

# Calcasieu Parish School Board E-Rate Proposal for 325-AP



## PREPARED FOR:

Dana Swift  
Calcasieu Parish School Board  
3310 Board St.  
Lake Charles, LA 70615

## SUBMITTED BY:

Dean Harrington  
General Informatics  
One Smart Way  
Baton Rouge, LA 70810

FRN : 0027208693

SPIN : 143035602



www.geninf.com | 225.767.7670 | info@geninf.com  
One Smart Way . Baton Rouge, LA . 70810

## WHAT WE ARE AIMING TO DO FOR YOU

*Vision: Continue to earn the title of "leading IT partner of businesses, schools and government agencies"*

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General Informatics intends to provide the procurement of access points for CPSB. We are proposing the procurement of Extreme AP equipment outlined in the RFP. Delivery time will vary due to CSPD need, product availability, and shipping times.



## WHO WE ARE

*Mission: To make our clients even more successful through the best use of technology.*

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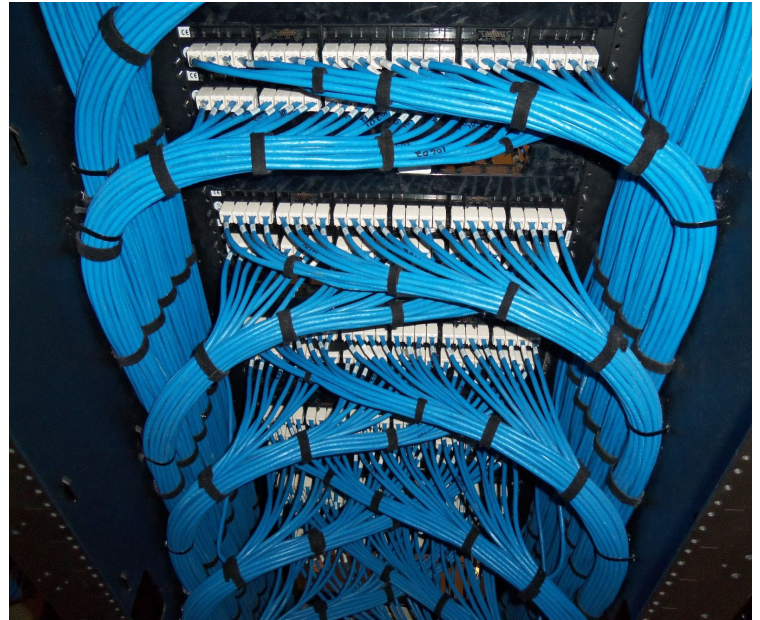
GI was founded in 2001, and from the beginning we've maintained our commitment to meeting the growing needs of our clients through continuous innovation. As part of that drive, GI acquired fellow IT firm Teknarus in 2016 and TCTelecom in 2018, and most recently EMCO MSP, bringing Louisiana's top technology talent under one roof.

Today, with a team of 60+ engineers, programmers, and designers, GI has evolved to become the leading IT partner of businesses, schools and government agencies.

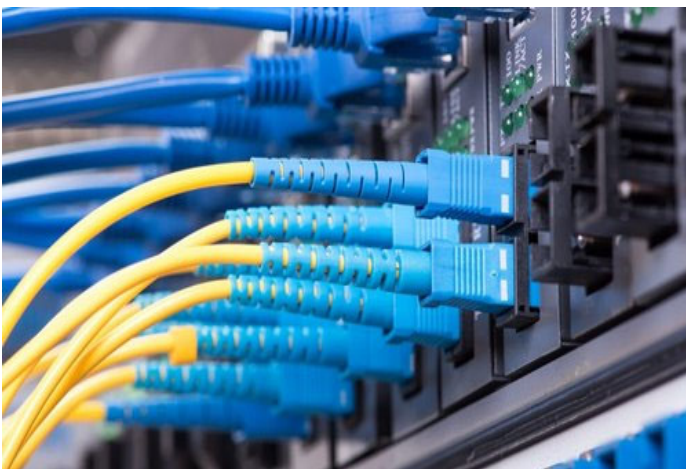
## HOW GI APPROACHES CLIENTS' SERVICES

When organizations hire General Informatics, they employ a partner dedicated to their success through the best use of technology.

At GI, we believe that the best investment we can make toward supporting our customers is investing in our people. As a result, GI has only the best technicians in the infrastructure field to install technology and cabling. In addition, our support structure enables us to serve our clients no matter the scenario.



GI's support teams understand that our clients want the best possible products and installation the industry offers. GI follows and maintains the highest of industry standards regarding installation practices and the products that we use. All projects are managed to uphold the quality that GI has worked so hard to make standard in our installations. Making our clients successful makes us successful. Delivering successful outcomes for our clients begins with this understanding.



To Whom It May Concern:

On behalf of the entire General Informatics team, thank you for the opportunity to present the enclosed E- Rate proposal to Calcasieu Parish School Board for new Extreme Access Points. As a leading systems integrator providing complex IT, technology, and infrastructure solutions for more than 20 years, we have extensive experience providing these types of services and solutions across many industries, including government agencies and municipalities state-wide.

As a foundation of our customer service philosophy, it is our mission to produce excellent results and ensure complete satisfaction. Client satisfaction is a trademark of our reputation among our customers who continually find value in our services as we have retained 98% of them for the past 20 years, while 100% are referenceable. Several of these customers are referenced in our proposal response.

It is an honor to be included in this proposal evaluation process for the Calcasieu Parish School Board. We sincerely hope that based on the following facts that Calcasieu Parish School Board determines General Informatics is well qualified to meet and exceed expectations and provide competitive pricing for organizations in need of our services across the State.

General Informatics acknowledges all solicitation terms and conditions and in accordance with proposal requirements. If you have any questions, please feel free to contact our office at 225.767.7670 or email at [donm@geninf.com](mailto:donm@geninf.com).



Sincerely,



Donald Monistere  
CEO and President, General Informatics

## Company Partners



## Client Focus through empathy and respect.

“

General Informatics was able to integrate all of our data and communications into a single smart system and back it up with top notch support. A true partner.

---

Hillar Moore  
*EBR District Attorney*

“

GI not only provides outstanding service, they help us stay on the cutting edge of technology. They've exceeded our expectations in both performance and value of money.

---

Jerry Hebert  
*GraceHebert Architects*

“

TotalCARE™ was a great decision for our company. We have a department of professionals managing our IT with best practices. Within the first year we realized the ROI was fantastic.

---

Dan Strecker  
*CK Associates*

“

The mark of a great IT expert is when everything runs to a level of precision that you don't even realize you need. Everything just works. That's General Informatics.

