ALTAI Super WiFi

Altai A8in Super WiFi Base Station

The world's leading 802.11n WiFi outdoor access point with integrated base station, antennas and RF cabling optimized for long range 360-degree access coverage and with the highest possible throughput using a minimum number of installation sites.

One of the benefits of A8in is its simple installation design – the RF cabling work is no longer necessary, no extra installation is required.

The A8in is a multi-radio base station utilizing 8x8 MIMO smart antenna technologies and a patented signal processing algorithm to provide the industry's best coverage per base station, especially in non-line-of sight (NLOS) environments. Using up to 80% fewer access points than standard WiFi systems to cover the same area enables less complex network design.

Super Long Range Coverage

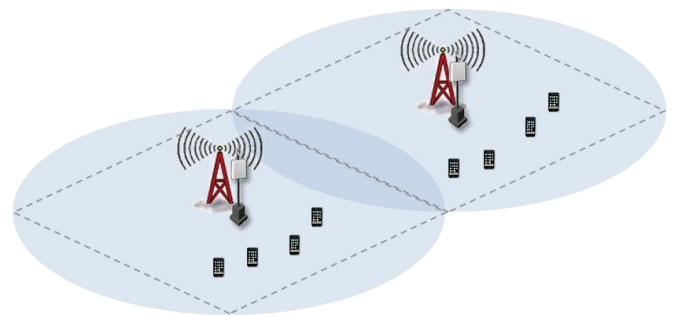| A8in 11n Omni	Radius
LOS / CPE	2,700 m
LOS Laptops / Smartphones	1,000 m
NLOS Laptops / Smartphones	500 m
LOS Backhaul	30 km

Altai A8in for Wireless Broadband

The Altai A8in serves as last mile infrastructure for a wide range of wireless broadband access applications. It provides low deployment cost and fast provisioning of WiFi systems with the greatest coverage and bandwidth per installed base station.

Altai A8in for Super 3G/4G Offload

The A8in Super WiFi Base Station can be deployed in conjunction with existing 3G mobile networks to provide low cost high bandwidth mobile data offloading solution. The A8in can be co-located with existing 3G cell sites allowing immediate WiFi provisioning.

Co-locate A8in with existing 3G/LTE cell site to offload traffic for an almost identical cell area.

As an integral part of our Super WiFi network infrastructure, key benefits of the Altai A8in include:

- Base station and antenna in one integrated unit, eliminating RF cabling work. Simple installation at rooftop, lamppost, tower, wall and indoor environments
- High 11n throughput capacity up to 300 + 300 Mbps data rate
- Extended coverage in a Non-Line-of-Sight (NLOS) environment
- Dual-diversity advanced Smart Antenna Technology to provide 360-degree coverage with minimal holes in dense urban environments
- Built-in 5 GHz radio with external 5 GHz antenna port for simple and flexible backhauling
- 2.4 and 5 GHz dual band concurrent access

- Multi-beam 8x8:2 MIMO Smart Antenna Technology to provide superior signal strength and link budget in dense urban environment deployments
- Backhaul redundancy and access link safe mode
- Adaptive interference control mitigates the influence from surrounding interfering sources
- Standard 802.11b/g/n access and 802.11a/n access/ backhaul
- Giga Ethernet or integrated 802.11a/n wireless backhaul
- Remote configuration through the Altai Wireless Management System (AWMS)

Wireless Interface

802.11b/g/n (8x8:2) Radio

- Operating Mode — Access Point
- Standard — IEEE 802.11b/g/n
- Operating Frequency — 2.412 – 2.472 GHz (Ch 1-13)
- Transmit Power — 27 dBm (Max.); 5 – 24 dBm (Per Chain) in 1 dB step
- Receiver Sensitivity (Typical)

802.11b	11 Mbps	-90 dBm;	1 Mbps	-95 dBm
802.11g	54 Mbps	-80 dBm;	6 Mbps	-93 dBm
802.11n	HT20	-94 dBm;	HT40	-89 dBm

- 8 Built-in Antennas
- Interference Mitigation
- Direction Finding*

802.11a/n (2x2:2) Radio

- Operating Mode — AP/ CPE/ Bridge/ Repeater
- Standard — IEEE 802.11a/n
- Operating Frequency — 5.15 – 5.35 GHz / 5.47 – 5.725 GHz / 5.725 – 5.825 GHz
- Transmit Power — 20 dBm (Max.) / 17 dBm (Per Chain)
- Receiver Sensitivity (Typical)

