



EAP1300  
EAP1300EXT

# Dual Band AC1300

## Indoor Access Point

**The edge 802.11ac built-in high performance Access Point with MU-MIMO technology for high-density use on multiple applications.**

EnGenius Wireless Management Access Point solution is designed for deploying on the versatile indoor application. To meet today's requirement on varied net-working environment, EnGenius would like to provide the solution as flexible, robust and effective as the organization they desire.

The state-of-the-art 802.11ac and MU-MIMO technology brings revolutionary connecting speed and bandwidth for diversity of multimedia applications. EAP1300 and EAP1300EXT equips with two powerful RF interfaces that support up to 867 Mbps in 5GHz frequency band and 400 Mbps in 2.4GHz frequency band (with 4ss/VHT40 clients).



### Features

- > Built-in Turbo Engine solution with a Quad-core powerful chipset solution to process multiple tasks for driving and enhancing performance effectively.
- > Dual radio 2x2 802.11 ac/a/b/g/n Access Point with multi-user MIMO (MU-MIMO)
- > Support up to 867 Mbps in 5GHz frequency band and 400 Mbps in 2.4GHz frequency band (with 2ss/VHT40 clients).
- > High powered amplifiers to improve the wireless coverage and uses a special radio frequency pattern to increase its receiver sensitivity for improved performance.
- > Support 802.11ac Wave 2.0 technology to enhance overall bandwidth and speed to wireless client devices.
- > External antennas interface for connecting to deliver signal to versatile applications. (EAP1300EXT)
- > 360° omni-directional antennas to achieve comprehensive coverage for networking client devices under a pervasive environment.
- > Compliance with 802.3af 48V PoE Input for flexible installation over 100 meters (328 feet)
- > Choose an operating mode to meet your management and deployment requirement.

### Wireless Management solution is ideal for deployment in these venues:

- |                        |                       |                          |
|------------------------|-----------------------|--------------------------|
| > Airport Terminals    | > Rail Station        | > Stadiums & Arena       |
| > Warehouse Operations | > Shopping Malls      | > Medical Centers        |
| > College Campuses     | > Resort Properties   | > Luxury Homes & Estates |
| > Corporate Campuses   | > Parks & Campgrounds |                          |

## Provide Consistent Performance

Designed by EnGenius could provide the powerful RF interfaces to assure the reliability of signal strength and sensitivity in a pervasive environment. The optimized interfaces will provide the evenly coverage to assist users to reduce dead spots in their WLAN and boost received signal quality to deliver the best 1.2Gbps air performance to wireless client devices.

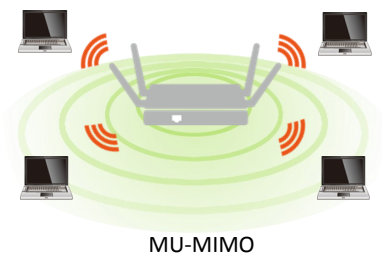
## Carry multimedia content over MU-MIMO Transmit Beam-forming technology.

Be a prior AC1300 solution, EAP1300 and EAP1300EXT are not only built in powerful RF interfaces, but it also features advanced Multi-Users Multiple input Multiple output (MU-MIMO) and Transmit beamforming (TxBF) technologies.

The significant improvement on 802.11ac wave 2.0 is MU-MIMO technology, which enhances a dramatic break-through in the performance and flexible transmission to wireless client devices. MU-MIMO allows multiple spatial streams to be allocated to different clients simultaneously, increasing totally throughput, reduce latency, capacity of the WLAN system and increase spectral efficiency.

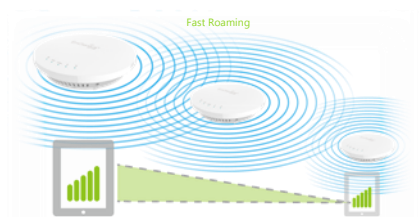
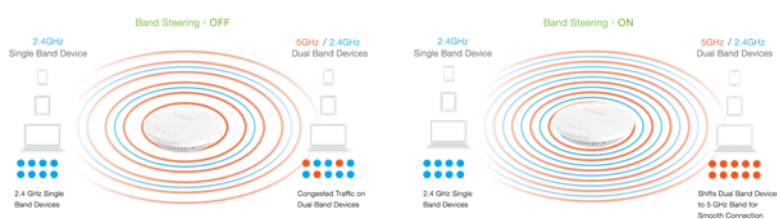
Beamforming is a standard in 802.11ac wave 2.0 which allows Access Points to focus energy of multiple antennas to transmit to a particular client device in that direction of that client. The innovative technology significantly enhances the higher signal-to-noise ratio and greater throughput of that client .

