

## Highlights

### Radio Technology

- 5 GHz 4x4:4
- 2.4 GHz 4x4:4

### Radio Modes – SSR

- 5 GHz/2.4 GHz – Fixed
- 5 GHz/5 GHz – Dual 5 GHz
- 5 GHz/Sensor both bands

### High Density Environments

- Delivers exceptional end-user experience even in the densest user environments

### WPA3 Support

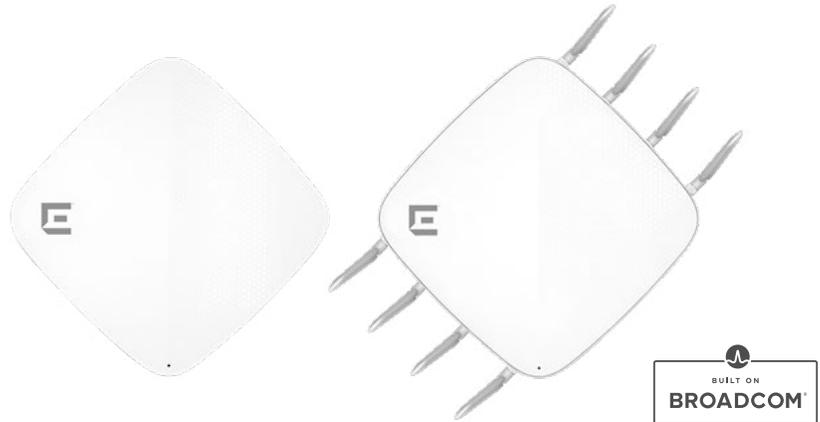
- Includes the latest WPA3 Wi-Fi security standard delivering robust protections for users and IoT devices

### Fully Functional over 802.3af

- Reduced functionality with 802.3af

### Smart Management Choices

- ExtremeCloud™ IQ™ delivers powerful, simple, and secure public or private cloud management capabilities



# ExtremeWireless™ AP510C/CX

Wi-Fi 6 certified (802.11ax) Indoor Access Point with integrated or external antenna options

Extreme's AP510C/CX is a high performance, enterprise class Wi-Fi 6 access point that is ideal for many verticals, including; retail, education, hospitality and healthcare. These enterprises need to support a high density of users and IoT devices, while delivering an exceptional user experience.

The AP510C/CX provides high-efficiency 802.11ax aggregate data rates up to 4.8 Gbps currently in both the 5 GHz band and 2.4 GHz band. It also supports a Software Selectable Radio (SSR), providing the flexibility to simultaneously operate both radios in the 5 GHz band.

Despite the exponential growth of users, BYOD devices, IoT, high-bandwidth applications and security threats straining the infrastructure, the AP510 combines performance, security services and insightful ML/AI management capabilities to deliver an enterprise class solution at a value price.

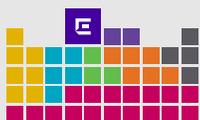


### Built to Suit Your Business Needs

**Extreme Elements** are the building blocks that allow you to tailor your network to your specific business environment, goals, and objectives. They enable the creation of an Autonomous Network that delivers the positive experiences and business outcomes most important to your organization.

Combining architecture, automation, and artificial intelligence, Extreme Elements enable you to ensure that your users get what they need — when and where they need it. Providing these superior user experiences is as simple as mixing and matching the right elements.

Learn more at [www.extremenetworks.com/extreme-elements/](http://www.extremenetworks.com/extreme-elements/).





## Security

The AP510C/CX delivers the highest level of security services, beginning with support for the latest Wi-Fi Alliance WPA3 security certifications. Additionally, supporting 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

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## Programable Radios

Extreme launched the industry's first software defined 802.11ax access point supporting not only a dual 5 GHz capability but also three software programmable modes to optimally manage radios to provide the highest level of client performance. The AP510C intelligent monitoring of the software configurable radios enables network administrators to configure network RF topology based on user environment and configure the access points in different modes as required.

