Extreme networks AP305C Wireless Access Point User Guide

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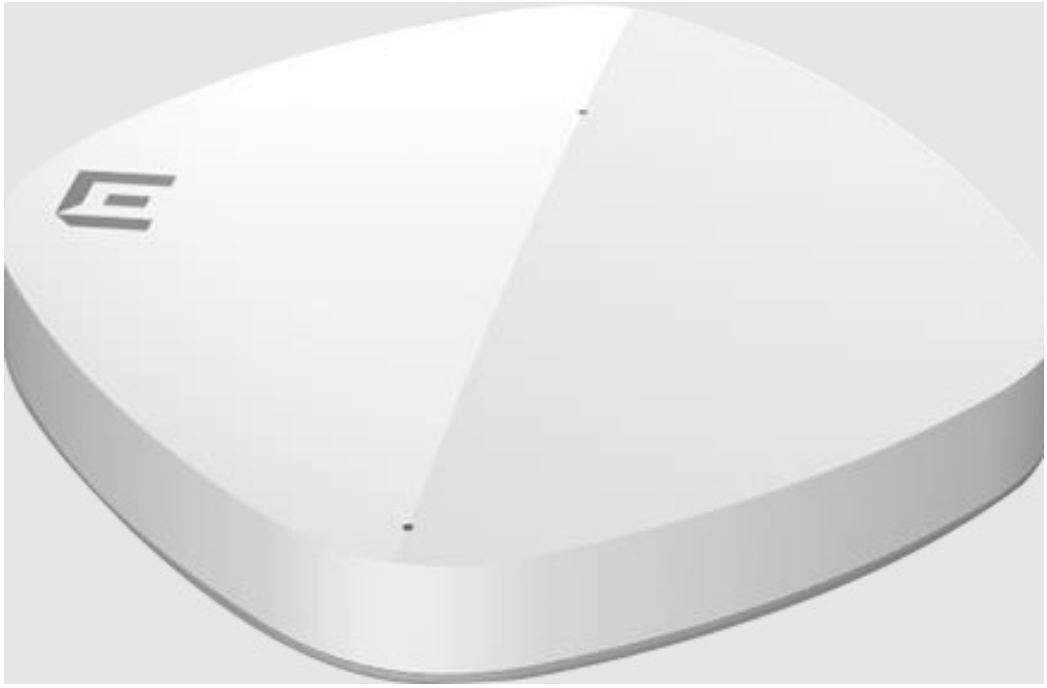
Extreme networks AP305C Wireless Access Point



AP305C and AP305CX

Read about and view specifications and compliance information for the AP305C and AP305CX in this topic. Install the AP305C and AP305CX using this topic. The AP305C and AP305CX are high-performance 802.11ax dual-band access points. Both are designed for indoor high-density environments that require HD video streaming and large file transfers. The AP305CX has external antennas (sold separately), and an extended temperature range for industrial environments. These devices support IEEE 802.11ax Orthogonal Frequency-Division Multiple Access (OFDMA) multi-user access. For regulatory and compliance information, see “Regulatory Compliance Statements”.

Safety Guidelines

The safety information in this section applies to AP305C and AP305CX devices. The following safety icons are used in these guidelines to identify the type of precaution:

	This icon indicates a general caution. Failure to comply with a caution notification can result in damage to equipment.
	This icon indicates an electrical caution. Failure to comply with an electrical notification can result in serious injury or death, and extensive damage to equipment.
	This icon indicates a laser caution. Failure to comply with a laser caution can result in serious injury.
The following table lists the safety precautions you should follow when installing your AP305C and AP305CX devices.	
	Extreme Networks devices must be installed by a professional installer who is certified to install these types of devices and to ensure that they are properly grounded and meet applicable local and national electrical codes.
	These devices are intended for indoor use only.
	Do not install the device in an environment where the operating ambient temperature might exceed the recommended ranges.
	**Warning**: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