With MU-MIMO and Beamforming technology, EAP AC1300 advanced Indoor Access Points could bring more traffic to wireless client devices simultaneous over the longer distance and save time for serving other wireless client devices.



## Exquisite RF Management to Achieve Optimal Wireless Performance

EnGenius intelligent RF detecting mechanism—**Background Scanning**, continues to monitor RF movement of an environment and initialize the control of **Transmit Power** and **channel assignment** assuring the evenly RF coverage and consistent wireless performance. To assist client devices to get the optimal performance under a pervasive environment, **Band Steering** automatically steers dual-band capable client devices to the appropriate channel, while prefer 5GHz or band balancing works to maintain a balanced number of clients per Access Point. Configuring multiple Access Points to serve your own devices (BYOD) in enterprise class wireless LAN environment can enable **Fast Roaming** to reduce roaming delay time and to secure seamless connection on VOIP service when mobile devices move between Access Points.



## Securable Portals for different purpose

EnGenius provides **Captive Portal** to differentiate the authority of users on using Internet access. Considering the value added function, administrators offer a securable service to serve client devices including to encrypt over database of an authentication server, customized-branded splash of webpage, simplified logon service, and promoting content and using polices. Administrators can also use **Virtual LAN (VLAN)** with **Guest Network** to isolate each client for avoiding an unnecessary touch, leaking sensitive data, and enhancing Internet security and reliability.

## Restrain Wireless Traffic under a Pervasive Environment

To effective manage the usage of each client devices at a LAN topology, **Traffic Shaping** controls the bottle of bandwidth to offer the limited bandwidth for an individual **SSID** or **each client** per Access Point. This constraint offers the constant bandwidth to perform specific applications like VOIP and video streaming fluently and smoothly without air congestion on each client devices.

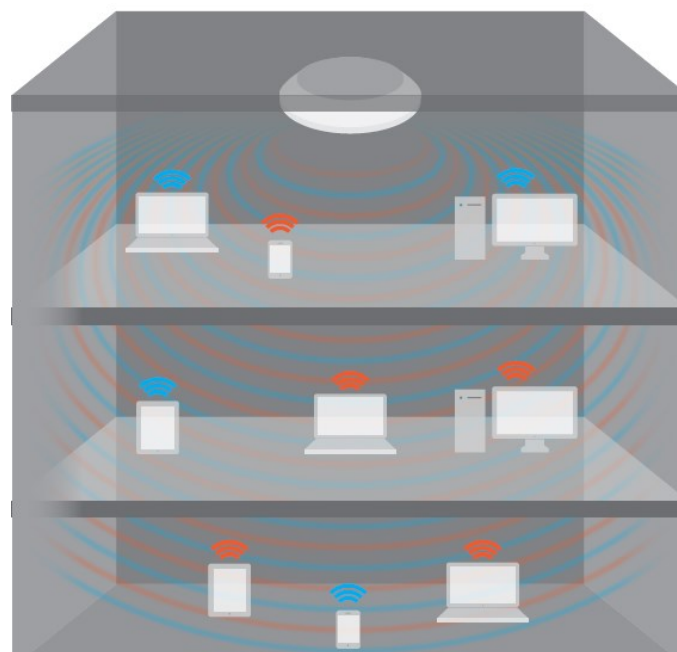
## Comprehensive Network Protection

With EWS Access Points, your network is protected from attacks at multiple level through advanced wireless encryption standards such as Wi-Fi Protected Access (WPA and WPA2) which uses a temporal key integrity protocol (TKIP) and authentication database, IEEE 802.1X with Radius server. EnGenius also offers the advanced encryption standard (AES) to encrypt traffic between Access Points and client devices. EnGenius wireless management system offers advanced mechanism to detect and to prohibit threats over **Rogue AP detection**. Once threats or event are detected, built-in **E-mail Alerts** systems will automatically deliver an e-mail notification for administrators to trigger immediate actions on these networks threats.

