

## Highlights

### Radio Technology

- 5 GHz 2x2:2
- 2.4 GHz 2x2:2

### Radio Modes - SSR

- 5 GHz/2.4 GHz - Fixed
- 5 GHz/5 GHz - Dual 5 GHz

### Universal Hardware Platform

- On-Premise: WiNG OS -Centralized and Distributed
- Cloud: IQ Engine

### High Density Environments

- Delivers exceptional end-user experience even in dense user environments

### WPA3 Support

- Includes the latest WPA3 Wi-Fi security standard delivering robust protections for users and IoT devices

### Fully Functional over 802.3af

### Cellular Coexistence Filter (CCF)

- Minimizes the impact of interference from cellular networks

### Smart Management

- ExtremeCloud™ IQ delivers powerful, simple, and secure public or private cloud management capabilities
- ExtremeCloud Appliance or VX or NX controller is ideal for on-premises requirements



# Universal Wireless AP305C/CX

Wi-Fi 6 (802.11ax) Indoor Access Point with Support for Multiple Extreme Operating Systems

In today's world, as businesses make capital investments in their technology infrastructure, they must have a keen eye on how those investments can improve operational efficiency and reduce cost. With Extreme's Universal infrastructure, customers can take advantage of hardware agility and reduce the total cost of their network by adopting platforms that allow them to run multiple Extreme operating systems. This multi-persona capability provides increased product flexibility and reduced hardware obsolescence.

The AP 305C/CX is part of Extreme's Universal Wi-Fi platform and provides users the choice of Wi-Fi operating system (IQ Engine or WiNG Operating System). Customers have the flexibility to select the OS at start-up or at a later stage and the AP will assume the features/capabilities of the selected OS. When first booted, the AP305C/CX automatically connects to ExtremeCloud IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the AP305C/CX AP and the user can stay in the cloud or select manage the device locally.

The AP305C/CX are indoor enterprise APs based on a new system-on-a-chip (SoC) with two built-in dual-band radios providing the best value with Wi-Fi 6 high efficiency. The AP305C/CX platforms are the first generation of APs to run multiple Extreme operating systems, providing flexibility and choice of on-premise or cloud deployment, while minimizing total cost of ownership. You have your choice of models with either integrated or external antennas. Advanced radio technology delivers 802.11ax 2x2:2 data rates up to 2.4 Gbps concurrently on both the 2.4 GHz and 5 GHz radios. These 2x2:2 APs continue the Extreme tradition of software-selectable radios (SSRs) capable of dual 5 GHz connectivity for indoor and industrial environments.

This enterprise-grade access point is ideal for budget-conscious enterprises who do not want to sacrifice performance.

The AP305C/CX comes in an aesthetic design and can fit in the palm of your hand. Both models are eco-friendly APs partially made from recycled materials. Also included is an integrated light sensor and integrated power meter to help conserve power consumption\*. The easy install ceiling mount for quick installation and unique way to hide the Ethernet cables for an aesthetically pleasing installation.

Despite the exponential growth of users, BYOD devices, IoT, high-bandwidth applications and security threats straining the infrastructure, the AP305C/CX combines performance, security services and insightful ML/AI management capabilities to deliver an enterprise class solution at a value price.

\* future software release



## Security

The AP305C/CX delivers the highest level of security services, beginning with support for the latest Wi-Fi Alliance WPA3 security certifications. Additionally, the AP305C/CX supports a stateful L2-L7 DPI firewall for context-based access security, Private Pre-Shared Key (PPSK) and much more.

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## Wi-Fi 6 Technology

Prior generations of 802.11n, 802.11ac wave 1 and 2, can be considered generational improvements with an emphasis on faster speed. 802.11ax technology instead enhances Wi-Fi efficiency as well as speed, taking Wi-Fi networks to an entirely new level. To learn more about 802.11ax, go to: <https://www.extremenetworks.com/are-you-ready-for-802-11ax>

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## Universal Hardware

The AP305C/CX as a universal hardware platform comes with a dual-persona capability allowing user choice of the Wi-Fi operating system (OS). Either the IQ Engine operating system or the WiNG Operating System persona can be enabled as required. The desired persona can be selected at start-up or changed at a later stage. Once selected, the AP305C/CX assumes the features/capabilities of the selected OS. The AP305C/CX persona activation can be done manually at bootup, including via the system CLI. Or, it can be automated by pre-provisioning the AP305C/CX persona in ExtremeCloud IQ. When first booted, the AP305C/CX automatically connects to ExtremeCloud IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the AP305C/CX system, eliminating the need for manual selection.

