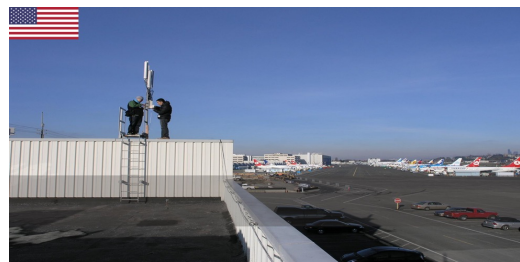
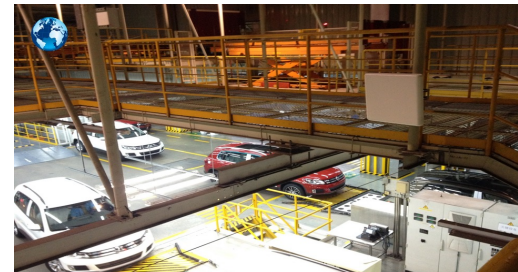


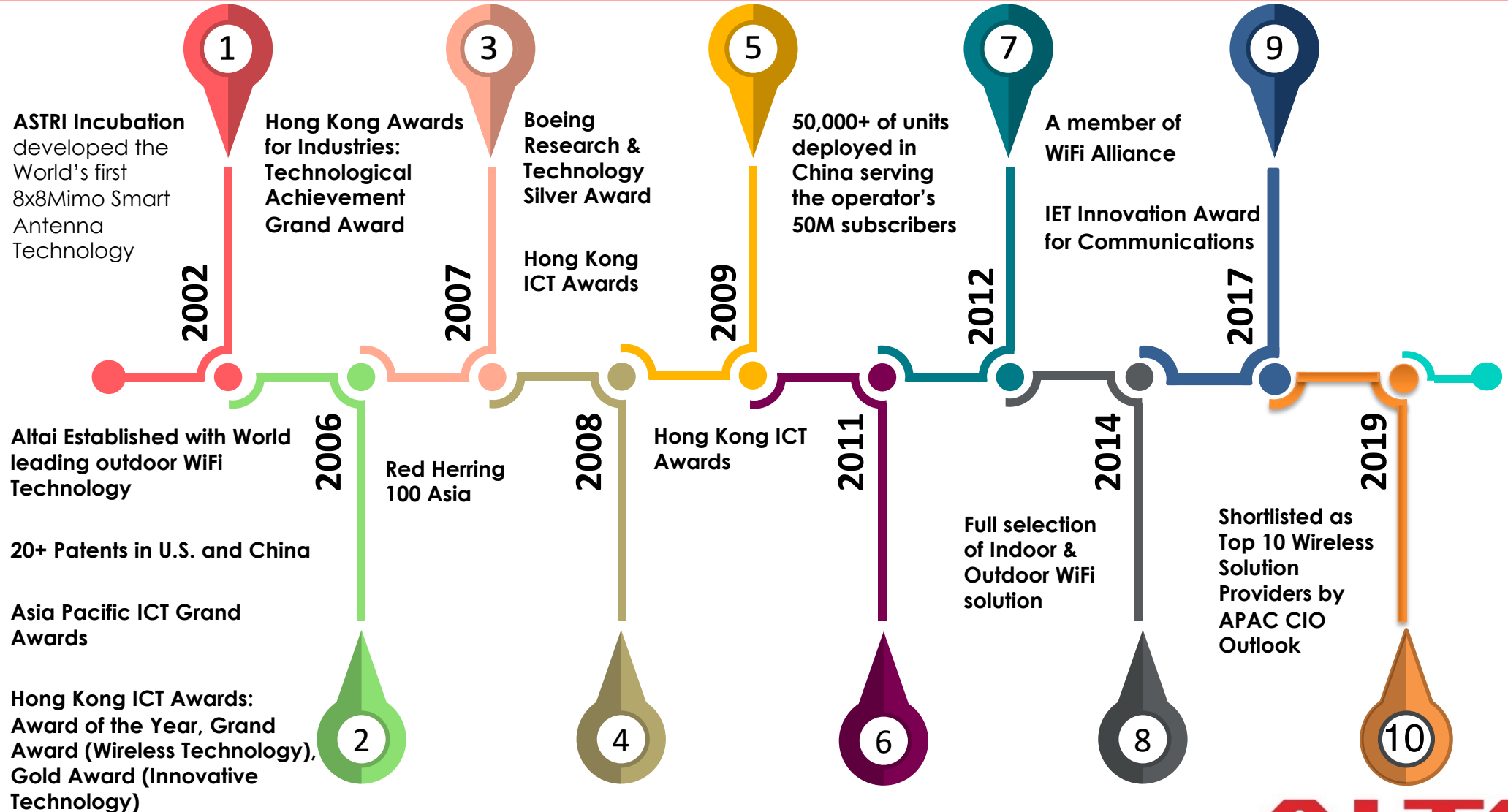
# Altai Technologies Limited

A Global Technology Company  
providing a unique mobility and  
wireless solutions for the Operational  
Technology Market

Sales Partner Training

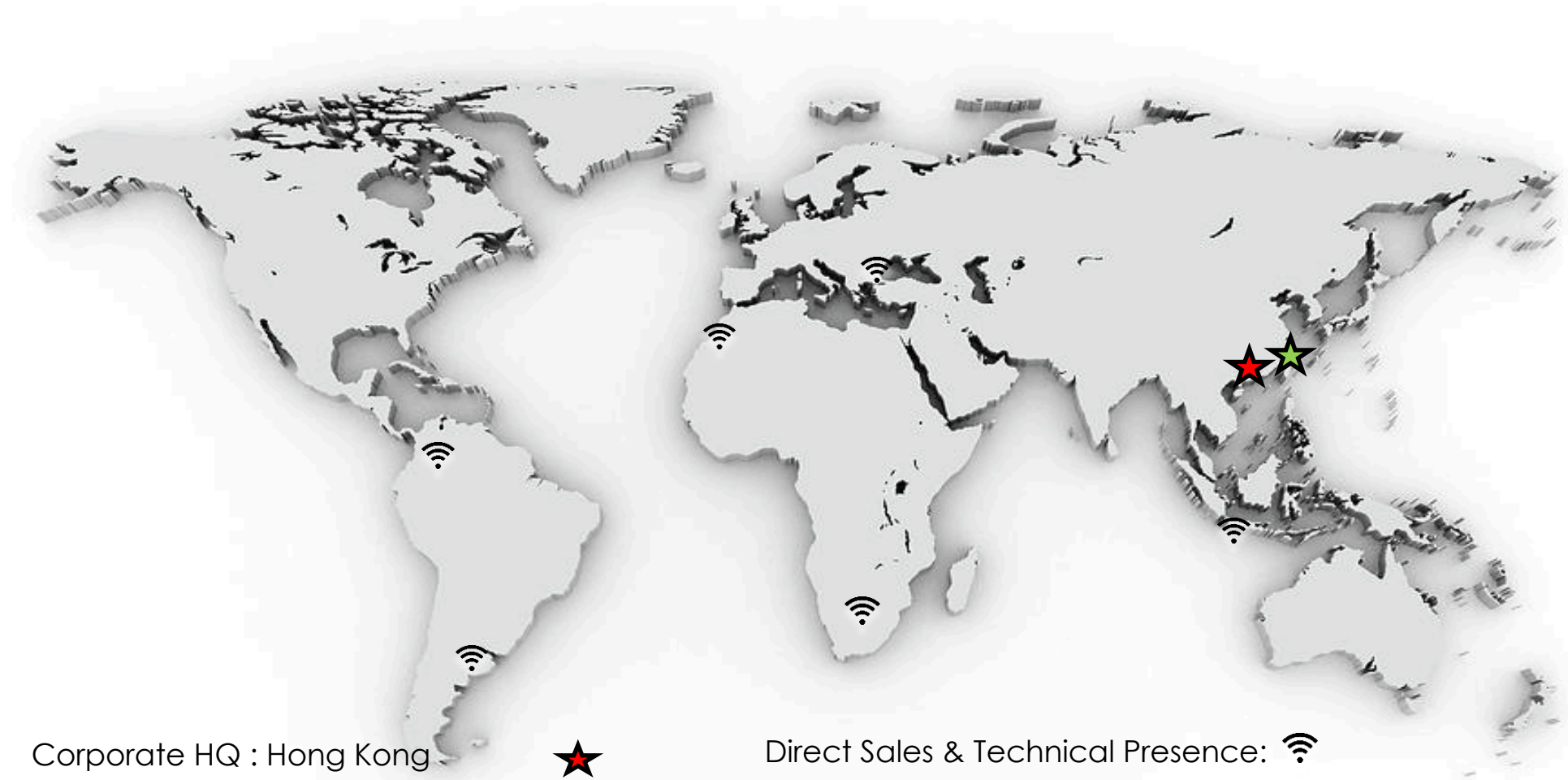


# Altai At a Glance : 2006 ~ Present



# Global Presence

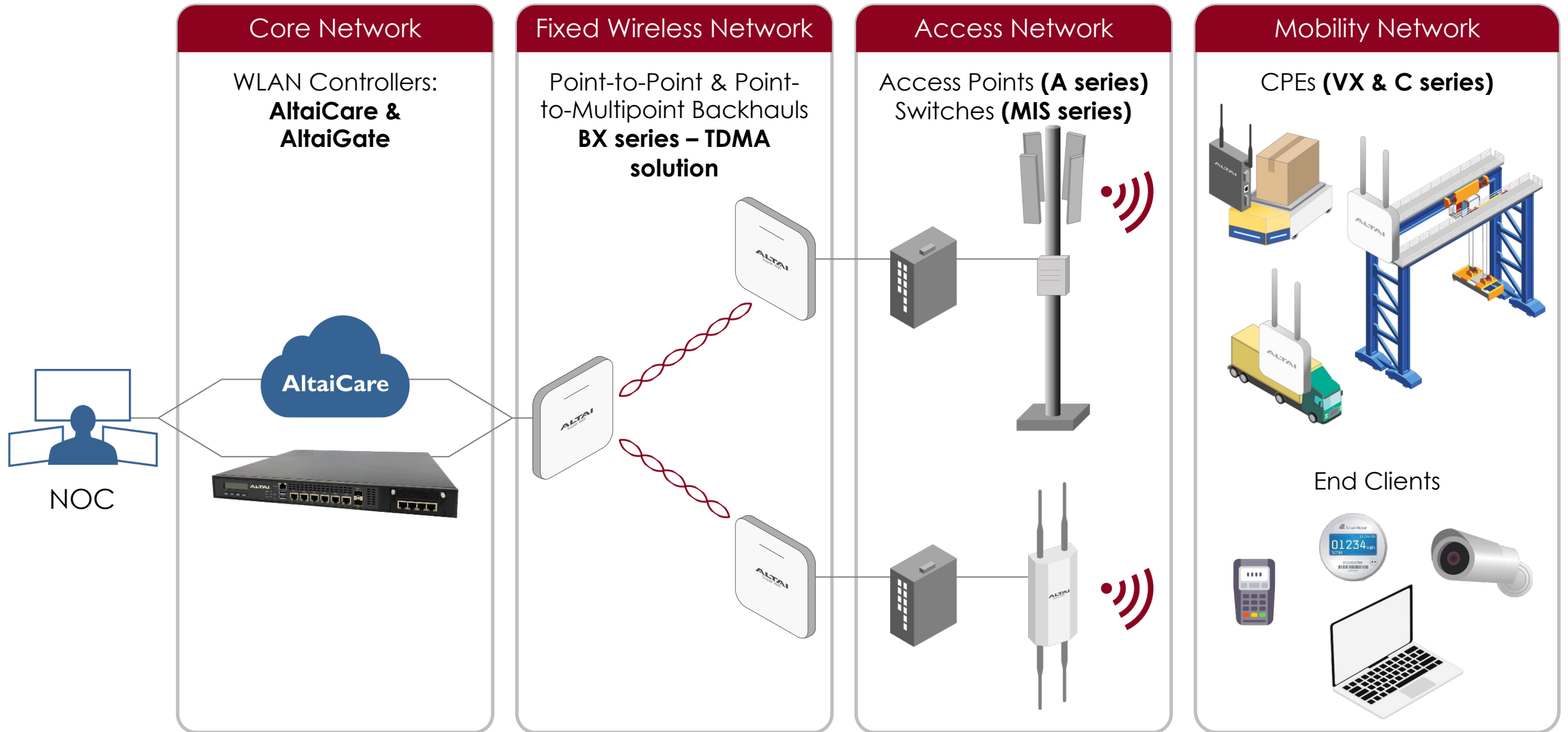
Global Presence with sales channels and deployments in 100+ countries



Corporate HQ : Hong Kong ★  
R&D Centre : Hong Kong & Shenzhen  
Production : Taiwan ★

Direct Sales & Technical Presence: 📶  
China/South East Asia  
Middle East & Africa/Americas

# Altai Product Coverage by Network Architecture





# Overall Product Portfolio

Built for all-weather and coverage sizes

## Flagship



**A8-Ein (ac)\***  
Smart Antenna  
8x8 MIMO 802.11ac  
Integrated  
**(up to 1.7km directional)**



**A8n (ac)\***  
Smart Antenna  
Dual-Band  
8x8 MIMO 802.11ac  
External  
**(up to 1km omni)**



**A8in (ac)\***  
Smart Antenna  
Dual-Band  
8x8 MIMO 802.11ac  
Integrated Omni  
**(up to 1km omni)**

## Mid-Range



**AX600-S \***  
Integrated Antenna  
Dual-Band  
2x2 MIMO 802.11ax  
**(up to 1km directional)**



**AX600-X \***  
External Antenna  
Dual-Band  
2x2 MIMO 802.11ax  
**(PTP- up to 10km)**



**A3-Ei\***  
Integrated Antenna  
Dual-Band  
3x3MIMO 802.11ac  
**(up to 800m directional)**



**A2/A2x\***  
Wireless Bridge  
2x2 MIMO  
802.11ac  
**(PTP- up to 10KM)**

## Basic



**CX600**  
External Antenna  
Dual-Band  
2x2MIMO 802.11ax  
**(up to 300m omni)**



**C2s/C1n / C1an**  
Integrated Antenna  
2x2MIMO  
**(up to 700m directional)**



**IX600**  
Ceiling-Mount  
Dual-Band  
2x2MU-MIMO 802.11ax  
**(up to 350m omni)**



**VX200**  
Industrial CPE  
2x2 MU-MIMO802.11ac  
wave2  
**(Up to 350m omni)**

## FWA



**BX700  
PTMP**  
4.9-6.0Ghz



**BX270  
PTMP (CPE)**  
4.9-6.0Ghz



**BX500-N  
PTP**  
4.9-6.0Ghz



**BX500-X  
PTP**  
4.9-6.0Ghz

## Controller & Solution



**AltaiGate**  
Enterprise-Grade WLAN  
Controller  
NGFW & IoT Discovery



**AltaiCare**  
Cloud Management  
Platform



**Altai Analytics and  
Location Engine**



**Industrial Switch**

Powered by

Certified  
Complied & other Local type  
approvals

\*Rating  
IP67+

\*Operating Temperature  
-40°C to 60°C

**ALTAI**  
Super WiFi

---

## Key Technology Highlights

# Highlights of Patented Core Technologies

## 20+ Core Patents filed in China and US

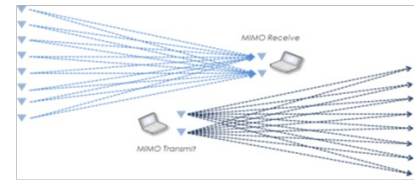


## Patent Coverage:

- Adaptive interference control
- Antenna beam scanning for improved communications
- Fair weighted network congestion avoidance
- Multi-function wireless systems and methods
- Wireless cable
- WLAN access point with extended coverage area
- Low cost, multi-beam, multi-band and multi-diversity antenna for wireless communications
- Managing wireless communications using link space information
- and more

