Extreme networks

Data Sheet

AP305C/CX

Highlights

Radio Technology
- 5GHz 2x2:2
- 2.4GHz 2x2:2

Radio Modes - SSR
- 5GHz/2.4 GHz - Fixed
- 5GHz/5 GHz - Dual 5 GHz

Universal Hardware Platform
- On-Premises: WiNG OS (Distributed), ExtremeCloud™ IQ Controller (Centralized)
- Cloud: ExtremeCloud IQ

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 for powerful, simple, and secure public or private cloud management
- ExtremeCloud IQ Controller or VX or NX controllers ideal for for on-premises requirements
- Optional ExtremeCloud IQ visibility supported via on-premises controller

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 AP305C/CX is part of Extreme's Universal Wi-Fi platform and provides users the choice of Wi-Fi management (ExtremeCloud™ IQ 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.

The AP305C and AP305CX 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. 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. These eco-friendly APs are partially made from recycled materials and include an integrated light sensor and power meter to help reduce power consumption*. The mount enables quick installation and unique way to hide the Ethernet cables for an aesthetically pleasing installation.

* 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.

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

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 ExtremeCloud IQ 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. 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.

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, and policy roles. In each context, administrators can adjust dashboards from a widget library.

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.

Integrated BLE and USB Port

To support both IoT and Guest Engagement services, the AP305C/CX integrates Bluetooth to connect with IoT devices to engage loyalty customers with Apple iBeacon[1]. 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.

[1] IoT Radio included for certain AP305C/CX model SKUs

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

2.4–2.5GHz 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 & 5.150–5.850 GHz Operating Frequency

802.11ax Modulation (1024-QAM)

Downlink and uplink OFDMA

5 GHz rates (Mbps): HE0-HE11 (8 Mbps – 1200 Mbps)

2.4 GHz rates (Mbps): 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)[2]

[2] IoT Radio included for certain AP305C/CX model SKUs

Interfaces

(1) Autosensing 10/100/1000 BASE-T Ethernet PoE (Power over Ethernet 802.3af) Port, RJ45

USB 2.0, Type A 5V, 0.9A

USB power <= 500 mA - 802.3af

USB power > 500 mA - 802.3at

802.3az Energy-Efficient Ethernet (EEE)

Power Options

Power Draw: Typical: 9.98W, Max: 11.28W (w/o USB)

Typical: 14.98W, Max: 16.28W (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

AP305C: 5.2" x 5.2" x 1.5" (133mm x 133mm x 37mm)

AP305CX: 5.8" x 5.8" x 1.5" (147mm x 147mm x 39mm)

AP305C and AP305CX: 0.9 lbs (0.4kg)

Trusted Platform Module (TPM)

Antennas

AP305C – Internal Antennas

(3) Integrated dual band 2.4/5GHz omnidirectional antennas

(1) Integrated single band, 5 GHz omnidirectional antenna

AP305CX – External Antenna

(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°C to 40°C

Storage: -40°C 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)

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 6™ a,b, g, n, ac
Access	Passpoint®
Optimization	WMM® WMM® – Power Save Wi-Fi Agile Multiband™
Security	Protected Management Frames WPA™ – Enterprise, Personal WPA2™– Enterprise, Personal WPA3™ – Enterprise, Person

Peak Antenna Gain

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

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

Maximum EIRP may vary based upon deployed country.

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

Maximum EIRP may vary based upon deployed country.

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

Maximum EIRP may vary based upon deployed country.

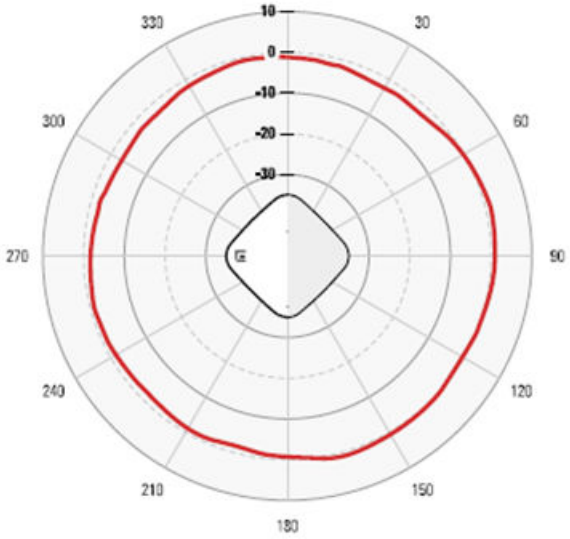
Receive Sensitivity - 5 Ghz

Channel	Data Rate	Sensitivity
11a	6 Mbps	-92
	54 Mbps	-74
11n HT20	MCS0,7	-90,-72
11n HT40	MCS0,7	-88, -69
11acVHT20	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

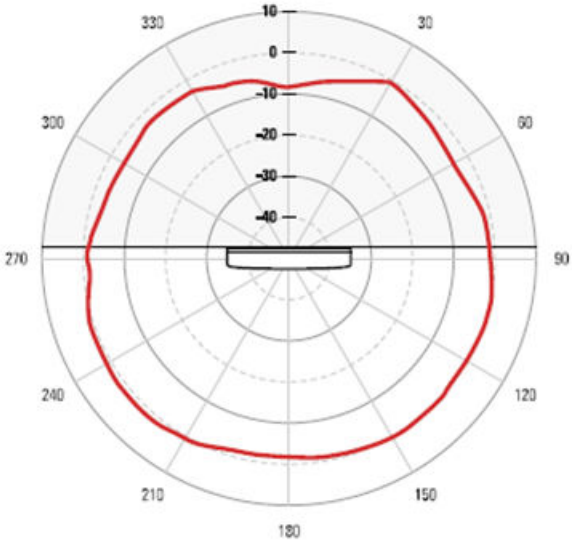
Maximum EIRP may vary based upon deployed country.

