Highlights

Radio Technology

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

Radio Modes – SSR

- 2.4 GHz / 5 GHz
- 5 GHz / 5 GHz – Dual 5 GHz
- Sensor (2.4 GHz/5 GHz) / 5 GHz

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

Cellular Coexistence Filter (CCF)

- Minimizes the impact of interference from cellular networks

Fully Functional over 802.3af

- USB port usage requires 802.3at

Smart Management Choices

- Extreme Campus Controller or VX/NX controller is ideal for on-premises requirements
- Extreme Campus Controller, /VX or NX controller plus additional cloud management capabilities provided via ExtremeCloud™ IQ

BUILT ON BROADCOM

ExtremeWireless™ AP310i/e

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

The AP310i/e is based on a new system-on-a-chip (SoC) with two built in dual band 2x2 radios providing the best value with Wi-Fi 6 high-efficiency. Priced for the mass market, this enterprise-grade access point is ideal for budget-conscious enterprises who do not want to sacrifice performance. While other vendors may reduce features and functionality, the AP310i/e retains all the capabilities of higher-end APs software-selectable-antenna (SSR). 802.11ax data rates of up to 2.4 Gbps are available concurrently in both the 2.4 GHz and 5 GHz band. The AP310i/e also provides the flexibility to provide the same data rates simultaneously on two 5 GHz channels using dual-5 GHz SSR technology.

Despite the exponential growth of users, BYOD devices, IoT, high-bandwidth applications and security threats straining the infrastructure, the AP310 combines performance, security services and insightful ML/AI management capabilities to deliver an enterprise class solution at a value price.

Extreme Elements™
ExtremeWireless™ AP310i/e

Hu Human | IQ Extreme Cloud IQ | Wr Wireless Controllers

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 uses 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/.

Security

The AP310i/e 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 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

Programable Radios

Extreme launched the Industry's first software defined 802.11ax access point supporting not only a dual 5GHz capability but also three software programmable modes to optimally manage radios to provide the highest level of client performance. The AP310i/e intelligent monitoring of the software configurable radios enables network managers configure network RF topology based on user environment and configure the access points in different modes as required.

Management Analytics

In conjunction with management system, cloud or on-premises, the AP310i/e 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 from widget library.

RF Monitoring

Network managers 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 unimpaired dual 5 GHz operation. Load balancing, band steering and many other attributes of the RF can all be automated.

Integrated BLE and Zigbee

To support both IoT and Guest Engagement services the AP310i/e integrates Bluetooth to connect with IoT devices with Thread wireless or 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.

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 & 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)
- 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/HE40 support for 2.4 GHz
- DL SU-MIMO and MU-MIMO
- TxBF (Transmit Beamforming)

IOT Radio

- BLE Radio Bluetooth® Low Energy (BLE) and IEEE® 802.15.4 compliant

Interfaces

- (2) Autosensing 10/100/1000 Ethernet Port, RJ45
- USB3.0, Type A , 0.5A

Power Specifications

- IEEE 802.3af PoE Power

Power Options

- Power Draw: Typical: 9W, Max:11.1W (w/o USB)
  Typical: 12W, Max:14W (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)
- 802.3af Power over Ethernet injector
- PoE Out Supports 802.3af Powered Devices (PD) when powered by 802.3at

Physical

- 6.4" x 6.4" x 1.7" (165mm x 165mm x 45mm)
- AP310i/e: 1.5 lbs (.7 kg)

Antennas

AP310i – Internal Antennas

- (2) Integrated dual band, 2.4 GHz/5 GHz omnidirectional antennas
- (2) Integrated single band, 5.1-5.8 GHz omnidirectional antennas
- (1) Integrated single band, 2.4-2.5 GHz omnidirectional antennas for BLE

AP310e – External Antenna

- (4) RP SMAs connectors
- (1) RP SMAs connectors for BLE

Mounting

- Wall, and flat tile and 15/16" wide tbar, mount included as part of AP
- Built-in slot for Kensington type locks
- 5/8" Ceiling tile protrusions on 9/16". 15/16" and 1.5" wide t-bars sold as an accessory
- Flush ceiling tiles with 9/16". 15/16" and 1.5" wide t-bars sold as an accessory

Environmental

- Operating: AP310i: 0 to 50°C
  AP310e: -20 to 55°C
- Storage: -40 to 70°C

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, Intertek NTRL
- 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 61000-3-2
- EN 61000-3-3
- EN 300 328
- EN 301 893
- EN 50581