## Supports Separate Mode Configuration per Frequency Band

Choose one of two (2) modes available depending on your need:

Access Point or WDS (AP & Bridge).



2.4 GHz (400 Mbps)

5 GHz (867 Mbps)

# Technical Specifications Wireless Indoor Access Point

## Wireless Radio Specification

### Access Point Type:

Indoor, dual radios concurrent, 5GHz 802.11 ac 2x2 MIMO is backwards compatible with 802.11 a/n mode, 2.4GHz 802.11 n 2x2 MIMO is backwards compatible with 802.11 b/g.

### SU-MIMO:

Two(1) spatial stream SU-MIMO for up to 1,267 Mbps wireless data rate to a single wireless client device.

### MU-MIMO

Two(1) spatial stream MU-MIMO for up to 867 Mbps wireless data rate to transmit to two(2) MU-MIMO capable wireless client devices simultaneously.

### Frequency Radio

2.4GHz: 2400MHz ~ 2835MHz,  
5GHz: 5150MHz~5250MHz, 5250MHz~5350MHz, 5470~5725MHz,  
5725MHz~5850MHz

Support radios and channels will be varied on the configured regulatory domain.

### Supported Radio Technology

802.11b: Direct-sequence spread-spectrum (DSSS)  
802.11ac/a/g/n: Orthogonal frequency-division multiplexing (OFDM)  
802.11n/ac: 2x2 MIMO with 4 streams  
802.11ac supports very high throughput (VHT) — VHT 20/40/80 MHz  
802.11n supports high throughput (HT) — HT 20/40 MHz  
802.11n supports very high throughput under the 2.4GHz radio —VHT40 MHz (256-QAM)  
802.11n/ac packet aggregation: A-MPDU, A-SPDU

### Supported Modulation Type

802.11b: BPSK, QPSK, CCK  
802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM  
802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM

### Transmit Power (Maximum Value)

2.4GHz: 21dBm  
5GHz: 21dBm

Maximum power is limited by regulatory domain

### Tx Beamforming (TxBF)

Increasing signal reliability and transmitting distance.

### Supported data rates (Mbps)

802.11b: 1, 2, 5.5, 11  
802.11a/g: 6, 9, 12, 18, 36, 48, 54  
802.11n: 6.5 to 300 (MCS0 to MCS15)  
802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS=1 to 2)

## Power

### Maximum Power Consumption

10W

### Power Source

Direct DC Input: 12V/1A  
Power Over Ethernet: 802.3af Input

## Antenna

### EAP1300: (Integrated Antenna)

2.4GHz: 5.0 dBi  
5GHz: 5.0 dBi

### EAP1300EXT: (External Antenna)

2.4GHz: Two detachable 5.0dBi RP-SMA antennas  
5GHz: Two detachable 5.0dBi RP-SMA antennas

## Interfaces

### Networking Interface

One (1) 10/100/1000 BASE-T RJ-45 Ethernet Ports

### DC Powering Interface

One (1) DC Jack interface

### LED Indicators

Display system and wireless transmission status

### Reset Button

Convert Access Point to the Factory default or the Users Default

## Mounting

### Ceiling Mounting

Assemble a mounting bracket for drop ceiling

### Wall Mounting

Mount Access Point on a flat wall

## Mechanical & Environment

### Dimensions

Diameter : 6.36" (161.54 mm)  
Height : 1.64" (41.66 mm)

### Weight

EAP1300 : 336g  
EAP1300EXT : 389g

### Operating:

Temperature: 0°C~40°C (32°F~104°F)  
Humidity: 0% ~ 90% typical

### Storage:

Temperature: -30°C~80°C (-22°F~176°F)  
Humidity: 0% ~ 90% typical

## Compliance Regulatory

### FCC

Subpart 15 B  
Subpart C 15.247  
Subpart E 15.407

### CE

EN 300 328  
EN 301 893  
EN 50385  
EN 60601-1-1  
EN 60601-1-2  
EN 55032  
EN 55024

### R&TTE Directive 1995/5/EC

### Low Voltage Directive 72/23/EEC

## Technical Specifications Wireless Indoor Access Point

### Operating Mode

#### AP / WDS/ Repeater Mode

Three configuration options broaden the devices' adaptability to your network needs.