802.11a	54 Mbps	-77 dBm;	6 Mbps	-94 dBm
802.11n	HT20	-93 dBm;	HT40	-90 dBm

For both 2.4 and 5 GHz

- 32 SSID (Max. 16 SSID per Radio)
- WDS
- Altai *AirFi™* Throughput Optimization
- Band Steering
- Automatic Channel Selection (with Scheduling)
- WMM

Antenna

2.4 GHz Antenna

- Built-in Antenna — 14 dBi (Max.) Sector
- Frequency — 2.4 – 2.5 GHz
- Polarization — Dual Slant ±45°
- Horizontal Beamwidth — 360° (-3 dB, Overall)
- Vertical Beamwidth — 14° (-3 dB)
- Fixed Down Tilt — 5.5°
- VSWR — 2 (Max.)
- Impedance — 50 Ω
- Front-to-back Ratio — -25 dB (Max.)
- Isolation Between Ports — 20 dB (Min.)

5 GHz Antenna (Optional Accessories)

- External Antenna — 20 dBi Panel/ 9 dBi Omni/ 16 dBi 100° Sector
- Antenna Port — 2 x N-female

Networking

- VLAN
- IPv4/ IPv6 Dual-stack
- Switch (Bridge) and Gateway Mode
- DHCP Client/ Server/ Relay
- NAT
- PPPoE Client/ PPPoE Pass-through
- VPN Pass-through
- Bandwidth Control Per VAP/ Client
- Multicast Rate Filter/ IGMP Snooping
- Spanning Tree Protocol
- Access Link Safe Mode

Security

- Authentication – Open system, Shared key, WPA/ WPA-PSK, WPA2/ WPA2-PSK, 802.1x (EAP-PEAP/ TLS/ TTLS/ SIM/ AKA)
- Encryption – WEP, TKIP, AES
- RADIUS Client (PAP, CHAP)
- RADIUS Accounting
- Inter/ Intra-client Isolation
- MAC-based Access Control (White/ Black List)
- SSID Suppression
- WAPI

Management

- Standalone (Managed by AWMS)
- Thin AP/ CAPWAP Protocol (Managed by Access Controller)
- Web User Interface
- Command Line Interface (SSH and Console)
- 3-level User Login
- Remote Firmware Upgrade (HTTP, TFTP)
- SNMP v1/ v2c
- MIB2/ IF-MIB/ Altai Enterprise MIB
- Performance Statistics/ Alarm Information Display
- WiFi Client Association/ Disassociation Statistics
- Syslog

Physical Specification

- Dimension — 455 x 431 x 163 mm
- Weight — 8 kg (Unit Weight) / 10.5 kg (Gross Weight)
- Mounting — Pole or Wall-mounted
- Network Interface — 10/100/1000 Mbps Ethernet Port

Power Supply

- Power Source — PoE Injector (AC or -48V DC)
- Power Consumption — 30 W (Typical) / 65 W (Max.)

Environmental Specification

- Operating Temperature — -40 °C to +60 °C (Ambient) / -10 °C to +40 °C (PoE Injector)
- Storage Temperature — -40 °C to +85 °C
- Humidity — 5 to100% (Condensing)
- Lightning Protection — EN 61000-4-5
- Wind Loading — Up to 216 km/h (134 mph)
- Weatherproof — IP67 Compliant

Certification

- FCC/ CE/ IC/ Others

Product Ordering Information

Standard Package
- A8in Super WiFi Base Station (Model No.: WA8011N-HE)
- Built-in Smart Antennas
- PoE Injector and Mounting Accessories

Other Packages
- A8in (US) – Operating at 2.412-2.462 GHz (Ch 1-11)

Contact Us
- Email: sales@altaitechnologies.com

* Will be available in future.   *A8in-PB-150212*

The coverage range will be varied depending on NLOS and interference conditions.
The transmit power may be varied according to country regulation.
Although Altai has attempted to provide accurate information in these materials,
Altai assumes no legal liability for the accuracy and completeness of the information.
All specifications are subject to change without notice.