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## Management Analytics

In conjunction with ExtremeCloud IQ, the AP510C/CX provides a very rich set of data displayed via real-time analytics as well as a historical timeline.. The Network 360 and Client 360 views powered by machine learning provide context-specific granularity with perspective views for locations, network, APs, individual client devices as well as policy roles.

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## RF Monitoring

Network administrators will appreciate a powerful choice of RF management for their Wi-Fi networks, with Adaptive RF management with AI/ ML like functionality. Adaptive RF algorithms provide intelligent selection of the best channels and transmit power for unimpaird dual 5 GHz operation. Load balancing, band steering and many other attributes of the RF can all be automated.

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## Integrated BLE and Zigbee

To support both IoT and Guest Engagement services the AP510C/CX integrates Bluetooth to connect with IoT devices with Thread wireless to engage loyalty customers with Apple iBeacon. Enterprises can use Google Eddystone 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

### Wireless Frequency Range

- USA: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz, 5.725 ~ 5.85 GHz
- Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 2.400 ~ 2.483 GHz, 5.725 ~ 5.85 GHz

### Modes

- IEEE802.11a 5 GHz OFDM
- IEEE802.11b 2.4 GHz DSSS/CCK
- IEEE802.11g 2.4 GHz OFDM
- IEEE802.11n 2.4 GHz/5 GHz OFDM
- IEEE802.11ac OFDM
- IEEE802.11ax OFDMA

## Channel Support

### 802.11 b/g/n/ax

- US/Canada: 11 (1 - 11)
- Europe: 13 (1 - 13)
- Japan: 11b: 14 (1-13 or 14th), 11g: 13 (1 - 13)
- China: 13 (1 - 13)

### 802.11 a/n/ac/ax

- US/Canada: 24 non-overlapping channels (36, 40, 44, 48, 52, 56, 60, 64;100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140; 149, 153, 157, 161, 165)
- Europe: 19 non-overlapping channel (36, 40, 44, 48, 52, 56, 60, 64;100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140)
- Japan: 19 non-overlapping channels (36, 40, 44, 48, 52, 56, 60, 64;100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140)
- China: 5 non-overlapping channels (149, 153, 157, 161, 165)

## Modulation Technology

### 802.11 Legacy a/b/g

- DSSS (DBPSK, DQPSK, CCK) OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
- DSSS (Direct Sequence Spread Spectrum) with DBPSK (Differential Binary Phase Shift Keying 1 Mbps), DQPSK (Differential Quaternary Phase Shift Keying 2 Mbps), and CCK (Complementary Code Keying 5.5 and 11 Mbps), and OFDM (Orthogonal Frequency Division Multiplexing with BPSK for 6, 9 Mbps, QPSK for 12, 18 Mbps, 16QAM for 24, 36 Mbps, 64QAM for 48, 54 Mbps)

### 802.11n

- OFDM (BPSK, QPSK, 16-QAM, 64-QAM)

### 802.11ac

- OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)

### 802.11ax

- OFDMA (1024-QAM)

## Interfaces

- 1x 10/100/1000 Gigabit Ethernet
- 1x 2.5 mGig
- RJ-45 Console Port

## Radios

- Dual Radio AP, 2.4 GHz/5 GHz and 5 GHz radios supporting dual band or dual 5 GHz operation
- 2.4 GHz/ 5 GHz, 802.11a/b/g/n/ac/ax, 4x4
- 5 GHz, 802.11 a/n/ac/ax, 4x4
- 160MHz, 1024-QAM supported
- 1x Bluetooth radio

## Power Consumption

- DC Power: Typical 18.78 W, Max 20.65 W
- 802.3at PoE+ Power: Typical 15.72 W, Max 19.92 W

## Environmental

- Operating Temperature:
  - AP510C -0 to 40°C
  - AP510CX -20 to 55 °C
- Storage Temperature: -40 to 70 °C
- Humidity: 10 to 95%

## Physical

- Dimensions: 225mm x 225mm x 37.5mm
- Weight: 2.8lb (1.27kg)
- Wall or ceiling mountable
- MTBF: 347,530 Hours @ 25 °C (estimate)
- RoHS: -2 Compliant
- TPM chip for added security