### Exquisite RF Management

#### Background Scanning

Regular scanning signal level of an environment to provide parameters for performing Auto Transmit power and auto channel.

#### Auto Transmit Power

Automatically adjust power level when EWS access points work at an environment.

#### Auto Channel

Automatically assign a clearly channel to perform RF transmission under a pervasive environment.

#### Fast Roaming (802.11k)

Collect the parameters of neighborhood Access Points to find the optimal AP.

#### Band Steering

Steer client devices to a proper frequency band for getting more bandwidth and speed under an Access Point.

#### RSSI Threshold

Kick the client which the signal (RSSI) is above the set value from the AP for reducing the interference and optimize the connecting quality.

### Optimize Performance

#### Quality of Service

Compliance with IEEE 802.11e standard  
Prioritizes voice over data for both tagged and untagged traffic  
Transmit video, voice and data at the same SSID

#### Power Save Mode

Support U-APSD

#### Pre-Authentication

Compliance with 802.11i & 11x

#### PMK Caching

Compliance with 802.11i  
If wireless client devices has authenticated to an access point, it does not perform a full authentication exchange when client devices roaming between access points.

#### Fast Roaming (802.11r)

Use a Fast Transition key to handover between Access Points

#### Multicast to Unicast Conversion

Using the IGMP protocol, an access Point delivers high definition content to a large number of clients simultaneously.

### Easy to Management

#### Multiple SSIDs

BSSID support  
Support 8 SSIDs on both 2.4GHz and 5GHz bands

#### Captive Portal

Differentiate the authority of users on using Internet access

#### Guest Network

Isolate each client for avoiding an unnecessary touch, leaking sensitive data, and enhancing Internet security and reliability.

#### VLAN Tag

Independent VLAN setting can be enable or disable. Any packet that enters the Device without a VLAN tag will have a VLAN tag inserted with a PVID (Ethernet Port VID)

#### VLAN Per SSID

Integrate VLAN ID with a SSID interface to forward packets over the defined path.

#### Management VLAN

Feature is enabled with specified VLAN ID, the device will only allow management access with the same specified VLAN ID from remotely location by using protocols such as telnet, SSH, snmp, syslog etc.

#### Traffic Shaping

Controls the bottle of bandwidth to offer the limited bandwidth for an individual SSID or each client per Access Point.

#### MAC Address Filtering

Filter up to 64 sets MAC addresses per SSID

#### E-Mail Alert

Provides a network monitoring tool for administrators to stay informed the configuration change.

#### Finger Printing

The value added solution collect information of client devices including name of devices, IP address, MAC address, Operating system version, transmitting and receiving data, and signal level.

#### Save Configuration as Users Default

Save the customized configuration as default value for different customer demands.

#### Wi-Fi Scheduler

Perform a regular reboot on access point at assigned schedule  
Perform it to enable or disable 2.4GHz or 5GHz interface from a period time.

#### SNMP & MIB

v1/v2c/v3 support  
MIB I/II, Private MIB  
CLI supported

#### RADIUS Accounting

Help operators to offload 3G to Wi-Fi seamlessly

#### Wireless Clients list

Provide the list to display real status of wireless client devices on this Access Point.

### Comprehensive Protection

#### Wireless Encryption Standard

WEP Encryption—64/128/152 bit  
WPA/WPA2 Enterprise (WPA-EAP using TKIP or AES)

#### Hide SSID in beacons

#### Rogue AP Detection

Enable the function to detect the fake access points in the environment.

#### L2 Isolation

Block the communication between the associated clients to communicate with other clients from all hosts on the same subnet.

#### Client Isolation

Block/isolate the communication between the associated clients under the same WLAN.

#### HTTPS

A secure communication protocol can be enabled to allow secure management web access over a computer network.

#### SSH Tunnel

A secure communication protocol can be enabled to allow secure remote shell access or command execution.