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## Management Analytics

In conjunction with Extreme Management system, cloud or on-premises, the AP305C/CX provides a very rich set of data displayed via context driven widgets, representing historical data or a combination of historical and current data. This provides context-specific granularity with perspective views for locations, network, APs, individual client devices, as well as policy roles. In each context, administrators can adjust dashboards make a widget library.

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## Programmable Radios

Extreme launched the industry's first software defined 802.11ax access point supporting not only a dual 5 GHz capability, but also two software programmable modes to optimally manage radios to provide the highest level of client performance. The AP305C/CX intelligent monitoring of the software- configurable radios enables network managers to configure network RF technology based on user environment and configure the access points in different modes as required.

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## Integrated BLE and USB Port

To support both IoT and Guest Engagement services the AP305C/CX integrates Bluetooth to connect with IoT devices wireless to engage loyalty customers with Apple iBeacon. Enterprises can use API driven applications to send advertisements directly to shoppers, guests, and conference attendees. This makes it ideal for businesses to advertise their app download pages, captive portals, or site-specific information.

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# Product Specifications

## Radio Specifications

### Max Users

- SSID per Radio/Total: 8/16
- Users per Radio/total: 512/1024

### 802.11a

- 5.150–5.850 GHz Operating Frequency
- Orthogonal Frequency Division Multiplexing (OFDM) Modulation
- Rates (Mbps): 54, 48, 36, 24, 18, 12, 9, 6 w/auto fallback

### 802.11b

- 2.4–2.5 GHz Operating Frequency
- Direct-Sequence Spread-Spectrum (DSSS) Modulation
- Rates (Mbps): 11, 5.5, 2, 1 w/auto fallback

### 802.11g

- 2.4–2.5 GHz Operating Frequency
- Orthogonal Frequency Division Multiplexing (OFDM) Modulation
- Rates (Mbps): 54, 48, 36, 24, 18, 12, 9, 6 w/auto fallback

### 802.11n

- 2.4–2.5 GHz and 5.150–5.850 GHz Operating Frequency
- 802.11n Modulation
- Rates (Mbps): MCS0 - MCS15 (6.5MBps - 300Mbps)
- 2x2 Multiple-In, Multiple-Out (MIMO) Radio
- HT20 High-Throughput (HT) Support (for both 2.4 GHz and 5 GHz)
- HT40 High-Throughput (HT) Support for 5 GHz
- A-MPDU and A-MSDU Frame Aggregation

### 802.11ac

- 5.150–5.850 GHz Operating Frequency
- 802.11ac Modulation (256-QAM)
- Rates (Mbps): MCS0–MCS9 (6.5Mbps – 867Mbps), NSS = 1-2.
- 2x2:2 Stream Multiple-In, Multiple-Out (MIMO) Radio
- VHT20/VHT40/VHT80 support
- TxBF (Transmit Beamforming)

### 802.11ax

- 2.4–2.5 GHz and 5.150–5.850 GHz Operating Frequency
- 802.11ax Modulation (1024-QAM)
- Dual-band OFDMA
- Rates (Mbps):
  - 5G: HE0-HE11 (8 Mbps – 1200 Mbps).
  - 2.4G: HE0-HE11 (8 Mbps – 574 Mbps).
- 2x2:2 Stream Multiple-In, Multiple-Out (MIMO) Radio
- HE20/HE40/HE80 support for 5 GHz
- HE20 support for 2.4 GHz
- DL SU-MIMO and MU-MIMO
- TxBF (Transmit Beamforming)

BLE 5 Radio Bluetooth® Low Energy (BLE)

## Interfaces

- (1) Autosensing 10/100/1000 BASE-T Ethernet PoE (Power over Ethernet 802.3af) Port
- USB2.0, Type A 5V, 0.9A
  - USB power <= 500 mA - 802.3af
  - USB power > 500 mA - 802.3at

## Power Options

- Power Draw: Typical: 9.98 W; Max: 11.28 W (w/o USB)
  - Typical: 14.98 W; Max: 16.28 W (w/USB)
- 802.3af Power over Ethernet (PoE) capable Gigabit Ethernet port (RJ-45 power input pins: Wires 4,5,7,8 or 1,2,3,6)
- Support 802.3af/802.3at Power over Ethernet injector