	For products available in the USA/Canada market, for the 2.4 GHz band, only channels 1-11 can be operated. Selection of other channels is not possible.
	Changes or modifications made to this device that are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
	Use only attachments and accessories specified by Extreme Networks.
	These devices are not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or with lack of experience of knowledge unless they are given supervision or instruction concerning use of the devices by a person who is responsible for their safety. Children should be supervised to ensure that they do not play with the devices.
	Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD damage occurs when electronic components are improperly handled and can result in complete or intermittent failures. Be sure to follow ESD-prevention procedures when handling electronic components and equipment.
	During operation, the surfaces of the AP305C and AP305CX can become hot. Use caution when handling.
	To meet federal radiation exposure requirements, these devices should be installed at a minimum distance of 8" (20 cm) from people or animals.

Install the AP

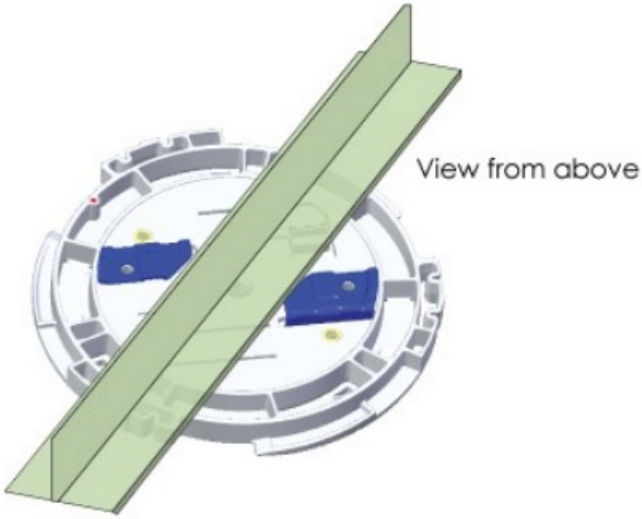
You can mount the AP305C and AP305CX on a flat surface or wall, or on the rails of a standard dropped ceiling grid. There is also an accessory mounting bracket that allows you to install the device in Armstrong-style dropped ceilings (ordered separately). The following sections describe how to install your AP305C and AP305CX devices and connect them to the network. Shipping Carton Contents The AP305C and AP305CX shipping carton contains the following items:

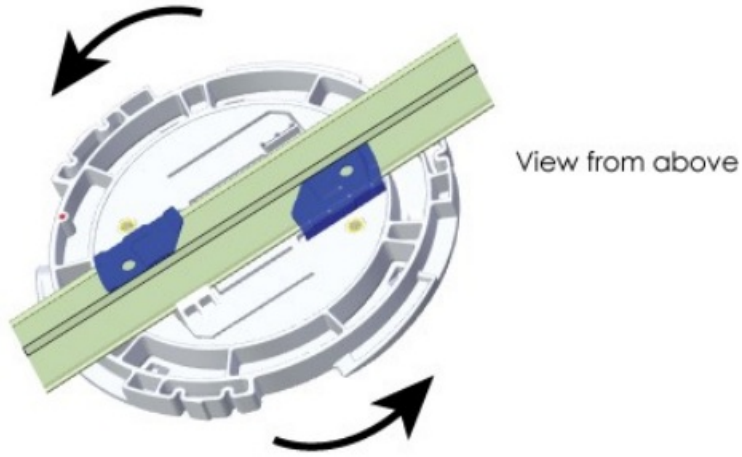
- AP305C or AP305CX chassis
- Mounting bracket
- Read Me card

  Install the AP on a Ceiling Track The AP305C and AP305CX ship with a mounting bracket that lets you easily install them on the rail of a standard dropped ceiling grid. The following illustration shows how to attach the bracket to the ceiling rail, and then install the AP on the bracket. This illustration shows an AP305C but the procedures are the same for both models.