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Roxson Welch  
*Family & Youth Service Center*

# 1. Equipment Specifications and Warranty



Data Sheet

## Highlights

### Radio Technology

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

### Radio Modes - SSR

- 5 GHz/2.4 GHz - Fixed
- 5 GHz/5 GHz - Dual 5 GHz

### Universal Hardware Platform

- On-Premise: WiNG OS - Centralized and Distributed
- Cloud: IQ Engine

### High Density Environments

- Delivers exceptional end-user experience even in dense 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

### Cellular Coexistence Filter (CCF)

- Minimizes the impact of interference from cellular networks

### Smart Management

- ExtremeCloud™ IQ delivers powerful, simple, and secure public or private cloud management capabilities
- ExtremeCloud Appliance or VX or NX controller is ideal for on-premises requirements



## Universal Wireless AP305C/CX

Wi-Fi 6 (802.11ax) Indoor Access Point with Support for Multiple Extreme Operating Systems

In today's world, as businesses make capital investments in their technology infrastructure, they must have a keen eye on how those investments can improve operational efficiency and reduce cost. With Extreme's Universal infrastructure, customers can take advantage of hardware agility and reduce the total cost of their network by adopting platforms that allow them to run multiple Extreme operating systems. This multi-persona capability provides increased product flexibility and reduced hardware obsolescence.

The AP 305C/CX 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). Customers have 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 AP305C/CX automatically connects to ExtremeCloud IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the AP305C/CX AP and the user can stay in the cloud or select manage the device locally.

The AP305C/CX are indoor enterprise APs based on a new system-on-a-chip (SoC) with two built-in dual-band radios providing the best value with Wi-Fi 6 high efficiency. The AP305C/CX 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. You have your choice of models with either integrated or external antennas. Advanced radio technology delivers 802.11ax 2x2:2 data rates up to 2.4 Gbps concurrently on both the 2.4 GHz and 5 GHz radios. These 2x2:2 APs continue the Extreme tradition of software-selectable radios (SSRs) capable of dual 5 GHz connectivity for indoor and industrial environments.

This enterprise-grade access point is ideal for budget-conscious enterprises who do not want to sacrifice performance.

The AP305C/CX comes in an aesthetic design and can fit in the palm of your hand. Both models are eco-friendly APs partially made from recycled materials. Also included is an integrated light sensor and integrated power meter to help conserve power consumption\*. The easy install ceiling mount for quick installation and unique way to hide the Ethernet cables for an aesthetically pleasing installation.

Despite the exponential growth of users, BYOD devices, IoT, high-bandwidth applications and security threats straining the infrastructure, the AP305C/CX combines performance, security services and insightful ML/AI management capabilities to deliver an enterprise class solution at a value price.

\* future software release



## Security

The AP305C/CX delivers the highest level of security services, beginning with support for the latest Wi-Fi Alliance WPA3 security certifications. Additionally, the AP305C/CX supports a stateful L2-L7 DPI firewall for context-based access security, Private Pre-Shared Key (PPSK) and much more.



## 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>



## Universal Hardware

The AP305C/CX 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 AP305C/CX assumes the features/capabilities of the selected OS. When first booted, the AP305C/CX automatically connects to ExtremeCloud IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the AP305C/CX system, eliminating the need for manual selection.



## Management Analytics

In conjunction with Extreme Management system, cloud or on-premises, the AP305C/CX 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 make 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 AP305C/CX 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 and USB Port

To support both IoT and Guest Engagement services the AP305C/CX integrates Bluetooth to connect with IoT devices wireless to engage loyalty customers with Apple iBeacon. 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.

## 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 and 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 and 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 support for 2.4 GHz
- DL SU-MIMO and MU-MIMO
- TxBF (Transmit Beamforming)

BLE 5 Radio Bluetooth® Low Energy (BLE)

### Interfaces

- (1) Autosensing 10/100/1000 BASE-T Ethernet PoE (Power over Ethernet 802.3af) Port
- USB2.0, Type A 5V, 0.9A
  - USB power <= 500 mA - 802.3af
  - USB power > 500 mA - 802.3at

### Power Options

- Power Draw: Typical: 9.98 W; Max: 11.28 W (w/o USB)  
Typical: 14.98 W; Max: 16.28 W (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)
- Support 802.3af/802.3at Power over Ethernet Injector

### Power Specifications

- IEEE 802.3af PoE Power

### Physical

- AP 305C: 5.2" x 5.2" x 1.5" (133mm x 133mm x 37mm)
- AP 305CX: 5.8" x 5.8" x 1.5" (147mm x 147mm x 39mm)
- AP 305C and AP 305CX: .9 lbs (.4kg)
- TPM Chip

### Antennas

#### AP305C - Internal Antennas

- (3) Integrated dual band 2.4/5GHz omnidirectional antennas
- (1) Integrated single band 5GHz omnidirectional antenna

#### AP305CX - External Antennas

- (4) external omnidirectional 2.4/5 GHz dual band antennas (RP SMA connectors)

### Mounting

- AP support 15/16 flush ceiling tile and is integrated to AP
- Wall Mount sold as an accessory
- Ceiling Tile Recessed 15/16" sold as an accessory
- Built-in slot for Kensington type locks

### Environmental

- Operating: 0 to 40 °C, Storage: -40 to 70 °C
- Humidity: 10% to 95% (non-condensing)

### 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
- 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)

### Power Options

- 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

### Wi-Fi Alliance Certifications

| Wi-Fi Alliance Certifications |  |
|-------------------------------|--|
| Connectivity                  | Wi-Fi CERTIFIED 6™<br>Wi-Fi CERTIFIED® a, b, g, n, ac  |
| Access                        | Passpoint®   |
| Optimization                  | WMM™<br>WMM™ - Power Save<br>Wi-Fi Agile Multiband™  |
| Security                      | Protected Management Frames<br>WPA™ - Enterprise, Personal<br>WPA2™ - Enterprise, Personal<br>WPA3™ - Enterprise, Personal |

### Peak Antenna Gain

|           | Radio 0         | Radio 1       | IoT    |
|-----------|-----------------|---------------|--------|
| Dual Band | 2.4 Ghz 2.67dBi | 5 Ghz 3.75dBi | 2.7dBi |
| Dual 5Ghz | 5 Ghz 3.97dBi   | 5 Ghz 3.75dBi | 2.7dBi |

## Power and Sensitivity Tables

### Power - 2.4 GHz

| Channel   | Data Rate   | Power (dBm) |
|-----------|-------------|-------------|
| 11b       | 1 - 11 Mbps | 18          |
| 11g       | 6 Mbps      | 18          |
|           | 54 Mbps     | 17          |
| 11n HT20  | MCS0, 7     | 18, 14      |
| 11n HT40  | MCS0, 7     | 18, 14      |
| 11ac HT20 | MCS0, 8     | 18, 13      |
| 11ac HT40 | MCS0, 9     | 18, 12      |
| 11ax HE20 | HE0, 11     | 18, 11      |
| 11ax HE40 | HE0, 11     | 18, 11      |