## Power Specifications

- IEEE 802.3af PoE Power

## Physical

- AP 305C: 5.2" x 5.2" x 1.5" (133mm x 133mm x 37mm)
- AP 305CX: 5.8" x 5.8" x 1.5" (147mm x 147mm x 39mm)
- AP 305C and AP 305CX: .9 lbs (.4kg)
- TPM Chip

## Antennas

### AP305C - Internal Antennas

- (3) Integrated dual band 2.4/5GHz omnidirectional antennas
- (1) Integrated single band 5GHz omnidirectional antenna

### AP305CX - External Antennas

- (4) external omnidirectional 2.4/5 GHz dual band antennas (RP SMA connectors)

## Mounting

- AP support 15/16 flush ceiling tile and is integrated to AP
- Wall Mount sold as an accessory
- Ceiling Tile Recessed 15/16" sold as an accessory
- Built-in slot for Kensington type locks

## Environmental

- Operating: 0 to 40 °C, Storage: -40 to 70 °C
- Humidity: 10% to 95% (non-condensing)

## Environmental Discharge

- +/-8 kV (contact discharge)/+/-15 kV (Air Discharge)

## Environmental Compliance

- UL2043 - Plenum Rated

## Regulatory Compliance

### Product Safety Certifications

- IEC 62368/60950-1, EN 62368/60950-1, USA 62368/60950-1, AS/NZS 62368/60950.1
- RoHS Directive 2011/65/EU

## Radio Approvals

- FCC CFR 47 Part 15, Class B
- ICES-003, Class B
- FCC Subpart C 15.247
- FCC Subpart E 15.407
- RSS247
- AS/NZS4268 + CISPR32
- IEC/EN 60601-1-2,
- EN 62311
- EN 50385
- EN 301 489-1
- EN 301 489-17
- EN 55032, (Class B)

## Power Options

- EN 55011, (Group 1, Class B)
- EN 55024
- EN 60601-1-2
- EN 61000-3-2
- EN 61000-3-3
- EN 300 328
- EN 301 893
- EN 300 440
- EN 50581

## Wi-Fi Alliance Certifications

Connectivity	Wi-Fi CERTIFIED 6™ Wi-Fi CERTIFIED™ a, b, g, n, ac WPA™ – Enterprise, Personal WPA2™ – Enterprise, Personal WPA3™ – Enterprise, Personal
Optimization	Wi-Fi Agile Multiband™ WMM® WMM®-Power Save

## Peak Antenna Gain

	Radio 0	Radio 1	IoT
Dual Band	2.4 Ghz 2.67dBi	5 Ghz 3.75dBi	2.7dBi
Dual 5Ghz	5 Ghz 3.97dBi	5 Ghz 3.75dBi	2.7dBi

# Power and Sensitivity Tables

## Power - 2.4 GHz

Channel	Data Rate	Power (dBm)
11b	1 - 11 Mbps	18
11g	6 Mbps	18
	54 Mbps	17
11n HT20	MCS0, 7	18, 14
11n HT40	MCS0, 7	18, 14
11ac HT20	MCS0, 8	18, 13
11ac HT40	MCS0, 9	18, 12
11ax HE20	HE0, 11	18, 11
11ax HE40	HE0, 11	18, 11

## Receive Sensitivity - 2.4 GHz

Channel	Data Rate	Sensitivity
11b	1 - 11 Mbps	-95, -88
11g	6 Mbps	-91
	54 Mbps	-74
11n HT20	MCS0, 7	-91, -71
11n HT40	MCS0, 7	-88, -69
11ac HT20	MCS0, 8	-90, -61
11ac HT40	MCS0, 9	-88, -58
11ax HE20	HE0, 11	-90, -61
11ax HE40	HE0, 11	-88, -58

## Power - 5 GHz

Channel	Data Rate	Power (dBm)
11a	6 Mbps	18
	54 Mbps	16
11n HT20	MCS0, 7	18, 15
11n HT40	MCS0, 7	18, 15
11ac VHT20	MCS0, 8	18, 14
11ac VHT40	MCS0, 9	18, 13
11ac VHT80	MCS0, 9	18, 13
11ax HE20	HE0, 11	18, 13
11ax HE40	HE0, 11	18, 13
11ax HE80	HE0, 11	18, 13