## Achievement & Application

### Super Smart Antenna Technologies



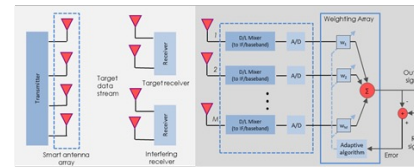
### Super Coverage



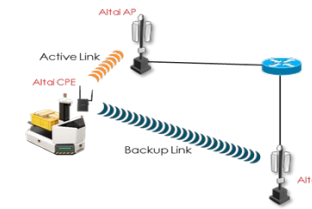
### Super Interference Immunity



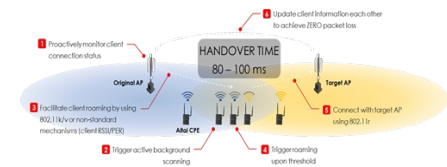
### Super WiFi capacity



### AlwaysConnected Solution for Automation

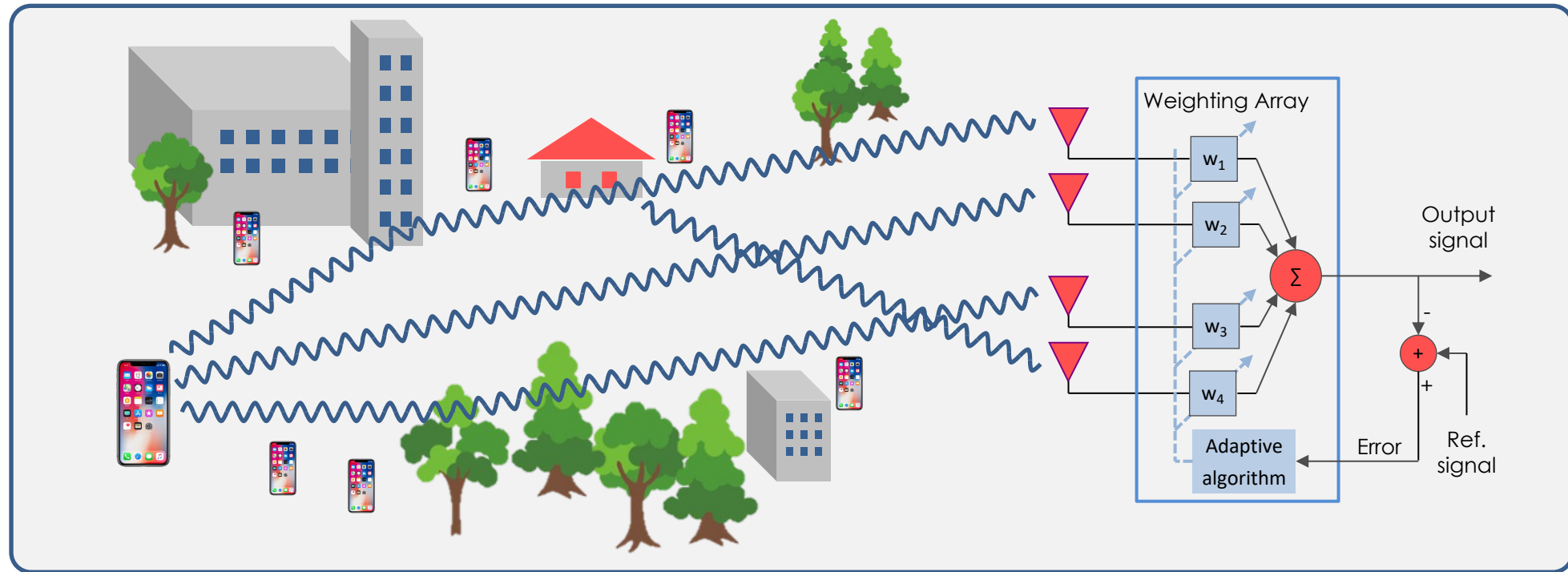


### Fast Handover and Smart Roaming for Automation



## Altai A8n(ac) Series Smart Antenna Technology

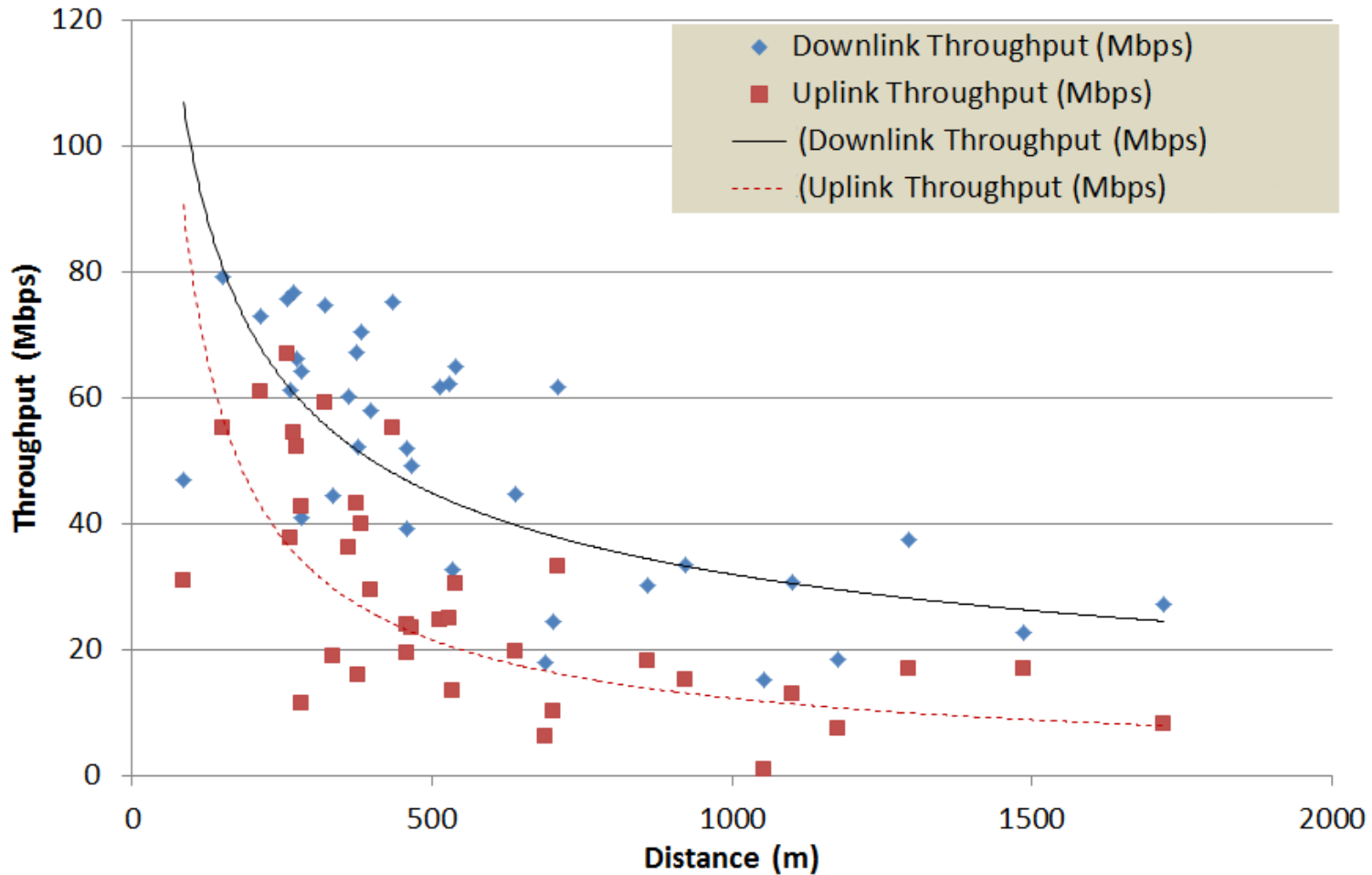
- » **8x8 MIMO array:** Take advantage of multi-path signals to achieve high diversity gain in NLOS environment.
- » **Patented smart antenna algorithm:** Analyze all the Rx signal paths to achieve a higher uplink signal level, hence improving uplink performance for those low-powered devices.





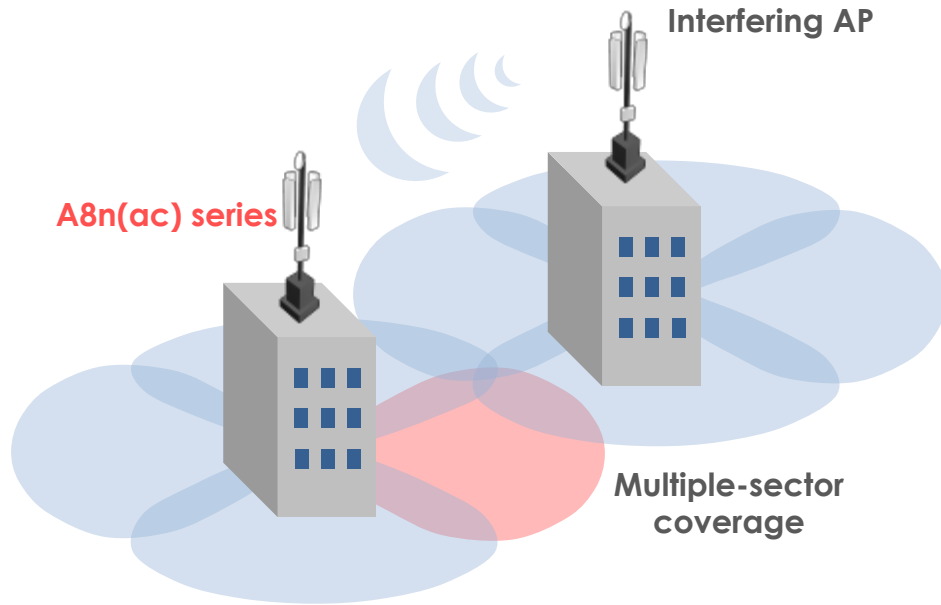
## A8n(ac) Series Coverage

- » A8-Ein(ac) supports 80 Mbps @ 2.4G downlink at 150 m
- » A8-Ein(ac) supports 27 Mbps @ 2.4G downlink throughput at 1.7 km LOS

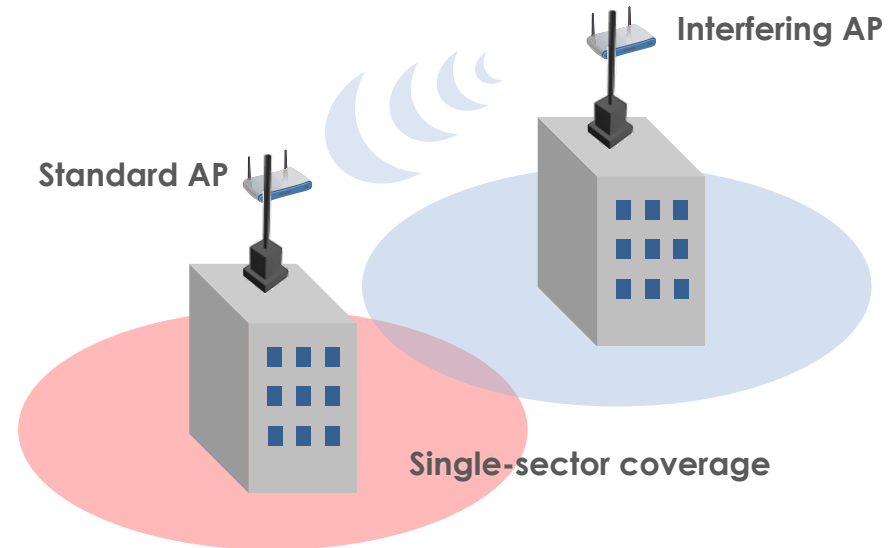


# Better Interference Mitigation for A8n(ac) Series

*When the base station is interfered by adjacent site, only one sector affected and other sectors can still work properly*

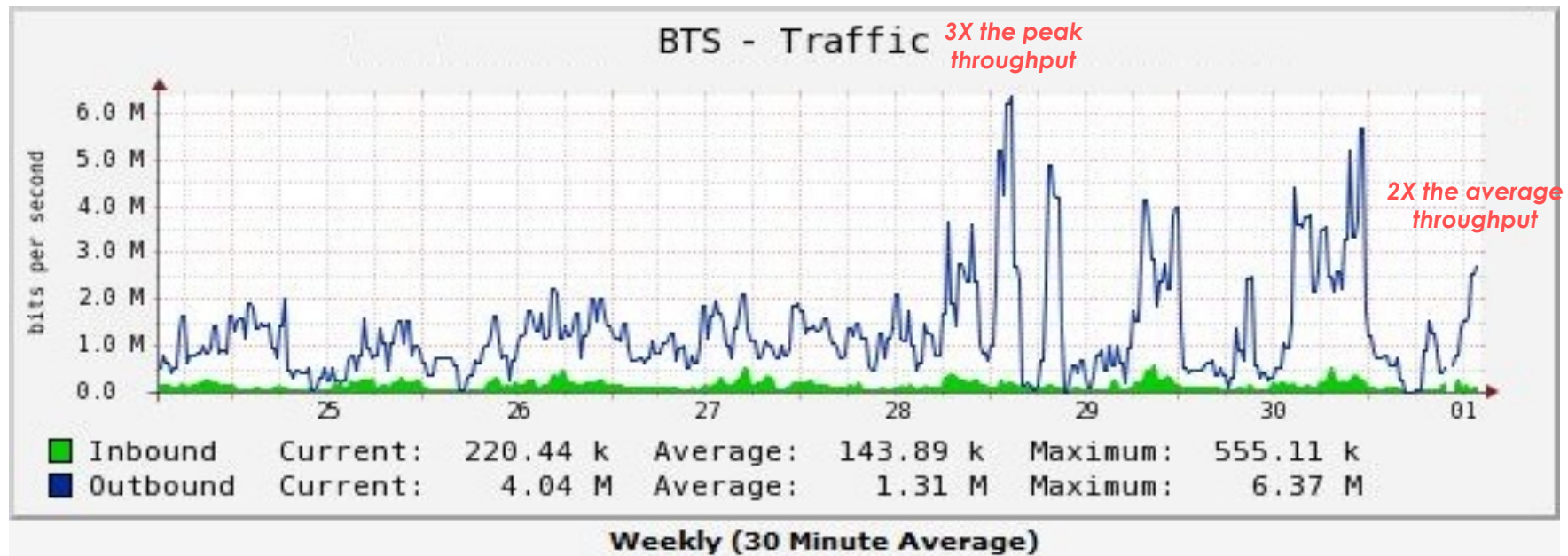


When the AP is interfered by adjacent site, the whole omni sector is affected



# AirFi Throughput Optimization

- » The Altai AirFi throughput optimization algorithm implemented at the Wi-Fi layer, increasing its average throughput capacity by a factor of 2 and more
- » Great improvement in response time from 3,000 to 50 ms was recorded
- » The optimization is most significant when the throughput degradation is due to slow-speed clients



