

## Highlights

### Advanced Radio Technology

#### Radio Design

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

#### Radio Modes - SSR

- 2.4Ghz/5Ghz

### 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 802.3at

- Capable of operation over 802.3af

### 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



## ExtremeWireless™ AP 505i

### Wi-Fi 6 (802.11ax) Dual-Radio Access Point with Integrated Antenna

Extreme's AP 505i is a high performance, enterprise class 802.11ax access point at the price/performance 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 AP 505i is powered by the WiNG 7 operating system. WiNG's legendary distributed architecture places the intelligence at the edge where it unleashes the true capabilities and performance of 802.11ax, without bottlenecks and limits. WiNG incorporates the functionality of a controller in each access point, enabling network solutions with controller-less solutions using a virtual controller that supports up to 64 access points or hardware /VM controllers that can support up to 25000 access points.



ExtremeWireless™ AP 505i



### 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 [extremenetworks.com/elements](https://extremenetworks.com/elements).





## Security

The AP 505i 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.

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## 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. To learn more about 802.11ax, go to: <https://www.extremenetworks.com/are-you-ready-for-802-11ax/>

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## Smart Sensor

Industry's first Dual-radio 802.11ax access point with Smart Sensor capability to optimally manage radios to provide the highest level of client performance while simultaneously providing continuous RF monitoring for security threats.

The AP 505i Patent Pending Smart-Sensor feature automates the provisioning of ADSP Sensors in customer setup without compromising their security performance. This feature intelligently selects and configures the Radio on APs that must act as sensors to cover entire site from wireless security perspective reducing the burden of network engineers.



## Management Analytics

In conjunction with management system, cloud or On-premises the AP505 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.

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## RF Monitoring

Network managers will appreciate a powerful choice of RF management for their Wi-Fi networks, with SmartRF, a robust RF management system with AI/ML like functionality. Built on 10 years of experience across thousands of large scale networks and millions of access points, SmartRF algorithms manage channels, radios, load balancing, band steering and many other attributes of the RF.

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## Integrated BLE

To support both IoT and Guest Engagement services the AP505 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

- SSID per Radio/Total: 8/16
- Users per Radio/total: 256/512
- TPM (Trusted Platform Module)

### 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 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
- CSD and CDD

### 802.11ac

- 5.150–5.850 GHz Operating Frequency
- 802.11ac Modulation (256-QAM)
- Rates (Mbps): MCS0 – MCS9 (6.5Mbps - 800Mbps)
- 5G: 4x4 Multiple-In, Multiple-Out (MIMO) Radio (MRC)
- 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
- Rates (Mbps):
- 5G: HE0-HE11 (8 Mbps - 4800 Mbps)
- 2.4G: HE0-HE11 (8Mbps - 1148 Mbps)
- HE20/HE40/HE80/HE160 support for 5 GHz
- HE20/HE40 support for 2.4 GHz
- DL SU-MIMO and MU-MIMO (MRC)
- TxBF (Transmit Beamforming)

## Interfaces

- Interfaces • (1) 100/1000/2500 Mbps auto-negotiation Ethernet port, RJ45 PoE (Power over Ethernet 802.3at) Port (802.3bz supported)
- (1) 10/100/1000 Mbps auto-negotiation Ethernet port, RJ45
- USB3.0, Type A, 0.5A

## Power Options

- Power Draw: Typical: 18 W; Max: 22 W
- 802.3at Power over Ethernet (PoE) capable (Full functionality)
- Gigabit Ethernet port (RJ-45 power input pins):
- Wires 4,5,7,8 or 1,2,3,6)
- 802.3af Power over Ethernet injector (Reduced Functionality)

## Physical

- 8.26" x 8.26" x 1.89" (210mm x 210mm x 48mm)
- AP 505i: 3.21 lbs (1.45 kg)

## Antennas

- AP 505i - Internal Antennas
- (4) Integrated single band, 2.4-2.5 GHz omnidirectional antennas
- (4) Integrated single band, 5.1-5.8 GHz omnidirectional antennas
- (1) Integrated single band, 2.4-2.5 GHz omnidirectional antennas for BLE

## Mounting

- Wing Bracket Compatible
- Extreme Multi-Tbar
- Kensington Lock

## Security

- WPA, WPA2(AES), WPA3, 802.11i, 802.11x, IPsec, IKEv2, PKCS#10, x509 DER / PKCS #12 SSL

## Environmental

- Operating: AP 505i: 0 to 40°C
- Storage: -40 to 70°C
- Humidity: 0% to 95% (non-condensing)
- Electrostatic Discharge: 15kV air, 8kV contact

## Environmental Compliance

- UL2043 - Plenum Rated

## IOT Radio

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

## 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 62479
- EN 62311
- EN 50385
- EN 301 489-1
- EN 301 489-3
- 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