Support

- Limited Lifetime Warranty WiNG

Peak Gains

Software Mode	Radio 1	Radio 2	IoT Radio
Dual Band	2.4GHz – 4.5dBi	5GHz - 4.8dBi	4.7dBi
Sensor	2.4GHz - 4.5dBi 5GHz – 5.2dBi	5GHz - 4.8dBi	4.7dBi
Dual 5G	5GHz - 5.2dBi	5GHz - 4.8dBi	4.7dBi

AP310i

Power and Receive Sensitivity - 2.4 GHz

Channel	Data Rate	Power (dBm)	Sensitivity
11b	1 - 11 Mbps	20	-94, -87
11g	6 Mbps	20	-90
	54 Mbps	18	-73
11n HT20	MCS0, 7	20, 17	-89, -70
11n HT40	MCS0, 7	19, 16	-86, -67
11ax HE20	HE0, 11	20, 14	-89, -60
11ax HE40	HE0, 11	19, 13	-86, -56

Power and Receive Sensitivity – 5 GHz (Full band)

Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	20	-90
	54 Mbps	18	-74
11n HT20	MCS0, 7	20, 18	-90, -70
11n HT40	MCS0, 7	19, 17	-87, -68
11ac VHT20	MCS0, 8	20, 17	-89, -66
11ac VHT40	MCS0, 9	19, 16	-87, -62
11ac VHT80	MCS0, 9	19, 16	-84, -59
11ax HE20	HE0, 11	20, 15	-89, -61
11ax HE40	HE0, 11	19, 15	-87, -58
11ax HE80	HE0, 11	19, 15	-85, -56

Power and Receive Sensitivity – 5 GHz (High Band)

Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	18	-89
	54 Mbps	17	-73
11n HT20	MCS0, 7	18, 16	-89, -69
11n HT40	MCS0, 7	18, 16	-86, -67
11ac VHT20	MCS0, 8	18, 15	-88, -65
11ac VHT40	MCS0, 9	18, 15	-86, -61
11ac VHT80	MCS0, 9	18, 15	-83, -58
11ax HE20	HE0, 11	18, 14	-88, -60
11ax HE40	HE0, 11	18, 14	-86, -57
11ax HE80	HE0, 11	18, 14	-84, -55

Power and Receive Sensitivity – 5 GHz (Low Band)

Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	18	-89
	54 Mbps	16	-73
11n HT20	MCS0, 7	18, 16	-89, -69
11n HT40	MCS0, 7	17, 15	-86, -67
11ac VHT20	MCS0, 8	18, 15	-88, -65
11ac VHT40	MCS0, 9	17, 14	-86, -61
11ac VHT80	MCS0, 9	17, 14	-83, -58
11ax HE20	HE0, 11	18, 13	-88, -60
11ax HE40	HE0, 11	17, 13	-86, -57
11ax HE80	HE0, 11	17, 13	-84, -55

AP310e

Power and Receive Sensitivity - 2.4 GHz

Channel	Data Rate	Power (dBm)	Sensitivity
11b	1 - 11 Mbps	19	-93, -86
11g	6 Mbps	19	-89
	54 Mbps	17	-72
11n HT20	MCS0, 7	19, 16	-88, -69
11n HT40	MCS0, 7	18, 15	-85, -66
11ax HE20	HE0, 11	19, 13	-88, -59
11ax HE40	HE0, 11	18, 12	-85, -55

Power and Receive Sensitivity – 5 GHz (Full band)

Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	20	-90
	54 Mbps	18	-74
11n HT20	MCS0, 7	20, 18	-90, -70
11n HT40	MCS0, 7	19, 17	-87, -68
11ac VHT20	MCS0, 8	20, 17	-89, -66
11ac VHT40	MCS0, 9	19, 16	-87, -62
11ac VHT80	MCS0, 9	19, 16	-84, -59
11ax HE20	HE0, 11	20, 15	-89, -61
11ax HE40	HE0, 11	19, 15	-87, -58
11ax HE80	HE0, 11	19, 15	-85, -56

Power and Receive Sensitivity – 5 GHz (High Band)

Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	18	-89
	54 Mbps	17	-73
11n HT20	MCS0, 7	18, 16	-89, -69
11n HT40	MCS0, 7	18, 16	-86, -67
11ac VHT20	MCS0, 8	18, 15	-88, -65
11ac VHT40	MCS0, 9	18, 15	-86, -61
11ac VHT80	MCS0, 9	18, 15	-83, -58
11ax HE20	HE0, 11	18, 14	-88, -60
11ax HE40	HE0, 11	18, 14	-86, -57
11ax HE80	HE0, 11	18, 14	-84, -55

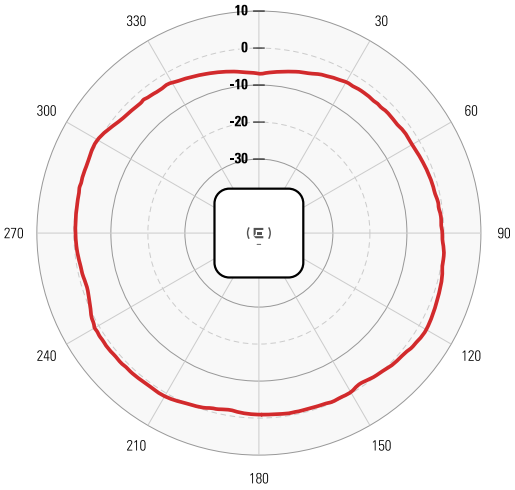
Power and Receive Sensitivity – 5 GHz (Low Band)

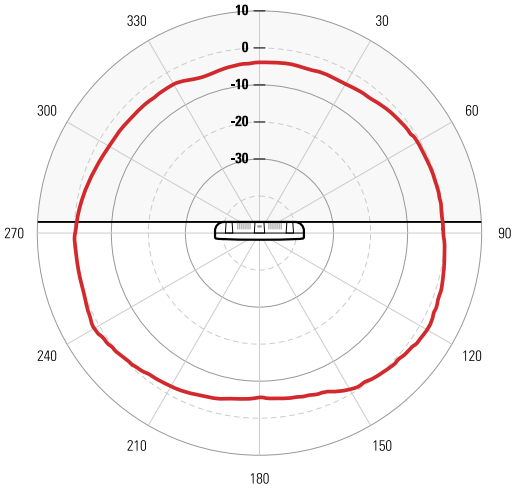
Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	16	-89
	54 Mbps	14	-73
11n HT20	MCS0, 7	16, 14	-89, -69
11n HT40	MCS0, 7	15, 13	-86, -67
11ac VHT20	MCS0, 8	16, 13	-88, -65
11ac VHT40	MCS0, 9	15, 12	-86, -61
11ac VHT80	MCS0, 9	15, 12	-83, -58
11ax HE20	HE0, 11	16, 11	-88, -60
11ax HE40	HE0, 11	15, 11	-86, -57
11ax HE80	HE0, 11	15, 11	-84, -55

Maximum EIRP may vary based upon deployed country

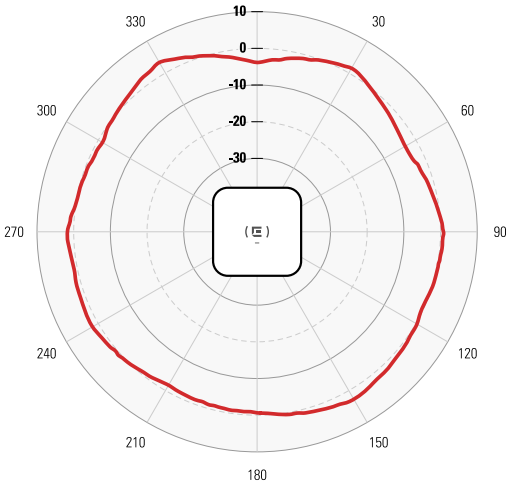
Radiation Patterns – Azimuth and Elevation

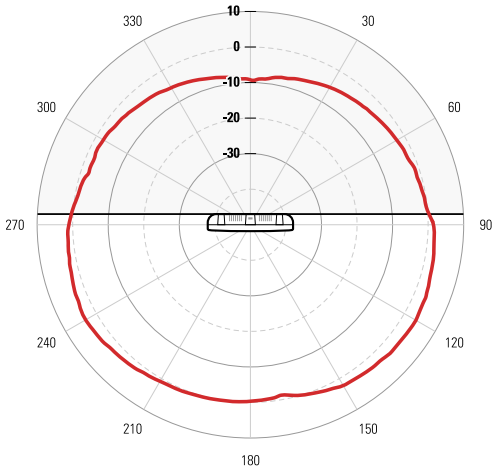
AP310i/e Antenna Radiation Patterns — 2.4GHz