## Antenna

- 4x 2.4 GHz/5 GHz, RPSMA Connectors
- 4x 5 GHz, RPSMA Connectors
- 1x internal Bluetooth antenna

### Peak Antenna Gain

- 2.4 GHz omnidirectional, gain 4.6 dBi
- 5 GHz omnidirectional, gain 5.7 dBi
- Bluetooth omnidirectional, gain 5.2 dBi

## Environmental Compliance

- UL2043 - Plenum Rated

## Regulatory Compliance

### Product Safety

- IEC 60950-1, EN 60950-1, UL 60950-1, CSA 22.2 No.60950-1-03
- AS/NZS 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 50385
- EN 301 489-1
- EN 301 489-3
- EN 301 489-17
- EN 55032, (Class B)
- EN 55024
- EN 300 328
- EN 301 893
- EN 300 440

# Power and Sensitivity Tables

## Power - 2.4 GHz

Channel	Data Rate	Power (dBm)
11b	1, 2, 5.5, 11 Mbps	18
11g	54 Mbps	15
	48 Mbps	16
	36 Mbps	17
	6 Mbps	18
11n HT20	MCS0, 1, 2	18
	MCS3	17
	MCS4, 5	16
	MCS6, 7	15
	MCS8, 9	14
	MCS10, 11	12
11n HT40	MCS0, 1, 2	18
	MCS3	17
	MCS4, 5	16
	MCS6, 7	15
	MCS8, 9	14
	MCS10, 11	12

## Receive Sensitivity - 2.4 GHz

Channel	Data Rate	Sensitivity
11b	1 Mbps	-100
	11 Mbps	-93
11g	6 Mbps	-95
	36 Mbps	-86
	48 Mbps	-82
	54 Mbps	-80
11n HT20	MCS0, 8, 16	-95
	MCS5, 13, 21	-81
	MCS6, 14, 22	-79
	MCS7, 15, 23	-77
11n HT40	MCS0, 8, 16	-92
	MCS5, 13, 21	-78
	MCS6, 14, 22	-76
	MCS7, 15, 23	-74

## Power - 5 GHz

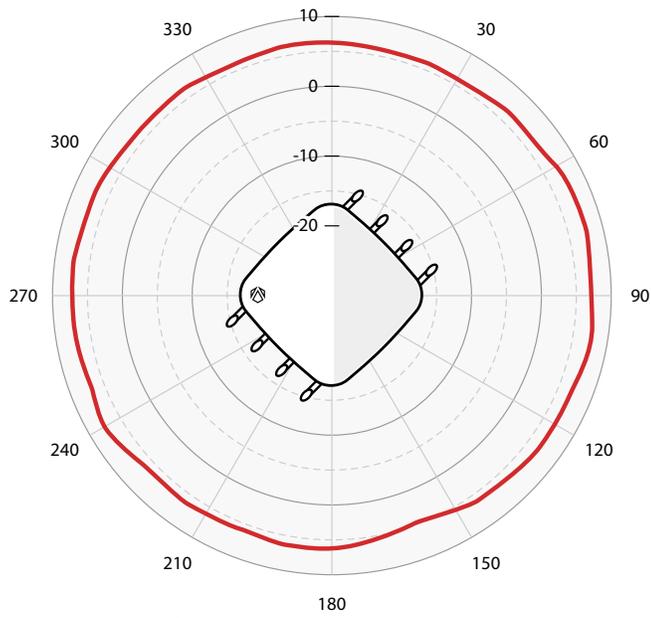
Channel	Data Rate	Power (dBm)
11a	6 Mbps	19
	36 Mbps	18
	48 Mbps	16
	54 Mbps	15
11n HT20	MCS0, 1, 2, 3, 4, 8, 9, 10, 11	19
	MCS5, 13, 21	18
	MCS6, 14, 22	16
	MCS7, 15, 23	15
	MCS12, 16, 17, 18, 19, 20	19
11n HT40	MCS0, 1, 2, 3, 4, 8	19
	MCS5, 13, 21	18
	MCS6, 14, 22	16
	MCS7, 15, 23	14
	MCS9, 10, 11, 12, 16	19
	MCS17, 18, 19, 20	19
11ac HT	256QAM @ 3/4 Code Rate	12
	256QAM @ 5/6 Code Rate	11

