONE

With 802.11N MIMO technology, the AML-H0101/0102/0103 offer max. 300Mbps link rate in single radio interface. Short Guard Interval and Frames Aggregation methodology configurations improve the efficiency of backbone usage.

Our QoS (Quality of Service) configuration feature provides flexible management of user's access bandwidth of wireless connectivity. Furthermore AML-H0101/0102/0103 series could provide a secure wireless connectivity for any client device with WISP's central RADIUS server and data encryption technique.

### PRODUCT SPECIFICATION

#### Hardware

Key Components	
Main Processor	Atheros AR7161(680Mhz)
Wireless Chipset	Atheros AR9220 based miniPCI module, Up to three modules
Switch Controller	Atheros AR8021
Flash Memory	16Mbytes
SDRAM	64Mbytes(Up to 128Mbytes)
Interfaces	
Ethernet	10/100/1000 Base-TX MDI/MDIX RJ-45 x 1 Compliant with : a. IEEE802.3 / 802.3u / 802.3at



	<ul style="list-style-type: none"> <li>b. Hardware based 10/100/1000, full/half, flow control auto negotiation</li> <li>c. Support IEEE802.3at standard PoE and non-standard PoE input</li> </ul>
Wireless	<p>Up to three 2x2 MIMO radios, mini-PCI version 1.0 type 3A</p> <p>Frequency ranges :</p> <ul style="list-style-type: none"> <li>a. USA : 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.5 ~ 5.7 GHz, 5.725 ~ 5.825 GHz</li> <li>b. Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz</li> <li>c. Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz</li> <li>d. China: 2.400 ~ 2.483 GHz, 5.725 ~ 5.85 GHz</li> </ul> <p>RF output power: 23dBm@2.4GHz / 21dBm@5GHz</p> <p>Receive Sensitivity: -95dBm</p> <p>RF output power of High Power version : 25dBm@2.4GHz / 24dBm@5GHz</p> <p>Receive Sensitivity of High Power version : -95dBm</p>
Connector	2 x N-type(1 radio) / 4 x N-type(2 radios) / 6 x N-type(3 radios)
Power Requirement	PoE(48V / 1A)
Watch Dog	Hardware Watch Dog
<b>Physical</b>	
Dimensions	220mm x 220mm x 82.5mm
Weight	2kg (mount included)
Ingress Protection Level	IP67 rated
<b>Environmental</b>	
Operating Temperature	-20 ~ 70°C
Operating Humidity	0% ~ 95%

## Firmware Features

<b>System Operation</b>	
Bridge Mode	Layer 2 Switching Learning Technology
	Store-and-Forward
	IEEE 802.1d STP
	Static IP
	DHCP server
	IEEE 802.1q Tag VLAN
	IEEE 802.1p VLAN Priority Based QoS
<b>Network Interface</b>	
Wire	PoE(Power over Ethernet) support
	10/100/1000 Base-TX MDI/MDIX RJ-45



	Link Speed Configurable		
Wireless	IEEE 802.11 a/g/n		
	2.4GHz / 5GHz Dual Band Radio		
	2 x 2 MIMO Technology		
	Single Radio / Dual Radios / Triple Radios		
	AP mode / Station mode		
	WDS support enable / disable		
	IEEE 802.11h DFS		
	WMM QoS		
	Adjustable Wireless Parameters	Frequency Band	
		Channel	
		Transmission Power	
		Antenna Number	
		Guard Interval	
		Aggregation	
		Distance	
		RTS	
		Fragmentation	
		Data Rate	
	Multi-SSIDs(Up to 16 x ESSIDs for each radio)		
	IEEE802.1q VLAN mapping		
IEEE802.1p Priority mapping			
Maximum Connection Station Limitation			
Connection Station Isolation			
Bandwidth Profile Assignment	Downlink and Uplink Traffic Limitation		
	Bi-Direction Traffic Limitation		

## Security

Hide SSID(turn off ESSID broadcasting)
MAC Address ACL(MAC Filtering)
WEP 64/128/152 bits(ASCII and HEX)
WPA and WPA2 PSK with TKIP and CCMP AES based Encryption

## Management

HTTP(s) WEB GUI
Telnet
CLI commands



SNMP v2c, SNMP v3
Management VLAN Tag
NTP Client
Firmware upgrade / downgrade
Dual Images
Dual Configuration files
Configuration Backup and Restore
Factory Default Configuration
Multiple Level Management

<b>Utility and Status</b>
Ping Test
RSSI and Path loss Calculation
Wireless Site Survey
Antenna Alignment
System Status
Link Information(both in AP and Station)

<b>Performance (Simulation under ideal environment)</b>		
Wireless-to-Wire	TCP	Up to 180Mbps for one radio to Ethernet
		Up to 320Mbps for multi radios to Ethernet
	UDP	Up to 240Mbps for one radio to Ethernet
		Up to 330Mbps for multi radios to Ethernet
	PPS	>= 20,000@1,514Bytes for one radio to Ethernet
>= 28,000@1,514Bytes for multi radios to Ethernet		
	Latency	< 1ms
Multiple Hops (Default Hop Counts:20)	2 hops	Up to 160Mbps@TCP, Up to 230Mbps@UDP
	3 hops	Up to 150Mbps@TCP Up to 220Mbps@UDP
	4hops	Up to 140Mbps@TCP Up to 220Mbps@UDP
	>= 5hops	Up to 130Mbps@TCP Up to 210Mbps@UDP
	PPS	around 19,000@1,514Bytes at multiple hops around 23,000@64Bytes at multiple hops
	Latency	< 10ms@5hops