Radiation Patterns – Azimuth and Elevation

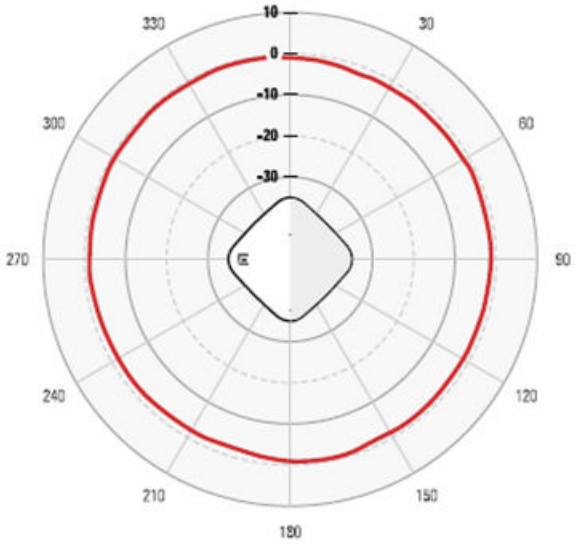
Azimuth – 2.4 GHz



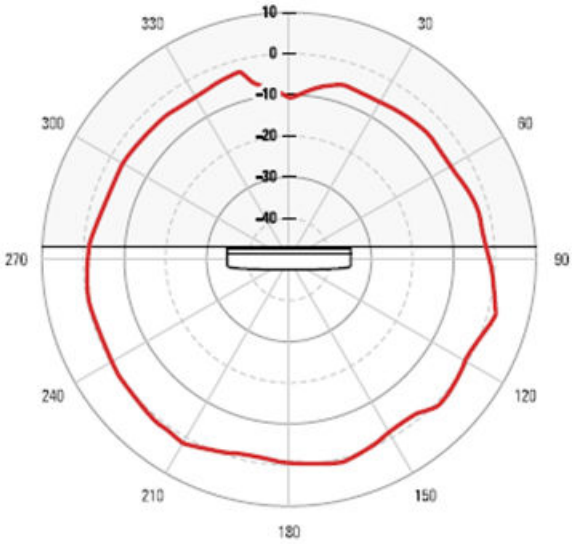
Elevation – 2.4 GHz



Azimuth – 5 GHz



Elevation – 5 GHz



Ordering Information

AP305C and AP305CX

Mkt Product SKU	Description
AP305C-FCC	ExtremeCloud IQ: Indoor Wi-Fi6 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
AP305C-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
AP305C-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
AP305CX-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
AP305CX-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
AP305CX-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. 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. 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. AI/ML green mode. External antenna support. Antennas sold separately. Includes Connect. Domain: Israel
AP305C-1-FCC*	ExtremeCloud IQ Indoor Wi-Fi 6 AP 2x2 radios with Dual 5GHz and 1x1 GbE port. Integrated light/power sensors. AI/ML green mode. Internal antennas. Includes Connect. Domain: US
AP305C-1-WR*	ExtremeCloud IQ Indoor Wi-Fi 6 AP 2x2 radios with Dual 5GHz and 1x1 GbE port. Integrated light/power sensors. AI/ML green mode. Internal antennas. Includes Connect. Domain: Rest of World
AP305C-1-CAN*	ExtremeCloud IQ Indoor Wi-Fi 6 AP 2x2 radios with Dual 5GHz and 1x1 GbE port. Integrated light/power sensors . AI/ML green mode. Internal antennas. Includes Connect. Domain: Canada
AP305C-1-IL*	ExtremeCloud IQ Indoor Wi-Fi 6 AP 2x2 radios with Dual 5GHz and 1x1 GbE port. Integrated light/power sensors. AI/ML green mode. Internal antennas. Includes Connect. Domain: Israel
AP305C-1-EG*	ExtremeCloud IQ Indoor Wi-Fi 6 AP 2x2 radios with Dual 5GHz and 1x1 GbE port. Integrated light/power sensors. AI/ML green mode. Internal antennas. Includes Connect. Domain: Egypt

* Non-BLE SKU. Identical functionality to corresponding regional AP305C SKU, with the exception of IoT radio and Bluetooth functionality.

Accessories

Mkt Product SKU	Indoor AP Mounting	Notes
AH-ACC-BKT-AX-IL	Mounting bracket for Interlude ceilings	
AH-ACC-BKT-AX-SL	Mounting bracket for Armstrong 1/8" and 1/4" main beam Silhouette reveal ceiling grids	
AH-ACC-BKT-AX-TB	Mounting bracket for Prelude 15/16” and Suprafine 9/16" ceilings and walls	Can be used for flush wall mounting
AH-ACC-BKT-AX-WL	Mounting bracket for direct-to-wall installations	Not flush to wall

Mkt Product SKU	Indoor AP Mounting	Notes
ACC-BKT-AX-JB	Junction box or wall mounting for indoor access points	
ACC-BKT-AX-BEAM	Beam mounting for indoor access points	

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 are listed below. For more detail on accessories and antennas, see WiFi 6 (802.11ax) Access Point Accessories Guide.

Antennas

Mkt Product SKU	Description
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)

For additional information on antennas see: Wi-Fi 6 (802.11ax) Antennas Specifications Guide

Power Accessories

Mkt Product SKU	Description
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

Other Accessories

Mkt Product SKU	Description
ACC-WIFI-MICRO-USB	Micro-USB to USB Console Adapter Cable for Extreme Wireless Access Points

Warranty

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

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