Aphelion 3300AG

802.11a/b/g Dynamic Expansion Outdoor Wireless Access Point

The Aphelion 3300AG is a carrier class Outdoor Wireless Access Point which offers customer a robust and high performing solution for PTP/PTMP/Hotzone applications in both license-free 2.4GHz and 5GHz bands. 3300AG includes powerful feature sets such as - AES (enhanced security), Bandwidth management (flexible throttling client control), 802.11e Wifi QoS, 802.11h compliant. Using Aphelion's patented intelligent Sequential OS, 3300AG working together with Aphelion 500AG/600AG dual band AP by daisy-chaining/clustering over the wireless interfaces as to provide greater coverage without a wired connection, thereby constructing a larger area of Hotzones and avoiding interference by using 802.11a as the trunk for hotzone deployments. Superior performance is the key feature in 3300AG. With three radios, 3300AG could sustain very high performance and extending coverage and user capacity by configuring to Big AP mode integrated with three 120 degree Sector Antenna. Furthermore, 3300AG enables customer to provide high bandwidth connection by trunking three interfaces together to form a maximum 162Mbps link rate connection. The Aphelion 3300AG is the most ideal candidate for Service Providers looking to deliver carrier class wireless services to multiple market segments such as campuses, hospitality, healthcare, warehousing and wider metropolitan area deployments.

Low Latency and High Throughput over Multiple Hops
- Dynamic Expansion Daisy chained wireless Hot Zones
- Low latency and high throughput upon multiple wireless hops
- Reliable performance when deploying multiple nodes in bridged or routed environments.
- Bandwidth control module at subscriber level

Comprehensive Security Features
- WPA with TKIP/AES support
- 802.1x EAP support (Client and Server modes)
- 64/128/152 bits Dynamic WEP keys
- Radius client
- Hide ESSID
- MAC address filtering
- NAT

Dynamic WAN Interface Configuration
- Flexible assignments of any wired or wireless interfaces as WAN links to adapt to different network topologies
- Bandwidth aggregation by logically combining multiple RF links to achieve super trunk mode for high bandwidth deployments
- Smart traffic load balancing across multiple RF links
- Configurable Transmit-only and Receive-only mode per RF interface
- 1+1 and N+1 interface protection schemes that meets high availability carrier grade deployments
- Flexible wireless network distribution system

### Harsh Outdoor Environments to Keep Operation
- Certified IP68 sturdy water-tight housing
- Built-in automatic thermal sensor and regulator module to facilitate deployment in cold regions
- PoE module

System Management
- Firmware upgrade through TFTP, FTP
- Interface status display
- SSH Telnet
- Syslog
- SNMP v1/v2
- Easy Configuration backup

