

## Altai AX500 Outdoor 2x2 802.11ac Wave 2 AP

The Altai AX500, with Super WiFi Smart Antenna technology and next generation 802.11ac Wave 2 features, is specifically designed to deliver unparalleled Wi-Fi experience and highly reliable and consistent services to mobile users for outdoor deployments.

The AX500 offers several technology breakthroughs to meet today's Wi-Fi challenges:

- Super WiFi Smart Antenna technology adaptively transmits traffic to each client by selecting the best beam that optimizes performance and range
- By allowing simultaneous transmissions from AP to multiple clients, MU-MIMO increases the capacity of AX500 substantially
- Advanced Interference Mitigation Suite, combined with Super WiFi Smart Antenna, provides significant reduction in interference
- AirFi technology enhances the capacity of AX500 by optimizing clients' throughput based on their signal strength and traffic

## Super Dual-band Coverage

AX500-S Max. LOS Access	800 m (2.4 GHz) 1 km (5 GHz)
AX500-T Max. LOS Access	600 m (2.4 GHz) 600 m (5 GHz)
Max. Data Rate	400 + 867 Mbps



AX500-S / AX500-T



AX500-X

## Applications

- Combined with AltaiCare, the AX500 delivers best-in-class Wi-Fi hotspot solution with its advertisement engine and extensive login options such as free access, email registration, pay-to-access, and social media logins
- The AX500, with AltaiCare On-Premises, is ideally suited for applications such as schools, container ports, warehouses, and stadiums
- Due to its superior range and capacity, the AX500 offers the most cost-effective solution for city-wide wireless infrastructure; key applications include wireless broadband service, Smart City, and narrowband IoT



## Key Features and Benefits

- **Multi-Beam Smart Antenna** Super WiFi Smart Antenna technology adaptively transmits traffic to each client by selecting the best beam that optimizes performance and range
- **MU-MIMO Increases Capacity** By allowing simultaneous transmissions from AP to multiple clients, MU-MIMO increases the capacity of AX500 substantially
- **AirFi Optimizes Performance** AirFi technology enhances clients' throughput based on their signal strength and traffic
- **Dual-Band Dual-Concurrent** AX500 delivers data rates up to 867 Mbps in 5 GHz and 400Mbps in 2.4 GHz. This, together with MU-MIMO and Super WiFi Smart Antenna technology, allows a WiFi network to support a large number of mobile users running high bandwidth applications
- **Superior Antenna Design** Integrated high gain dual-polarized antennas offer reliable and consistent performance to mobile clients that constantly change orientation
- **Advanced Interference Mitigation** Advanced Interference Mitigation Suite, combined with Super WiFi Smart Antenna technology, provides significant reduction in interference
- **Hardened for Adverse Environments** IP68 rated outdoor enclosure, which allows AX500 to operate from -40°C to +60°C, provides absolute protection against extreme environmental conditions
- **Flexible Deployment Options** Supported by multiple management platforms: standalone, controller, or cloud-based / on-premises by AltaiCare

## Wireless Interfaces

### 802.11b/g/n (2x2:2) Radio

• Operating Mode	AP/CPE/Repeater		
• Standard	IEEE 802.11b/g/n		
• Operating Frequency	2.400 – 2.484 GHz (Ch 1-13)		
• Transmit Power	26 dBm (Max.)		
	26 dBm (HT40 @ MCS0)		
	23 dBm (HT40 @ MCS7)		
• Receiver Sensitivity (Typical)			
802.11b	11 Mbps	-92 dBm;	1 Mbps -101 dBm
802.11g	54 Mbps	-78 dBm;	6 Mbps -94 dBm
802.11n	HT20	-94 dBm;	HT40 -88 dBm

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

• Operating Mode	AP/CPE/Bridge/Repeater		
• Standard	IEEE 802.11a/n/ac		
• MU-MIMO	Up to 2 Streams		
• Operating Frequency	5.150 – 5.350 GHz		
	5.470 – 5.725 GHz		
	5.725 – 5.850 GHz		
• Transmit Power	26 dBm (Max.)		
	26 dBm (VHT80 @ MCS0)		
	23 dBm (VHT80 @ MCS9)		
• Receiver Sensitivity (Typical)			
802.11a	54 Mbps	-78 dBm;	6 Mbps -95 dBm
802.11n	HT20	-94 dBm;	HT40 -91 dBm
802.11ac	VHT20	-94 dBm;	VHT40 -91 dBm;
	VHT80	-88 dBm	