## Receive Sensitivity - 5 GHz

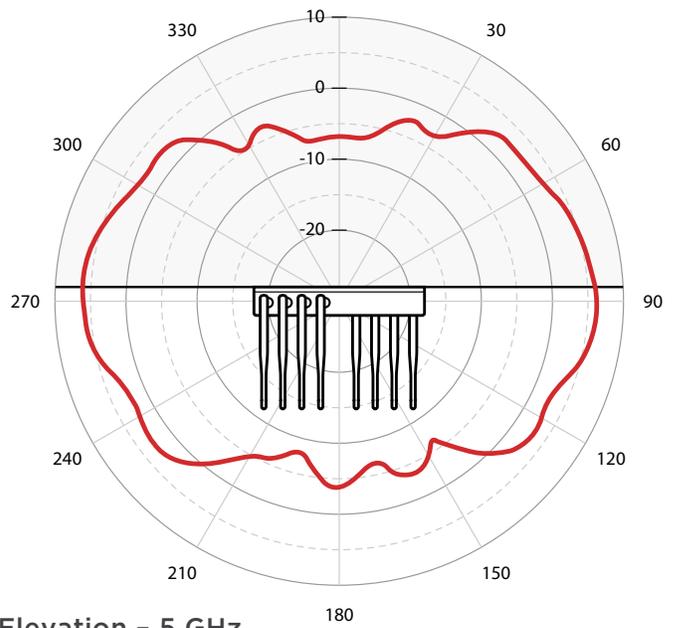
Channel	Data Rate	Sensitivity
11a	6 Mbps	-95
	36 Mbps	-86
	48 Mbps	-81
	54 Mbps	-80
11n HT20	MCS0, 8, 16	-91
	MCS5, 13, 21	-78
	MCS6, 14, 22	-76
	MCS7, 15, 23	-74
11n HT40	MCS0, 8, 16	-88
	MCS5, 13, 21	-75
	MCS6, 14, 22	-73
11ac HT20	3/4	-65
	5/6	-63
	3/4	-62
11ac HT40	5/6	-60
	3/4	-59
11ac HT80	5/6	-57
	3/4	-56
11ac HT160	5/6	-54