AirFi OFF



AirFi ON

# Multi-AP Steering

## Goal:

Dynamically select the best possible Wi-Fi link for each device's connection

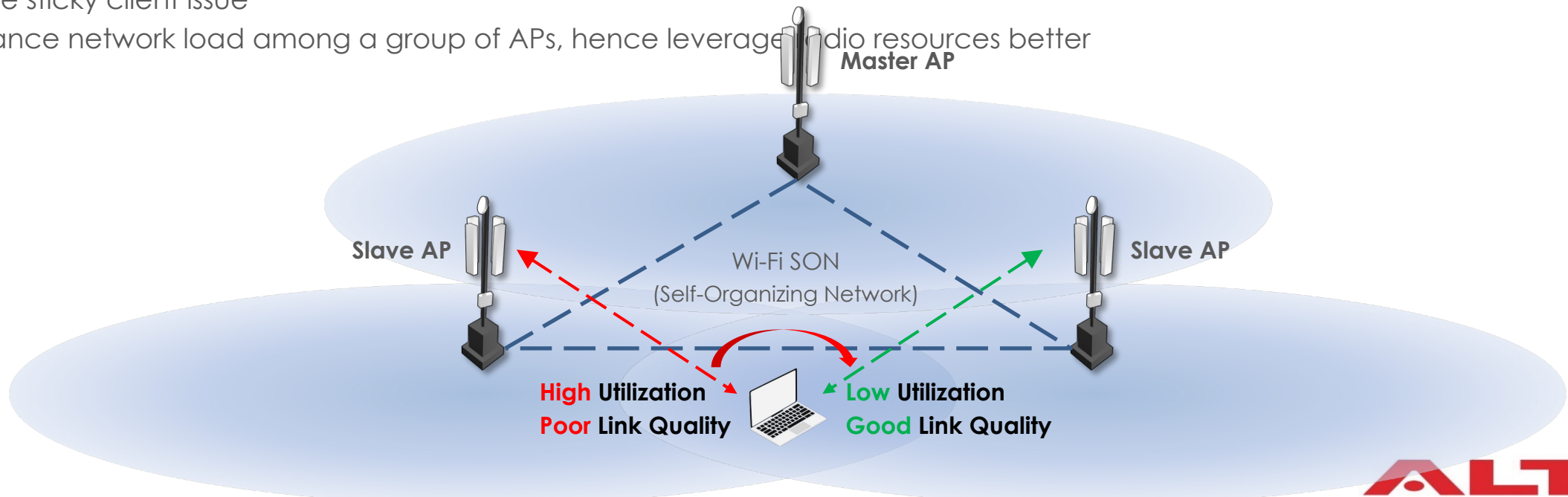
## How:

By monitoring

- » AP radio utilization
- » Link quality between AP and client

## Advantages:

- » Solve sticky client issue
- » Balance network load among a group of APs, hence leverage radio resources better



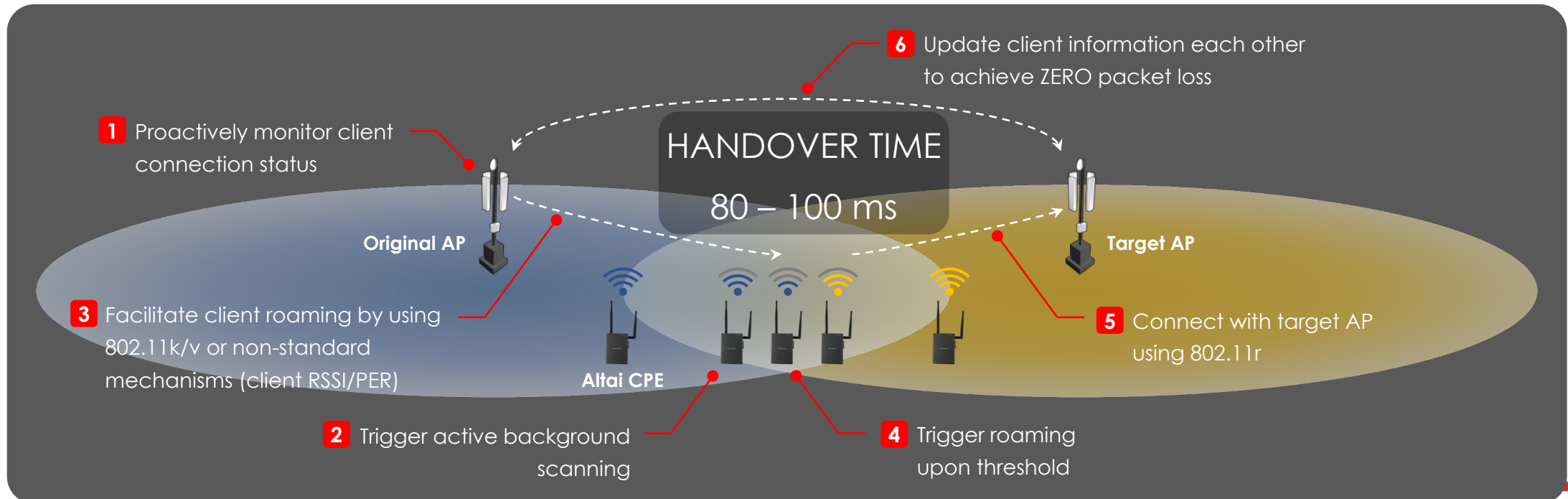


# Smart Roaming

**Fast Handover** – Enhanced active background scanning and roaming threshold enable Altai CPE to have a handover time of 80 – 100 ms

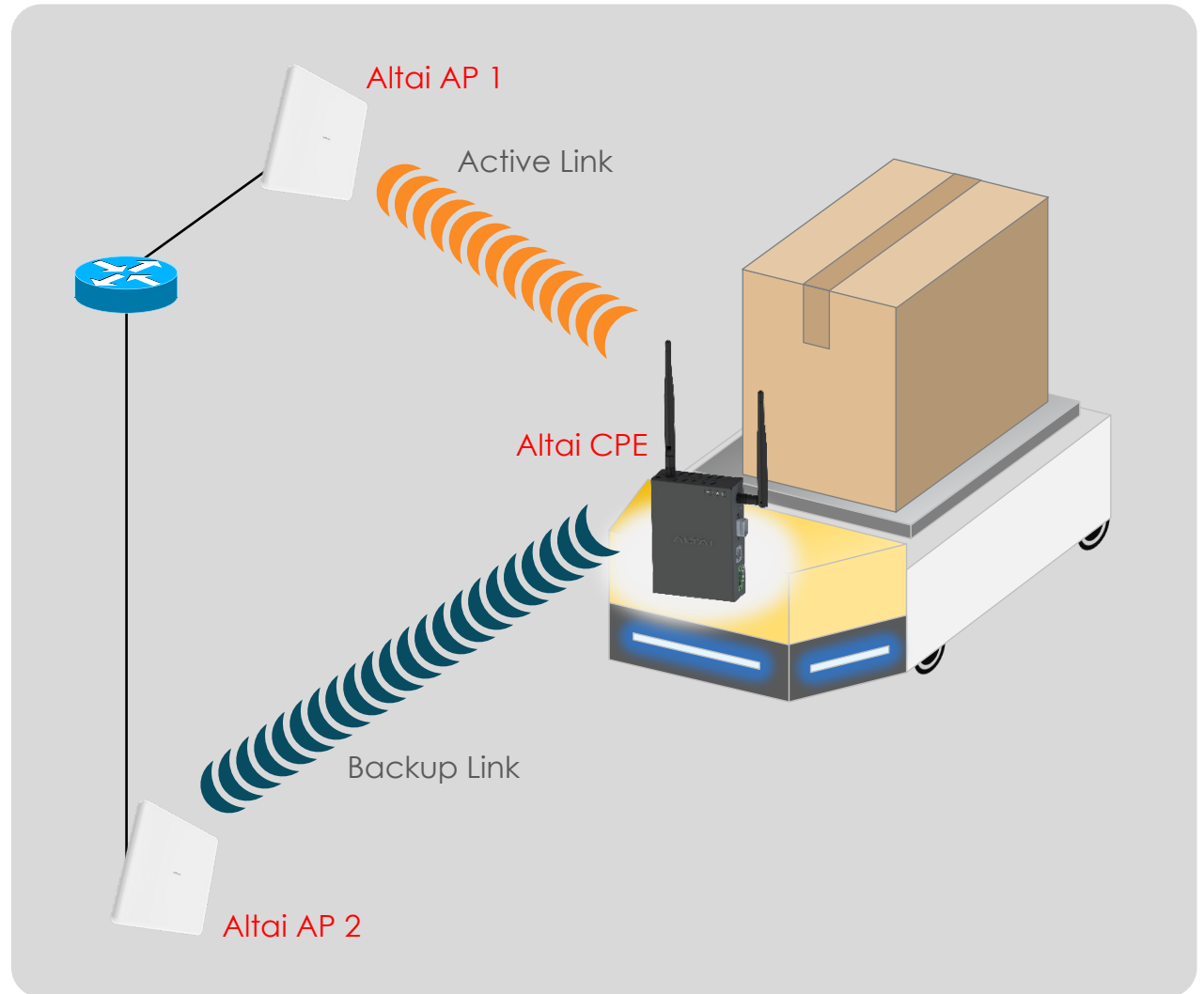
**Smart Roaming** – Altai AP proactively monitors client connection status and uses standard (802.11k/v/r) or non-standard mechanisms (client RSSI/PER) for facilitating client roaming to mitigate the effects of poor handover decisions made by clients alone

**Zero Packet Loss** – The Altai APs involved in roaming communicates with each other to enable intelligent packet buffering and forwarding, reducing packet loss to zero



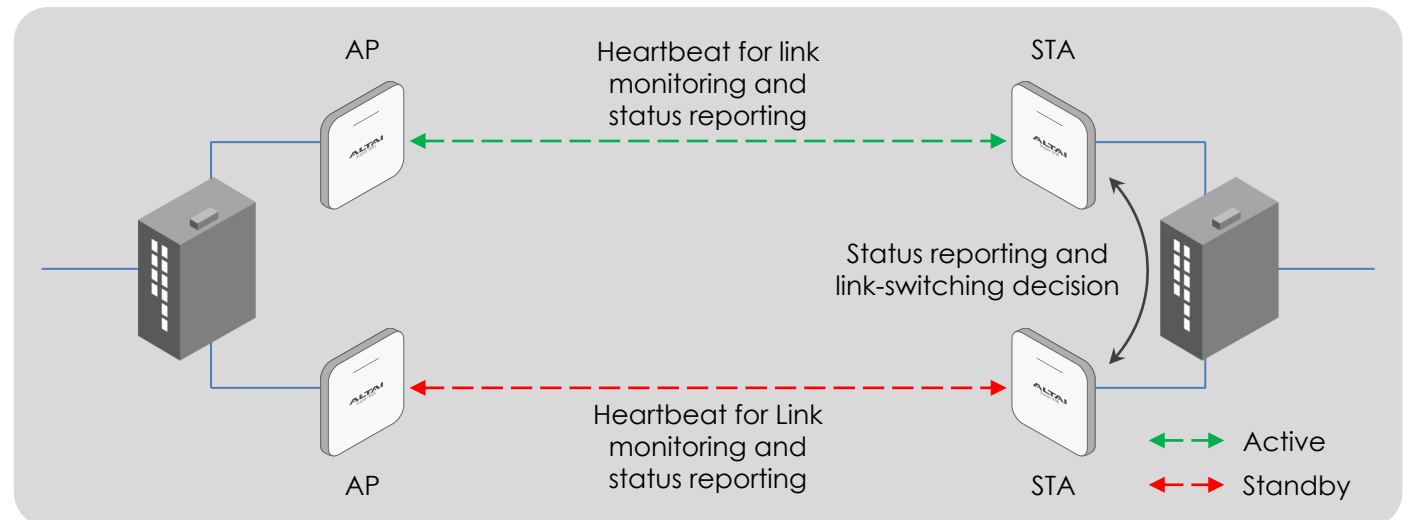
## AlwaysConnected Feature

- » The AlwaysConnected Solution allows a mobile unit to have multiple wireless connections to different APs concurrently
- » With fast loop avoidance and advanced dynamic link selection algorithm, multiple wireless links will always be available and data will be flowing through the optimal link
- » As there is no roaming involved, the handover time is < 10 ms
- » Two deployment scenarios
  - » **Multiple CPEs** – Two to three CPEs are installed in a mobile unit, usually only one of the bands will be utilized
  - » **Single Dual-Band CPE** – One CPE is installed in a mobile unit, both bands will be utilized