## RF Performance Specification Wireless Indoor Access Point

Channel	Data Rate	Transmit Power (Aggregated, dBm)	Receive Sensitivity (Aggregated, dBm)
802.11b 2.4 GHz	1 Mbps	22	-97
	2 Mbps	22	-94
	5.5 Mbps	22	-92
	11 Mbps	22	-90
802.11g 2.4 GHz	6 Mbps	22	-93
	54 Mbps	20	-76
802.11a 5 GHz	6 Mbps	22	-93
	54 Mbps	20	-75
802.11n HT20 2.4 GHz	MCS 0 / 8	21	-91
	MCS 7 / 15	19	-71
802.11n HT40 2.4 GHz	MCS 0 / 8	21	-88
	MCS 7 / 15	19	-70
802.11n HT20 5GHz	MCS 0 / 8	22	-93
	MCS 7 / 15	19	-72
802.11n HT40 5GHz	MCS 0 / 8	22	-90
	MCS 7 / 15	19	-70
802.11ac VHT20 5GHz	MCS0	21	-93
	MCS9	18	-67
802.11ac VHT40 5GHz	MCS0	21	-89
	MCS9	17	-64
802.11ac VHT80 5GHz	MCS0	21	-87
	MCS9	17	-60

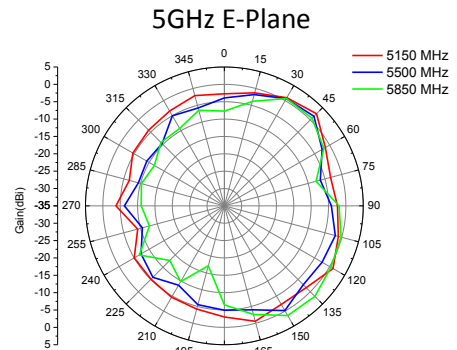
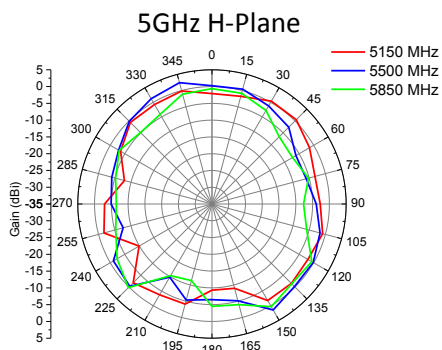
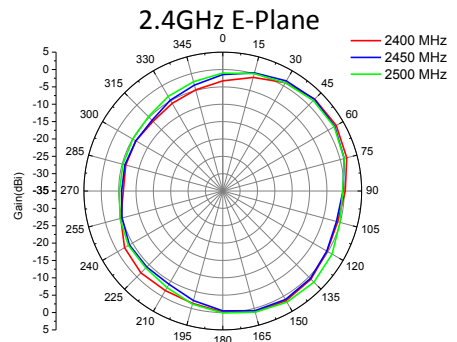
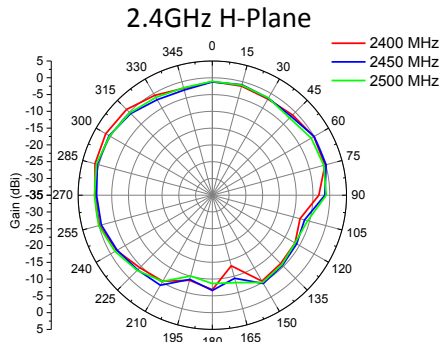
\*Maximum RF performance of the hardware provided. Maximum transmit power is limited by local regulatory.

\*The supported frequency bands are restricted by local regulatory requirements.

