AP410C

Highlights

Advanced Radio Technology

Tri-Radio Design
• 5 GHz 4x4:4
• 2.4 GHz 2x2:2
• 2.4 GHz/5 GHz/Sensor

Radio Modes - SSR
• 2.4 GHz/5 GHz/Sensor (2.4 GHz/5GHz)
• 5 GHz/5 GHz - Dual 5 GHz

Universal Hardware Platform
• On-Premises: WiNG OS -Centralized and Distributed
• Cloud: ExtremeCloud™ IQ

High Density Environments
• Delivers exceptional end-user experience even in the most dense user environments

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

Cellular Coexistence Filter (CCF)
• Minimizes the impact of interference from cellular networks

Fully Functional over 802.3at

Smart Management Choices
• ExtremeCloud™ IQ delivers powerful, simple and secure public or private cloud management capabilities
• ExtremeCloud IQ Controller for on-premises requirements

Wi-Fi 6 (802.11ax) Tri-Radio Access Point With Support for Multiple Extreme Operating Systems

The AP410C 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). Customer shave 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 AP410C automatically connects to ExtremeCloud IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the AP410C AP and the user can stay in the cloud or select manage the device locally.

The AP410C provides high-efficiency, high-performance 802.11ax aggregate data rates up to 4.8 Gbps in the 5 GHz band and concurrent 574 Mbps in the 2.4 GHz band. The AP410C 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 designed for high density environments, AP410C is powerful enough and smart enough to provide the highest level of client services without compromising security monitoring. Unlike other access points that scan only part time, the dedicated, dual-band sensor scans for rogue devices full time, eliminating the risk of vulnerability or attacks. Tri-Radio APs continues the Extreme tradition of software-selectable radios (SSRs) capable of dual 5 GHz connectivity.

With more users, more devices, more things, more applications and more threats straining the infrastructure, the AP410C was engineered to meet those challenges. The AP410C combines powerful 802.11ax WI-Fi 6 technology, advanced security and ML/AI management capabilities together into an enterprise class solution that allows you to deploy high speed, highly secure WI-Fi into the toughest environments.

Security

The AP410C 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.

Wi-Fi 6 (802.11ax) 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. Learn more about 802.11ax.

Universal Hardware

The AP410C 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 AP410C assumes the features/capabilities of the selected OS. When first booted, the AP410C automatically connects to ExtremeCloud IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the AP410C system, eliminating the need for manual selection.

Management Analytics

In conjunction with Extreme centralized management software, cloud or on-premises, the AP410C provides a rich set of data displayed via context driven widgets, representing unlimited 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 using 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 AP410C 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

To support both IoT and Guest Engagement services, the AP410C integrates Bluetooth to connect with IoT devices wireless 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 AP410C 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

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 – 3467Mbps), NSS = 1-4

5G: 4x4 Multiple-In, Multiple-Out (MIMO) Radio

2.4G: 2x2 Multiple-In, Multiple-Out (MIMO) Radio

Rates (Mbps): MCS0–MCS9 (6.5Mbps – 3467Mbps), NSS = 1-4

4x4:4 Stream Multiple-In, Multiple-Out (MIMO) Radio

VHT20/VHT40/VHT80/VHT160 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

5G Rate (Mbps): HE0-HE11 (8 Mbps – 4800 Mbps)

2.4G Rate (Mbps): HE0-HE11 (8Mbps – 574 Mbps)

4x4:4 Stream Multiple-In, Multiple-Out (MIMO) Radio@ 5GHz

2x2:2 Stream Multiple-In, Multiple-Out (MIMO) Radio @2.4GHz

HE20/HE40/HE80/HE160 support for 5 GHz

HE20/HE40 support for 2.4 GHz

DL SU-MIMO and MU-MIMO

TxBF (Transmit Beamforming)

IoT Radio

BLE[2] 5 Radio Bluetooth® Low Energy BLE

[2] IoTRadio is included for certain AP410C model SKUs

Interfaces

(1) 100/1000/2500 Mbps auto-negotiation Ethernet port, RJ45 PoE (Power over Ethernet 802.3at) Port