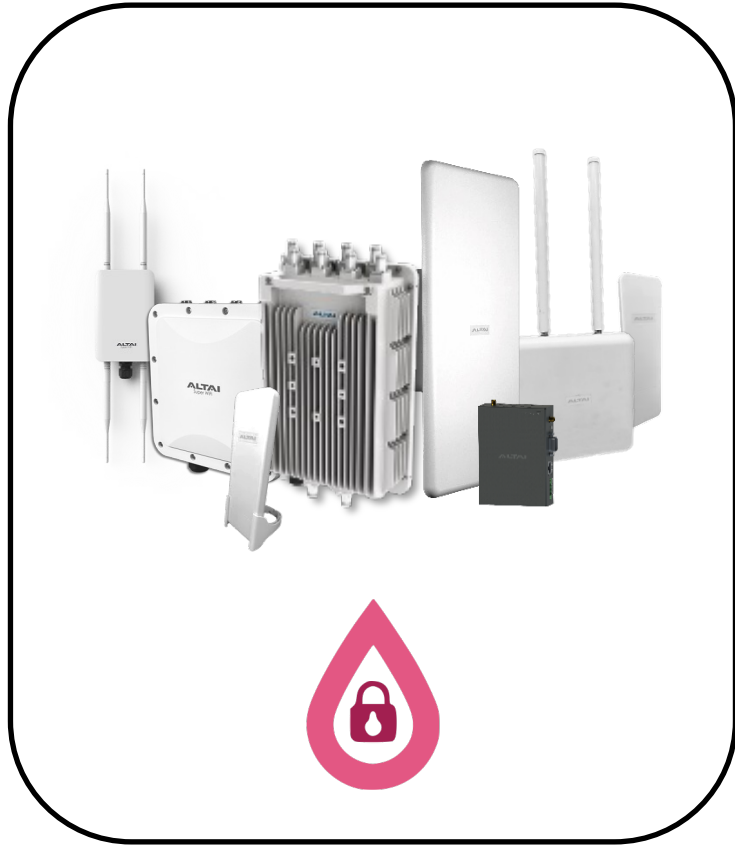
## AlwaysConnected for WISP Solution

- » AlwaysConnected feature is based on **Altai's proprietary link redundancy protocol**
- » Compared with other traditional redundancy protocols such as STP, ERPS, and LACP, Altai's AlwaysConnected solution can precisely and swiftly make the switchover decision by **actively monitoring the radio link's status**
- » The switchover time can be **down to 10ms**
- » Link selection by the following metrics:
  - » **Wireless interface status:** connected/disconnected
  - » **Ethernet interface status:** up/down
  - » **SNR** (user-defined threshold)
  - » **Link quality and stability** (heartbeat)



# Fully Protected and Secured Wireless Solution with Check Point

## Altai AP with Nano Agent



## Functions

Access Control

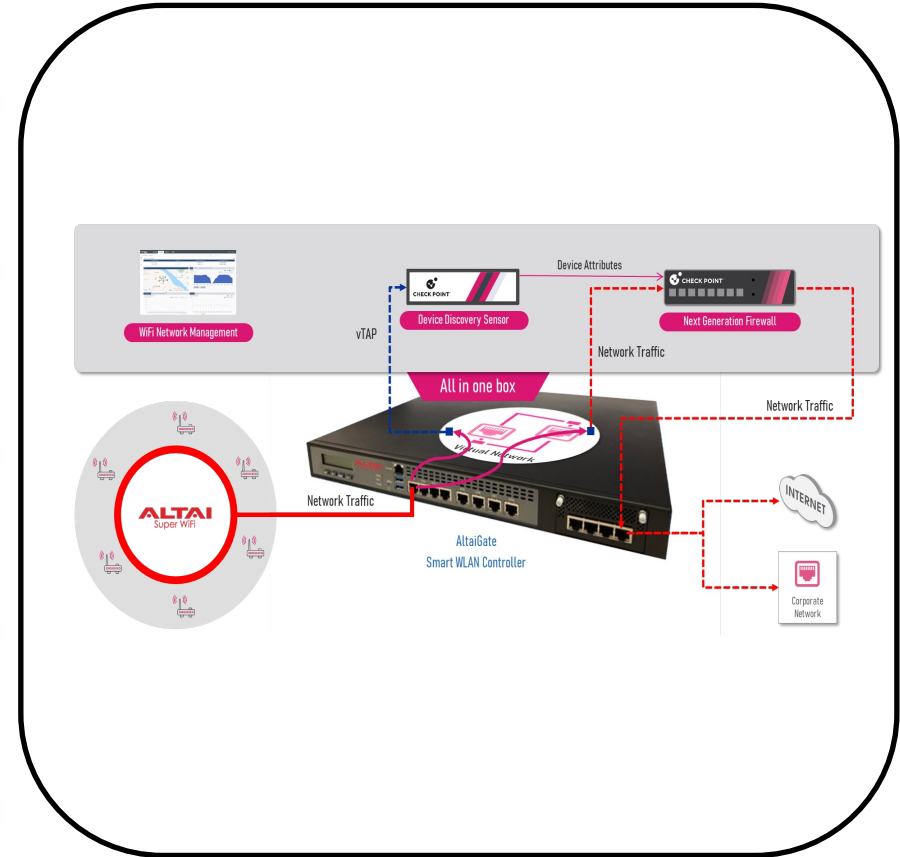
Login Protection  
(brute force attacks)

Privacy and User  
Data Protection

Runtime  
Protection

Zero-Day Threat  
Prevention

## Altai All in Box Management Controller



## Functions



VISIBILITY



ENFORCEMENT



RESPONSE

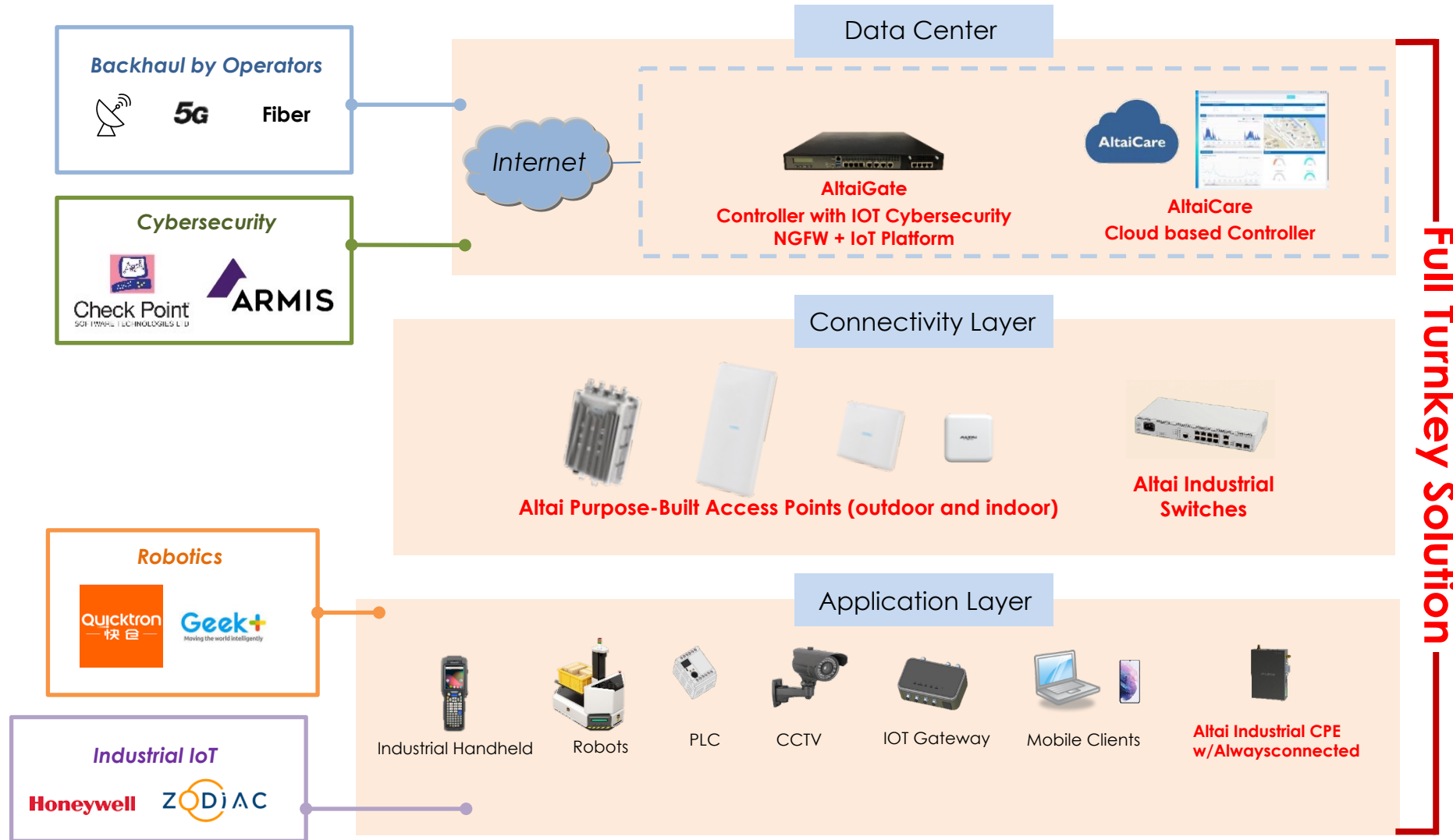


Cybersecurity



# Major Technology Ecosystem Partner

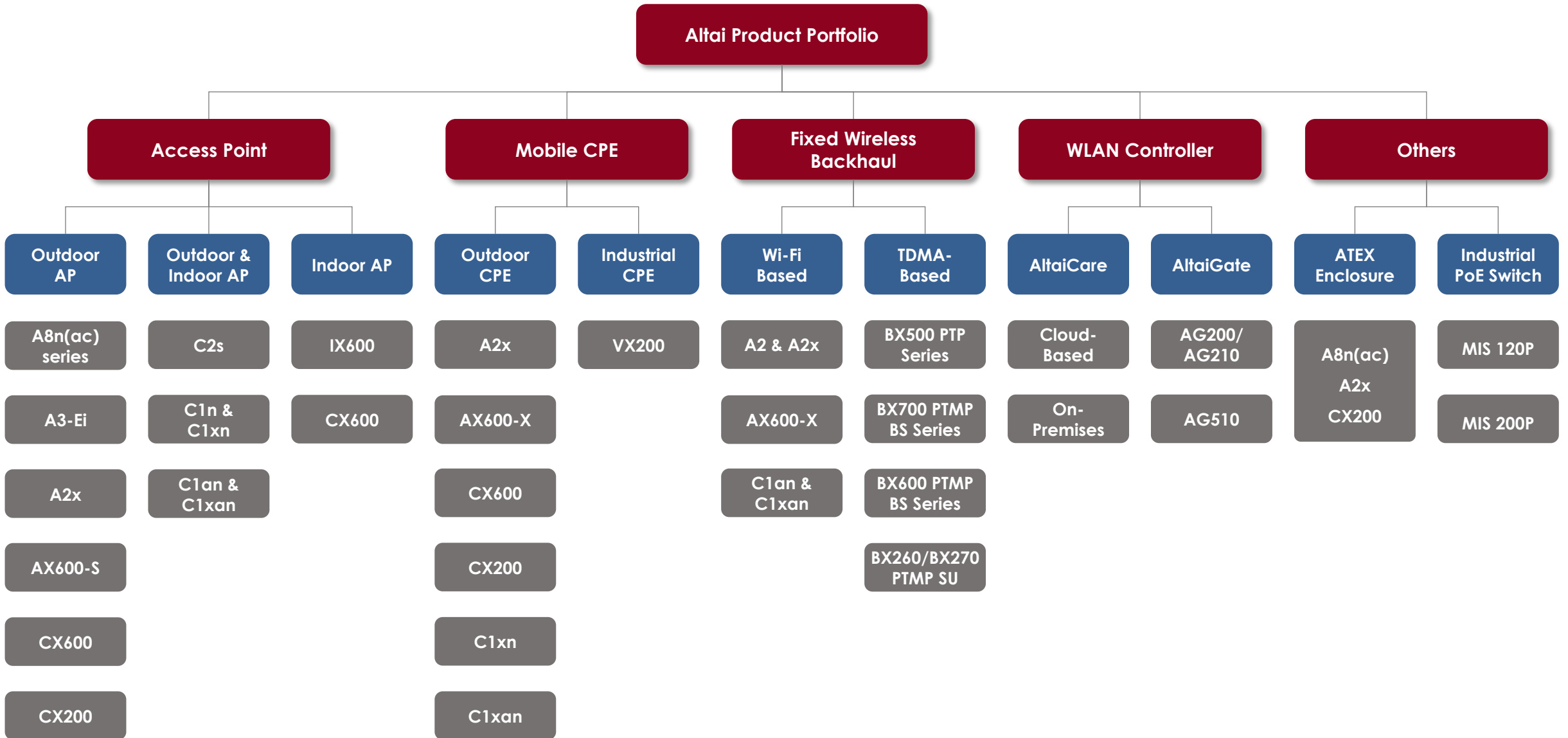
Completing Altai for a full turnkey solution



---

## Product Details

# Altai Product Portfolio by Function




---


## Access Points / CPEs

# Outdoor AP Lineup

## Macro Coverage



**A8-Ein (ac)**  
Smart Antenna  
2.4G Int. directional Ant.  
2.4G: 8x8, 802.11n  
5G: 2x2, 802.11ac  
**1.7 km** w/ 2.4G normal client  
**4 km** w/ C1n CPE




**A8n (ac)**  
Smart Antenna  
2.4G Ext. Antenna, 4 sectors  
2.4G: 8x8, 802.11n  
5G: 2x2, 802.11ac  
**1 km** w/ 2.4G normal client  
**3 km** w/ C1n CPE




**A8in (ac)**  
Smart Antenna  
2.4G Int. Omni Antenna  
2.4G: 8x8, 802.11n  
5G: 2x2, 802.11ac  
**1 km** w/ 2.4G normal client  
**3 km** w/ C1n CPE

## Micro Coverage, High Capacity




**A3-Ei**  
2.4G: 3x3, 802.11n  
5G: 3x3, 802.11ac  
Int. Directional Antenna  
**1 km** w/ 2.4G normal client  
**0.8 km** w/ 5G normal client




**AX600-S**  
2.4G: 2x2, 802.11ax  
5G: 2x2, 802.11ax  
Int. Directional Antenna  
**1 km** w/ 2.4G normal client  
**0.9 km** w/ 5G normal client

**Wi-Fi 6**




**AX600-X**  
2.4G: 2x2, 802.11ax  
5G: 2x2, 802.11ax  
Ext. Antenna for access coverage/wireless backhaul/mobile CPE

**Wi-Fi 6**




**A2x**  
2.4G: 2x2, 802.11ac  
5G: 2x2, 802.11ac  
Ext. Antenna  
**0.5 km** by 5dBi Omni w/ 2.4G normal client  
**0.4 km** by 7dBi Omni w/ 5G normal client

## Pico Coverage, High Capacity




**CX600**  
2.4G: 2x2, 802.11ax  
5G: 2x2, 802.11ax  
Ext. Omni Antenna  
**0.35 km** by 5dBi omni w/ 2.4G normal client  
**0.25 km** by 5dBi omni w/ 5G normal client

**Wi-Fi 6**




**CX200**  
2.4G: 2x2, 802.11n  
5G: 2x2, 802.11ac  
Ext. Omni Antenna  
**0.3 km** by 5dBi omni w/ 2.4G normal client  
**0.2 km** by 5dBi omni w/ 5G normal client




**C2s**  
2.4G: 2x2, 802.11n  
5G: 2x2, 802.11ac  
Int. Directional Antenna  
**0.6 km** w/ 2.4G normal client  
**0.7 km** w/ 5G normal client

## Pico Coverage, Single Band



**C1n / C1an**  
2.4G: 2x2, 802.11n  
5G: 2x2, 802.11n  
Int. Directional Antenna  
**0.8 km** w/ 2.4G normal client  
**1 km** w/ 5G normal client



**C1xn / C1xan**  
2.4G: 2x2, 802.11n  
5G: 2x2, 802.11n  
Ext. Antenna  
**0.5 km** by 5dbi Omni w/ 2.4G normal client  
**0.7 km** by 9dBi Omni w/ 5G normal client



**High Performance,  
High Capacity**



**Wi-Fi 6**

**IX600**  
2.4G: 2x2, 802.11ax  
5G: 2x2, 802.11ax  
Ceiling-Mount / Wall-Mount/Pole-Mount  
Int. Omni Antenna  
574Mbps + 1,200Mbps

**High Capacity**



**C2s**  
2.4G: 2x2, 802.11n  
5G: 2x2, 802.11ac  
Wall-Mount/Pole-Mount  
Int. Directional Antenna

**Affordable Single-Band**



**C1n / C1an**  
2.4G/5G: 2 x 2, 802.11n  
Wall-Mount / Pole-Mount  
Int. Directional Antenna

**Industrial AP & CPE**



**VX200**  
DIN-Rail Mount  
Dual-Band, MU-MIMO  
Fast Roaming  
Anti-Vibration

# A8 Series (Macro Coverage)

## What is Altai A8 series?

Altai A8 series is the industry's leading unique WiFi access point, which provides best in class coverage, achieving up to 1.7km LoS and 500m NLOS Coverage to any standard WiFi clients.

