

OUTDOOR WIFI ACCESS POINT

AX 3000 OLP

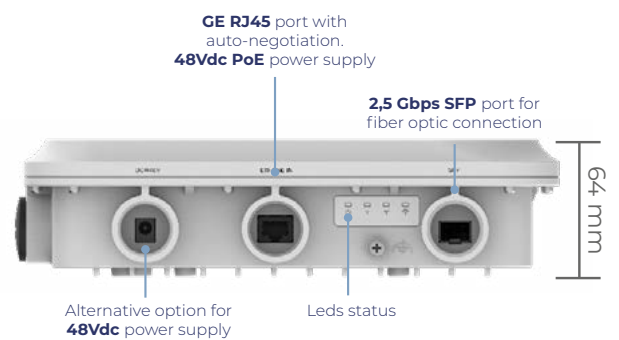


CLOUD
PRO

- ✓ Designed for outdoor installations (IP68)
- ✓ Dual-band WiFi (2.4 GHz + 5 GHz) IEEE 802.11b/g/n/ac/ax
- ✓ Maximum data speed up to 2.976 Gbps
- ✓ 4-spatial streams
- ✓ MU-MIMO and WMM systems
- ✓ Fast-Intelligent-Roaming (IEEE 802.11k/v/r)
- ✓ Maximum transmission power: 28dBm
- ✓ High WiFi network quality and efficiency (RF power adjustment and intelligent channel allocation)
- ✓ Local and remote management via CloudPRO
- ✓ 1Gbps connection via copper structured cabling (RJ45 connector) or 2.5Gbps via fiber optic (SFP)
- ✓ 48Vdc PoE power supply
- ✓ Bluetooth 5.1
- ✓ High-security protocols (WPA2/802.1X, WPA3P/WPA3 Enterprise)



AX 3000 OLP



AX 3000 OLP Interface



TECHNICAL INFORMATION

Hardware

REFERENCE	AX 3000 OLP
Code	331021
802.11n	<p>Four spatial streams</p> <ul style="list-style-type: none"> - Radio 1 – 2.4 GHz: 2x2 MIMO, two spatial streams - Radio 2 – 5 GHz: 2x2 MIMO, two spatial streams <p>Channels:</p> <ul style="list-style-type: none"> - Radio 1 – 2.4 GHz: 20 MHz and 40 MHz - Radio 2 – 5 GHz: 20 MHz and 40 MHz <p>Combined peak data rate: 600Mbps</p> <ul style="list-style-type: none"> - Radio 1 – 2.4 GHz: 6.5 Mbps to 300 Mbps (MCS0 to MCS15) - Radio 2 – 5 GHz: 6.5 Mbps to 300 Mbps (MCS0 to MCS15) <p>Radio technologies: Orthogonal Frequency-Division Multiplexing (OFDM)</p> <ul style="list-style-type: none"> - Modulation types: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM <p>Packet aggregation:</p> <ul style="list-style-type: none"> - Aggregate MAC Protocol Data Unit (A-MPDU) - Aggregate MAC Service Data Unit (A-MSDU) - Dynamic Frequency Selection (DFS) - Cyclic Delay/Shift Diversity (CDD/CSD) - Maximum Ratio Combining (MRC) - Space-Time Block Coding (STBC) - Low-Density Parity Check (LDPC) - Transmit beam-forming (TxBF)
802.11ac	<p>Two spatial streams</p> <ul style="list-style-type: none"> - Radio 2 – 5 GHz: 2x2 MIMO, two spatial streams <p>Channels:</p> <ul style="list-style-type: none"> - Radio 2 – 5 GHz: 20 MHz, 40 MHz, 80 MHz, and 160 MHz <p>Combined peak data rate: 1.733 Gbps</p> <ul style="list-style-type: none"> - Radio 2 – 5 GHz: 6.5 Mbps to 1.733 Gbps (MCS0 to MCS9) <p>Radio technologies: Orthogonal Frequency-Division Multiplexing (OFDM)</p> <ul style="list-style-type: none"> - Modulation types: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM <p>Packet aggregation:</p> <ul style="list-style-type: none"> - Aggregate MAC Protocol Data Unit (A-MPDU) - Aggregate MAC Service Data Unit (A-MSDU) - Dynamic Frequency Selection (DFS) - Cyclic Delay/Shift Diversity (CDD/CSD) - Maximum Ratio Combining (MRC) - Space-Time Block Coding (STBC) - Low-Density Parity Check (LDPC) - Transmit beam-forming (TxBF)
802.11ax	<p>Four spatial streams</p> <ul style="list-style-type: none"> - Radio 1 – 2.4 GHz: 2x2 uplink/downlink MU-MIMO, two spatial streams - Radio 2 – 5 GHz: 2x2 uplink/downlink MU-MIMO, two spatial streams <p>Channels:</p> <ul style="list-style-type: none"> - Radio 1 – 2.4 GHz: 20 MHz and 40 MHz - Radio 2 – 5 GHz: 20 MHz, 40 MHz, 80 MHz, and 160 MHz <p>Combined peak data rate: 2.976 Gbps</p> <ul style="list-style-type: none"> - Radio 1 – 2.4 GHz: 8.6 Mbps to 0.574 Gbps (MCS0 to MCS11) - Radio 2 – 5 GHz: 8.6 Mbps to 2.402 Gbps (MCS0 to MCS11) <p>Radio technologies: uplink/downlink Orthogonal Frequency-Division Multiple Access (OFDMA)</p> <ul style="list-style-type: none"> - Modulation types: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM <p>Packet aggregation:</p> <ul style="list-style-type: none"> - Aggregate MAC Protocol Data Unit (A-MPDU) - Aggregate MAC Service Data Unit (A-MSDU) - Dynamic Frequency Selection (DFS) - Cyclic Delay/Shift Diversity (CDD/CSD) - Maximum Ratio Combining (MRC) - Space-Time Block Coding (STBC) - Low-Density Parity Check (LDPC) - Transmit beam-forming (TxBF) - WPA3
Antennas	<p>Wi-Fi</p> <ul style="list-style-type: none"> - 2.4 GHz: two built-in omnidirectional antennas, the max. antenna gain is 4 dBi. - 5 GHz: two built-in omnidirectional antennas, the max. antenna gain is 6 dBi. <p>Bluetooth</p> <ul style="list-style-type: none"> - One integrated vertically polarized omnidirectional antenna, the max. antenna gain is 5 dBi.
Ports	<ul style="list-style-type: none"> 1 x 100/1000Base-T RJ45 Ethernet port with auto-negotiation 1 x 2.5GE SFP port 1 x RJ45 console port 1 x Bluetooth 5.0