(1) 10/100/1000 Mbps auto-negotiation Ethernet port, RJ45

USB 2.0, Type A, 5V, 0.9A

Power Specifications

IEEE 802.3at PoE Power

Power Options

Power Draw (w/ USB): Typical 22.69 W, Max 23.74 W

Power Draw (w/o USB): Typical 17.69 W, Max 18.74 W

802.3at Power over Ethernet (PoE) capable

Gigabit Ethernet port (RJ-45 power input pins: Wires 4,5,7,8 or 1,2,3,6)

802.3af Power over Ethernet injector

Physical

8" x 8" x 1.8" (205mm x 205mm x 37mm)

AP410C: 2 lbs (.9 kg)

TPM chip

Internal antennas

(3) Integrated single band, 5.1-5.8 GHz omnidirectional antennas

(2) Integrated dual band, 2.4-2.5 GHz and 5.1-5.8 GHz omnidirectional

(1) Integrated dual band, 2.4-2.5 GHz and 5.1-5.8 GHz omnidirectional for BLE[3] and WiFi 5G

(1) Integrated dual band, 2.4-2.5 GHz and 5.1-5.8 GHz omnidirectional for sensor

[3] IoTRadio included for certain AP410C model SKUs

Mounting

AP support 15/16 flush ceiling tile included in the box

Wall Mount somld 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: 0% to 95% (non-condensing)

Environmental Compliance

UL2043 - Plenum Rated

Regulatory Compliance

Product Safety Certifications

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 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

AP410C Max Antenna Gain

Software Mode	Radio 0	Radio 1	Sensor	IoT
Fixed Dual	2.4Ghz 4.0dBi	5Ghz 4.7dBi	2.4Ghz: 3.8dBi 5Ghz: 4.5dBi	3.2dBi
Dual 5G	5Ghz 4.7dBi	5Ghz 4.7dBi	2.4Ghz: 3.8dBi 5Ghz: 4.5dBi	3.2dBi

Wi-Fi Alliance Certifications

Connectivity	Wi-Fi CERTIFIED 6 Wi-Fi CERTIFIED 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, Personal

Power and Sensitivity Tables

Power and Receive Sensitivity – 2.4 GHz

Channel	Data Rate	Power (dBm)	Sensitivity
11b	1 - 11 Mbps	18	-94, -87
11g	6 Mbps	18	-90
	54 Mbps	17	-73
11n HT20	MCS0,7	18, 14	-89,-70
11n HT40	MCS0,7	18, 14	-86, -67
11ax HE20	HE0,11	18, 11	-89,-60
11ax HE40	HE0,11	18, 11	-86, -56

Power and Receive Sensitivity – 5 GHz (Low Band)

Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	18	-91
	54 Mbps	15	-73
11n HT20	MCS0,7	18, 15	-90,-72
11n HT40	MCS0,7	18, 15	-89,-70
11ac VHT20	MCS0,8	18, 14	-90,-69
11ac VHT40	MCS0,9	18, 13	-89,-64
11ac VHT80	MCS0,9	18, 13	-86, -62
11ax HE20	HE0,11	18, 11	-89,-59
11ax HE40	HE0,11	18, 11	-87, -59
11ax HE80	HE0,11	18, 11	-84, -53

Power and Receive Sensitivity – 5 GHz (Full Band)

Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	18	-92
	54 Mbps	16	-74
11n HT20	MCS0,7	18, 15	-91,-74
11n HT40	MCS0,7	18, 15	-89,-71
11ac VHT20	MCS0,8	18, 14	-91,-70
11ac VHT40	MCS0,9	18, 13	-90,-65
11ac VHT80	MCS0,9	18, 13	-87, -63
11ac VHT160	MCS0,9	17, 12	-82, -58
11ax HE20	HE0,11	18, 11	-90,-60
11ax HE40	HE0,11	18, 11	-88, -60
11ax HE80	HE0,11	18, 11	-85, -54
11ax HE160	HE0,11	17, 10	-82,-52