AP305C and AP305CX Hardware Guide

1. Align bracket to ceiing rail so that the mounting flanges are parallel to the sides of the rail.
2. Rotate the bracket so that the flanges hook over the edges of the rail.





1. Align the red dot on the bottom of the AP with the red dot on the bracket.
2. Lift the AP straight up and keep the red dots aligned until the bracket is seated in the round depression on the bottom of the device.
3. Rotate the AP clockwise until it clicks into place on the bracket.

Mount the AP on a Wall

Use the holesin the bracket as a template to mark the wall. Drill holes in the wall and attach the bracket to the wall using wall screws and wall anchors if necessary. Attach the AP to the bracket in the same manner asshown in the previous section. Install external antennas on AP305CX devices. Order antennas from Extreme Networks (AH-ACC-ANT-KT).

Lock the AP

You can secure the AP using a Kensington® lock in the lock slot on the side of the device, or you can use a security bracket and a crosshead screw or a security screw. Security brackets and screws can be ordered separately from Extreme Networks(not available in Brazil). Extreme Networks recommends a variety of Kensington locks. For more information, contact your sales representative. **Connect the AP to the Network**

Follow these steps to connect your AP305C or AP305CX to a standard AC wall socket and to the network.

1. Plug the AC power supply into the 12 V port on the device and into a standard wall socket.
2. Connect an Ethernet cable to the RJ45 port and to a modem or other network device.
3. After the AP receives power, it automatically tries to get network settings and contact HiveManager. This process takes about five minutes. When you see the AP listed on the Devices page in the Monitor section of the HiveManager GUI, the initial setup is complete and you can begin managing the AP with HiveManager.

Hardware Components

Status Light

The statuslight conveys operational states for system power, firmware updates, Ethernet and wirelessinterface activity, and major alarms. The AP305C and AP305CX have a rectangular statuslight on the top right corner of the chassis. At setup, thislight cycles through the following sequence:

- Slow-blinking White: The device is attempting to establish a connection or has established a CAPWAP connection with HiveManager.
- Fast-blinking White: The device is performing a HiveOS or HiveManager upgrade.
- Steady White: The device has successfully established a CAPWAP connection and is operating normally.
- **Ethernet Port**
- The ETH0 port is autosensing 100/1000G BASE-T/TX Mbps, with IEEE 802.3af- or 802.3at-compliant PoE, and requires Cat6 cable. AP305C and AP305CX Hardware Guide 4
- **Console Port**

  The AP305C has a micro-USB Co

Hardware Specifications

The following sections list radio, device, power, and environmental specifications for the AP305C and AP305CX.
Radio Specifications
Bluetooth BLE Beacon

- 2402 – 2480 MHz
- Frequency Hopping Spread-spectrum (FHSS)

802.11a

- 5150-5250, 5725 – 5850 MHz operating frequency
- Orthogonal Frequency Division Multiplexing (OFDM) modulation
- Rates(Mbps): 54, 48, 36, 24, 12, 9, 6 with auto fallback

802.11b

- 2.4-2.48 GHz operating frequency
- Direct-Sequence Spread-Spectrum (DSSS) modulation
- Rates (Mbps): 11, 5.5, 2.1 with auto fallback

802.11g

- 2.4-2.48 GHz operating frequency
- Orthogonal Frequency Division Multiplexing (OFDM) modulation
- Rates (Mbps): 54, 48, 36, 24, 12, 9, 6 with auto fallback

802.11n

- 2.4-2.48 and 5.150-5.250, 5250-5350 , 5500-5720MHz, 5.725 – 5.850 GHz operating
- frequency802.11n modulation
- Rates: MCS0 – MCS7
- 2×2 MIMO radio
- HT20/HT40 support (HT40 isfor 5 GHz only)
- A-MPDU and A-MSDU frame aggregation

