

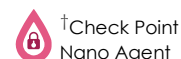


Integrated Dual-Band Sector Antennas for High Density and Complex Outdoor Environments

The Altai AX600-S is a cutting-edge Wi-Fi 6 access point engineered to deliver exceptional performance and reliable connectivity in challenging outdoor environments. Featuring built-in high-gain sector antennas, the AX600-S significantly reduces installation time and eliminates connectivity issues associated with external antennas. Its advanced high-gain antenna and sophisticated RF filters extend last-mile coverage, achieving up to *1 kilometer in line-of-sight conditions.

Equipped with advanced software features such as multi-AP steering and seamless roaming, the AX600-S effectively collaborates with other Altai access points to support high user density in venues such as stadiums and ad-hoc events. Its rugged design ensures reliable operation in rigorous industrial conditions, making it the ideal solution for airports, container terminals, manufacturing facilities, warehouses, mining, energy and utilities, agriculture, and construction sites. The Altai AX600-S delivers an unmatched Wi-Fi experience across a wide variety of applications.

Compatible with:



Key Features and Benefits



Enhanced Capacity with Wi-Fi 6 Support

Harnesses Wi-Fi 6 features such as OFDMA and bi-directional multi-user MIMO to significantly increase capacity on both 2.4 GHz and 5 GHz bands, ensuring superior performance.

Total Data Rate	2.976 Gbps - 2.4 GHz Radio: 574 Mbps - 5 GHz Radio: 2402 Mbps
Max. Concurrent Users	*512 (256 for each radio)



Dual-Image Design

Supports dual-image and fail-safe boot to minimize the risk of system file corruption caused by power supply issues or improper operations.



Seamless Mobility

Enables low-latency roaming and resolves sticky client issues with support for 802.11k/v/r and Altai's Smart Roaming and Steering algorithm.



Super Dual-Band Coverage

	*Expected Line-of-Sight Distance between AX600-S AP and Smartphone	
	2.4 GHz	5 GHz
Open Area	1000 m	800 m
Rural	580 m	420 m
Suburban	180 m	140 m
Urban	110 m	80 m



Robust Security Protection

- Supports WPA3 for secure Wi-Fi access, offering advanced encryption protocols to safeguard data transmission.
- Integrates with †Check Point's Nano Agent to fend off sophisticated cyber-attacks, including shell injections, memory corruption and control flow hijacking.



Weatherproof Housing

Built to withstand outdoor environments, it is well-suited for various deployments from smart cities and ports to construction sites.



Ease of Deployment

Compatible with either cloud or on-premises WLAN controllers, including AltaiGate, AltaiCare cloud/virtual appliance/mini appliance, enabling quick and efficient network rollout regardless of the network size.

* The distance values listed in the table are applicable for basic connectivity only. For high-bandwidth and time-sensitive applications, a stronger signal is required, which translates to shorter distances. Please note the actual number of concurrent users and performance can vary based on site conditions, distance, device configurations, and overall capabilities.

† The Check Point's Nano Agent feature is supported via AltaiGate feature license upgrade.

Wireless Interfaces

2.4 GHz (2x2:2) Radio

- Operating Mode AP/STA (CPE)/Repeater
- Standard IEEE 802.11b/g/n/ax
- Maximum Data Rate 574 Mbps
- ‡Operating Frequency 2.400 – 2.484 GHz (Ch 1-13)
- Channel Bandwidth 20/40 MHz
- ‡Transmit Power 28 dBm (Max.), 25 dBm (Per Chain), Adjustable in 1 dB step
- Modulation CCK, BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM

5 GHz (2x2:2) Radio

- Operating Mode AP/STA (CPE)/Repeater/Bridge/
- Standard IEEE 802.11a/n/ac/ax
- Maximum Data Rate 2402 Mbps (Proprietary: 2882.4 Mbps)
- ‡Operating Frequency 5.150 – 5.250 GHz (Ch 36-48)
5.250 – 5.350 GHz (Ch 52-64)
5.470 – 5.725 GHz (Ch 100-140)
5.725 – 5.850 GHz (Ch 149-165)
- Channel Bandwidth 20/40/80/160 MHz
- ‡Transmit Power 28 dBm (Max.), 25 dBm (Per Chain), Adjustable in 1 dB step
- Modulation BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM

AP Features

- 16 SSID (8 SSID per Radio)
- Hidden SSID in Beacons
- Hybrid WDS mode (Single SSID for WDS Links and End Clients)
- Client Association Control per SSID by SNR and Data Rate
- Bandwidth Control Per SSID/Client
- Auto Channel Selection and Interference Mitigation Suite
- Dynamic Frequency Selection (DFS) in 5 GHz Spectrum
- #Band Steering
- #Multi-AP Steering and Stickiness Optimization (802.11k/v)
- Fast Roaming (802.11r)
- QoS: 802.11e (WMM), 802.1p (PCP), DSCP, U-APSD
- Frame Aggregation: A-MPDU, A-MSDU
- RTS/CTS Protection
- IGMP Snooping and Multicast to Unicast Conversion
- Multicast Rate Filter

STA Features

- Target AP Locking
- Preferred AP Association
- Fast Roaming (802.11r)
- Advanced Roaming Optimization
- #Dual-Radio and 1+N Redundancy
- MAC Cloning
- Bandwidth Control

Networking

- Switch/Gateway Mode
- IPv4/IPv6 Dual-Stack
- Spanning Tree Protocol (IEEE 802.1D)
- NAT
- DHCP Client/Server
- #PPPoE Client
- VLAN (Trunk/Access) per SSID
- VLAN per User (Dynamic VLAN)
- VLAN Pooling
- Port Forwarding
- SoftGRE/EoIP Tunneling

Security

- Authentication – Open, Shared key, WPA/WPA2/WPA3 (Personal/Enterprise), 802.1X (EAP-PEAP/TLS/TTLS/SIM/AKA)
- Encryption – WEP, TKIP, AES
- Management Frame Protection (802.11w)
- Inter/Intra-SSID Client Isolation
- MAC-based Access Control (White/Black List)
- RADIUS Client
- Multiple PSK
- External Captive Portal
- Trusted IP Management Access
- WIDS/WIPS
- Wireless Access Traffic Right
- Check Point Nano Agent

Management

- Management Mode: Fat AP (Standalone), Thin AP
- Local Management:
 - Web User Interface (HTTP/HTTPS)
 - Command Line Interface (SSH)
 - Secondary IP Address
- Remote Management:
 - AltaiCare Private Cloud
 - AltaiCare On-Premises
 - AltaiCare Mini
 - AltaiGate
 - SNMP v1/v2c/v3
 - MIB2/IF-MIB/Altai Enterprise MIB
 - Reverse SSH
- Syslog
- Diagnostic Tools: Channel Scanner, Packet Capture, Ping, Traceroute
- Backhaul Connectivity Health Check and Safe Mode Access
- Ping Watchdog
- Remote Factory Reset

‡ The transmit power and operating frequency may vary according to country regulations.

Will be available in the future.

Antennas

2.4 GHz Radio Antenna

- Antenna Type Built-In 14 dBi Sector
- Polarization 2x2 MIMO $\pm 45^\circ$ Polarized
- Horizontal Beamwidth 60° (-3 dB), 80° (-6 dB)
- Vertical Beamwidth 13° (-3 dB), 20° (-6 dB)
- VSWR 2 (Max.)
- Front-to-Back Ratio ≥ 20 dB

5 GHz Radio 1 Antenna

- Antenna Type Built-In 15 dBi Sector
- Polarization 2x2 MIMO $\pm 45^\circ$ Polarized
- Horizontal Beamwidth 80° (-3 dB), 110° (-6 dB)
- Vertical Beamwidth 7° (-3 dB), 10° (-6 dB)
- VSWR 2 (Max.)
- Front-to-Back Ratio ≥ 20 dB

Physical Specifications

- Dimensions 491 x 218 x 67 mm
- Weight 2.26 kg (Without Mounting Kit)
- Mounting Pole or Wall-mounted
- Mechanical Tilt $\pm 30^\circ$ (Max.)
- Network Interface 1 x 2.5 Gbps RJ-45 Port (PoE In)
1 x 2.5 Gbps SFP Port
- Console 1 x RJ-45 Port
- Indicator 1 x Power Status
1 x System Status
2 x Ethernet Interface Status
3 x Radio Interface Status
3 x Received Signal Strength
- Reset Button Onboard