### Receive Sensitivity - 2.4 GHz

| Channel   | Data Rate   | Sensitivity |
|-----------|-------------|-------------|
| 11b       | 1 - 11 Mbps | -95, -88    |
| 11g       | 6 Mbps      | -91         |
|           | 54 Mbps     | -74         |
| 11n HT20  | MCS0, 7     | -91, -71    |
| 11n HT40  | MCS0, 7     | -88, -69    |
| 11ac HT20 | MCS0, 8     | -90, -61    |
| 11ac HT40 | MCS0, 9     | -88, -58    |
| 11ax HE20 | HE0, 11     | -90, -61    |
| 11ax HE40 | HE0, 11     | -88, -58    |

### Power - 5 GHz

| Channel    | Data Rate | Power (dBm) |
|------------|-----------|-------------|
| 11a        | 6 Mbps    | 18          |
|            | 54 Mbps   | 16          |
| 11n HT20   | MCS0, 7   | 18, 15      |
| 11n HT40   | MCS0, 7   | 18, 15      |
| 11ac VHT20 | MCS0, 8   | 18, 14      |
| 11ac VHT40 | MCS0, 9   | 18, 13      |
| 11ac VHT80 | MCS0, 9   | 18, 13      |
| 11ax HE20  | HE0, 11   | 18, 13      |
| 11ax HE40  | HE0, 11   | 18, 13      |
| 11ax HE80  | HE0, 11   | 18, 13      |

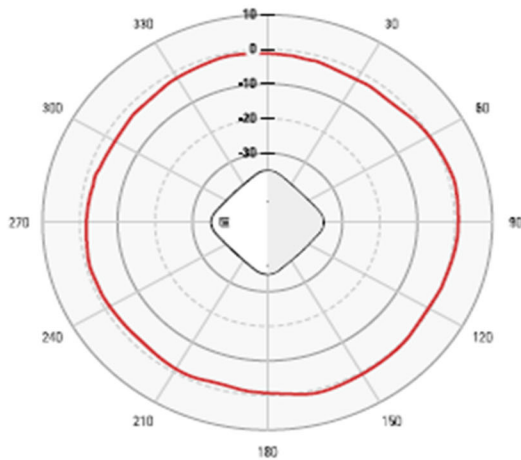
### Receive Sensitivity - 5 GHz

| Channel    | Data Rate | Sensitivity |
|------------|-----------|-------------|
| 11a        | 6 Mbps    | -92         |
|            | 54 Mbps   | -74         |
| 11n HT20   | MCS0, 7   | -90, -72    |
| 11n HT40   | MCS0, 7   | -88, -69    |
| 11ac VHT20 | MCS0, 8   | -90, -68    |
| 11ac VHT40 | MCS0, 9   | -88, -63    |
| 11ac VHT80 | MCS0, 9   | -85, -58    |
| 11ax HE20  | HE0, 11   | -88, -59    |
| 11ax HE40  | HE0, 11   | -87, -57    |
| 11ax HE80  | HE0, 11   | -85, -54    |

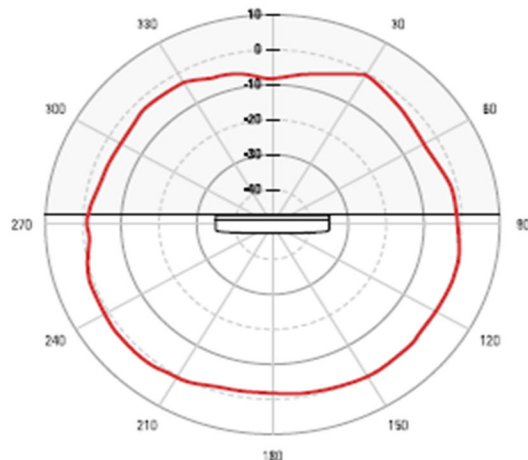
Maximum EIRP may vary based upon deployed country

## Radiation Patterns - Azimuth and Elevation

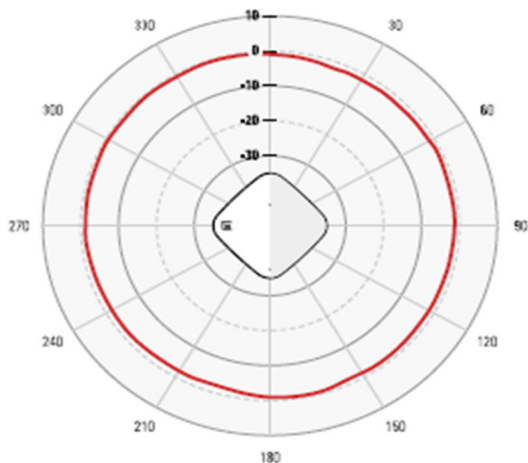
Azimuth - 2.4 GHz



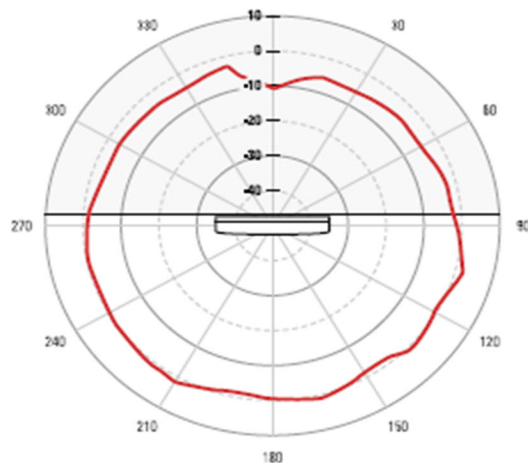
Elevation - 2.4 GHz



Azimuth - 5 GHz



Elevation - 5 GHz



## Ordering Information

### AP 305C and AP 305CX

| MKT Product SKU | Description   |
|-----------------|---|
| AP 305C-FCC     | ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. Internal antennas. Built-in ceiling mounts. Includes Connect. Domain: US                       |
| AP 305C-CAN     | ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. Internal antennas. Built-in ceiling mounts. Includes Connect. Domain: Canada                   |
| AP 305C-WR      | ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. Internal antennas. Built-in ceiling mounts. Includes Connect. Domain: EMEA, Rest of World      |
| AP 305CX-FCC    | ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. External antennas. Built-in ceiling mounts. Includes Connect. Domain: US                       |
| AP 305CX-CAN    | ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. External antennas. Built-in ceiling mounts. Includes Connect. Domain: Canada                   |
| AP 305CX-WR     | ExtremeCloud IQ: Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE. AI/ML green mode. External antennas. Built-in ceiling mounts. Includes Connect. Domain: EMEA, Rest of World      |
| AP305C-IL       | ExtremeCloud IQ : Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE/ Zigbee. AI/ML green mode. Internal antennas. Includes Connect. Domain : Israel                                  |
| AP305C-EG       | ExtremeCloud IQ : Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE/ Zigbee. AI/ML green mode. Internal antennas. Includes Connect. Domain : Egypt                                   |
| AP305CX-IL      | ExtremeCloud IQ : Indoor Wi-Fi 6 AP, 2x2 radios with Dual 5GHz and 1x1GbE port. Integrated light/power sensors and BLE/ Zigbee. AI/ML green mode. External antenna support. Antennas sold separately. Includes Connect. Domain : Israel |

### Accessories

| Marketing Part # | Indoor AP Mounting   | Notes                               |
|------------------|--|-------------------------------------|
| AH-ACC-BKT-AX-IL | Mounting bracket for Interiude 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 walls             | 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   |                                     |

Note: Two clips designed into the underside of the AP unit that will accommodate a 15/16 type ceiling tile rail system. Other mounting accessories are listed below.