TECHNICAL INFORMATION

Status LED	1 x multi-color system status LED <ul style="list-style-type: none">- AP power-on status- Software initialization status and upgrade status- Uplink service interface status- Wireless user online status- CAPWAP tunnel timeout- Specific AP locating- Three single-color signal strength LEDs:- Whether bridging is enabled- Whether bridging is successful- Wireless signal strength after successful bridging
Button	1 x Reset button <ul style="list-style-type: none">- Press the button for shorter than 2 seconds. Then the device restarts.- Press the button for longer than 5 seconds. Then the device restores to factory settings.
Dimensions (W x D x H)	Main unit: 251 mm x 168 mm x 64 mm (9.88 in. x 6.61 in. x 2.52 in.) Shipping: 405 mm x 232 mm x 325 mm (15.94 in. x 9.13 in. x 12.80 in.)
Weight	Main unit: 1.0 kg (2.2 lbs) Mounting bracket: 0.9 kg (1.98 lbs) Shipping: 3.15 kg (6.94 lbs)
Mounting	Ceiling/Wall/Pole-mount (a mounting bracket is delivered with the main unit)
Input power supply	The AP supports the following two power supply modes: 48 Vdc DC/0.35 A power input over DC connector: The DC connector accepts the center-positive circular plug with the inner diameter of 2.0 mm (0.08 in.) or outer diameter of 6.3 mm (0.25 in.) and the length of 9.8 mm (0.39 in.). A DC power supply needs to be purchased independently. PoE input over ETH/PoE: The power source equipment (PSE) complies with IEEE 802.3af/at standard (PoE/PoE+).
Power consumption	Maximum power consumption: 12.95 W <ul style="list-style-type: none">- Vdc power: 12.95 W- 802.3at (PoE+): 12.95 W- 802.3af (PoE): 12.95 W- Idle mode: 6.0 W
Environment	Storage temperature: -40°C to +85°C (-40°F to +185°F) Storage humidity: 0% RH to 100% RH (non-condensing) Storage altitude: < 5,000 m (16,404.20 ft.) at 25°C (77°F) Operating temperature: -40°C to +65°C (-40°F to +149°F) Operating humidity: 0% RH to 100% RH (non-condensing) Operating altitude: < 5,000 m (16,404.20 ft.) at 55°C (131°F)
IP Rating	IP68
Max transmit power	2.4 GHz Max. transmit power: 28 dBm (630.96 mW) Minimum transmit power: 10 dBm (10 mW) 5 GHz Max. transmit power: 28 dBm (630.96 mW) Minimum transmit power: 10 dBm (10 mW)