Power

- Power Supply 802.3bt PoE PD, or Passive 48 – 56 V PoE PD
- Power Consumption (Max.) 20 W (-5 °C or above)
30 W (Below -5 °C)

Environmental Specifications

- Operating Temperature -40 °C to +65 °C (Ambient)
- Storage Temperature -40 °C to +75 °C
- Humidity 5% – 90% (Non-Condensing)
- Lightning Protection EN 61000-4-5
- Wind Loading 216 km/h (134 mph)
- Weatherproof IP67 Compliant

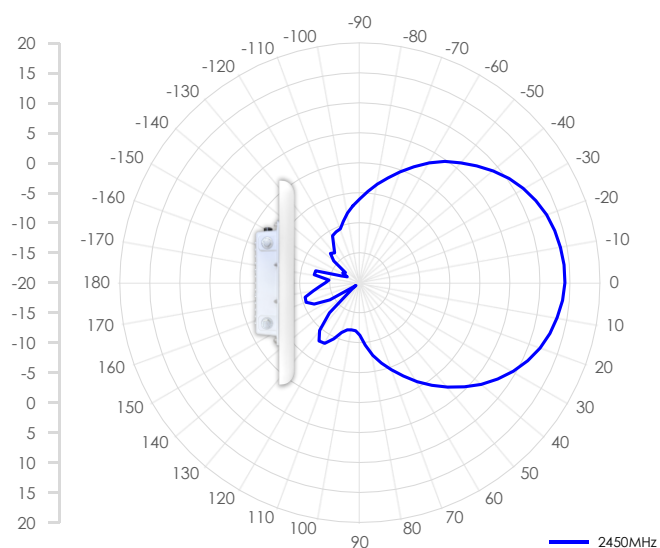
Certifications

- FCC/CE/Others
- RoHS Compliance

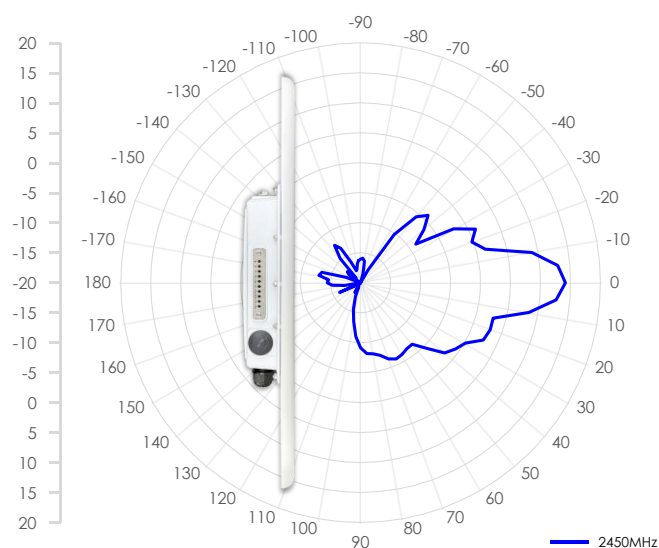
Warranty

- 1-Year Limited Hardware Warranty

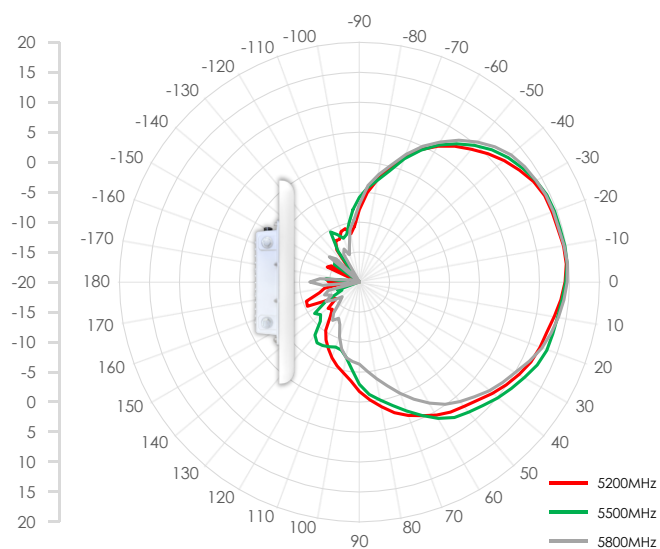
Radiation Pattern



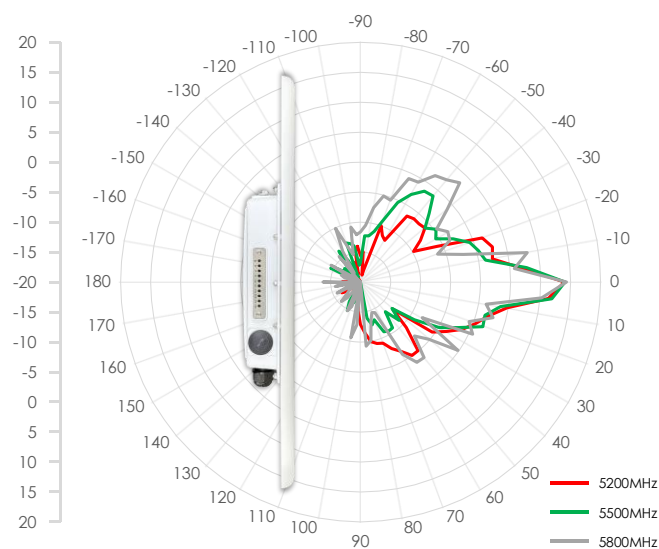
2.4 GHz Azimuth Plane



2.4 GHz Elevation Plane



5 GHz Azimuth Plane



5 GHz Elevation Plane

Product Ordering Information	
Standard Package	
Part No.: SD.AX600-EH40-001	- AX600-S Outdoor Dual-Band 2x2 Wi-Fi 6 Access Point with Integrated Sector Antennas (Model No.: AX600-S) - Standard Wall/Pole Mounting Kit
Optional Accessories – PoE Injector	
Part No.: SD.PE-0016-GS	- Indoor AC to 56VDC 2.5 Gigabit 56W Passive PoE Injector - No Power Cords/Wires included
Optional Accessories – PoE Switch	
Part No.: SD.IS120-1223-000	- MIS120P Industrial 6-Gigabit-Port Managed Layer 2+ PoE Switch - Optionally used in conjunction with 1) 120 W 48 VDC Industrial Power Supply (SD.PE-0001-MW), or 2) 240 W 48 VDC Industrial Power Supply (SD.PE-0002-MW)