A8 series offer three models with different antenna configuration to provide installation flexibility including: A8n, A8Ein and A8in. A8 series A8n (omni coverage with external ant.), A8Ein (directional coverage with integrated ant.) and A8in (omni coverage with integrated ant).

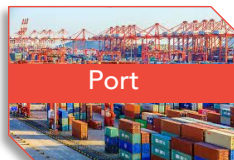
## Key Applications:

- Mission Critical Environment with large Mobile Coverage (e.g 100,000 ft<sup>2</sup>) for Vertical Markets for handheld terminal e.g. RFID scanner (Indoor and outdoor)
- Industrial handheld terminal e.g. RFID scanner (Indoor and outdoor)
- Cellular Co-location for 3G/4G Data Offload (outdoor)
- Wireless Broadband (with CPE) (outdoor)
- Smart City Coverage (outdoor)

## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- Bridge for 5GHzHz

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



Smart Cities



Hospitality



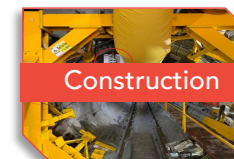
Retail & SMB



Airport MRO



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# A8 Series

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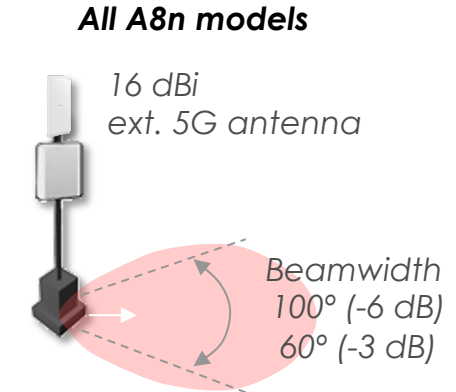
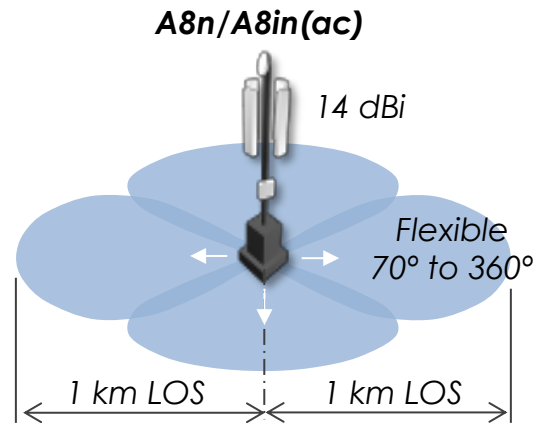
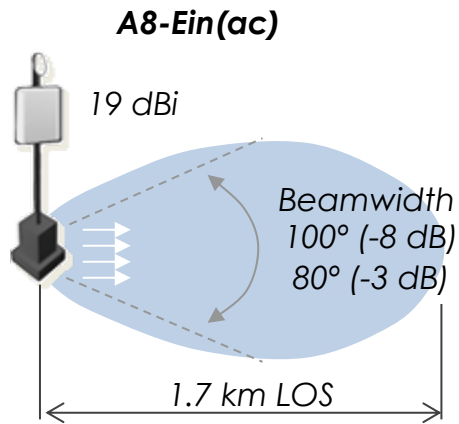
## Key Selling Points

- Best-in-class smart antenna system delivers extended coverage without any dead spots and zero downtime redundant coverage
- Maximize coverage per site with limited cabling
- Effective Total Cost of Ownership
- Withstand harsh with IP67 rating
- Mitigate noisy environment with smart antenna system and high-quality band filtering system
- Easy to manage and use via controller

## Suggested Bundled Solution:

- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- CPE including VX or C series
- MIS600P Industrial 12 Gigabit Ports Managed PoE Switch
- Outdoor 55VDC AC/DC PoE Injector with Lightning Protection Package

# A8 series Coverage Performance Overview



Note: The range will be varied depending on NLOS and interference conditions

	2.4GHz				5GHz	
	With laptops / smartphones		With CPE (C1n)		With laptops / smartphones	With CPE (C1an)
Access range up to	A8-Ein(ac)	A8n/A8in(ac)	A8-Ein(ac)	A8n/A8in(ac)	All A8n models	All A8n models
LOS Open area	1.7 km	1 km	4 km	2.7 km	900 m	2.5 km
Rural	800 m	550 m	1.8 km	1.3 km	400 m	1.2 km
Suburban	500 m	350 m	1.2 km	800 m	300 m	750 m
Urban	350 m	250 m	800 m	500 m	200 m	450 m

# AX600-S (Micro Coverage)

## What is Altai AX600-S?

Altai AX600-S is a dual-band 2x2 802.11ax (WiFi 6) AP with compact integrated high-gain antennas that can offer both coverage and capacity. Its coverage to any standard WiFi client can be up to 1km (2.4GHz) and 900m (5GHz) under LOS condition. It has a maximum 1.77Gbps data rate (2.4GHz and 5GHz aggregated) that provides high throughput to wireless clients at distances.

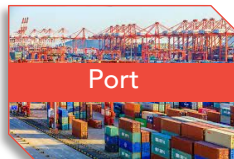
## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- Bridge for 5GHz

## Key Applications:

- Mid Mobile Coverage (50,000 ft<sup>2</sup>) for Vertical Markets for handheld terminal e.g. RFID scanner (Indoor and outdoor)
- Wireless Broadband (with CPE) (outdoor)
- Smart City Coverage (outdoor)

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



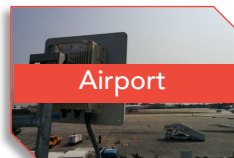
Smart Cities



Hospitality



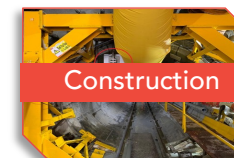
Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# AX600-S

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## Key Selling Points

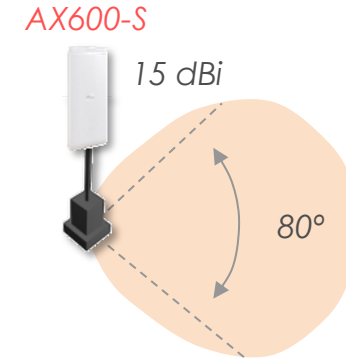
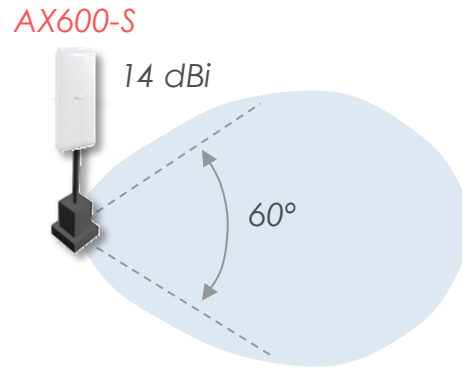
- Best price performance in coverage, data rate and concurrent user
- Zero Downtime Wireless Mobile Coverage
- Maximize coverage with limited site and cabling
- Effective Total Cost of Ownership
- Withstand harsh with IP67 rating
- Easy to manage and use via controller

## Suggested Bundled Solution:

- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- CPE including VX or C series
- Industrial PoE Switch: MIS120P and MIS200P
- Accessories: Indoor 56VDC AC/DC PoE Injector, Weatherproof Lightning Protector with Pole Mount Kit



# AX600-S Coverage Performance Overview



Note: The range will be varied depending on NLOS and interference conditions

	2.4GHz		5GHz	
Access range up to	With laptops / smartphones	With C1n CPE	With laptops / smartphones	With C1an CPE
Open area	1 km	2.7 km	900 m	2.5 km
Rural	550 m	1.3 km	400 m	1.2 km
Suburban	350 m	800 m	300 m	750 m
Urban	250 m	500 m	200 m	450 m

# AX600-S Competitive Analysis

Spec	AX600-S	Aruba AP-567	Aruba AP-567EX	Ruckus T350se
Max. LOS Access 2.4GHz (m)	1000	250	250	250
Max. LOS Access 5GHz (m)	900	200	200	200
Wi-Fi Standard	802.11a/b/g/n/ac/ax	802.11a/b/g/n/ac/ax	802.11a/b/g/n/ac/ax	802.11a/b/g/n/ac/ax
Aggregated Data Rate (Mbps)	1774	1774	1774	1774
No. Concurrent Users (Total)	512	512	512	512
MIMO	MU-MIMO 2x2	MU-MIMO 2 x 2	MU-MIMO 2 x 2	MU-MIMO 2 x 2
SSID	32	32	32	31

# A3-Ei (Micro Coverage)

## What is A3-Ei?

Altai A3-Ei is a dual-band 3x3 802.11ac (WiFi 5) AP with compact integrated high-gain antennas that can offer both coverage and capacity. Its coverage to any standard WiFi client can be up to 1km (2.4GHz) and 800m (5GHz) under LOS condition. It has a maximum 1.75Gbps data rate (2.4GHz and 5GHz aggregated) that provides high throughput to wireless clients at distances.

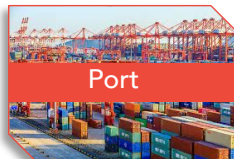
## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- Bridge for 5GHz

## Key Applications:

- Mid Mobile Coverage (50,000 ft<sup>2</sup>) for Vertical Markets for handheld terminal e.g. RFID scanner (Indoor and outdoor)
- Wireless Broadband (with CPE) (outdoor)
- Smart City Coverage (outdoor)

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



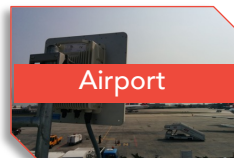
Smart Cities



Hospitality



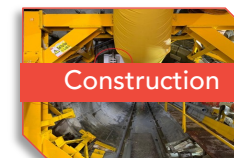
Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# A3-Ei

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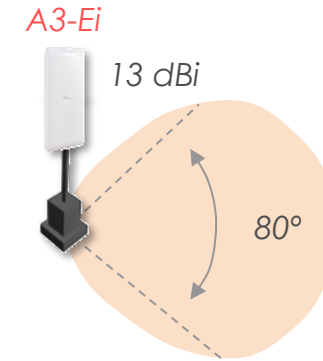
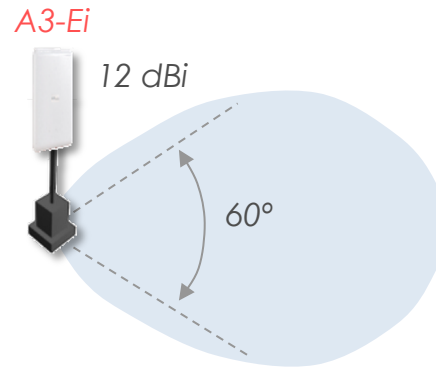
## Key Selling Points

- Best price performance in coverage, data rate and concurrent user
- Zero Downtime Wireless Mobile Coverage
- Maximize coverage with limited site and cabling
- Effective Total Cost of Ownership
- Withstand harsh with IP67 rating
- Easy to manage and use via controller

## Suggested Bundled Solution:

- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- CPE including VX or C series
- Industrial PoE Switch: MIS120P and MIS200P
- Accessories: Indoor 56VDC AC/DC PoE Injector, Weatherproof Lightning Protector with Pole Mount Kit

# A3-Ei series Coverage Performance Overview



Note: The range will be varied depending on NLOS and interference conditions

	2.4GHz		5GHz	
Access range up to	With laptops / smartphones	With C1n CPE	With laptops / smartphones	With C1an CPE
Open area	1 km	2.5 km	800 m	2.2 km
Rural	500 m	1.2 km	350 m	1 km
Suburban	300 m	750 m	250 m	650 m
Urban	200 m	450 m	150 m	350 m

# A3-Ei Competitive Analysis

Spec	Altai A3-Ei	Cambium e501S	Aruba AP-377	Aruba AP-367	Ruckus T710
Max. LOS Access 2.4GHz (m)	<b>1000</b>	200	250	220	300
Max. LOS Access 5GHz (m)	<b>800</b>	180	220	180	300
Wi-Fi Standard	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac
Aggregated Data Rate (Mbps)	1750	1167	2033	1167	2333
No. Concurrent Users (Total)	512	256	512	256	512
MIMO	SU-MIMO 3 x 3	SU-MIMO 2 x 2	MU-MIMO 2 x 2 + 4 x 4	MU-MIMO 2 x 2	4x4 SU-MIMO + 4x4 MU-MIMO
SSID	32	16	32	32	31



# A2 (Micro Coverage)

## What is Altai A2?

Altai A2 is a dual-band 2x2 802.11ac (WiFi 5) outdoor AP/bridge designed to be used either as an access point for micro coverage, or as a point-to-point and point-to-multipoint bridge that delivers wire-like throughput. It has a maximum data rate of 867Mbps on 5GHz and 300Mbps on 2.4GHz.

A2 series has two models: A2 with external 2.4 GHz antenna/built-in 5 GHz antenna and A2x with external antenna for both 2.4 GHz and 5 GHz.