Power and Receive Sensitivity – 5 GHz (High Band)

| Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	17	-91
	54 Mbps	15	-73
11n HT20	MCS0,7	17, 14	-90,-72
11n HT40	MCS0,7	17, 14	-89,-70
11ac VHT20	MCS0,8	17, 13	-90,-69
11ac VHT40	MCS0,9	17, 12	-89,-64
11ac VHT80	MCS0,9	17, 12	-86, -62
11ac VHT160	MCS0,9	16, 11	-81, -57
11ax HE20	HE0,11	17, 10	-89,-59
11ax HE40	HE0,11	17, 10	-87, -59
11ax HE80	HE0,11	17, 10	-84, -53
11ax HE160	HE0,11	16, 9	-81, -51

Antenna Radiation Patterns
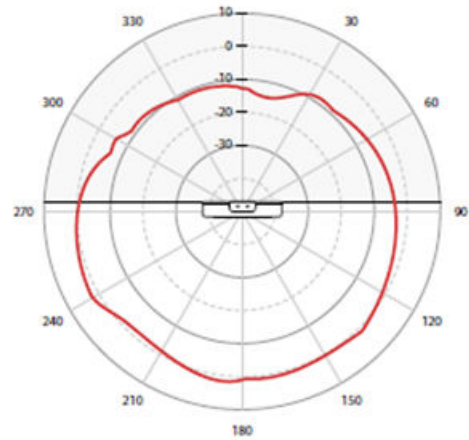
Azimuth - 2.4 GHz
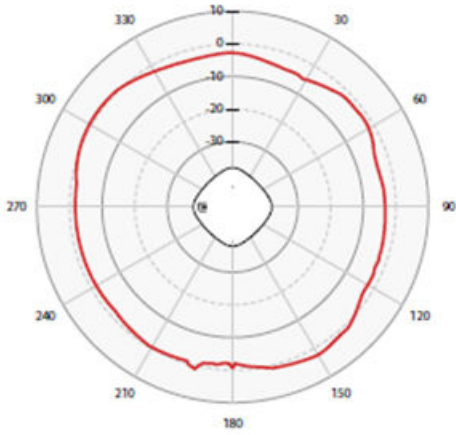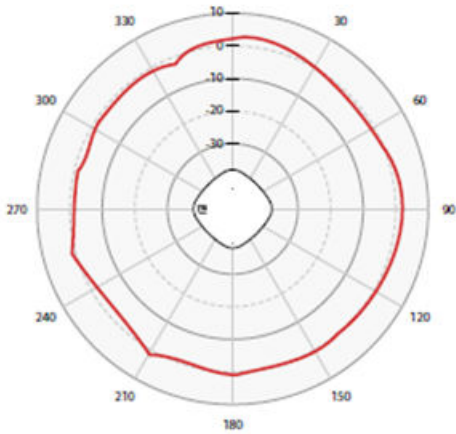
Elevation - 2.4GHz
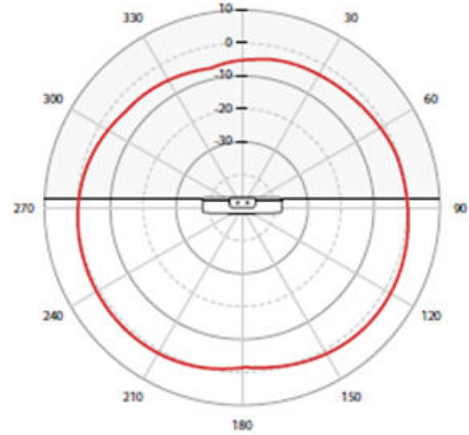
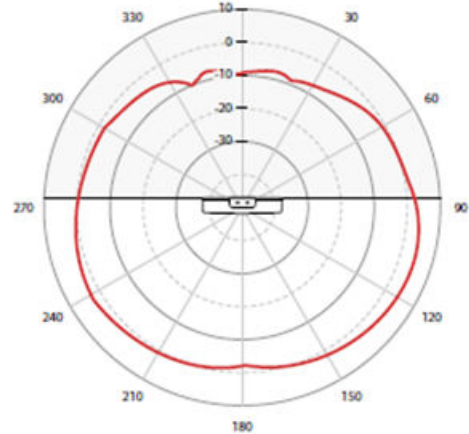## Radio 0 Azimuth - 5 GHz
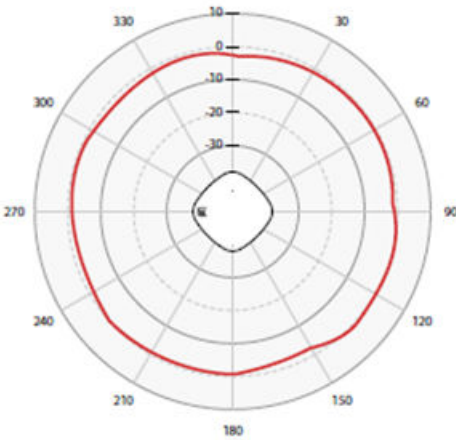
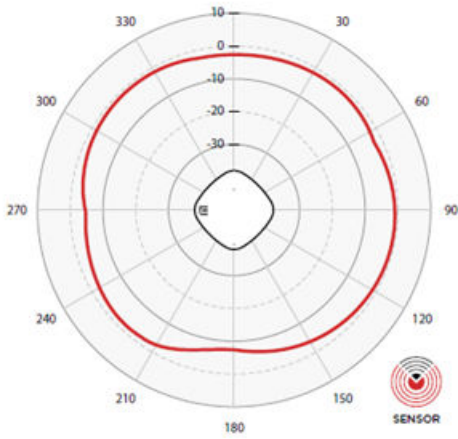## Radio 0 Elevation - 5 GHz