For more detail on these accessories see: [Wi-Fi 6 \(802.11ax\) Access Point Accessories Guide](#)

For additional information on antennas see: [Wi-Fi 6 \(802.11ax\) Antennas Specifications Guide](#)

| MKT Product SKU                | Descriptions   |
|--------------------------------|--|
| <b>Antennas</b>                |  |
| AH-ACC-ANT-AX-KT (x8 per pack) | Articulated indoor antenna kit (8 x Dual Band 5dBi antennas) |
| ML-2452-APA2-02                | Dipole Omni, 3.2/4.9 dBi, White (need 4 for AP305CX)         |
| <b>Power Accessories</b>       |  |
| PD-3501G-ENT                   | Single port 802.3af compliant midspan                        |
| 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                     |

## Warranty

All AP305C and AP305CX models are covered under Extreme's Universal LLW policy. For warranty details, please visit: [www.extremenetworks.com/support/policies](http://www.extremenetworks.com/support/policies)



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

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[WWW.EXTREMENETWORKS.COM](http://WWW.EXTREMENETWORKS.COM)

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Data Sheet

## Highlights

### Advanced Radio Technology

#### Tri-Radio Design

- 2.4 GHz (2x2:2)
- 5 GHz (2x2:2)
- 6 GHz (2x2:2)

### Operational modes

- Mode 1: 2.4 GHz/5 GHz/6 GHz Data Radios
- Mode 2: 2.4 GHz/5GHz Data radios + Tri-frequency band sensor (2.4 GHz/5 GHz/6 GHz)

### Universal Hardware Platform

- On-Premise: WiNG OS (Centralized)
- Cloud: IQ Engine

### Superior Tri-Frequency

#### Radio Performance

- Multi-band filter reduces interference and enables 5 GHz and 6 GHz operation across all available channels without restrictions
- Multi-Band functionality out-of-the-box without the need for a software or hardware upgrade

### 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 Appliance controller is ideal for on-premises requirements



## Universal Wireless AP4000

### Wi-Fi 6E Tri-Radio Indoor Access Point with Support for Multiple Extreme Operating Systems

In today's world, as businesses make capital investments in their technology infrastructure, they must have a keen eye on how those investments can improve operational efficiency and reduce cost. With Extreme's Universal infrastructure, customers can take advantage of hardware agility and reduce the total cost of their network by adopting platforms that allow them to run multiple Extreme operating systems. This multi-persona capability provides increased product flexibility and reduced hardware obsolescence.

The AP4000 is the industry's first Enterprise Universal and World SKU Wi-Fi 6E Wireless Access point. This innovation simplifies the sales ordering process and reinforces Extreme's commitment to the journey to the "Infinite Enterprise". The World SKU allows customers, partners, and distributors to order one model for any region, replacing the age-old problem of country specific SKUs. ExtremeCloud™ IQ geo-locates the Access Point and accurately provides it the corresponding set of channel and power specifications that the product can operate under in that country.

The AP4000 Wi-Fi 6E access point, with three 2x2:2 radios, provides high-efficiency, high-performance 802.11ax aggregate data rates up to 3.9 Gbps in the 6 GHz, 5 GHz, and 2.4 GHz band. Designed for high density environments, such as schools, warehouses, healthcare facilities, and stadiums, the AP4000 is powerful and intelligent enough to provide the highest level of client services without compromising security. Despite powerful capabilities, the AP4000 allows for flexible placement as the market's smallest form-factor enterprise-grade Wi-Fi 6E access point, emphasizing aesthetics.

With more users, more devices, more things, more applications, and more threats straining the infrastructure, the AP4000 was engineered to meet those challenges. The AP4000 combines powerful 802.11ax Wi-Fi 6E technology, advanced security, and ML/AI management capabilities together as an enterprise-class solution that allows you to deploy high speed, highly secure Wi-Fi into high-density environments.

Unlike other access points that scan only part-time, the AP4000 features a dedicated tri-frequency sensor that monitors for rogue devices full time, eliminating the risk of vulnerability and attacks. This tri-radio AP is capable of multiple operating modes, optimizing for maximum performance without trading off security. The AP4000 is the first enterprise Wi-Fi 6E access point that features a fully functional Multi-Band filter, enabling simultaneous operations with no performance degradation between all the 5 GHz frequencies and the entire range of 6 GHz frequencies (U-NII-5 thru U-NII-8 bands).\*

\* Country dependent

## Wi-Fi 6E Enhanced Capacity

By utilizing the additional 6 GHz spectrum offered by Wi-Fi 6E, the AP4000 operates across three times as much spectrum as previous generations of Wi-Fi to deliver enhanced wireless experiences, faster speeds, and less interference.

| Band    | Number of 20 MHz Channels | Maximum Channel Size | Maximum throughput |
|---------|---------------------------|----------------------|--------------------|
| 6 GHz   | 59                        | 160 MHz              | 2.4 Gbps           |
| 5 GHz   | 25                        | 80 MHz               | 1.2 Gbps           |
| 2.4 GHz | 3                         | 20 MHz               | 287 Mbps           |
| Total   | 87                        |                      | 3.9                |

\*For US regulatory environments (20 MHz channels)



### Wi-Fi 6E (802.11ax) Technology

Wi-Fi 6 ushered a new generation of Wi-Fi, with prior generations emphasized on higher speeds, 802.11ax technology instead focused on improving Wi-Fi efficiency as well as speed, taking Wi-Fi networks to an entirely new level. Now, with addition of the 6GHz band for unlicensed operation, Wi-Fi 6E has access to up to 1200 MHz of spectrum\*, which is three times that of existing 'usable' spectrum which enables improved quality of service in dense environments, new applications and use cases, and an improved user experience. To learn more about 802.11ax and Wi-Fi 6E, visit [here](#) to learn more.



### Security

The AP4000 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, tri-frequency security and location analytics sensor, Private Pre-Shared Key (PPSK) and much more.



### Universal Hardware

The AP4000 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 AP4000 assumes the features/capabilities of the selected OS. When first booted, the AP4000 automatically connects to ExtremeCloud® IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the AP4000 system, eliminating the need for manual selection.



### Management Analytics

In conjunction with Extreme centralized management software, cloud or on-premises, the AP4000 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, as well as policy roles. In each context, administrators can adjust dashboards make a widget library.