## Key Applications:

- Smart City street-level coverage (outdoor)
- P2P and P2MP bridge
- CPE in Harsh Environment like Port, Oil & Gas industry

## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- CPE for 2.4GHz & 5GHz
- Bridge for 5GHz

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



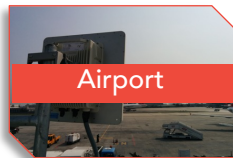
Smart Cities



Hospitality



Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# A2

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## Key Selling Points

- Effective to provide street-level micro coverage
- Reliable high-throughput, long-distance wireless bridge
- Weatherproof design suitable for quick outdoor deployment
- Withstand harsh industrial environment with IP67 rating
- Easy to manage and use via controller

## Suggested Bundled Solution:

- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- Industrial PoE Switch: MIS120P and MIS200P
- Accessories: Indoor 56VDC AC/DC PoE Injector, Weatherproof Lightning Protector with Pole Mount Kit

# A2 Coverage Performance Overview



	2.4GHz	5GHz
Access range up to	With laptops / smartphones	
Open area	500 m	900 m
Rural	200 m	400 m
Suburban	150 m	300 m
Urban	70 m	200 m

*Note: The range will be varied depending on NLOS and interference conditions*

# A2 Competitive Analysis

Spec	Altai A2	Aruba AP-375	Aruba AP-365	Ruckus T310
Max. LOS Access 2.4GHz (m)	500	200	150	120
Max. LOS Access 5GHz (m)	900	200	150	110
Wi-Fi Standard	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac
Aggregated Data Rate (Mbps)	1167	2033	1167	1167
No. Concurrent Users (Total)	512	512	256	512
MIMO	SU-MIMO 2x2	MU-MIMO 2 x 2 + 4 x 4	MU-MIMO 2 x 2	2x2 SU-MIMO + 2x2 MU-MIMO
SSID	32	32	32	31

# CX600 (indoor/outdoor) (Pico Coverage)

## What is Altai CX600?

Altai CX600 is a dual-band 2x2 802.11ax (Wi-Fi 6) AP with external antennas. It has a maximum 1.77Gbps data rate (2.4GHz and 5GHz aggregated) which can support high-speed, medium- to high-density applications. Use of external antennas makes it flexible for different scenarios. It's designed to be an outdoor AP with IP67 rating. However, its compact and aesthetic design makes it also applicable for indoor areas.

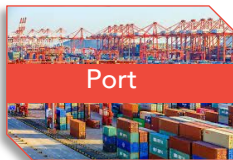
## Key Applications:

- Smart City street-level coverage (outdoor)
- Wireless Broadband
- Event, Fair, or Festival Gathering WiFi Access
- Venues with medium- to high-density users
- Industrial CPE for robots and vehicles

## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- Bridge for 5GHz
- CPE for 2.4GHz & 5GHz

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



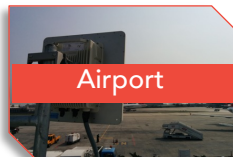
Smart Cities



Hospitality



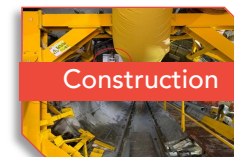
Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# CX600

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## Key Selling Points

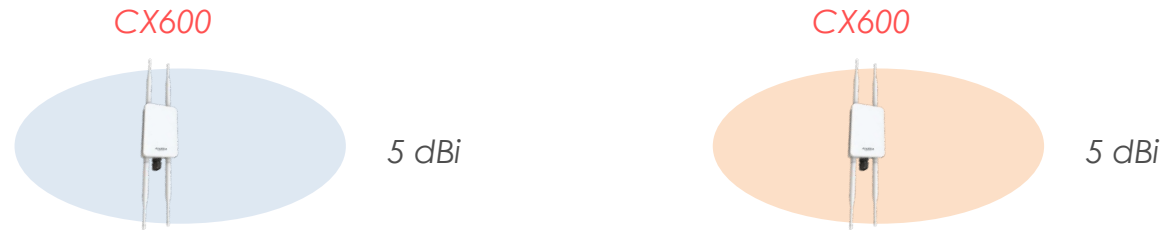
- Best price performance in coverage, data rate and concurrent user
- Weatherproof design suitable for quick outdoor deployment
- Compact design- easy to embed to robotics application as CPE
- Easy to manage and use via controller

## Suggested Bundled Solution:

- Access Point: A8, AX600 or A3-Ei
- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- Industrial PoE Switch: MIS120P and MIS200P
- Antenna for better coverage: 2.4G 10dBi Omni Antenna with RP-SMA Connectors, 5G 13dBi Omni Antenna with RP-SMA Connectors
- Accessories: Indoor 54VDC PoE injector, Weatherproof Lightning Protector with Pole Mount Kit



# CX600 Coverage Performance Overview



	2.4GHz	5GHz
Access range up to	With laptops / smartphones	
Open area	350 m	250 m
Rural	150 m	100 m
Suburban	100 m	60 m
Urban	50 m	40 m

Note: The range will be varied depending on NLOS and interference conditions

# CX600 Competitive Analysis

Spec	Altai CX600	Meraki MR76	Aruba AP-565	Aruba AP-565EX	Ruckus T350
Max. LOS Access 2.4GHz (m)	350	300	180	180	200
Max. LOS Access 5GHz (m)	250	200	160	160	150
Wi-Fi Standard	802.11a/b/g/n/ac/ax	802.11a/b/g/n/ac/ax	802.11a/b/g/n/ac/ax	802.11a/b/g/n/ac/ax	802.11a/b/g/n/ac/ax
Aggregated Data Rate (Mbps)	1774	1774	1774	1774	1774
No. Concurrent Users (Total)	512	512	512	512	512
MIMO	MU-MIMO 2x2	MU-MIMO 2x2	MU-MIMO 2 x 2	MU-MIMO 2 x 2	MU-MIMO 2x2
SSID	32	16	32	32	31

# CX200 (indoor/outdoor) (Pico Coverage)

## What is Altai CX200?

Altai CX200 is a dual-band 2x2 802.11ac Wave 2 (Wi-Fi 5) AP with external antennas. It has a maximum data rate of 867Mbps on 5GHz and 400Mbps on 2.4GHz which can support high-speed, medium- to high-density applications. Use of external antennas makes it flexible for different scenarios. It's designed to be an outdoor AP with IP67 rating. However, its compact and aesthetic design makes it also applicable for indoor areas.

## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- Bridge for 5GHz
- CPE for 2.4GHz & 5GHz

## Key Applications:

- Smart City Coverage (outdoor)
- Event, Fair, or Festival Gathering WiFi Access
- Venues with medium- to high-density users
- Industrial CPE for robots and vehicles

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



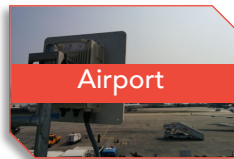
Smart Cities



Hospitality



Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# CX200

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## Key Selling Points

- Best in price performance in coverage, data rate and concurrent user
- Weatherproof design suitable for quick outdoor deployment
- Compact design- easy to embed to robotics application as CPE
- Easy to manage and use via controller

## Suggested Bundled Solution:

- Access Point: A8, AX600 or A3-Ei
- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- Industrial PoE Switch: MIS120P and MIS200P
- Antenna for better coverage: 2.4G 10dBi Omni Antenna with RP-SMA Connectors, 5G 13dBi Omni Antenna with RP-SMA Connectors
- Accessories: Indoor 54VDC AC/DC PoE injector, Weatherproof Lightning Protector with Pole Mount Kit

# CX200 Coverage Performance Overview



	2.4GHz	5GHz
<b>Access range up to</b>	<b>With laptops / smartphones</b>	
<b>Open area</b>	300 m	200 m
<b>Rural</b>	120 m	80 m
<b>Suburban</b>	80 m	50 m
<b>Urban</b>	40 m	30 m

*Note: The range will be varied depending on NLOS and interference conditions*

# CX200 Competitive Analysis

Spec	Altai CX200	Aruba AP-365	Aruba AP-367	Ruckus T310
Max. LOS Access 2.4GHz (m)	300	180	220	180
Max. LOS Access 5GHz (m)	200	150	180	150
Wi-Fi Standard	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac
Aggregated Data Rate (Mbps)	1267	1167	1167	1167
No. Concurrent Users (Total)	512	256	256	512
MIMO	MU-MIMO 2x2	MU-MIMO 2x2	MU-MIMO 2x2	MU-MIMO 2x2
SSID	32	32	32	31

# C2s (indoor/outdoor) (Pico Coverage)

## What is Altai C2s?

Altai C2s is a dual-band 802.11ac (WiFi 5) AP/Bridge with built-in directional antenna in a small chassis. It has a maximum data rate of 867Mbps on 5GHz and 300Mbps on 2.4GHz. With a GbE interface, it can deliver net throughput of hundreds of Mbps. In addition to being an AP to provide dual-band WiFi access, C2s can also work in pairs to form high-throughput PTP bridge links. It has IP55 rating and can be used both indoor and outdoor.

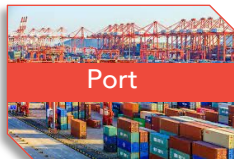
## Key Applications:

- Small and medium-sized enterprises
- Multiple Dwelling Unit
- Event, Fair, or Festival Gathering WiFi Access
- Venues with medium- to high-density users
- CPE for wireless broadband service

## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- Bridge for 5GHz
- CPE for 2.4GHz & 5GHz

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



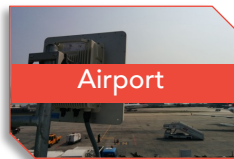
Smart Cities



Hospitality



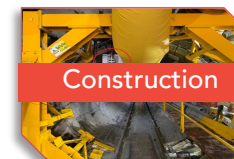
Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education



# C2s

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## Key Selling Points

- Best price performance in coverage, data rate and concurrent user
- Weatherproof design suitable for quick outdoor deployment
- Compact dual band access point
- Economical solution for short-distance ( $\leq 2$ km) bridge
- Easy to manage via controller

## Suggested Bundled Solution:

- Access Point: A8, AX600 or A3-Ei
- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- Accessories: Weatherproof Lightning Protector with Pole Mount Kit

# C2s Competitive Analysis

Spec	Altai C2s	Cambium e501S	Aruba AP-367
Max. LOS Access 2.4GHz (m)	600	200	220
Max. LOS Access 5GHz (m)	700	180	180
Wi-Fi Standard	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac
Aggregated Data Rate (Mbps)	1167	1167	1167
No. Concurrent Users (Total)	512	256	256
MIMO	SU-MIMO 2 x 2	SU-MIMO 2 x 2	SU-MIMO 2 x 2
SSID	32	32	32

# C1n (indoor/outdoor) (Pico Coverage)

## What is Altai C1n?

Altai C1n is an 802.11b/g/n (2.4GHz) WiFi AP/CPE with built-in directional antenna in a small chassis. Its large Tx power (29dBm) and high antenna gain (10dBi) lead to unparalleled long-range coverage capability among products of similar sizes. In addition to being an AP to provide WiFi access, C1n can also work as a CPE to provide wireless backhaul, e.g., for home broadband users. It has IP55 rating and can be used both indoor and outdoor.

There's also an external-antenna version C1xn, which can be equipped with high-gain sector antenna for better coverage or omni antenna for working as CPE for mobile stations.

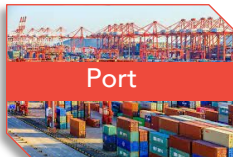
## Key Applications:

- City-Wide Hotspot Coverage
- Remote Area Coverage
- CPE for Wireless Broadband
- Home Wireless Router, especially with satellite service

## Operational Modes:

- Access Point for 2.4GHz
- CPE for 2.4GHz

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



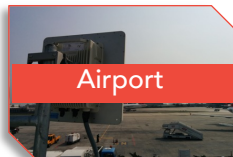
Smart Cities



Hospitality



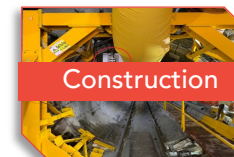
Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# C1n

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## Key Selling Points

- Best in price performance in access coverage
- More Wireless Features in the same category
- Better Reliability and Stability

## Suggested Bundled Solution:

- Access Point: A8, AX600 or A3-Ei
- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- Antenna for better coverage with C1xn: 2.4G 15dBi sector antenna

# C1n Competitive Analysis

Spec	Altai C1n	Altai C1xn	Ubiquiti NanoStation M2	Mikrotik BaseBox 2
Max. LOS Access 2.4GHz (m)	800	1200 (15 dBi external sector)	13000 #	External Antenna
Wi-Fi Standard	802.11b/g/n	802.11b/g/n	802.11b/g/n, airMAX (TDMA)	802.11b/g/n
Aggregated Data Rate (Mbps)	300	300	150	300
No. Concurrent Users (Total)	256	256	<=50 (PTMP bridge)	2007 *
MIMO	2 x 2	2 x 2	2 x 2	2 x 2
SSID	16	16	NA	127 +

# TDMA bridge application

\* Software config limit, not necessarily practical

+ Software config limit, recommended <=30 by vendor

# C1an (indoor/outdoor) (Pico Coverage)

## What is Altai C1an?

Altai C1an is an 802.11a/g/n (5GHz) WiFi AP/CPE with built-in directional antenna in a small chassis. Its large Tx power (29dBm) and high antenna gain (14dBi) lead to unparalleled long-range coverage capability among products of similar sizes. It has IP55 rating and can be used both indoor and outdoor.

There's also an external-antenna version C1xan, which can be equipped with high-gain sector antenna for better coverage or omni antenna for working as CPE for mobile stations.