## Support

- Limited Lifetime Warranty WiNG

## Max Antenna Gain (Integrated Antenna)

Software Mode	Radio 1	Radio 2	Radio 3
Mode 1	2.4 Ghz 4dBi	5 Ghz 6dBi	5dBi

Wi-Fi Alliance Certifications	
Connectivity	Wi-Fi CERTIFIED 6™ Wi-Fi CERTIFIED™ a, b, g, n, ac WPA™ - Enterprise, Personal WPA2™ - Enterprise, Personal WPA3™ - Enterprise, Personal
Optimization	Wi-Fi Agile Multiband™ Wi-Fi Vantage™ WMM* WMM*-Admission Control WMM*-Power Save
Access	Passpoint*
Applications and Services	Voice-Enterprise

# AP 505i

## Power and Receive Sensitivity - 2.4 GHz

Channel	Data Rate	Power (dBm)	Sensitivity
11b	1 - 11 Mbps	19	-98, -90
11g	6 Mbps	19	-96
	54 Mbps	17	-77
11n HT20	MCS0, 7	19, 17	-96, -77
11n HT40	MCS0, 7	19, 17	-94, -76
11ax HE20	MCS0, 11	19, 15	-94, -64

## Power and Receive Sensitivity - 5 GHz

Channel	Data Rate	Power (dBm)	Sensitivity
11a	6 Mbps	20	-93
	54 Mbps	6 Mbps	-76
11n HT20	MCS0, 7	20, 18	-93, -74
11n HT40	MCS0, 7	20, 18	-91, -71
11ac VHT20	MCS0, 8	20, 17	-93, -70
11ac VHT40	MCS0, 8	20, 17	-91, -65
11ac VHT80	MCS0, 9	20, 17	-88, -62
11ac VHT160	MCS0, 9	20, 16	-83, -59
11ac VHT160	MCS0,11	20, 15	-84, -54
11ax HE20	HE0, 11	20, 16	-93, -64
11ax HE40	HE0, 11	20, 16	-91, -60
11ax HE80	HE0, 11	20, 16	-87, -57
11ax HE160	HE0, 11	20, 15	-83, -55

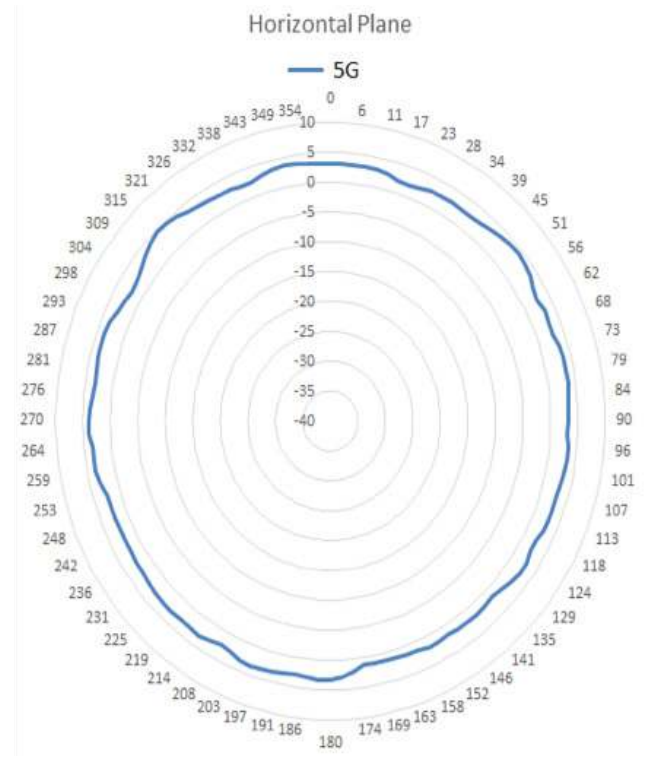
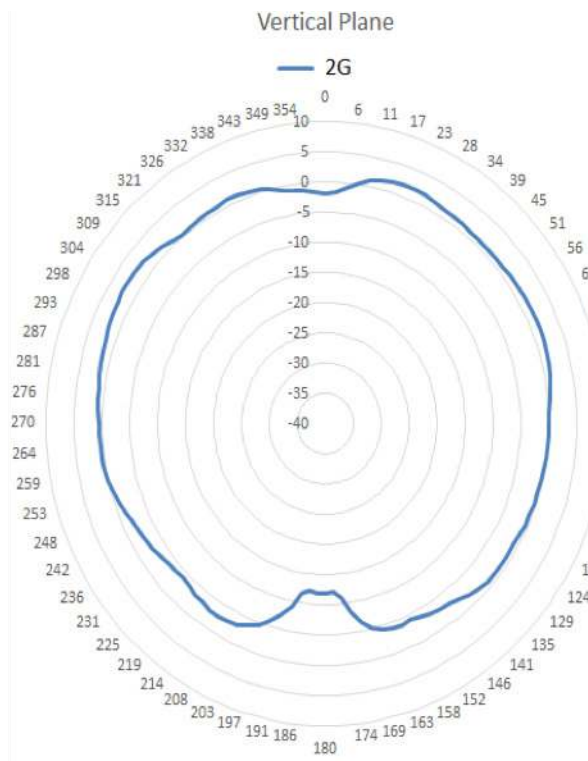
## IoT Radio Sensitivity