Simple Installation and Deployment
- Software Alignment / Deployment Tools

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■ Trunking
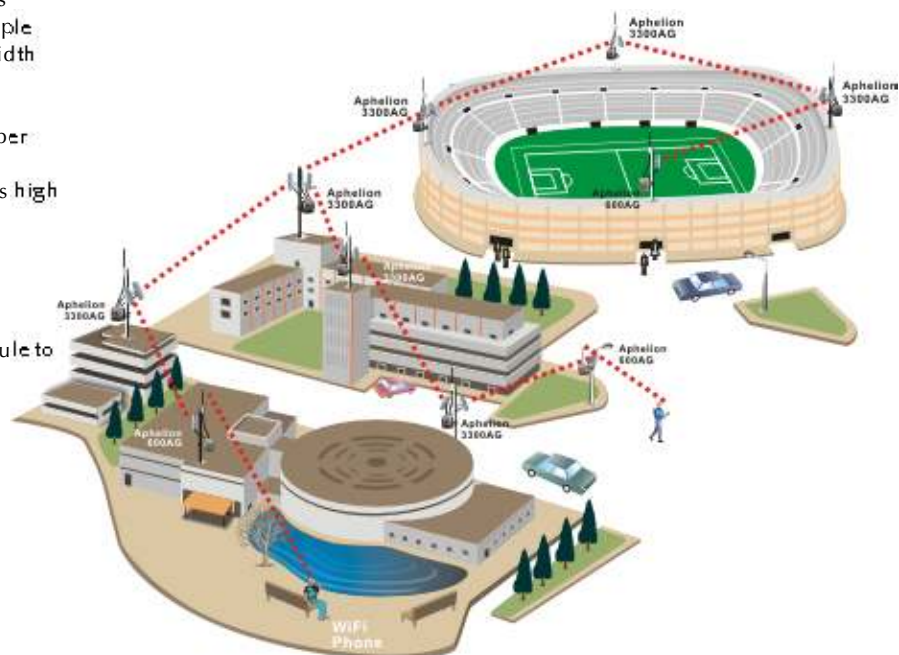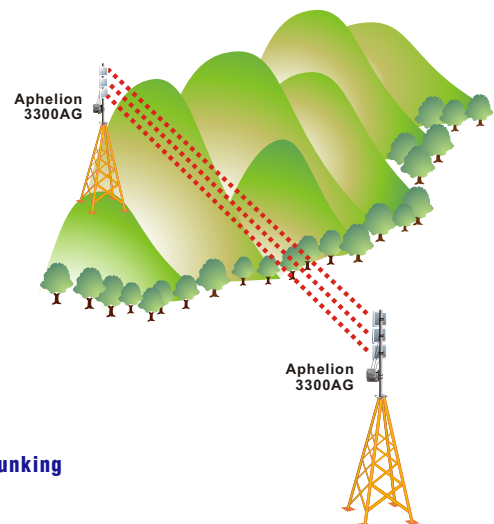
■ Daisy Chain

S p e c i f i c a t i o n s

Standard Support

Wireless	IEEE802.11a, IEEE802.11b/g
Ethernet	IEEE802.3, IEEE802.3u, IEEE802.3af

Interface

Consol	RS 232 Port
Wireless	Antenna Connector: 3 x Reversed Female N-type
Ethernet	1×10/100 Base-T RJ-45 Power over Ethernet(PoE)

Memory

SDRAM	64 Mbyte
Flash	32Mbyte

Ethernet

Max. Bandwidth	Full Duplex: 100Mbps (100Base), 10Mbps (10Base)

Wireless Security

SSID	• Support Enable / Disable Broadcast • Support Multi-ESSID
WEP	• Support 64bit / 128bit / 152bit Data Encryption • Authentication type: Open System / Shared Key
802.1x	Support 802.1x Client and Server
Radius	Support Radius Client
WPA	Wi-Fi Protected Access (EAP, TKIP)
WPA2	AES / 802.11i
MAC	Support MAC Address Filtering

Configuration & Management

Software / Firmware	SMT management menu access via console, telnet and secure SSH telnet to implement including: System configuration & management, Firmware upgrade, Reset to default and configuration backup ...etc.

Physical Spec.

Power	• DC 48Volt / 0.8A; AC Adapter 100V~240V • Support Power over Ethernet (PoE)
Dimension	226(L) × 197(W) × 79(H) mm
Weight	1800g
Dusty & Waterproof	IP68 Certified
Antenna	Reversed N-type (Option)

Regulation and Compliance

US	FCC Part 15 Class B & C & E
Europe	ETS 300 328, ETS 301 489-1&17, ETS 301 893 ,EN 60950 compliant and CE Mark

Environment Spec.

Operating Temp	• Non Heater : -30℃ ~ 65℃ • With heater : -40℃ ~ 65℃ • Built-in heater module is option
Storage	-40℃ ~ 80℃
Humidity	0% ~ 95% non-condensing