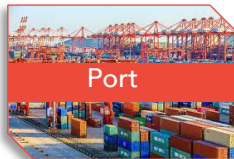
## Operational Modes:

- Access Point for 5GHz
- CPE for 5GHz
- Bridge for 5GHz

## Key Applications:

- Hotspot Coverage
- 5GHz PTP bridge link, e.g, for campus building interconnection
- CPE for Wireless Broadband
- Video Surveillance: CPE for video cameras

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



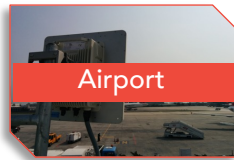
Smart Cities



Hospitality



Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# C1an

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## **Key selling points:**

- A cost effective wireless bridge
- More Wireless Features in the same category
- Better Reliability and Stability

## **Suggested Bundled Solution:**

- Access Point: A8, AX600 or A3-Ei
- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- Antenna for better coverage with C1xan: 5G 16dBi sector antenna

# C1an Competitive Analysis

Spec	Altai C1an	Altai C1xan	Ubiquiti NanoStation M5	Mikrotik BaseBox 5
Max. LOS Access 5GHz (m)	1000	1100 (16 dBi external sector)	15000 #	External Antenna
Wi-Fi Standard	802.11a/n	802.11a/n	802.11a/n, airMAX (TDMA)	802.11a/n
Aggregated Data Rate (Mbps)	300	300	150	300
No. Concurrent Users (Total)	256	256	<=50 (PTMP bridge)	2007*
MIMO	2 x 2	2 x 2	2 x 2	2 x 2
SSID	16	16	NA	127+

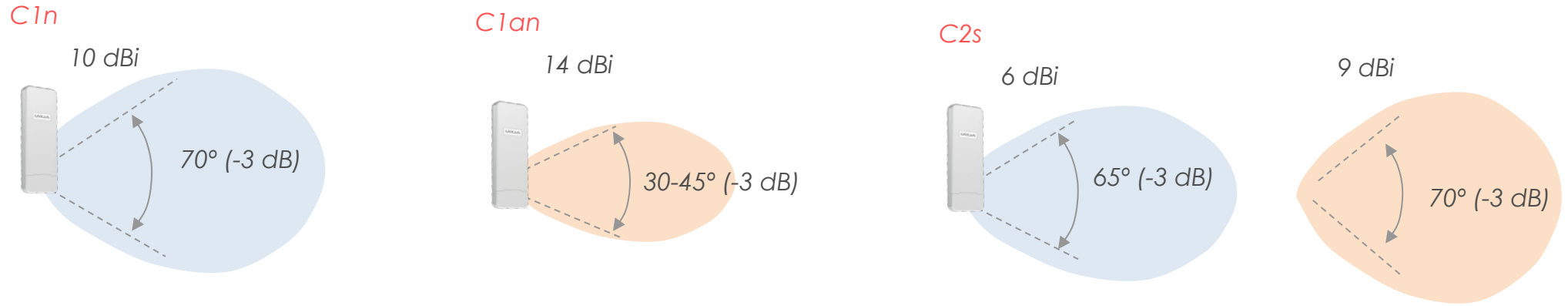
# TDMA bridge application

\* Software config limit, not necessarily practical

+ Software config limit, recommended <=30 by vendor



# C series Coverage Performance Overview



Note: The range will be varied depending on NLOS and interference conditions

Access range up to	C1xn 15 dBi 85° sector	C1n	C1xan 16 dBi 60° sector	C1an	C2s (2.4GHz)	C2s (5GHz)
Open area	1.2 km	800 m	1.1 km	1 km	600 m	700 m
Rural	600 m	400 m	500 m	450 m	300 m	300 m
Suburban	400 m	250 m	350 m	300 m	200 m	200 m
Urban	300 m	150 m	250 m	200 m	100 m	100 m

# IX600 (indoor)

## What is Altai IX600?

Altai IX600 is a dual-band 2x2 802.11ax (WiFi 6) indoor AP with integrated omnidirectional antenna. It has a maximum 1.77Gbps data rate (2.4GHz and 5GHz aggregated) that provides high throughput to wireless clients. It can be powered by 802.3af/at-compliant PoE switches, as well as 12VDC.

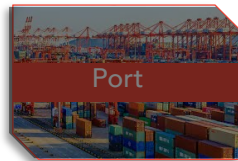
## Key Applications:

- Small and medium-sized enterprises
- Multiple Dwelling Unit
- Mall/Hotel/School
- Office/Meeting Room/Auditorium

## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- CPE for 2.4GHz & 5GHz

Suitable for following verticals



Port



Manufacturer



Agriculture



Warehouse



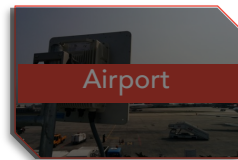
Smart Cities



Hospitality



Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# IX600

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## Key Selling Points

- Best in price performance in coverage, data rate and concurrent user
- Easy to manage via controller

## Suggested Bundled Solution:

- Controllers: AltaiGate 510, 210 & 200 & AltaiCare
- Industrial PoE Switch: MIS120P and MIS200P

# IX600 Coverage Performance Overview



	2.4GHz	5GHz
Access range up to	With laptops / smartphones	
Open area	350 m	250 m

*Note: The range will be varied depending on NLOS and interference conditions*

# IX600 Competitive Analysis

Spec	Altai IX600	Cambium XV2-2	Meraki MR36	Aruba AP-503	Aruba AP-505	Ruckus R350	Ruckus R550
Max. LOS Access 2.4GHz (m)	350	250	160	80	100	180	200
Max. LOS Access 5GHz (m)	250	250	160	60	80	150	150
Wi-Fi Standard	802.11a/b/g/n/a c/ax	802.11a/b/g/n/a c/ax	802.11a/b/g/n/a c/ax	802.11a/b/g/n/a c/ax	802.11a/b/g/n/a c/ax	802.11a/b/g/n/a c/ax	802.11a/b/g/n/a c/ax
Aggregated Data Rate (Mbps)	1774	1774	1774	1774	1774	1774	1774
No. Concurrent Users (Total)	512	512	1024	512	512	256	512
MIMO	MU-MIMO 2x2	MU-MIMO 2x2	MU-MIMO 2x2	MU-MIMO 2x2	MU-MIMO 2x2	MU-MIMO 2x2	MU-MIMO 2x2
SSID	32	32	16	32	32	16	31

# VX200 (Industrial)

## What is Altai VX200?

The Altai VX200 is an industrial CPE/AP specifically designed to deliver unparalleled Wi-Fi experience and highly reliable connectivity for industrial applications. It's a dual-band 2x2 802.11ac (WiFi 5) products with maximum data rates of 867Mbps on 5GHz and 400Mbps on 2.4GHz. Due to the wide operating temperature range and a robust design with enhanced surge, ESD, and vibration protection, VX200 can be used in harshest conditions with the highest reliability. It supports 802.3af/at PoE as well as 12~48VDC input. VX200 is equipped with external antennas.

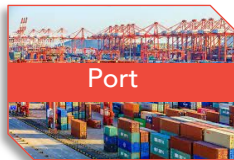
## Operational Modes:

- Access Point for 2.4GHz & 5GHz
- CPE for 2.4GHz & 5GHz

## Key Applications:

- Retro-fitting from traditional production line to Smart Manufacturing
- Automated guided vehicle in Logistics/Warehouse
- Automated Rubber Tired Gantry

Suitable for  
following  
verticals



Port



Manufacturer



Agriculture



Warehouse



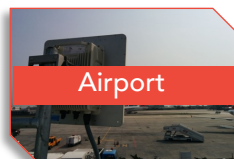
Smart Cities



Hospitality



Retail & SMB



Airport



Oil, Gas & Mining



Construction



Energy & Utilities



Telecom & ISP



Healthcare



Education

# VX200

---

## Key Selling Point

- Best Price Performance with Best-in-class RF design delivers extended coverage without any dead spots
- Advanced Seamless Roaming feature – Always Connected -- with Fast hand-over time of < 10 milliseconds & Redundant wireless connectivity with multiple APs
- Advanced graphene coating greatly improves product reliability in high-temperature industrial environments (surge, ESD, vibration, etc.)
- Support Industrial Protocol including Profinet

## Suggested Bundled Solution:

- Access Point: A8, AX600 or A3-Ei
- Controller: AltaiGate 510, 210 & 200 & AltaiCare
- Industrial PoE Switch: MIS120P and MIS200P

# VX200 Competitive Analysis

---

Features	Altai VX200	Moxa AWK-1131A	Siemens Scalance W774
Radio	Dual	Single	Single
Max data rate	867M	300M	300M
802.11 ac	Support	No	No
MU-MIMO	Support	No	No
Graphene Coating	Support	No	No
Price	Low	High	High



---

## PTP and PTMP Solution

# Altai PTP and PTMP Solution

Altai PTP And PTMP Solution has a variety of options in both TDMA and WiFi based. The configurations are based on the distance, throughput and application.

**PTP (WiFi based):** AX600-X, A2, A2x, C1an, C1xan, C2s

**PTP (TDMA based):** BX500 series

**PTMP (WiFi based):** A8/AX600-X/A2x +C2s/C1n/C1an

**PTMP (TDMA Based):** BX700/600 series + BX270/260 series

## Key Applications

- *High-Capacity, High-Reliability PTP Backhaul Links*
- *Microwave Replacement*
- *Campus Building Interconnection*
- *Video Security and Surveillance*
- *Smart City Advanced Traffic Management*

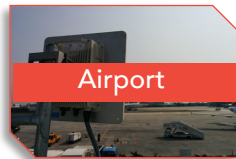
## Key Highlights

- No need to deploy fiber to achieve fast connectivity
- AlwaysConnected feature can provide link redundancy, with link switchover time down to 10ms
- By **actively monitoring the radio link's status**, traffic always run on the best link
- Easy to use cloud-based monitoring

## Target Audience

- Telcos
- Wireless ISPs
- Regional ISPs
- Enterprise or Municipal IT Managers
- Network Design Engineers
- Video Surveillance and Smart City System Integrators

Suitable for following verticals



# Wi-Fi 5GHz Bridge Lineup

## Long Range PtP



**A2x**  
5G: 2 x 2, 802.11ac  
Ext. Antenna  
**50 km** @ 34 dBi Dish Antenna

## Mid Range PtP



**A2(ac)**  
5G: 2 x 2, 802.11ac  
Int. 16 dBi Antenna  
**20 km**, LOS



**C1xan**  
5G: 2 x 2, 802.11n  
Ext. Antenna  
**20 km** @ 20 dBi Panel Antenna

## Short Range PtP



**C1an**  
5G: 2 x 2, 802.11n  
Int. 14dBi Antenna  
**10 km**, LOS

## Short Range PtMP



**CX200**  
5G: 2 x 2, 802.11ac  
Ext. Antenna, Omni / Sector



**A3-Ei**  
5G: 3 x 3, 802.11ac  
Int. 13 dBi Antenna  
Horizontal Coverage: **80°**



**C2s**  
5G: 2 x 2, 802.11ac  
Int. 9 dBi Antenna  
Horizontal Coverage: **70°**

# TDMA Bridge Lineup

## Point to Point



**BX500-N**  
22dBi Integrated Antenna @ 4.9-6.0GHz  
DL/UL ratio – Up to 88%/12%  
Up to **500Mbps throughput**  
Up to **40 km**



**BX500-X**  
External Antenna @ 4.9-6.0GHz  
DL/UL ratio – Up to 88%/12%  
Up to **500Mbps throughput**  
Up to **80 km**

## Point to Multi-Point Base Station



**BX750-S**  
17dBi 90°HBW Integrated Antenna @ 4.9-6.0 GHz  
Dual carrier, up to **1.5Gbps throughput**  
Up to 128 subscribers  
Up to **40 km**



**BX700-S**  
17dBi 90°HBW Integrated Antenna @ 4.9-6.0 GHz  
Single carrier, up to **750Mbps throughput**  
Up to 64 subscribers  
Up to **40 km**



**BX600-S**  
17dBi 90°HBW Integrated Antenna @ 4.9-6.0 GHz  
Up to **250Mbps throughput**  
Up to 16 subscribers  
Up to **40 km**



**BX600-X**  
External Antenna @ 4.9-6.0 GHz  
Up to **250Mbps throughput**  
Up to 16 subscribers  
Up to **40 km**

## Point to Multi-Point Subscriber



**BX270-N**  
22dBi Integrated Antenna @ 4.9-6.0 GHz  
Up to **500Mbps throughput**  
Up to **40 km**

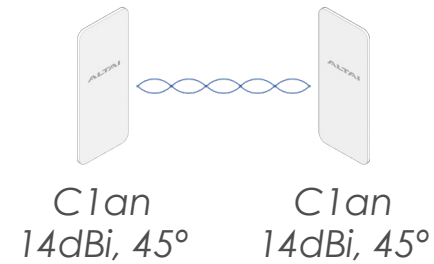


**BX270-X**  
External Antenna @ 4.9-6.0 GHz  
Up to **500Mbps throughput**  
Up to **40 km**

**BX260-N**  
22dBi Integrated Antenna @ 4.9-6.0 GHz  
Up to **250Mbps throughput**  
Up to **40 km**

**BX260-X**  
External Antenna @ 4.9-6.0 GHz  
Up to **250Mbps throughput**  
Up to **40 km**

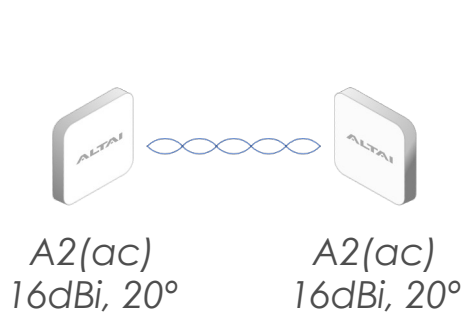
# 802.11an PTP Wireless Bridge



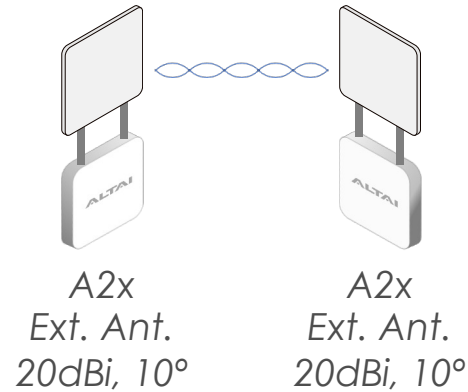
Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)
<b>0.5</b>	87	96
<b>1</b>	87	96
<b>2</b>	87	96
<b>5</b>	72	96
<b>10</b>	28	44
<b>15</b>	6	NA
<b>20</b>	NA	NA

\* The throughput varies depending on wireless conditions and limited by the Fast Ethernet Port.