Typical Receiver Sensitivity	dBm
BlueTooth Low Energy	-90
802.15.4	-100

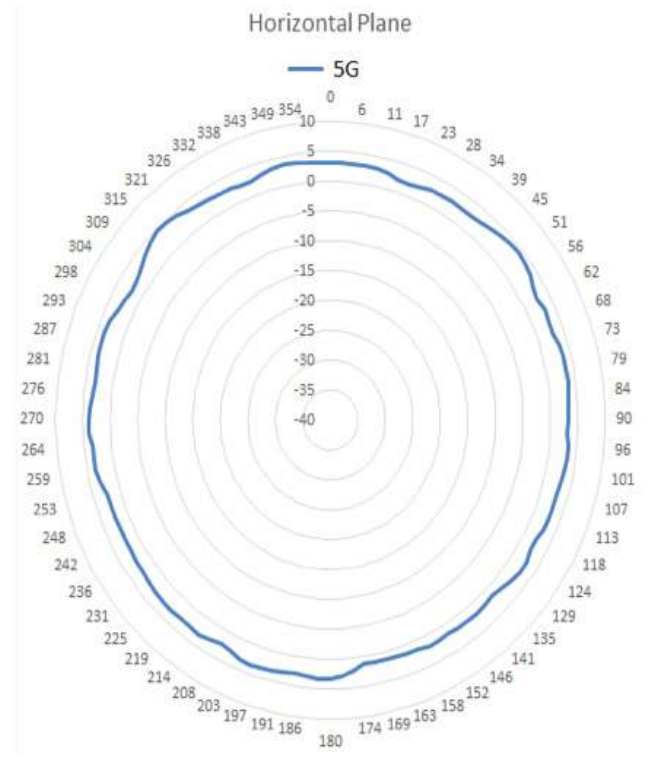
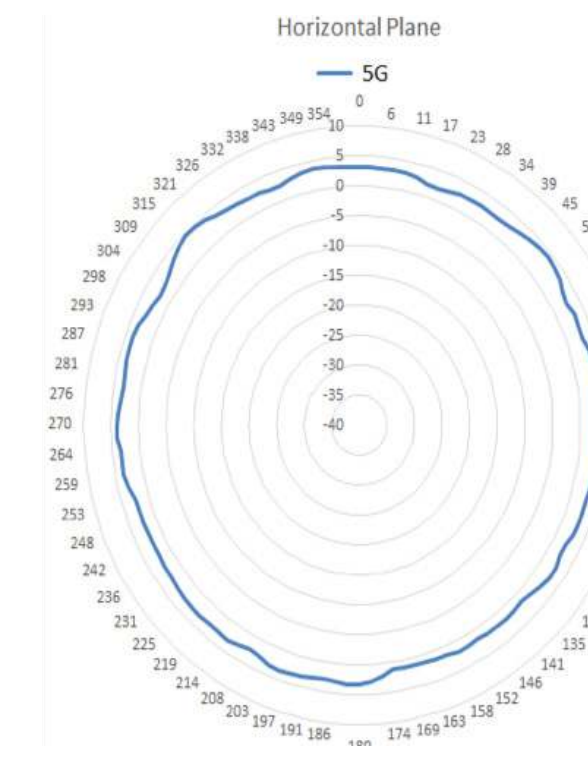
Maximum EIRP may vary based upon deployed country

# Radiation Patterns - Azimuth and Elevation

## AP 505i Antenna Radiation Patterns — 2.4GHz



## AP 505i Antenna Radiation Patterns — 5.0GHz



# Ordering Information

## AP 505i

Mkt Part #	Description
AP 505i-FCC	Dual Radio 802.11ax - 4x4:4 + 4x4:4, Indoor Internal Antenna Access Point. Internal Antenna Domain: US, Puerto Rico and Colombia
AP 505i-WR	Dual Radio 802.11ax - 4x4:4 + 4x4:4, Indoor Internal Antenna Access Point. Internal Antenna Domain EMEA and Rest of World
AP 505i-FCC-TAA	Dual Radio 802.11ax - 4x4:4 + 4x4:4, Indoor Internal Antenna Access Point. Internal Antenna Domain: US, Puerto Rico and Colombia TAA Compliant

## AP 505i - Mounting Options

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
30518	WS-MBI-DCMTR01 bracket
30516	WS-MBI-WALL04
37211	WS-MBI-DCFLUSH

## AP 505i - Power Options

Mkt Part #	Description
PD-9001GR-ENT	Single Port 802.3AT Compliant Midspan
37219	PWR 12VDC, 2A, 2.5mm x 5.5mm connector



<http://www.extremenetworks.com/contact>

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