System Setting

Standard	AP / AP Client / Bridge / Router		
RF Interface Application	**Interface 1**	**Interface 2**	**Interface 3**
	✤ Access Point (AP) ✤ Access Point (AP) ✤ Wireless Station (Client)	✤ Access Point (AP) ✤ Wireless Station (Client) ✤ Access Point (AP)	✤ Access Point (AP) ✤ Access Point (AP) ✤ Wireless Station (Client)
	• Support Dynamic WAN Interface assignments		
Frequency Range	• **USA**: 2.400~2.483GHz, 5.15~5.35Ghz, 5.725~5.825Ghz • **Europe**: 2.400~2.483GHz, 5.15~5.35Ghz, 5.47~5.725Ghz • **Japan**: 2.400~2.483GHz, 4.90~5.091GHz, 5.15~5.25GHz • **China**: 2.400~2.483GHz, 5.725~5.85Ghz		
Channels Support	✤ **802.11b/g** • US/Canada: 11 (1 ~ 11) • Major European country: 13 (1 ~ 13) • France: 4 (10 ~ 13) • Japan: 11b: 14 (1~13 or 14th), 11g: 13 (1 ~ 13) • China: 13 (1 ~ 13) ✤ **802.11a** • US/Canada:12 non-overlapping channels (5.15 ~ 5.35GHz, 5.725 ~ 5.825GHz) • Europe: 19 non-overlapping channel (5.15 ~ 5.35GHz, 5.47~ 5.725GHz) • Japan: 4 non-overlapping channels (5.15 ~ 5.25GHz) • China : 5 non-overlapping channels (5.725 ~ 5.85GHz)		
Wireless Transmission Rate	• 802.11b/g: 11, 5.5, 2, 1 Mbps, auto-fallback, up to 54 Mbps • 802.11a : 54, 48, 36, 24, 18, 12, 9, 6Mbps, auto-fallback		

Transmitted power	✤ **802.11b:** 18 dBm
	✤ **802.11g:** • 18dBm @6Mbps
	       • 15dBm @54Mbps
	✤ **802.11a:** • 17dBm @6Mbps
	       • 13dBm @54Mbps		

Wireless Other Setting	• Enable / Disable Broadcast ESSID • 802.1q VLAN-Multi SSID (ready on Q2,2006) • MAC Address Filtering • Bandwidth Control of Wireless Client • DHCP Client / Server, Fixed IP • NAT • Static Routing • SNMP v1&v2 • RIP v1&v2 • Dual Image (backup) • Trunk: Trunking, Smart Traffic Load Balance, One Way Transmit, Failover • MS NetBIOS IP Filter Enable / Disable • 802.11h - Dynamic Frequency Selection (DFS) & Transmit Power Control (TPC) • 802.11e WiFi QoS (ready on Q2,2006) • Wireless Station Fix AP MAC Address Optional • Software Alignment / Deployment Tools		
Receiver Sensitivity	✤ **Receiver Sensitivity:** (PER < 8% for 11b ; PER < 10% for 11g &11a) ✤ **802.11b Sensitivity:** • DBPSK (1Mbps) -93dBm • DQPSK (2.2Mbps) -92dBm • CCK (5.5Mbps) -90dBm • CCK (11Mbps) -88dBm ✤ **802.11g Sensitivity:** • BPSK(6Mbps) -89 dBm • BPSK(9Mbps) -88 dBm • QPSK(12Mbps) -86 dBm • QPSK(18Mbps) -85 dBm • 16QAM(24Mbps) -83 dBm • 16QAM(36Mbps) -80 dBm • 64QAM(48Mbps) -77 dBm • 64QAM(54Mbps) -72 dBm ✤ **802.11a Sensitivity:** • BPSK(6Mbps) -88 dBm • BPSK(9Mbps) -87 dBm • QPSK(12Mbps) -85 dBm • QPSK(18Mbps) -84 dBm • 16QAM(24Mbps) -82 dBm • 16QAM(36Mbps) -80 dBm • 64QAM(48Mbps) -76 dBm • 64QAM(54Mbps) -71 dBm		

P a c k a g e   C o n t e n t s

- Aphelion 3300AG 802.11a/b/g Dynamic Expansion Outdoor Wireless Access Point
- PoE Power Injector, Power Adapter & AC Power Cord
- 30M MIL-C-5015 IP68 Cat-5 Ethernet Cable
- 2M MIL-C-5015 IP67 RS-232 Consol Cable
- Consol Port Waterproof cover

- Wall Mounting Kit & Screw
- Mast Mounting Kit & Screw
- CD: User Manual
- Quick Installation Guide
- Grounding Wire

**If any of the above items are missing, please contact your reseller.

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