### Tri-Radio Programmable AP

Extreme launched the industry's first software defined Wi-Fi 6E access point supporting two software programmable modes to optimally manage radios to provide the highest level of client performance. The AP4000 is a tri-radio AP can transmit with three data radios or with two data radios and a dedicated tri-frequency sensor. The AP4000 intelligently monitors the software-configurable radios, enabling network managers to configure network RF technology based on the user environment and configure the access points in different modes as required.



### Integrated Bluetooth Low Energy and USB Port

To support both IoT and Guest Engagement services the AP4000 integrates Bluetooth® to connect with IoT devices wireless to engage loyalty customers with Apple iBeacon. 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.

## Product Specifications

### Radio Specifications

#### Max Users

- SSID per Radio/Total: 8/24
- Users per Radio/Total: 512/1536

#### 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

#### 802.11ac

- 5.150-5.850 GHz Operating Frequency
- 802.11ac Modulation (256-QAM)
- Rates (Mbps): MCS0 - MCS11 (6.5Mbps - 600Mbps)
- 5G: 2x2 Multiple-In, Multiple-Out (MIMO) Radio
- 2.4G: 2x2 Multiple-In, Multiple-Out (MIMO) Radio
- Rates (Mbps): MCS0-MCS9 (6.5Mbps - 1734Mbps), NSS = 1-2
- 2x2.2 Stream Multiple-In, Multiple-Out (MIMO) Radio
- VHT20/VHT40/VHT80 support
- TxBF (Transmit Beamforming)

#### 802.11ax

- 2.4-2.5GHz, 5.50-5.850 and 5.925-7.125 GHz Operating Frequencies
- 802.11ax Modulation (1024-QAM)
- Dual-band OFDMA
- Rates (Mbps):
  - 6G: HE0-HE11 (8 Mbps - 2400 Mbps)
  - 5G: HE0-HE11 (8 Mbps - 1200 Mbps)
  - 2.4G: HE0-HE11 (8Mbps - 574 Mbps)
- 2x2.2 Stream Multiple-In, Multiple-Out (MIMO) Radio @ 6GHz
- 2x2.2 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 6 GHz
- 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

- Thread, Zigbee®, Bluetooth® 5.2 Low Energy, IEEE 802.15.4

### Interfaces

- Eth0, Eth1: (2) Wired Ethernet ports (RJ-45)
  - (1) 100/1000/2500Mbps auto-sensing link speed Ethernet port, PoE 802.3at
  - (1) 10/100/1000 Mbps auto-sensing link speed Ethernet port
- 802.3az Energy Efficient Ethernet(EEE)
- USB 2.0, Type A, 5V/500mA

### Power Specifications

- IEEE 802.3at PoE Power

### Power Options

- Power Draw: Typical: 12.1W, Max: 13.8W (w/o USB)
- Typical: 15W, Max: 16.6W (w USB)
- 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)

### Physical

- Dimensions: 8" x 8" x 1.5" (205mm x 205mm x 37mm)
- Weight: 1.88 pounds (.85 kg)
- Kensington lock slot
- Trusted Platform Module(TPM)

#### Internal Antennas

- (2) Integrated single band, 5.925-7.125 GHz omnidirectional antennas
- (2) Integrated dual band, 2.4-2.5 GHz and 5.1-5.8 GHz omnidirectional
- (2) Integrated dual band, 2.4-2.5 GHz and 5.1-5.8 GHz omnidirectional for sensor
- (1) Integrated dual band, 2.4-2.5 GHz omnidirectional for IoT

### Mounting

- AP support 15/16 flush ceiling tile include in box
- Wall mount included in box or sold as an accessory
- Ceiling Tile Recessed 15/16 sold as accessory
- Beam sold as an accessory
- Junction Box sold as an accessory
- L or 9/16 1-bar sold as an accessory
- SL (Sêhouette) sold as an accessory
- Wing Main Plate adaptor sold as an accessory
- Built in slot for Kensington

### Environmental

- Operating: AP4000: 0 to 50°C
- Storage: -40 to 70°C
- Humidity: 0% to 95% (non-condensing)

### Environmental Compliance

- EU RoHS - 2011/65/EU
- EU WEEE - 2012/19/EU
- EU REACH - Regulation (EC) No 1907/2006 - Reporting
- EU SCIP - EU Waste Framework Directive
- China RoHS - SJ/T 11363-2006
- Taiwan RoHS CNS 15663(2013.7)

### Regulatory Compliance

#### Radio Standards

##### USA

- Part 15C - 15.247
- Part 15E - 15.407
- Part 15B EMC class B
- RF exposure - KDB 447498D0V06 FCC Part1120
- ANSI C63.4 test methods
- IEC 60601-1-2 EMC for medical devices

##### Canada

- RSS 247 for 2.4G 802.11
- IEC5-003 class B
- RF exposure - RSS-102: Issue 5, 2015

##### CE

- 2014/53/EU Radio Equipment Directive
- EN 300 328, EN 301 893, EN 302 502, EN 300 440
- EN5501:889 1, EN 301 889 11, EN 62311, EN 62479, EN 50385

### Regulatory and Safety

#### North American ITE

- UL 60950-1 2nd edition Listed Device (U.S.)
- CSA 22.2 No. 60950-1 2nd edition 2014(Canada)
- UL/CUL 62368-1 Listed
- UL 2043 Plenum Rated

#### European ITE

- EN 62368-1
- 2014/35/EU Low Voltage Directive

#### International ITE

- CB Report and Certificate per IEC 60950-1 + National Differences
- CB Report and certificate IEC 62368-1
- AS/NZS 60950-1 (Australia /New Zealand)

### EMI/EMC Standards

#### North American EMC Standards

- FCC CFR 47 part 15 Class A (USA)
- ICES-003 Class A (Canada)

#### European EMC Standards

- EN 55032 Class A
- EN 55035
- EN 55011
- EN 61000-3-2 (Harmonics)
- EN 61000-3-3 (Flicker)
- EN 500 586 (EMC Telecommunications)
- 2014/50/EU EMC Directive

#### International EMC Certifications

- CISPR 32 Class A (International Emissions)
- AS/NZS CISPR32
- CISPR 24 Class A (International Immunity)
- IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6
- IEC/EN 61000-4-3

### Warranty

The AP4000 is covered under Extreme's Universal LLW policy. For warranty details, please visit: [www.extremenetworks.com/support/policies](http://www.extremenetworks.com/support/policies).