TECHNICAL INFORMATION

Software

WLAN	
Max. number of associated STAs	1024 (up to 512 STAs per radio)
Max. number of BSSIDs	32 (up to 16 BSSIDs per radio)
Max. number of WLAN IDs	16
STA management	SSID hiding Each SSID can be configured with the authentication mode, encryption mechanism, and VLAN attributes independently. Remote Intelligent Perception Technology (RIPT) Intelligent STA identification Intelligent load balancing based on the STA quantity or traffic
STA limiting	SSID-based STA limiting Radio-based STA limiting
Bandwidth limiting	STA/SSID/AP-based rate limiting
CAPWAP	IPv4/IPv6 CAPWAP Layer 2 and Layer 3 topology between an AP and an AC An AP can automatically discover the accessible AC. An AP can be automatically upgraded through the UC AX. An AP can automatically download the configuration file from the UC AX. CAPWAP through NAT
Data forwarding	Centralized and local forwarding
Wireless roaming	Layer 2 and Layer 3 roaming
Wireless locating	MU and TAG device locating
Security and Authentication	
Authentication and encryption	Remote Authentication Dial-In User Service (RADIUS) PSK and web authentication QR code-based guest authentication, SMS authentication, and MAC address bypass (MAB) authentication Data encryption: WEP (64/128 bits), WPA-TKIP, WPA-PSK, WPA2-AES, WPA3-Individual, WPA3-Enterprise
Data frame filtering	Allowlist, static blocklist, and dynamic blocklist
WIDS	Rogue device discovery Optimization of rogue AP containment for all STA types Fuzzy containment SSID-based blocklist DDoS attack identification Automatic detection of STA attacks, and adding STAs to the blocklist when ICMP attacks or TCP SYN attacks are detected STA isolation
ACL	IP standard ACL, MAC extended ACL, IP extended ACL, and expert-level ACL IPv6 ACL Time range-based ACL ACL based on a Layer 2 interface ACL based on a Layer 3 interface Ingress ACL based on a wireless interface Dynamic ACL assignment based on 802.1X authentication (used with the AC)
CPP	CPU Protect Policy (CPP)
NFPP	Network Foundation Protection Policy (NFPP)
Routing and Switching	
MAC	Static and filtered MAC addresses MAC address table size: 1,024 Max. number of static MAC addresses: 1,024 Max. number of filtered MAC addresses: 1,024
Ethernet	Jumbo frame length: 1,518 Ethernet II 1000M SFP ports modules 2.5G ports



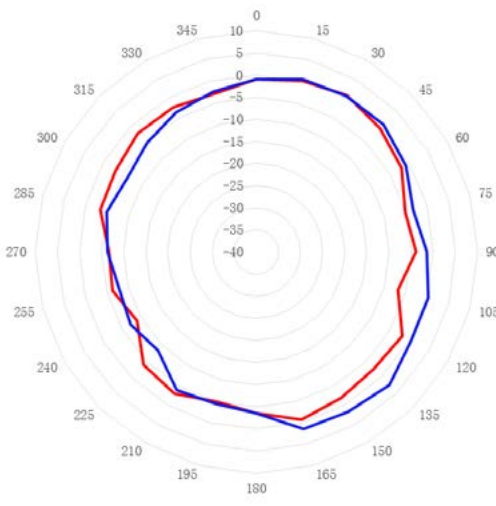
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VLAN	Interface-based VLAN assignment Layer 2 isolation of wired interfaces (including aggregate interfaces) within VLANs Max. number of SVIs: 191 Max. number of VLANs: 4,094 VLAN ID range: 1–4,094
ARP	ARP entry aging, gratuitous ARP learning, and proxy ARP Max. number of ARP entries: 1,024 Detection of IP address conflicts among downlink hosts ARP check
IPv4 services	Static and DHCP-assigned IPv4 addresses Maximum number of configured IPv4 addresses per Layer 3 interface: 200 NAT, FTP ALG, and DNS ALG
IPv6 services	IPv6 addressing, Neighbor Discovery (ND), IPv6 ND proxy, ICMPv6, IPv6 ping IPv6 DHCP client
IP routing	IPv4/IPv6 static route Max. number of static IPv4 routes: 1,024 Max. number of static IPv6 routes: 1,000
Multicast	Multicast-to-unicast conversion
VPN	PPPoE client IPsec VPN
Network Management and Monitoring	
Network management	NTP server and NTP client SNTP client SNMPv1/v2c/v3 Fault detection and alarm Information statistics and logging
Network management platform	Direct connection via web management Remote connection via CloudPRO by EK
User access management	Telnet, SSH, FTP client, FTP server, and TFTP client
Switchover among Fat, Fit, and cloud modes	When the AP works in Fit mode, it can be switched to Fat mode through a controller (UC AX) When the AP works in Fat mode, it can be switched to Fit mode through the console port or Telnet mode. When the AP works in cloud mode, it can be managed through CloudPRO by EK.