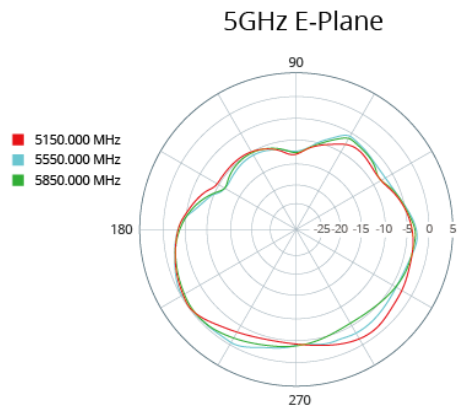
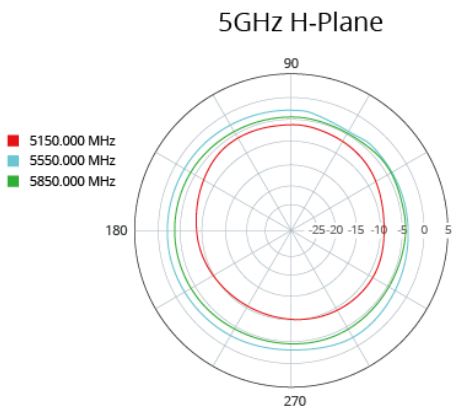
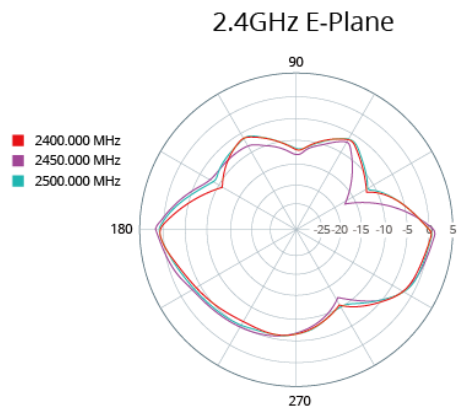
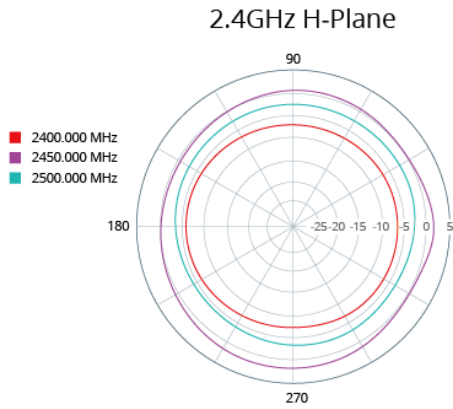
\*Transmit power is configured in 1.0dBm increments.

# Antennas Patterns Wireless Indoor Access Point

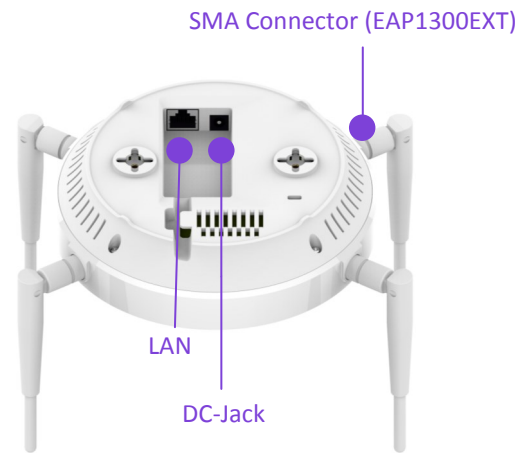
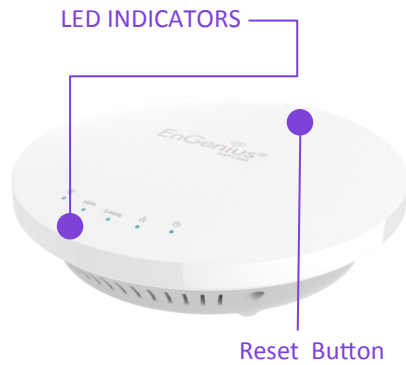
## EAP1300



## EAP1300EXT



## Physical Interfaces



EAP1300



EAP1300EXT



<b>Standards</b>	802.11ac/a/b/g/n	802.11ac/a/b/g/n
<b>Frequency</b>	2.4GHz+5GHz	2.4GHz+5GHz
<b>Data Rates</b>	400Mbps + 867 Mbps	400Mbps + 867 Mbps
<b>Antennas</b>	2.4GHz: 5.0dBi; 5GHz: 5.0dBi	External 5.0dBi RP-SMA
<b>Physical Interface</b>	1 x Gigabit LAN; 1x DC Jack	1 x Gigabit LAN; 1x DC Jack; 4 x SMA connector interface
<b>Radio Chains/Streams</b>	2x2: 2	2x2: 2

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