Part No.: SD.IS200-3323-000	- MIS200P Industrial 14-Gigabit-Port Managed Layer 2+ PoE Switch - Optionally used in conjunction with 1) 120 W 48 VDC Industrial Power Supply (SD.PE-0001-MW), or 2) 240 W 48 VDC Industrial Power Supply (SD.PE-0002-MW)
Optional Accessories – Ethernet Surge Protector	
Part No.: NS.MS-0001-PT	Outdoor 60W Gigabit Ethernet Surge Protector
Optional Accessories – Transceiver	
Part No.: NS.SF-0001-ST	1.25G 20km Single Mode Duplex LC SFP Transceiver
Warranty Extension	
Part No.: SV.HW-AX6002-00	2nd Year Extended H/W Warranty for AX600 Series
Part No.: SV.HW-AX6003-00	3rd Year Extended H/W Warranty for AX600 Series
Part No.: SV.HW-AX6004-00	4th Year Extended H/W Warranty for AX600 Series
Part No.: SV.HW-AX6005-00	5th Year Extended H/W Warranty for AX600 Series
Annual Technical Support and Warranty Extension	
Part No.: SV.AS-0508-01	2nd/3rd Year Extended H/W Warranty and Technical Support - Quantity: 1 for the 2nd Year Extended H/W Warranty and Technical Support - Quantity: 2 for the 2nd and 3rd Year Extended H/W Warranty and Technical Support
Part No.: SV.AS-0508-02	4th Year Extended H/W Warranty and Technical Support
Part No.: SV.AS-0508-03	5th Year Extended H/W Warranty and Technical Support
Contact Us	
Email: sales@altaitechnologies.com or info@altaitechnologies.com	

AX600S-PB-250729

The information contained herein is subject to change without prior notice.