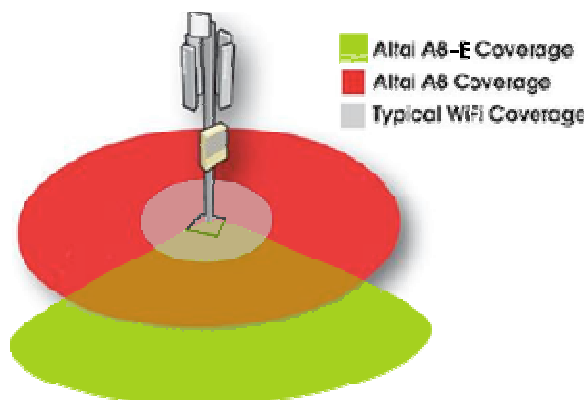# Altai A8-E
Super WiFi Base Station

The Altai A8-E Super WiFi Base Station is the world's leading WiFi outdoor access point optimized for maximum coverage from a minimum number of installation sites. The Altai A8-E has been designed to provide industry best coverage and capacity without complicated networking protocols or the need for a high density of transmitters.

The A8-E is a multi-radio base station utilizing 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-E is designed to provide up to 5 times the range and 25 times the coverage as traditional access point. Accordingly, by using up to 96% fewer access points than other WiFi systems to cover the same area, the A8-E enables less complex network design and provides lower latency for improvement in handling real-time applications such as VoIP and video streaming.

Whether deployed for a single location, a campus area or city-wide network coverage, the Altai A8-E is designed to minimize the total cost of ownership with significant savings in network equipment, broadband access, planning, site acquisition and installation.

The Altai A8-E can also serve as last mile infrastructure for a wide range of broadband applications. It provides low deployment cost and fast provisioning of WiFi systems with the greatest coverage and bandwidth per installed base station.

The A8-E Super WiFi Base Station can also be deployed in conjunction with existing micro-cellular wireless networks to provide high bandwidth, high-speed fixed and mobile data services. The A8-Es can be co-located to provide bandwidth up to 162 Mbps per site within existing micro-cell areas.

Altai A8-E Coverage
Altai A8 Coverage
Typical WiFi Coverage

As an integral part of our Super WiFi network infrastructure, key benefits of the Altai A8-E include:

- Extended coverage in a Non-Line-of-Sight (NLOS) environment which matches the foot print of most micro-cellular deployments in dense urban environments

- Multi-beam Smart Antenna Technology to provide superior signal strength and link budget in dense urban environment deployments

- Multi-radio platform to maximize both uplink/downlink performance

- Cellular architectural radio and coverage planning specially designed for city-wide WiFi deployments

- Adaptive interference control to mitigate the surrounding interference effects

- Supports real-time applications such as VoIP, video-streaming and interactive gaming with minimal latency

- Standard 802.11b/g access and 802.11a wireless backhaul

- Fast Ethernet or integrated 802.11a wireless backhaul

- Flexible antenna deployment including rooftop, wall, tower and lamppost mounting

- Remote configuration through the Altai Wireless Management System (AWMS)

Wireless Interface

802.11b/g Radio

• Operation Mode	Access Point
• Standard	IEEE 802.11b/g
• Operation Frequency	2.412 – 2.472 GHz (Ch 1 – 13)
• Transmit Power	5 – 26 dBm in 1 dB step

- Receiver Sensitivity (Typical)

802.11b	11 Mbps	-90 dBm
	1 Mbps	-96 dBm
802.11g	54 Mbps	-74 dBm
	6 Mbps	-92 dBm

- Connect to A8-E antenna array
- Transmit and Receive Diversity
- Automatic Channel Assignment

802.11a Radio

• Operation Mode	Point to Point Bridging Point to Multi-point Bridging (Up to 4 peers)
• Standard	IEEE 802.11a
• Operation Frequency	5.15 – 5.35 GHz 5.47 – 5.725 GHz 5.725 – 5.825 GHz
• Transmit Power	24 dBm (Max.)
• Data Rate	54, 48, 36, 24, 18, 12, 9, 6 Mbps

- Receiver Sensitivity (Typical)

802.11a	54 Mbps	-73 dBm
	6 Mbps	-90 dBm

Antenna

802.11b/g Antenna

• Frequency	2.4 – 2.5 GHz
• Gain	19 dBi (Max.)
• Polarization	Dual Linear ±45°
• 3-dB Horizontal Beamwidth	75° ±3°
• 3-dB Vertical Beamwidth	12° ±2°
• VSWR	< 2
• Impedance	50 Ω
• Isolation between Ports	> 15 dB
• Antenna Connector	8 x N-female

802.11a Antenna

• External Antenna	+18 dBi Flat Panel +8 dBi Omni
• Antenna Connector	N-female

Networking

- 16 Multiple SSID/ Virtual AP
- User Limit Per SSID
- VLAN / Configurable Management VLAN
- DHCP Client/ Server/ Relay
- Dynamic NAT
- PPPoE Client, PPPoE Pass-through
- VPN Pass-through
- Switch and Gateway Mode
- 10/100 Mbps Ethernet Port
- Backup Radius Server Support
- Backhaul link integrity/ resilience
- WMM

Security

802.11b/g

• Authentication	Open system, Shared key, WPA/ WPA-PSK WPA2/ WPA2-PSK 802.1x (PEAP, TLS, TTLS)
• Encryption	WEP, TKIP, AES

- MAC based Access Control
- SSID Suppression
- Inter-VAP/ Intra-VAP client communication control

802.11a

• Encryption	WEP, AES

Management

- Web-based Administration Tool
- CLI-based Administration Tool (Telnet and Console)
- SNMP v1/ v2c, Altai MIB
- SNMP Manager Access Control List
- Remote Firmware Upgrade
- Performance Monitoring
- RF Statistics Reporting
- Syslog Support

Physical Specification (BTS Unit)

• Dimension	290 x 210 x 89 mm
• Weight	4 kg (Unit Weight) 6.5 kg (Gross Weight)
• Mounting	Pole or Wall-mounted

Power Supply

• Power Source	90 – 240 V AC or PoE Injector (Optional)
• Power Consumption	20 W (Typical) 58 W (Max.)

Environmental Specification

• Operating Temperature	-40 °C to +60 °C (Ambient)
• Storage Temperature	-40 °C to +85 °C
• Humidity	100% (Condensing)
• Lightning Protection	EN 61000-4-5
• Wind Loading	100 mph (Operational) 135 mph (Survival)
• Weatherproof	IP67 Compliant

Certification

- CE
- FCC
- Others

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