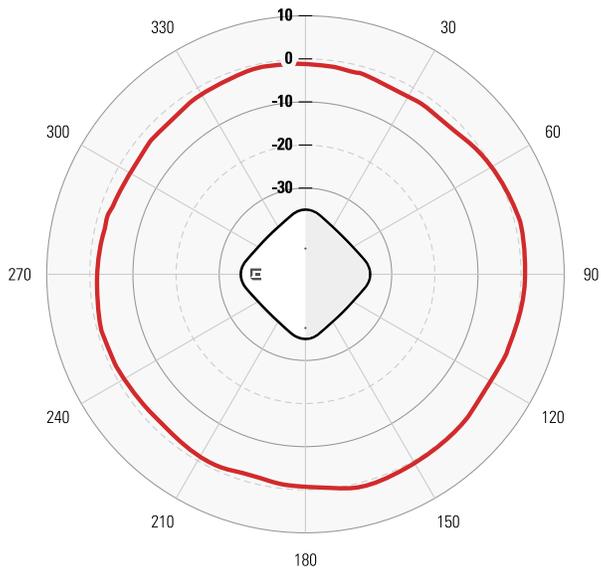
## Receive Sensitivity - 5 GHz

Channel	Data Rate	Sensitivity
11a	6 Mbps	-92
	54 Mbps	-74
11n HT20	MCS0, 7	-90, -72
11n HT40	MCS0, 7	-88, -69
11ac VHT20	MCS0, 8	-90, -68
11ac VHT40	MCS0, 9	-88, -63
11ac VHT80	MCS0, 9	-85, -58
11ax HE20	HE0, 11	-88, -59
11ax HE40	HE0, 11	-87, -57
11ax HE80	HE0, 11	-85, -54

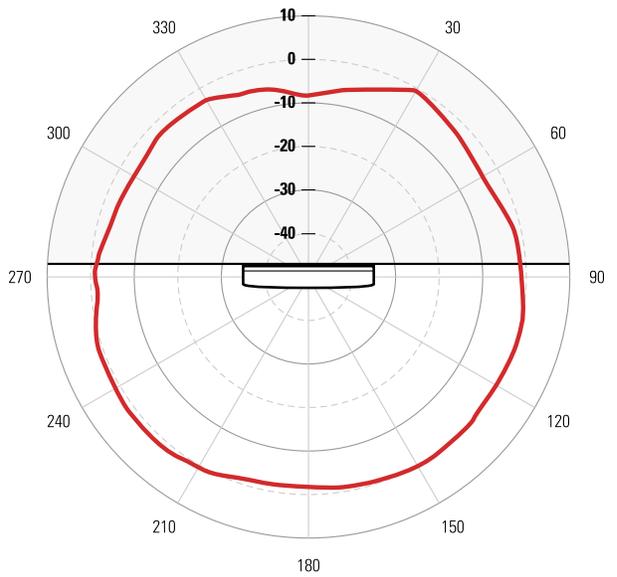
*Maximum EIRP may vary based upon deployed country*