802.11ac

- 802.11ac modulation (256-QAM)
- 2.4 – 2.48 GHz MCS0-9, NSS=1-4
- frequency
- Rates: MCS0 – MCS9, NSS = 1-4
- 2×2 MIMO radio
- VHT20/VHT40/VHT80 support (VT40 and VT80 for 5 GHz only)

802.11ax

frequency

- 2.4 – 2.48 GHz operation frequency
- 802.11ax modulation (1024-QAM)
- Rates: MCS0 – MCS11, NSS = 1-4
- OFDMA support
- 2×2 MU-MIMO
- HE20/HE40/HE80 support (HE40 and HE80 for 5GHz only)

Sensitivity Specifications

Channel	Data Rate	Power (dBm)
11b	1,2,5.5,11	18
11g	54 Mbps	15
	48 Mbps	16
	36 Mbps	17
	6 Mbps	18
HE20	MCS 0,1,2	18
	MCS 3	17
	MCS 4, 5	16
	MCS 6,7	15
	MCS 8,9	14
	MCS 10,11	12

Channel	Data Rate	Power (dBm)
2.4 G Sensitivity		
11b	1 Mbps	-99
	11 Mbps	-90
11g	6 Mpbs	-96
	36 Mpbs	-84
	48 Mbps	-80
	54 Mbps	-78
HE20	MCS 0	-95
	MCS 1	-91
	MCS 2	-89
	MCS 3	-86
	MCS 4	-83
	MCS 5	-79
	MCS 6	-77
	MCS 7	-76
	MCS 8	-72
	MCS 9	-70
	MCS 10	-67
	MCS 11	-64

Power: 2.4 GHz:

Mode	Data Rate	Power (dBm)
11a	54 Mbps	17
	48 Mbps	17

Mode	Data Rate	Power (dBm)
	36 Mbps	18
	6 Mbps	19
HE20	MCS 0, 1, 2	19
	MCS 3, 4	17
	MCS 5, 6	16
	MCS 7, 8	15
	MCS 9	14
	MCS 10	13
	MCS 11	12
HE40	MCS 0, 1, 2	17
	MCS 3, 4, 5	16
	MCS 7, 15, 23	14
	MCS 6, 7, 8	15
	MCS 10	13
	MCS 11	12
HE80	MCS 0,1,2	17
	MCS 3,4,5	16
	MCS 6,7,8	15
	MCS 9	14
	MCS 10	13
	MCS 11	12
Sensitivity		
11a	6 Mbps	-94
	36 Mbps	-83
	48 Mbps	-79

Mode	Data Rate	Power (dBm)
	54 Mbps	-77
11n HE20	MCS 0	-94
	MCS 1	-91
	MCS 2	-88
	MCS 3	-86
	MCS 4	-82
	MCS 5	-78
	MCS 6	-77
	MCS 7	-75
	MCS 8	-71
	MCS 9	-69
	MCS 10	-66
	MCS 11	-63
11n HE40	MCS 0	-92
	MCS 1	-88
	MCS 2	-86
	MCS 3	-83
	MCS 4	-80
	MCS 5	-76
	MCS 6	-74
	MCS 7	-73
	MCS 8	-69
	MCS 9	-67
	MCS 10	-63

Mode	Data Rate	Power (dBm)
	MCS 11	-60
HE80	MCS 0	-88
	MCS 1	-85
	MCS 2	-83
	MCS 3	-80
	MCS 4	-77
	MCS 5	-73
	MCS 6	-71
	MCS 7	-69
	MCS 8	-66
	MCS 9	-64
	MCS 10	-60
	MCS 11	-57

Tolerance +2/-2 dB @25° C

Mode	Data Rate	Power (dBm)
11a	6 Mbps	19
	36 Mbps	18
	48 Mbps	16
	54 Mbps	15
11n HE20	MCS 0,1, 2, 3, 4, 8, 9, 10, 11	19
	MCS 13, 21	18
	MCS 14, 22	16
	MCS 15, 23	15
	MCS 12, 16, 17, 18, 19, 20	19