## Power and Sensitivity Tables

### Power and Receive Sensitivity- 2.4 GHz Radio

| Channel   | Data Rate   | Power (dBm) | Sensitivity |
|-----------|-------------|-------------|-------------|
| T1b       | 1 - 11 Mbps | 19          | -94, -87    |
| T1g       | 6 Mbps      | 19          | -91         |
|           | 54 Mbps     | 16          | -73         |
| T1n HT20  | MCSO, 7     | 19, 16      | -91, -72    |
| T1n HT40  | MCSO, 7     | 18, 16      | -88, -69    |
| T1ax HE20 | HEO, 11     | 19, 14      | -90, -60    |
| T1ax HE40 | HEO, 11     | 18, 14      | -87, -57    |

|           |             |        |          |
|-----------|-------------|--------|----------|
| T1b       | 1 - 11 Mbps | 16     | -95, -88 |
|           | 6 Mbps      | 16     | -94      |
| T1g       | 54 Mbps     | 16     | -77      |
| T1n HT20  | MCSO, 7     | 16, 15 | -93, -75 |
| T1n HT40  | MCSO, 7     | 16, 15 | -90, -72 |
| T1ax HE20 | HEO, 11     | 16, 14 | -92, -62 |
| T1ax HE40 | HEO, 11     | 16, 14 | -89, -59 |

### Power and Receive Sensitivity - 5 GHz Radio

| Channel    | Data Rate | Power (dBm) | Sensitivity |
|------------|-----------|-------------|-------------|
| T1a        | 6 Mbps    | 18          | -94         |
|            | 54 Mbps   | 17          | -75         |
| T1n HT20   | MCSO, 7   | 18, 16      | -94, -75    |
| T1n HT40   | MCSO, 7   | 18, 16      | -91, -72    |
| T1ac VHT20 | MCSO, 8   | 18, 15      | -94, -71    |
| T1ac VHT40 | MCSO, 9   | 18, 15      | -91, -67    |
| T1ac VHT80 | MCSO, 9   | 18, 15      | -88, -64    |
| T1ax HE20  | HEO, 11   | 18, 14      | -93, -64    |
| T1ax HE40  | HEO, 11   | 18, 14      | -90, -60    |
| T1ax HE80  | HEO, 11   | 18, 14      | -87, -57    |

### Power and Receive Sensitivity - 5 GHz Sensor

| Channel     | Data Rate | Power (dBm) | Sensitivity |
|-------------|-----------|-------------|-------------|
| T1a         | 6 Mbps    | 20          | -95         |
|             | 54 Mbps   | 17          | -76         |
| T1n HT20    | MCSO, 7   | 20, 17      | -95, -75    |
| T1n HT40    | MCSO, 7   | 20, 17      | -92, -72    |
| T1ac VHT20  | MCSO, 8   | 20, 16      | -94, -72    |
| T1ac VHT40  | MCSO, 9   | 20, 15      | -91, -67    |
| T1ac VHT80  | MCSO, 9   | 20, 15      | -88, -64    |
| T1ac VHT160 | MCSO, 9   | 20, 15      | -85, -61    |
| T1ax HE20   | HEO, 11   | 20, 15      | -94, -64    |
| T1ax HE40   | HEO, 11   | 20, 15      | -91, -61    |
| T1ax HE80   | HEO, 11   | 20, 15      | -88, -58    |
| T1ax HE160  | HEO, 11   | 20, 15      | -85, -55    |

### Power and Receive Sensitivity - 6 GHz Radio

| Channel     | Data Rate | Power (dBm) | Sensitivity |
|-------------|-----------|-------------|-------------|
| T1a         | 6 Mbps    | 18          | -93         |
|             | 54 Mbps   | 16          | -75         |
| T1n HT20    | MCSO, 7   | 18, 15      | -93, -75    |
| T1n HT40    | MCSO, 7   | 17, 15      | -91, -72    |
| T1ac VHT20  | MCSO, 8   | 18, 14      | -93, -71    |
| T1ac VHT40  | MCSO, 9   | 17, 13      | -91, -67    |
| T1ac VHT80  | MCSO, 9   | 17, 13      | -88, -64    |
| T1ac VHT160 | MCSO, 9   | 17, 11      | -85, -61    |
| T1ax HE20   | HEO, 11   | 18, 12      | -92, -63    |
| T1ax HE40   | HEO, 11   | 17, 12      | -90, -60    |
| T1ax HE80   | HEO, 11   | 17, 12      | -87, -57    |
| T1ax HE160  | HEO, 11   | 17, 11      | -84, -54    |

### Power and Receive Sensitivity - 6 GHz Radio Sensor

| Channel     | Data Rate | Power (dBm) | Sensitivity |
|-------------|-----------|-------------|-------------|
| T1a         | 6 Mbps    | 18          | -93         |
|             | 54 Mbps   | 16          | -75         |
| T1n HT20    | MCSO, 7   | 18, 15      | -93, -75    |
| T1n HT40    | MCSO, 7   | 17, 15      | -91, -72    |
| T1ac VHT20  | MCSO, 8   | 18, 14      | -93, -71    |
| T1ac VHT40  | MCSO, 9   | 17, 13      | -91, -67    |
| T1ac VHT80  | MCSO, 9   | 17, 13      | -88, -64    |
| T1ac VHT160 | MCSO, 9   | 17, 11      | -85, -61    |
| T1ax HE20   | HEO, 11   | 18, 12      | -92, -63    |
| T1ax HE40   | HEO, 11   | 17, 12      | -90, -60    |
| T1ax HE80   | HEO, 11   | 17, 12      | -87, -57    |
| T1ax HE160  | HEO, 11   | 17, 11      | -84, -54    |

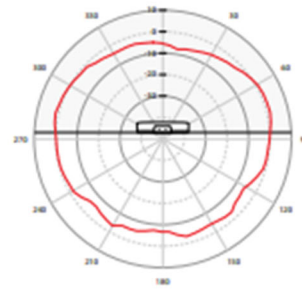
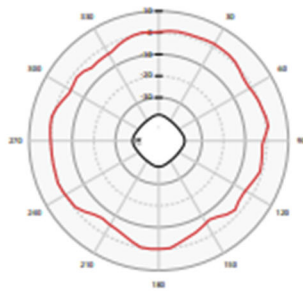
### Power and Receive Sensitivity - 2.4 GHz Sensor

| Channel | Data Rate | Power (dBm) | Power (dBm) |
|---------|-----------|-------------|-------------|
|---------|-----------|-------------|-------------|

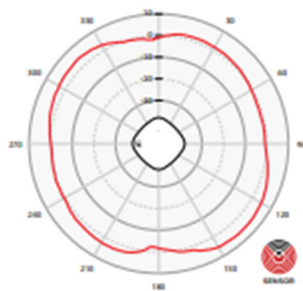
Maximum EIRP may vary based upon deployed country