Radio 1 Azimuth - 5 GHz

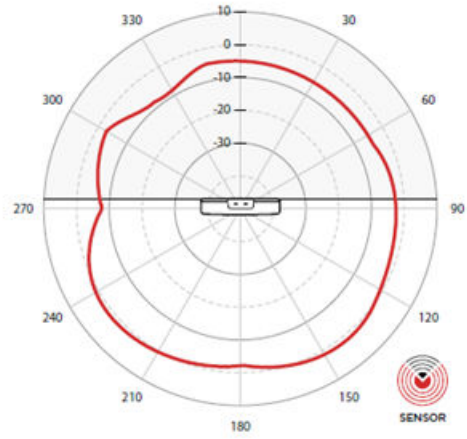## Radio 1 Elevation - 5 GHz

Antenna Radiation Sensor Patterns

Azimuth - 2.4 GHz

Elevation - 5 GHz

Azimuth - 5 GHz
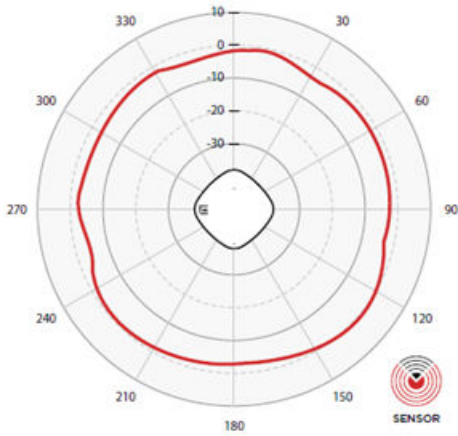
Elevation - 5 GHz
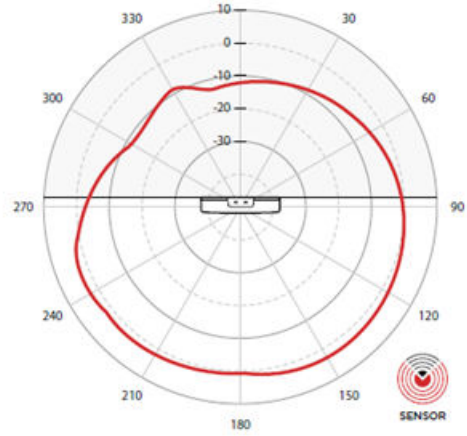
Ordering Information