### For both 2.4 and 5 GHz

- 32 SSID (16 SSID per Radio)
- WMM, 802.11h, 802.11k, 802.11r, 802.11v, 802.11w
- Passpoint (Release 2)
- Fast Roaming
- Band Steering
- Multi-AP Steering
- Smart Load Balancing
- Dual-Radio Redundancy\*
- 1+ N Redundancy\*
- Smart Mesh Networking\*
- Auto Channel Selection and TX Power Control
- Bandwidth Control Per SSID/Client
- Altai AirFit™ Throughput Optimization

## Antennas

### AX500-S

#### 2.4 GHz

- Built-in Antenna 8 dBi Sector
- Horizontal Beamwidth 120° (-3 dB)
- Vertical Beamwidth 40° (-3 dB)

#### 5 GHz

- Built-in Antenna 12 dBi Sector
- Horizontal Beamwidth 120° (-3 dB)
- Vertical Beamwidth 20° (-3 dB)

### AX500-T

#### 2.4 GHz

- Built-in Antenna 6 dBi Omni
- Horizontal Beamwidth 360°

#### 5 GHz

- Built-in Antenna 8 dBi Omni
- Horizontal Beamwidth 360°

### AX500-X

#### 2.4 GHz

- Antenna Connector 2 x N-Female

#### 5 GHz

- Antenna Connector 2 x N-Female

## Networking

- Switch (Bridge) and Gateway Mode
- IPv4/IPv6 Dual-Stack
- NAT
- DHCP Client/Server
- PPPoE Client
- Soft-GRE
- VLAN
- Multicast Rate Filter/IGMP Snooping

## Security

- Authentication – Open, Shared key, WPA/WPA-PSK, WPA2/WPA2-PSK, WPA3\*, 802.1x (EAP-PEAP/TLS/TLS/SIM/AKA)
- Encryption – WEP, TKIP, AES
- Inter/Intra-SSID Client Isolation
- MAC-based Access Control (White/Black List)
- RADIUS/Active directory
- Dynamic VLAN Assignment
- Firewall
- WIDS/WIPS
- Broadcast/Multicast/Unicast Flooding Control

## Management

- Management Platforms: AltaiGate, AltaiCare, AltaiCare Appliance
- Web User Interface
- Command Line Interface (SSH)
- Remote Factory Reset
- Trusted Management IP List
- SNMP v1/v2c/v3
- MIB2/IF-MIB/Altai Enterprise MIB
- Syslog
- Spectral Analysis\*
- KPI Monitoring\*
- Client OS and Hostname Detection

## Physical Specifications

### AX500-S/AX500-T

- Dimensions 343 mm x 287 mm x 138 mm
- Weight 3.8 kg (Without Mounting Kit)

### AX500-X

- Dimensions 285 mm x 218 mm x 54 mm
- Weight 1.9 kg (Without Mounting Kit)
- Network Interface 2 x 10/100/1000 Mbps Ethernet Ports
- Mounting Pole or Wall-Mount

## Power

- Power Supply 802.3at PoE PD or 54 VDC Passive PoE PD
- Power Consumption 10 W (Typical)/20 W (Max.)

## Environmental Specifications

- Operating Temperature -40 °C to +60 °C
- Humidity Up to 95% (Non-Condensing)
- Lightning Protection EN 61000-4-5 (6kV)
- Wind Loading Up to 216 km/h (134 mph)
- Weatherproof IP68 Compliance

## Certifications

- FCC/CE/Others\*
- RoHS Compliance

## Product Ordering Information

### AX500-S (Part No.: SD.AX500-2231-000)

- AX500-S Outdoor 2x2 802.11ac Wave 2 AP with Integrated 2.4 GHz and 5 GHz Smart 120° Sector Antennas
- Mounting Kit

### AX500-T (Part No.: SD.AX500-2232-000)

- AX500-T Outdoor 2x2 802.11ac Wave 2 AP with Integrated 2.4 GHz and 5 GHz Smart Omni Antennas
- Mounting Kit

### AX500-X (Part No.: SD.AX500-2233-000)

- AX500-X Outdoor 2x2 802.11ac Wave 2 AP with 2.4GHz and 5GHz Antenna Connectors for External Antennas
- Mounting Kit

### Optional Accessories

- 54 VDC Passive PoE Injector

### Contact Us

- Email: sales@altaitechnologies.com

AX500-PB-210830

\*Will be available in the future.

The coverage range will vary depending on NLOS and interference conditions  
The transmit power may vary according to country regulation