## Antenna Radiation Patterns

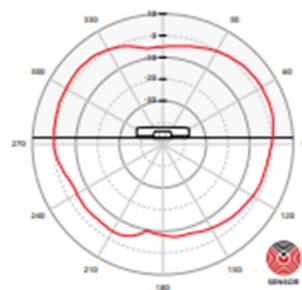
Azimuth - 6 GHz



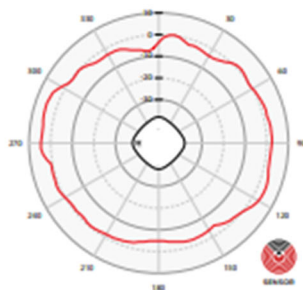
Azimuth - 2 GHz



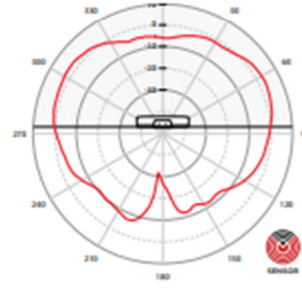
Elevation - 2 GHz



Azimuth - 5 GHz



Elevation - 5 GHz



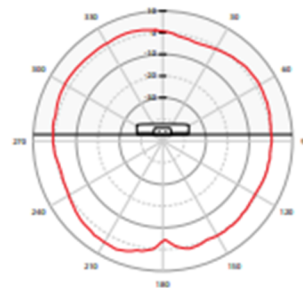
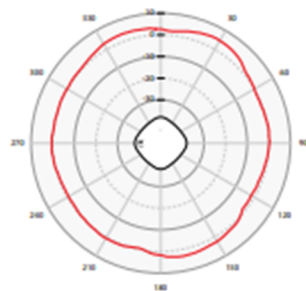
Elevation - 6 GHz

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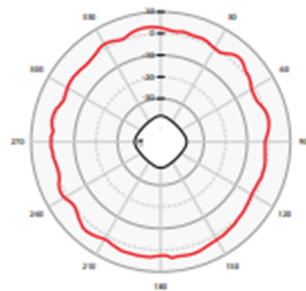
5

### Antenna Radiation Patterns (Cont.)

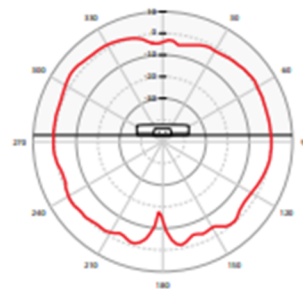
Dual Band Azimuth - 2 GHz



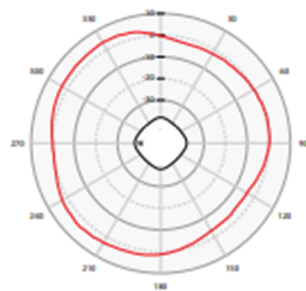
Dual Band Azimuth - 5 GHz



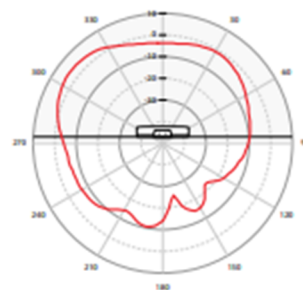
Dual Band Elevation - 5 GHz



BLE Azimuth - 2 GHz



BLE Elevation - 2 GHz



Dual Band Elevation - 2 GHz

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## Ordering Information

### AP4000 - SKUs

| Part Number | Description   |
|-------------|---|
| AP4000-WW   | Indoor Tri Radio WiFi 6E AP, 2.4 GHz, 5GHz, 6GHz and Multirate Port, Integrated Light, power sensors, BLE/Zigbee, AI/ML, green mode, INT antennas, T-Bar, Incl Mt (AH-ACC-BKT-AX-TB), Domain: World Sku |

### Accessories

| Mounting Accessories |   |   |
|----------------------|---|---|
| Marketing Part #     | Indoor AP Mounting  | Notes   |
| ACC-4000-ETH-CAP     | Cable cover for AP4000 to hide Ethernet Port and Ethernet cable                               | Hides ethernet cable for aesthetically pleasing installation<br>Includes a 7' Flat Cat6 RJ45 Cable (5 Pack Kit) |
| AH-ACC-BKT-AX-TB     | Mounting bracket for prelude 15/16" and suprafine 9/16" ceilings and walls                    | Ships with AP4000<br>Can be used for wall - .25"  |
| AH-ACC-BKT-AX-WL     | Mounting bracket for direct-to-wall installations   | Can be used for wall - 1.25"  |
| 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        | Up to .33" ceiling tile protrusion  |
| ACC-BKT-AX-JB        | Junction box or wall mounting for indoor access points  | Gang/Junction Box   |
| ACC-BKT-AX-BEAM      | Beam mounting for indoor access points  | Up to 0.78" thick beam.   |
| AH-ACC-BKT-915-KIT   | 9/16" ceiling mount brackets for Non-Flat/Protruded ceiling tiles - Use with AH-ACC-BKT-AX-TB | 9/16" Non-Flat/Protruded ceiling tiles  |
| ACC-BKT-TB-NF        | Adaptor bracket AH-ACC-BKT-TB for 15/16" Wide T-Bars Non-Flat/Protruded ceiling tiles         | 5/16" Wide T-Bars Non-Flat/Protruded ceiling tiles  |
| ACC-BKT-AX-WINGADAPT | Adaptor bracket for Cloud AP to WING Mounting Plate (#37201), 10 pack                         | Allow twist mount to mount to legacy mounts   |
| Power Accessories    |   |   |
| Part Number          | Description   |   |
| PD-9001GR-ENT        | Single port 802.3at compliant midspan   |   |
| 10061                | Pwr Cord,10A,NEMA 5-15P,IEC320-C13,125V, 18AWG (for US)                                       |   |
| 10034                | Pwr Cord,10A,B5156.1,IEC320-C13,250V, 0.75MM5G (for UK)                                       |   |
| 10033                | Pwr Cord,10A,CEE 3/7,IEC320-C13,250V, 0.75MM5G (for EU)                                       |   |
| 10036                | Pwr Cord,10A,A53112,IEC320-C13,250V, 0.75MM5G (for AU)  |   |
| 10062                | Pwr Cord,12A,J15C8303,IEC320-C13,125V, 1.25MM5G (for Japan)                                   |   |
| 10033                | Pwr Cord,10A,CEE 3/7,IEC320-C13,250V, 0.75MM5G (for Korea)                                    |   |

See Product Installation guide for more details



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

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[WWW.EXTREMENETWORKS.COM](http://WWW.EXTREMENETWORKS.COM)

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## 2. Company References

**Livingston Parish Public Schools**

Carlos Williams, IT Director  
13909 Florida Blvd.  
Livingston, LA 70754  
Email: [carlos.williams@lpsb.org](mailto:carlos.williams@lpsb.org)  
Phone: 225.686.7044

**Ascension Parish Public Schools**

Jake Ragusa, Director of Technology  
1707 South Purpera  
Gonzales, LA 70754  
Email: [jake.ragusa@apsb.org](mailto:jake.ragusa@apsb.org)  
Phone: 225.391.7153

**Iberville Parish Government**

Jayce Morales, IT Director  
PO Box 389  
Plaquemine, LA 70765  
Email: [jmorales@ibervilleparish.com](mailto:jmorales@ibervilleparish.com)  
Phone: 225.687.5190

**Holmes Community College**

Jesse Nichols, IT Specialist  
1 Hill St.  
Goodman, MS 39079  
Email: [jnichols@holmescc.edu](mailto:jnichols@holmescc.edu)  
Phone: 601.605.3356