Mode	Data Rate	Power (dBm)
11n HT40	MCS 0,1,2, 3, 4, 8	19
	MCS 5, 13, 21	18
	MCS 7, 15, 23	14
	MCS 9, 10, 11, 12, 16	19
	MCS 10	13
	MCS 17, 18, 19, 20	19
HE80	MCS 0,1,2	17
	MCS 3,4,5	16
	MCS 6,7,8	15
	MCS 9	14
	MCS 10	13
	MCS 11	12
Sensitivity		
11a	6 Mbps	-94
	36 Mbps	-83
	48 Mbps	-79
	54 Mbps	-77
11n HE20	MCS 0	-94
	MCS 1	-91
	MCS 2	-88
	MCS 3	-86
	MCS 4	-82
	MCS 5	-78
	MCS 6	-77
	MCS 7	-75

Mode	Data Rate	Power (dBm)
	MCS 8	-71
	MCS 9	-69
	MCS 10	-66
	MCS 11	-63
11n HE40	MCS 0	-92
	MCS 1	-88
	MCS 2	-86
	MCS 3	-83
	MCS 4	-80
	MCS 5	-76
	MCS 6	-74
	MCS 7	-73
	MCS 8	-69
	MCS 9	-67
	MCS 10	-63
	MCS 11	-60
HE80	MCS 0	-88
	MCS 1	-85
	MCS 2	-83
	MCS 3	-80
	MCS 4	-77
	MCS 5	-73
	MCS 6	-71
	MCS 7	-69

Mode	Data Rate	Power (dBm)
	MCS 8	-66
	MCS 9	-64
	MCS 10	-60
	MCS 11	-57

Device Specifications

- **Chassis dimensions:**

  AP305C: 6.35” W x 5.20” H x 1.25” D (161.3mm x 132.1 mm x 31.8 mm)

  AP305CX: 6.35” W x 5.20” H x 1.25” D (161.3 mm x 132.1 mm x 31.8 mm)
- **Weight:**

  AP305C: 2.61 lbs (1.18 kilograms)

  AP305CX (without antennas): 2.82 lbs (1.28 kilograms)
- **Antennas**

  AP305CX: 4 external omnidirectional 2.4/5 GHz dual-band antennas

  AP305C: 4 internal omnidirectional 2.4/5 dual-band antennas

  One dual-band antenna is shared between Wi-Fi and BLE ETH0 Ethernet port: autosensing 100/1000G BASE-T/TX Mbps, with IEEE 802.3af- or 802.3at-compliant PoE, and requires Cat6 cable.
- **Antenna Gain**

  WiFi 2.4 GHz: 2.7 dBi gain max

  WiFi 5 GHz: 4.4 dBi gain max

  Power Specifications

  PoE input voltage range: 37-57 V

  RJ45 power input pins: Wires 4, 5, 7, 8 or 1, 2, 3, and 6
- **Power Consumption**
  - AP305C:

    DC power: 18.72W with USB, 15.72 W without USB

    PoE: 21.78 W with USB, 18.78 W without USB
  - AP305CX:

    DC power: 18.72W with USB, 15.72 W without USB

    PoE: 20.79 W with USB, 17.79 W without USB
- **Environmental Specifications**
  - AP305C: Operating temperature: 32° to 104° F (0° to 40° C)
  - AP305CX: Operating temperature: -4° to 131° F (-20° to 55° C)
  - Storage temperature: -40° to 176° F (-40° to 80° C)
  - Relative Humidity: 10 to 95% RH (noncondensing)

Documents / Resources

	Extreme networks AP305C Wireless Access Point [pdf] User Guide AP305CNB, QXO-AP305CNB, QXOAP305CNB, AP305CX, AP305C, Wireless Access Point, AP305C Wireless Access Point

References

- Support - Extreme Networks
- User Manual