# Radiation Patterns - Azimuth and Elevation

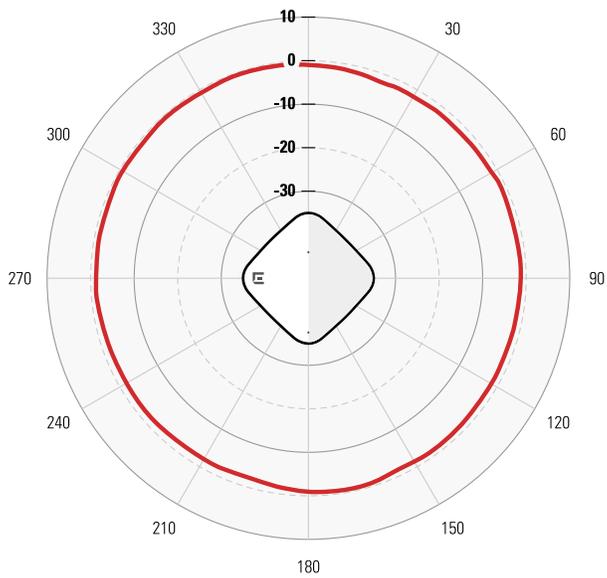
### Azimuth - 2.4 GHz



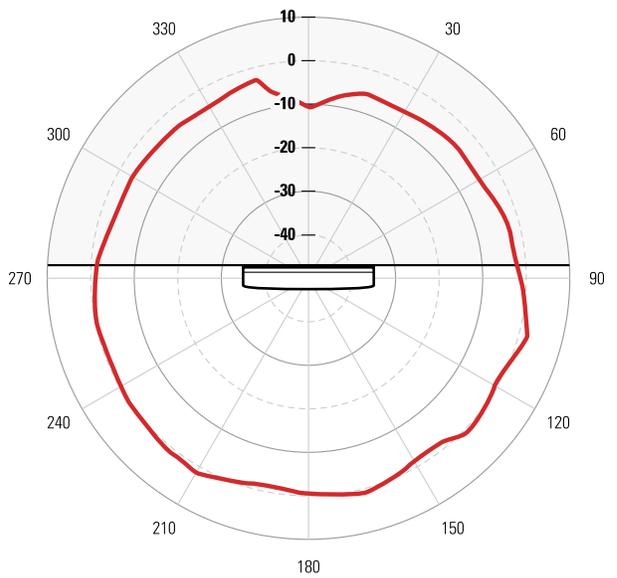
### Elevation - 2.4 GHz



### Azimuth - 5 GHz



### Elevation - 5 GHz



# Ordering Information

## AP 305C and AP 305CX

MKT Product SKU	Description
AP 305C-FCC	ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. Internal antennas. Built-in ceiling mounts. Includes Connect. Domain: US
AP 305C-CAN	ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. Internal antennas. Built-in ceiling mounts. Includes Connect. Domain: Canada
AP 305C-WR	ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. Internal antennas. Built-in ceiling mounts. Includes Connect. Domain: EMEA, Rest of World
AP 305CX-FCC	ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. External antennas. Built-in ceiling mounts. Includes Connect. Domain: US
AP 305CX-CAN	ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. External antennas. Built-in ceiling mounts. Includes Connect. Domain: Canada
AP 305CX-WR	ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. External antennas. Built-in ceiling mounts. Includes Connect. Domain: EMEA, Rest of World
AP305C-IL	ExtremeCloud IQ : Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. Internal antennas. Includes Connect. Domain : Israel
AP305C-EG	ExtremeCloud IQ : Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. Internal antennas. Includes Connect. Domain : Egypt
AP305CX-IL	ExtremeCloud IQ : Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. External antenna support. Antennas sold separately. Includes Connect. Domain : Israel

### Accessories

Note: Two clips designed into the underside of the AP unit that will accommodate a 15/16 type ceiling tile rail system.

Other mounting accessories see below. Mounting descriptions are detail in the Hardware User's Guide

MKT Product SKU	Descriptions
<b>Antennas</b>	
AH-ACC-ANT-AX-KT (x8 per pack)	Articulated indoor antenna kit (8 x Dual Band 5dBi antennas)
ML-2452-APA2-02	Dipole Omni, 3.2/4.9 dBi, White (need 4 for AP305CX)
<b>Mounting Accessories</b>	
AH-ACC-BKT-AX-IL (x1 per)	Mounting bracket for Interlude ceilings
AH-ACC-BKT-AX-SL (x1 per)	Mounting bracket for Silhouette 1/8" and Silhouette 1/4" ceilings
AH-ACC-BKT-AX-TB (x1 per)	Mounting bracket for Prelude 15/16" and Suprafine 9/16" ceilings
AH-ACC-BKT-AX-WL (x1 per)	Mounting bracket for direct-to-wall installations
<b>Power Accessories</b>	
PD-3501G-ENT	Single port 802.3af compliant midspan
AH-ACC-PW-CBL-US	6ft 18 AWG universal power cord with US plug
AH-ACC-PW-CBL-UK	6ft universal power cord with UK plug
AH-ACC-PW-CBL-EU	6ft universal power cord with EU plug
AH-ACC-PW-CBL-AU	6ft universal power cord with AU plug
AH-ACC-PW-CBL-JP	6ft universal power cord with Japan plug
AH-ACC-PW-CBL-KR	6ft universal power cord with Korea plug

### Warranty

All AP305C and AP305CX models are covered under Extreme's Universal LLW policy. For warranty details, please visit: [www.extremenetworks.com/support/policies](http://www.extremenetworks.com/support/policies)



<http://www.extremenetworks.com/contact>

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