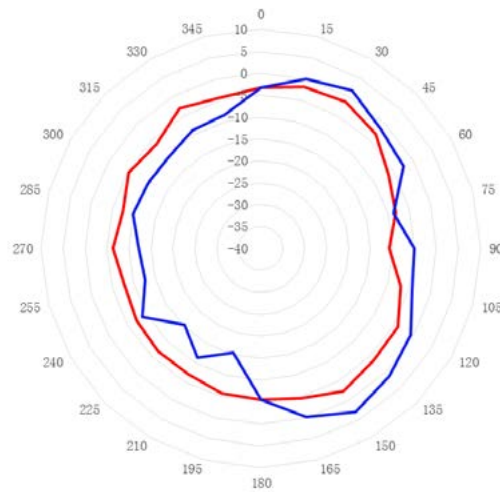
TECHNICAL INFORMATION

Antenna Pattern Plots

Horizontal Planes (Top View)

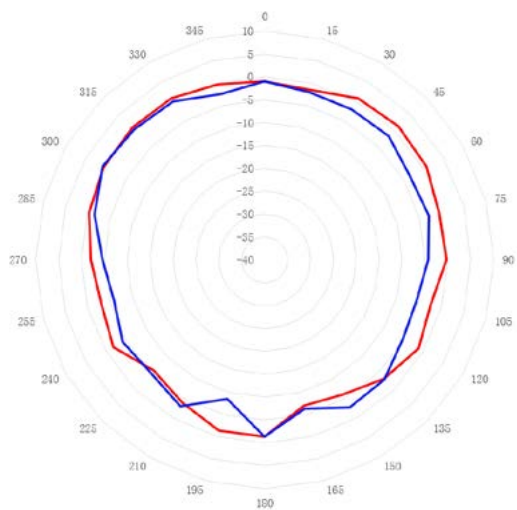


— 2G Azimuth Plane H — 2G Azimuth Plane E

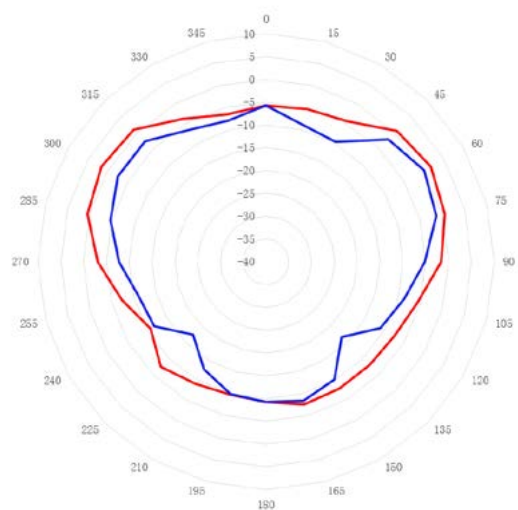


— 5G Azimuth Plane H — 5G Azimuth Plane E

Vertical Planes (Side View, AP Facing Down)



— 2G Azimuth Plane Phi=0 — 2G Azimuth Plane Phi=90



— 5G Azimuth Plane Phi=0 — 5G Azimuth Plane Phi=90

CLOUD PRO

<https://cloudpro.ek.plus/>

- ✓ Unified Cloud-Based WiFi Network Management Platform
- ✓ Enables the design, deployment, configuration, operation, and real-time analysis of WiFi networks
- ✓ Management of all network devices: access points, switches, and controllers
- ✓ Remote execution of monitoring and diagnostic tasks for device connection status, configuration deployment, firmware updates, equipment reboots, and more
- ✓ Automatic network provisioning option with auto-identification of the network topology
- ✓ Network optimization and smart roaming between devices
- ✓ Includes a WiFi network design and planning tool (site survey and heat maps)
- ✓ Allows the creation and monitoring of an unlimited number of projects/installations for each user
- ✓ All of this with the highest standards of cybersecurity, based on cloud servers located in Europe

