# Altai A8-Ein (ac) Super WiFi Base Station

802.11ac All-in-One Long Range Sector

## Altai A8-Ein (ac) Super WiFi Base Station

The world's leading 802.11ac WiFi outdoor access point with integrated multi-beam antenna array optimized for maximum coverage and highest throughput from a minimum number of installation sites. It is the A8-Ein model with the 5 GHz 802.11a/n radio upgraded to 802.11a/n/ac radio.



The A8-Ein (ac) 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. The multi-beam antenna array of the A8-Ein (ac) is designed to provide up to 5 times the range and 10 times the per site coverage as standard access point. Accordingly, up to 90% fewer installation sites for the same coverage area.

## Super Long Range High Throughput Coverage

| | |
|---|---|
| Max. LOS CPE | 4 km (2.4 GHz)<br>1.7 km (5 GHz) |
| Max. LOS Smartphones | 1.7 km (2.4 GHz)<br>900 m (5 GHz) |
| Max. LOS Bridge | 30 km (5 GHz) |
| Max. Data Rate | 300 + 867 Mbps |

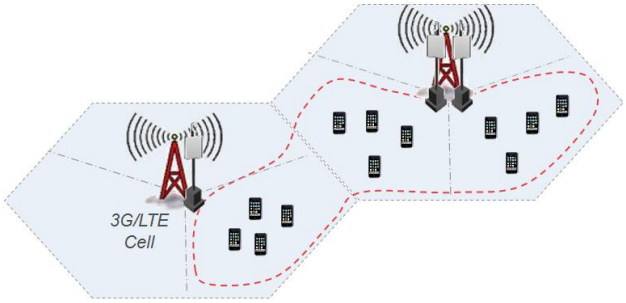
## Altai A8-Ein (ac) for Wireless Broadband

The Altai A8-Ein (ac) serves as last mile infrastructure for a wide range of wireless broadband access applications. It provides low deployment cost and fast provisioning of Wi-Fi systems with the greatest coverage and bandwidth per installed base station.



## Altai A8-Ein (ac) for Super 3G/4G Offload

The A8-Ein (ac) Super WiFi Base Station can also be deployed in conjunction with existing 3G mobile networks to provide low cost high bandwidth mobile data offloading solution. The A8-Ein (ac) can be co-located with existing 3G cell sites allowing immediate Wi-Fi provisioning at much lower acquisition and operating costs.




Co-locate A8-Ein (ac) 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 A8-Ein (ac) include:

- Base station and antenna array in one integrated unit, eliminating RF cabling work. Simple installation at rooftop, wall, tower and lamppost
- High 802.11ac throughput capacity up to 1,167 Mbps data rate
- Extended coverage in a Non-Line-of-Sight (NLOS) environment which matches the foot print of most 3G deployments in dense urban environments
- Multi-beam 8x8:2 MIMO Smart Antenna Technology to provide superior signal strength and link budget in dense urban environment deployments
- 2.4 GHz and 5 GHz dual band dual concurrent access
- 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/ac access/ backhaul
- Giga Ethernet or integrated 802.11a/n/ac wireless backhaul
- Remote configuration through the Altai Wireless Management System (AWMS) or AltaiCare network management solution

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# Altai A8-Ein (ac) Super WiFi Base Station

802.11ac All-in-One Long Range Sector

## Wireless Interface

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

- Operating Mode: Access Point
- Standard: IEEE 802.11b/g/n
- Operating Frequency: 2.400 – 2.484 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 |

- Built-in Antenna Array
- Interference Mitigation

### 802.11a/n/ac (2x2:2) Radio

- Operating Mode: AP/ Bridge/ Repeater
- Standard: IEEE 802.11a/n/ac
- Operating Frequency: 5.150 – 5.350 GHz; 5.470 – 5.725 GHz; 5.725 – 5.850 GHz
- Transmit Power: 29 dBm (Max.); 26 dBm (Per Chain)
- Receiver Sensitivity (Typical)

| | | | | |
|---|---|---|---|---|
| 802.11a | 54 Mbps | -79 dBm; | 6 Mbps | -92 dBm |
| 802.11n | HT20 | -92 dBm; | HT40 | -89 dBm |
| 802.11ac | VHT20 | -92 dBm; | VHT40 | -89 dBm; |
| | VHT80 | -87 dBm | | |

**For both 2.4 and 5 GHz**

- 32 SSID (Max. 16 SSID per Radio)
- 802.11h*, 802.11k*, 802.11r*, 802.11v*, 802.11w*
- Hotspot 2.0
- Altai *AirFi*™ Throughput Optimization
- Band Steering
- WMM (802.11e)

## Antenna

### 2.4 GHz Antenna

- Built-in Antenna Array: 19 dBi (Max.)
- Frequency: 2.4 – 2.5 GHz
- Polarization: Dual Slant ±45°
- Horizontal Beamwidth: 80° (-3 dB), 100° (-8 dB)
- Vertical Beamwidth: 14° (-3 dB)
- 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 Connector: 2 x N-female

## Networking

- Switch (Bridge) and Gateway Mode
- IPv4/ IPv6 Dual-stack
- NAT
- DHCP Client/ Server
- PPPoE Client
- VPN (IPsec)*
- VLAN
- Bandwidth Control Per VAP/ Client
- Multicast Rate Filter/IGMP Snooping

## Security

- Authentication – Open system, Shared key, WPA/ WPA-PSK, WPA2/ WPA2-PSK, 802.1x (EAP-PEAP/ TLS/ TTLS/ SIM/ AKA)
- Encryption – WEP, TKIP, AES
- Inter/ Intra-client Isolation
- MAC-based Access Control (White/ Black List)
- RADIUS
- Active directory
- Firewall*
- WIPS*

## Management

- Cloud or Server-based Management by AltaiCare
- Controller-based Management by Access Controller
- Web User Interface
- Command Line Interface (SSH)
- SNMP v1/ v2c / v3*
- MIB2/ IF-MIB/ Altai Enterprise MIB
- Syslog
- Auto Channel Selection and TX Power Control
- Spectral Analysis*
- KPI Monitoring*
- Client OS Detection*

## Physical Specification

- Dimension: 467 x 439 x 111 mm (without mounting)
- Weight: 8.2 kg (without mounting)
- Mounting: Pole or Wall-mounted
- Network Interface: 10/100/1000 Mbps Ethernet Port

## Power Supply

- Power Supply: 56V Passive PoE PD or -48V DC PoE Injector
- 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 / Others*

## Product Ordering Information

**Standard Package**

- A8-Ein (ac) Super WiFi Base Station (Model No.: WA8011NAC)
- Built-in Antenna Array
- Mounting Accessories and PoE Injector (Order Separately)

**Contact Us**

- Email: sales@altaitechnologies.com

*A8Ein(ac)-PB-160727*

** Will be available in future.*

*The coverage range will be varied depending on NLOS and interference conditions.*
*The transmit power may be varied according to country regulation.*
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