# Radiation Patterns - Azimuth and Elevation

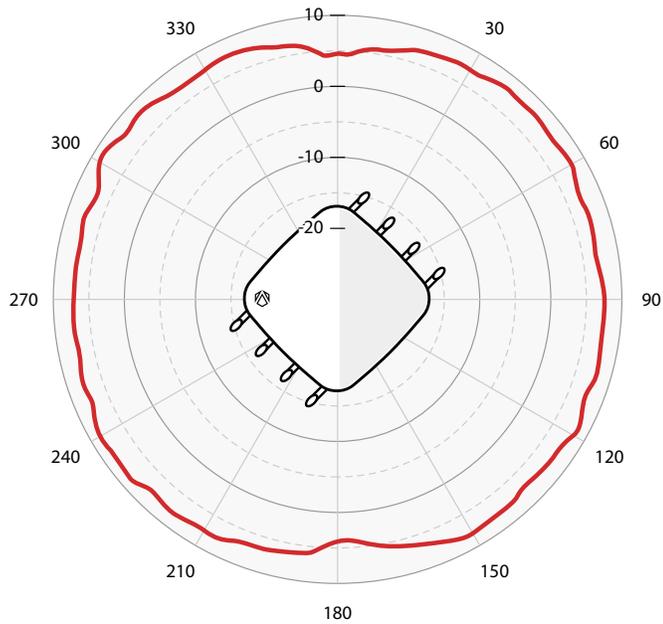
Azimuth - 2.4 GHz



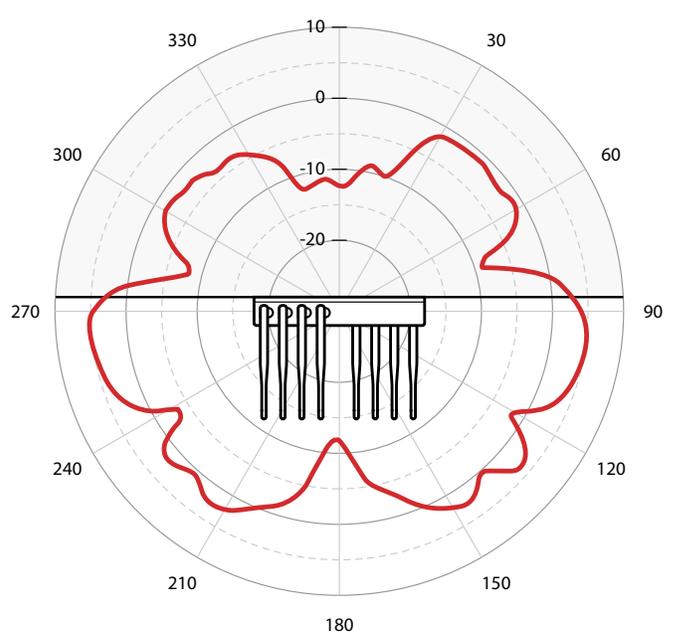
Elevation - 2.4 GHz



Azimuth - 5 GHz



Elevation - 5 GHz



## Ordering Information

SKU	Description
AP510C-CAN	ExtremeCloud IQ: Indoor Wi-Fi6 AP, 4x4 radios, 2.5 GbE and 1 GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. Internal antennas, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Includes Connect. Domain: Canada
AP510C-CE	ExtremeCloud IQ: Indoor Wi-Fi6 AP, 4x4 radios, 2.5 GbE and 1 GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. Internal antennas, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Includes Connect. Domain: EMEA
AP510C-FCC	ExtremeCloud IQ: Indoor Wi-Fi6 AP, 4x4 radios, 2.5 GbE and 1 GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. Internal antennas, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Includes Connect. Domain: FCC Regulatory Domain
AP510C-W	ExtremeCloud IQ: Indoor Wi-Fi6 AP, 4x4 radios, 2.5 GbE and 1 GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. Internal antennas, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Includes Connect. Domain: Rest of World
AP510CX-CAN	ExtremeCloud IQ: Indoor Wi-Fi6 AP, 4x4 radios, 2.5 GbE and 1 GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. External antenna, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Includes Connect. Domain: Canada
AP510CX-CE	ExtremeCloud IQ: Indoor Wi-Fi6 AP, 4x4 radios, 2.5 GbE and 1 GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. External antenna, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Includes Connect. Domain: EMEA
AP510CX-FCC	ExtremeCloud IQ: Indoor Wi-Fi6 AP, 4x4 radios, 2.5 GbE and 1 GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. External antenna, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Includes Connect. Domain: FCC Regulatory Domain
AP510CX-W	ExtremeCloud IQ: Indoor Wi-Fi6 AP, 4x4 radios, 2.5 GbE and 1 GbE port. Integrated light/power sensors and BLE/Zigbee. AI/ML green mode. External antenna, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Includes Connect. Domain: Rest of World
ACT-AP510C	Activation for AP510C. Not required in all countries.
ACT-AP510CX	Activation for AP510CX. Not required in all countries.
<b>Power Accessories</b>	
PD-9001GR-ENT	Single port 802.3at compliant midspan
AH-ACC-PW-30W	30W power adapter (12VDC, 2.5A) for AP650, AP650X
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
<b>Mounting Accessories</b>	
AH-ACC-BKT-AX-IL	Mounting bracket for Interlude ceilings
AH-ACC-BKT-AX-SL	Mounting bracket for Silhouette 1/8" and Silhouette 1/4" ceilings
AH-ACC-BKT-AX-TB	Mounting bracket for Prelude 15/16" and Suprafine 9/16" ceilings
AH-ACC-BKT-AX-WL	Mounting bracket for direct-to-wall installations
AH-ACC-ANT-AX-KT (x8 per pack)	Articulated indoor antenna kit (8 x Dual Band 5dBi antennas)

**Note:** AH-ACC-BKT-AX-TB include in AP



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