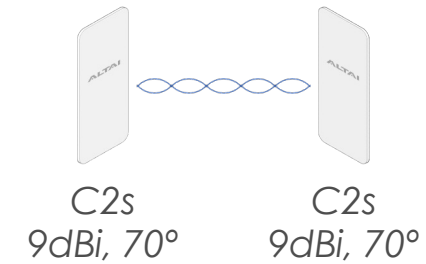
# 802.11ac PTP Wireless Bridge



Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)	TP @ 80MHz (Mbps)
<b>0.5</b>	104	240	520
<b>1</b>	104	240	520
<b>2</b>	104	240	520
<b>5</b>	79	165	215
<b>10</b>	56	87	94
<b>15</b>	26	41	29
<b>20</b>	18	13	NA



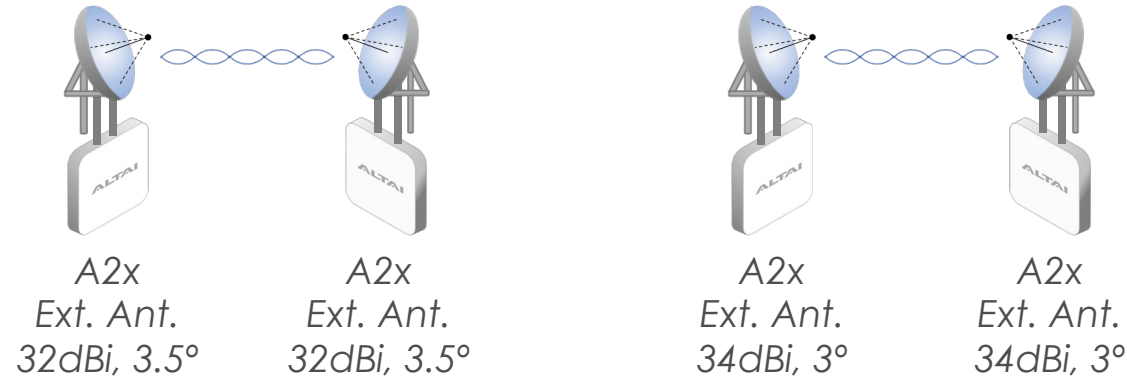
Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)	TP @ 80MHz (Mbps)
<b>0.5</b>	104	240	520
<b>1</b>	104	240	520
<b>2</b>	104	240	520
<b>5</b>	95	198	358
<b>10</b>	70	131	189
<b>15</b>	52	81	88
<b>20</b>	24	38	27



Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)	TP @ 80MHz (Mbps)
<b>0.5</b>	104	240	390
<b>1</b>	104	240	390
<b>2</b>	87	180	234
<b>5</b>	32	50	36
<b>10</b>	NA	NA	NA
<b>15</b>	NA	NA	NA
<b>20</b>	NA	NA	NA

\* The throughput varies depending on wireless conditions.

# 802.11ac PTP Wireless Bridge

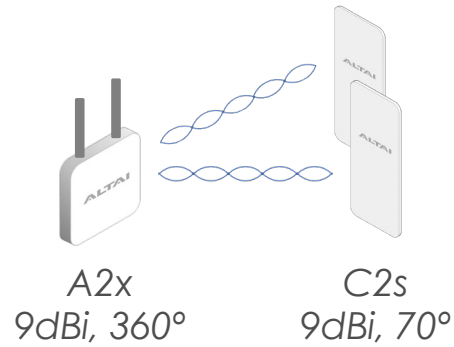


Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)	TP @ 80MHz (Mbps)
2	104	240	520
4	97	224	485
10	84	193	419
20	72	167	361
30	61	126	228
40	55	95	185
50	41	85	111

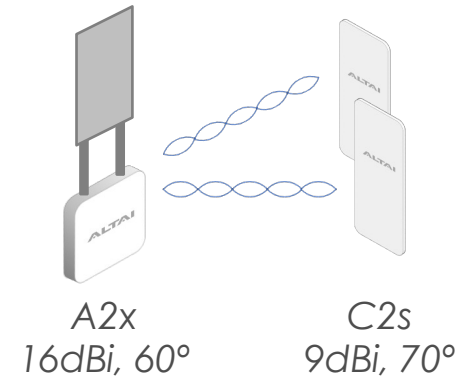
Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)	TP @ 80MHz (Mbps)
2	104	240	520
4	97	224	485
10	84	193	419
20	72	167	361
30	61	140	303
40	55	114	206
50	49	85	166

\* The throughput varies depending on wireless conditions.

# 802.11ac PTMP Wireless Bridge



Dist. (km)	TP @ 20MHz (Mbps)	TP @ 40MHz (Mbps)	TP @ 80MHz (Mbps)
<b>0.5</b>	104	240	468
<b>1</b>	104	240	429
<b>2</b>	87	180	234
<b>5</b>	32	50	36
<b>10</b>	NA	NA	NA
<b>15</b>	NA	NA	NA
<b>20</b>	NA	NA	NA

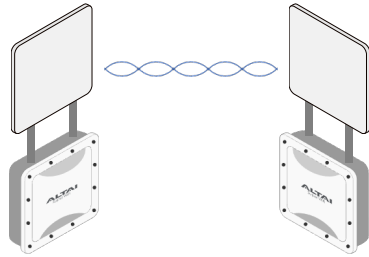


Dist. (km)	TP @ 20MHz (Mbps)	TP @ 40MHz (Mbps)	TP @ 80MHz (Mbps)
<b>0.5</b>	104	240	520
<b>1</b>	104	240	520
<b>2</b>	104	198	390
<b>5</b>	68	99	107
<b>10</b>	21	36	NA
<b>15</b>	6	NA	NA
<b>20</b>	NA	NA	NA

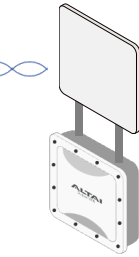
\* The throughput varies depending on wireless conditions.



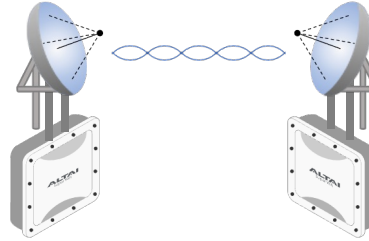
# 802.11ax PTP Wireless Bridge



AX600-X  
Ext. Ant.  
20dBi, 10°



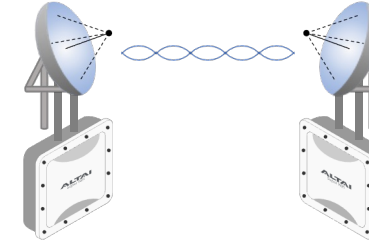
AX600-X  
Ext. Ant.  
20dBi, 10°



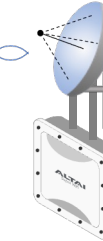
AX600-X  
Ext. Ant.  
32dBi, 3.5°



AX600-X  
Ext. Ant.  
32dBi, 3.5°



AX600-X  
Ext. Ant.  
34dBi, 3°



AX600-X  
Ext. Ant.  
34dBi, 3°

Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)	TP @ 80MHz (Mbps)
<b>0.5</b>	172	344	721
<b>1</b>	172	344	721
<b>2</b>	172	344	721
<b>5</b>	158	284	528
<b>10</b>	100	166	313
<b>15</b>	70	93	195
<b>20</b>	43	57	90

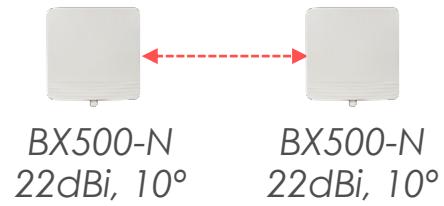
Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)	TP @ 80MHz (Mbps)
<b>2</b>	172	344	721
<b>4</b>	161	321	673
<b>10</b>	139	277	580
<b>20</b>	120	239	450
<b>30</b>	90	161	303
<b>40</b>	73	131	228
<b>50</b>	49	98	163

Dist. (km)	TP @ 20MHz (Mbps)	TP@ 40MHz (Mbps)	TP @ 80MHz (Mbps)
<b>2</b>	172	344	721
<b>4</b>	161	321	673
<b>10</b>	139	277	580
<b>20</b>	120	239	500
<b>30</b>	100	201	336
<b>40</b>	82	145	274
<b>50</b>	65	117	204

\* The throughput varies depending on wireless conditions.

# BX PTP Wireless Bridge

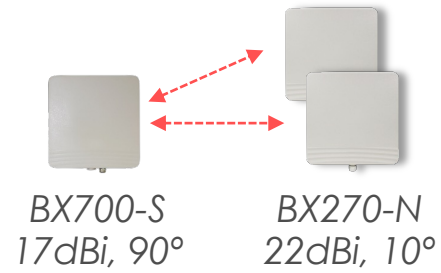
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Dist. (km)	DL/UL TP@ 80MHz (Mbps)
<b>0.5</b>	250/250
<b>1</b>	250/250
<b>2</b>	250/250
<b>5</b>	219/219
<b>10</b>	106/106
<b>15</b>	78/78
<b>20</b>	25/25

\* The throughput varies depending on wireless conditions.

# BX PTMP Wireless Bridge



Dist. (km)	DL/UL TP@ 80MHz (Mbps)
0.5	365/332
1	274/278
2	245/223
5	157/111
7	102/111
10	73/83
15	23/28

\* The throughput varies depending on wireless conditions.

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## WLAN Controllers

# WLAN Controller Overview

		ALTAICARE CLOUD	ALTAICARE ON-PREMISES	ALTAIGATE
Deployment Model		Cloud, SaaS	On-Prem, VMware-based	On-Prem, Appliance
Target Deployment Scenarios		SMBs	MNOs, WISPs	Enterprises, Verticals, WISPs
Max AP Number		Unlimited	3000	200/500
Credit/License Management		Credits; Pay as you grow	License (perpetual)	License (perpetual)
AP Management		✓	✓	✓
RADIUS Auth		✓	✓	✓
Active Directory Auth		✗	✓	✓
Portal Auth	Standard Login/ Guest Login/Sign-up	✓	✓	✓
	Social Login	✓	✗	✗
Next-Generation Firewall		✗	✗	# ✓
IoT Discovery		✗	✗	# ✓
Client Traffic Forwarding	Local Breakout	✓	✓	✓
	Tunneling	✗	✗	✓
HA Support		✓	✗	✓

#Applicable to AG500

## **Industrial Switches**

# Industrial PoE Switch Hardware Specifications and Feature Highlights

	MIS 120P	MIS 200P
<b>Copper Ports (RJ45)</b>	<ul style="list-style-type: none"> <li>4 x 10/100/1000 PoE Ports (PSE: IEEE802.3af/at, max 30W each)</li> </ul>	<ul style="list-style-type: none"> <li>8 x 10/100/1000 PoE Ports (PSE: IEEE802.3af/at, max 30W each)</li> <li>2 x 10/100/1000 non-PoE Ports</li> </ul>
<b>SFP/Mini-GBIC Slots</b>	<ul style="list-style-type: none"> <li>2 x 100/1000 SFP Slots</li> </ul>	<ul style="list-style-type: none"> <li>4 x 100/1000 SFP Slots</li> </ul>
<b>Installation</b>	<ul style="list-style-type: none"> <li>DIN-Rail Mount</li> </ul>	
<b>Enclosure</b>	<ul style="list-style-type: none"> <li>IP40 Aluminium Case</li> </ul>	
<b>Input Power</b>	<ul style="list-style-type: none"> <li>DC 48-57V, via 6-Pin Terminal Block</li> </ul>	
<b>Operating Temp.</b>	<ul style="list-style-type: none"> <li>-40°C to +80°C</li> </ul>	
<b>Humidity</b>	<ul style="list-style-type: none"> <li>5 to 90% (Non-Condensing)</li> </ul>	<ul style="list-style-type: none"> <li>5 to 95% (Non-Condensing)</li> </ul>
<b>Power Consumption</b>	<ul style="list-style-type: none"> <li>Max 8W</li> </ul>	<ul style="list-style-type: none"> <li>Max 12W</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>145 x 134.5 x 47.5 mm</li> </ul>	<ul style="list-style-type: none"> <li>165 x 148 x 54 mm</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>0.6kg</li> </ul>	<ul style="list-style-type: none"> <li>1.1kg</li> </ul>
<b>ESD Protection</b>	<ul style="list-style-type: none"> <li>Contact Discharge: ±8 kV</li> <li>Air Discharge: ±15 kV</li> </ul>	
<b>EFT Protection</b>	<ul style="list-style-type: none"> <li>Power Line: ±4 kV</li> <li>Data Line: ±2 kV</li> </ul>	

	MIS 120P	MIS 200P
<b>Software Highlights</b>	<ul style="list-style-type: none"> <li>ERPS redundant ring technology</li> <li>STP/RSTP/MSTP</li> <li>IEEE 802.1Q tagged VLAN</li> <li>Link Aggregation: IEEE802.3ad LACP/Static Trunk</li> <li>QoS</li> <li>IGMP snooping v1/v2</li> <li>Support SSH, SSL, and SNMP v1/v2c/v3</li> <li>Bandwidth control</li> <li>storm control</li> <li>Port Isolation</li> <li>Dynamic ARP inspection</li> <li>802.1X access control</li> </ul>	



MIS 120P  
(6-Gigabit Ports)



MIS 200P  
(14-Gigabit Ports)

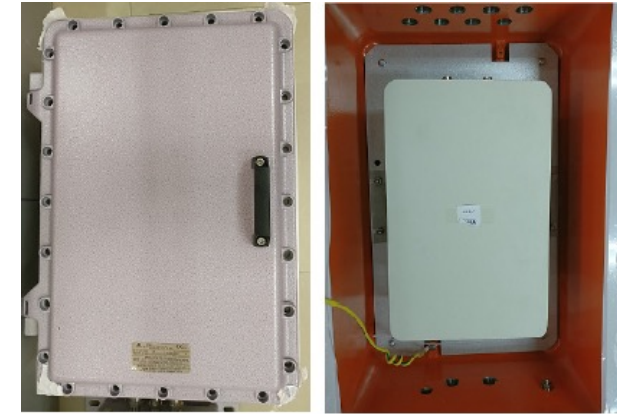
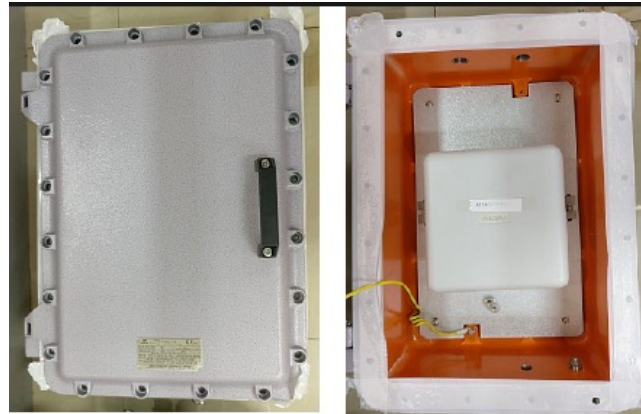
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## **ATEX Enclosures**



# Explosion-proof ATEX/IECEx Enclosure for APs

Enclosure Model	Altai AP Model	Hazardous Division	Size (mm)	Weight (kg)	Holes
AL10	CX200	Class 1, Division 1 / Zone 1 certified	350 x 300 x 200	14.5	5 x M20
AL20	A2		450 x 350 x 210	23	2 x M25, 1 x M20
AL80	A8n(ac)		634 x 434 x 265	46	10 x M25, 1 x M20



# ATEX Enclosure Accessories

Accessory Name	Size
Gland-S	M20 sized
Gland-L	M25 sized
Plug-S	M20 sized
Plug-L	M25 sized
2-Meter RF Cable with Pre-Fabricated Cable Gland(RP-SMA to N Connector)	2-Meter cable+ M20 sized gland
3-Meter RF Cable with Pre-Fabricated Cable Gland(N to N Connector)	3-Meter cable+ M25 sized gland



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