AP310i/e Antenna Radiation Patterns — 5.0GHz





Ordering Information

AP310i/e

Mkt Part #	Description
AP310i-FCC	Dual Radio 802.11ax - 2x2:2, Dual 5G Indoor Internal Antenna Access Point. Domain: US, and Puerto Rico
AP310i-WR	Dual Radio 802.11ax - 2x2:2, Dual 5G Indoor Internal Antenna Access Point. Domain: EMEA, and Rest of World
AP310i-CAN	Dual Radio 802.11ax - 2x2:2, Dual 5G Indoor Internal Antenna Access Point. Domain: Canada
AP310e-FCC	Dual Radio 802.11ax - 2x2:2, Dual 5G Indoor External Antenna Access Point. Domain: US, and Puerto Rico
AP310e-CAN	Dual Radio 802.11ax - 2x2:2, Dual 5G Indoor External Antenna Access Point. Domain: Canada
AP310e-WR	Dual Radio 802.11ax - 2x2:2, Dual 5G Indoor External Antenna Access Point. Domain: EMEA, Rest of World

Mounting Options – AP310i/e

Mkt Part #	Description
37201	Mounting Plate for Indoor APs (included in box)
KT-135628-01	Universal Mounting Kit for WLAN APs Requires (37201) bracket for mounting
BRKT-000147A-01	Beam Clip Accessory
37210	Flat Metal Indoor Bracket
30518	WS-MBI-DCMTR01 bracket
30516	WS-MBI-WALL04
37211	WS-MBI-DCFLUSH

Power Options – AP310i/e

Mkt Part #	Description
PD-3501G-ENT	Single Port 802.3AF Midspan Device
PD-9001GR-ENT	Single Port 802.3AT Compliant Midspan
37215	PWR 12VDC, 3A, 2.5mm x 5.5mm connector

Antennas – AP310i/e

Mkt Part #	Description
ML-2452-APA2-01	Dipole, 3.2dBi/4.9dBi, dual band, black with RPSMA plug connector (up to 5 per AP)
ML-2452-APA2-02	Dipole, 3.2dBi/4.9dBi, dual band, white with RPSMA plug connector (up to 5 per AP)
ML-2452-HPA5-036	Dipole, 3.9dBi/ 5.7dBi, dual band, outdoor, white with RPSMA plug connector (up to 5 per AP)
ML-2452-HPAG4A6-01	Dipole, 4dBi/ 7.3dBi, dual band, outdoor, white with standard N plug connector (up to 5 per AP)
ML-2452-PNA5-01R	Panel, 120 deg sector, 4.5dBi/ 5dBi, dual band, outdoor, 4" lead with standard N plug connector (up to 5 per AP)
ML-2452-PTA4M4-036	Patch, 360 deg, 4dBi/ 5dBi, dual band, indoor, with quad feed 36" leads and RPSMA plug connectors
ML-2452-HPAG5A8-01	Dipole Omni, 7.5dBi/8dBi, dual band, outdoor with standard N Plug connector (up to 5 per AP)
ML-2452-SEC6M4-036	Polarized Panel, 10 0/ 80 deg, 6.92dBi/ 7.23dBi, dual band, indoor with quad feed 32" leads and standard RP SMA plug connectors
ML-2452-PNA7-01R	Panel, 68/ 52 deg sector, 7.8dBi/ 10.7dBi, dual band, outdoor, 4" lead with standard N plug connector (up to 5 per AP)
AI-DQ04360S	Dipole Omni Array, 5.5dBi/ 6dBi, dual band, outdoor with quad feed 36" leads and RPSMA connectors
30702	WS-AI-DQ05120 Indoor, 2.3-2.7/4.9-6.1GHz, 4-feed, 5dBi, 120 degree sector antenna with standard RPSMA-type plug connector
30705	WS-AI-DE07025 Indoor 2.4GHz/5GHz, eight feed, 6.5/5.5dBi, 25 degree sector antenna with standard RPSMA-type plug connector
30707	WS-AI-DE10055 Indoor 2.4GHz/5GHz, eight feed, 10/6dBi, 55 degree sector antenna with standard RPSMA-type plug connector

Extreme networks

http://www.extremenetworks.com/contact