**Biloxi Public Schools**

Alex Mitchell, IT Director  
160 St. Peter St.  
Biloxi, MS 39503  
Email: [alex.mitchell@biloxischools.net](mailto:alex.mitchell@biloxischools.net)  
Phone: 228.297.6039

**Enterprise Holdings**

Caitlin Ryan  
3529 N. I-10 Service Rd.  
Metairie, LA 70002  
Email: [caitlin.e.ryan@ehi.com](mailto:caitlin.e.ryan@ehi.com)  
Phone: 504-717-6108

## 3. Proposal

| Description of Equip-<br>ment, Model # (exact)                              | Unit Price | Quantity | Total Price       |
|---|------------|----------|-------------------|
| Extreme Universal wireless<br>AP305 C/ AP305C-FCC                           | \$ 444.72  | 3194     | \$ 1,420,435.68   |
| Extreme Universal wireless<br>AP4000/ AP4000-WW                             | \$ 773.21  | 3438     | \$ 2,658,295.98   |
| Aerohive Mounting Bracket for<br>Wireless Access Point/<br>AH-ACC-BKT-AX-TB | \$ 22.17   | 500      | \$ 11,085         |
| EXTREMECLOUD IQ PILOT TIER 0<br>CLD RTU 5YR<br>XCIQ-PT0-C-EW-5YR-K12        | \$ 376.15  | 6632     | \$2,494,626.80    |
| 8x5 warranty comes with each<br>device.                                     |            |          |                   |
|   |            |          | = \$ 6,584,443.46 |

## 4. Requested Documents



**State Licensing Board for Contractors**

**This is to Certify that:**

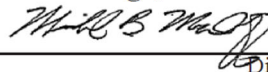
GENERAL INFORMATICS, LLC.  
8000 GSRI Road, #3000  
Baton Rouge, LA 70820

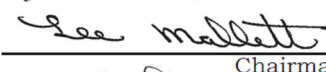
**is duly licensed and entitled to practice the following classifications**

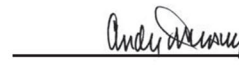
SPECIALTY: TELECOMMUNICATIONS (EXCLUDING PROPERTY PROTECTION AND LIFE SAFETY SYSTEMS)



Witness our hand and seal of the Board dated,  
Baton Rouge, LA 6th day of February 2019

  
Director

  
Chairman

  
Treasurer

Expiration Date: February 5, 2022

License No: 66287

This License Is Not Transferrable

|   |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
|---|---|--|------------------------|----------------------------------|--------------|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|--|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|
| <b>Form W-9</b><br>(Rev. October 2018)<br>Department of the Treasury<br>Internal Revenue Service  | <b>Request for Taxpayer<br/>Identification Number and Certification</b><br>▶ Go to <a href="http://www.irs.gov/FormW9">www.irs.gov/FormW9</a> for instructions and the latest information.  | <b>Give Form to the<br/>requester. Do not<br/>send to the IRS.</b> |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| 1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.<br><b>General Informatics, LLC</b>  |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| 2 Business name/disregarded entity name, if different from above  |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| Print or type.<br>See Specific Instructions on page 3.  | 3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.  |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
|   | <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Individual/sole proprietor or single-member LLC<br/> <input checked="" type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ <b>P</b><br/> <small>Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.</small> </div> <div> <input type="checkbox"/> C Corporation    <input type="checkbox"/> S Corporation    <input type="checkbox"/> Partnership    <input type="checkbox"/> Trust/estate<br/> <input type="checkbox"/> Other (see instructions) ▶                 </div> </div> |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
|   | 4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):<br>Exempt payee code (if any) _____<br>Exemption from FATCA reporting code (if any) _____<br><small>(Applies to accounts maintained outside the U.S.)</small>   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
|   | 5 Address (number, street, and apt. or suite no.) See instructions.<br><b>One Smart Way</b><br>6 City, state, and ZIP code<br><b>Baton Rouge, LA 70810</b><br>7 List account number(s) here (optional)  |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| <b>Part I Taxpayer Identification Number (TIN)</b><br>Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see <i>How to get a TIN</i> , later.<br><b>Note:</b> If the account is in more than one name, see the instructions for line 1. Also see <i>What Name and Number To Give the Requester</i> for guidelines on whose number to enter.  |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="10" style="text-align: center;">Social security number</td> </tr> <tr> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> </tr> <tr> <td colspan="10" style="text-align: center;">OR</td> </tr> <tr> <td colspan="10" style="text-align: center;">Employer identification number</td> </tr> <tr> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> <td style="width: 25px; height: 25px;"></td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">2</td> <td style="text-align: center;">-</td> <td style="text-align: center;">1</td> <td style="text-align: center;">5</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> </tr> </table>  |   |  | Social security number |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  | OR |  |  |  |  |  |  |  |  |  | Employer identification number |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 7 | 2 | - | 1 | 5 | 1 | 1 | 0 | 3 | 2 |
| Social security number  |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
|   |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| OR  |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| Employer identification number  |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
|   |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| 7   | 2   | -  | 1                      | 5                                | 1            | 1 | 0 | 3 | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| <b>Part II Certification</b><br>Under penalties of perjury, I certify that:<br>1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and<br>2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and<br>3. I am a U.S. citizen or other U.S. person (defined below); and<br>4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.<br><b>Certification instructions.</b> You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.   |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; vertical-align: top;"> <b>Sign Here</b> </td> <td style="width: 60%; vertical-align: top;">                 Signature of U.S. person ▶ _____             </td> <td style="width: 20%; vertical-align: top;">                 Date ▶ _____             </td> </tr> </table>   |   |  | <b>Sign Here</b>       | Signature of U.S. person ▶ _____ | Date ▶ _____ |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| <b>Sign Here</b>  | Signature of U.S. person ▶ _____  | Date ▶ _____   |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |
| <b>General Instructions</b><br>Section references are to the Internal Revenue Code unless otherwise noted.<br><b>Future developments.</b> For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to <a href="http://www.irs.gov/FormW9">www.irs.gov/FormW9</a> .<br><b>Purpose of Form</b><br>An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.<br><ul style="list-style-type: none"> <li>• Form 1099-DIV (dividends, including those from stocks or mutual funds)</li> <li>• Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)</li> <li>• Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)</li> <li>• Form 1099-S (proceeds from real estate transactions)</li> <li>• Form 1099-K (merchant card and third party network transactions)</li> <li>• Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)</li> <li>• Form 1099-C (canceled debt)</li> <li>• Form 1099-A (acquisition or abandonment of secured property)<br/>                     Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.<br/> <i>If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.</i> </li> </ul> |   |  |                        |                                  |              |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |



ADVANCE WITH US

AUTHORIZED PARTNER  
FY 22

General Informatics

VALID FROM AUGUST 1, 2021 – JULY 31, 2022

*N. Vianden*

NATALIA VIANDEN, DIRECTOR, GLOBAL CHANNEL PROGRAMS