AP410C– SKUs

Part Number	Description
AP410C-FCC	ExtremeCloud IQ: Indoor Tri Radio WiFi6 AP, 2.4 GHz, 5GHz, and Sensor w/Dual 5GHz and Mulitrate Port. Environmentally friendly, Light, power sensors. AI/ML green mode. INT antennas. T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). NA
AP410C-CAN	ExtremeCloud IQ: Indoor Tri Radio WiFi6 AP, 2.4 GHz, 5GHz, and Sensor w/Dual 5GHz and Mulitrate Port. Environmentally friendly, Light, power sensors. AI/ML green mode. INT antennas. T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Canada
AP410C-WR	ExtremeCloud IQ: Indoor Tri Radio WiFi6 AP, 2.4 GHz, 5GHz, and Sensor w/Dual 5GHz and Mulitrate Port. Environmentally friendly, Light, power sensors. AI/ML green mode. INT antennas. T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Rest of World
AP410C-IL	IL ExtremeCloud IQ: Indoor Tri Radio WiFi 6 AP, 2.4 GHz, 5GHz, & Sensor w/ Dual 5GHz & Mulitrate Port. Integrated Light, power sensors, BLE/Zigbee. AI/ML green mode. INT antennas. T-Bar, Incl Mt (AH-ACC-BKT-AX-TB). Domain: Israel
AP410C-EG	EG ExtremeCloud IQ: Indoor Tri Radio WiFi 6 AP, 2.4 GHz, 5GHz, & Sensor w/ Dual 5GHz & Mulitrate Port. Integrated Light,power sensors, BLE/Zigbee. AI/ML green mode. INT antennas. T-Bar, Incl Mt (AH-ACC-BKT-AX- TB). Domain: Egypt
AP410C-1-FCC*	ExtremeCloud IQ Indoor Tri Radio WiFi 6 AP 2.4 GHz 5GHz Sensor w/ Dual 5GHz Mulitrate Port. Integrated Light power sensors. AI/ML green mode. INT antennas. T-Bar Incl Mt (AH-ACC-BKT-AX-TB). Domain: US
AP410C-1-WR*	ExtremeCloud IQ Indoor Tri Radio WiFi 6 AP 2.4 GHz 5GHz Sensor w/ Dual 5GHz Mulitrate Port. Integrated Light power sensors. AI/ML green mode. INT antennas. T-Bar Incl Mt (AH-ACC-BKT-AX-TB). Domain: Rest of World
AP410C-1-CAN*	ExtremeCloud IQ Indoor Tri Radio WiFi 6 AP 2.4 GHz 5GHz Sensor w/ Dual 5GHz Mulitrate Port. Integrated Light power sensors. AI/ML green mode. INT antennas. T-Bar Incl Mt (AH-ACC-BKT-AX-TB). Domain: Canada
AP410C-1-EG*	ExtremeCloud IQ Indoor Tri Radio WiFi 6 AP 2.4 GHz 5GHz Sensor w/ Dual 5GHz Mulitrate Port. Integrated Light power sensors. AI/ML green mode. INT antennas. T-Bar Incl Mt (AH-ACC-BKT-AX-TB). Domain: Egypt
AP410C-1-IL*	ExtremeCloud IQ Indoor Tri Radio WiFi 6 AP 2.4 GHz 5GHz Sensor w/ Dual 5GHz Mulitrate Port. Integrated Light power sensors. AI/ML green mode. INT antennas. T-Bar Incl Mt (AH-ACC-BKT-AX-TB). Domain: Israel

* Does not include IoT radio and Bluetooth functionality.

Mounting Accessories

Marketing Part #	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 wall (shipped with AP)	Can be used for flush wall mounting
AH-ACC-BKT-AX-WL	Mounting bracket for direct-to-wall installations	Not flush to wall
ACC-BKT-AX-JB	Junction box or wall mounting for indoor access points	
ACC-BKT-AX-BEAM	Beam mounting for indoor access points	

Power Accessories

Part Number	Description
PD-9001GR-ENT	Singleport 802.3at compliant midspan
AH-ACC-PW-CBL-US	6ft18 AWG universal power cord with US plug

Part Number	Description
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

Part Number	Description
ACC-WIFI-MICRO-USB	Micro-USB to USB Console Adapter Cable for Extreme Wireless Access Points

Warranty

The AP410C models are covered under Extreme's Universal LLW policy. For
warranty details, visit: www.extremenetworks.com/support/policies.