EnGenius

Datasheet

EAP2200
EAP1300
EAP1300EXT
EAP1250

EnTurbo™ Series Indoor Next-Gen 11ac Wave 2 Indoor Access Points

Turbocharged Wi-Fi

EnTurbo Indoor Access Points turbocharge wireless speed, coverage, and reliability. EnTurbo makes powerful, next generation Wave 2, business-class Wi-Fi affordably accessible for small to mid-size businesses and large residences.

Turbocharged Performance

EnTurbo's powerful onboard Qualcomm® 717 MHz quad-core processors turbocharge wireless performance and efficiency with up to 30 percent faster throughput compared to 802.11ac Wave 1 3x3 access points. Combined with new 802.11ac technology, EnTurbo APs maximize speed and performance, support greater user device capacity and enhanced connection reliability.

New Tri-Band AP Technology

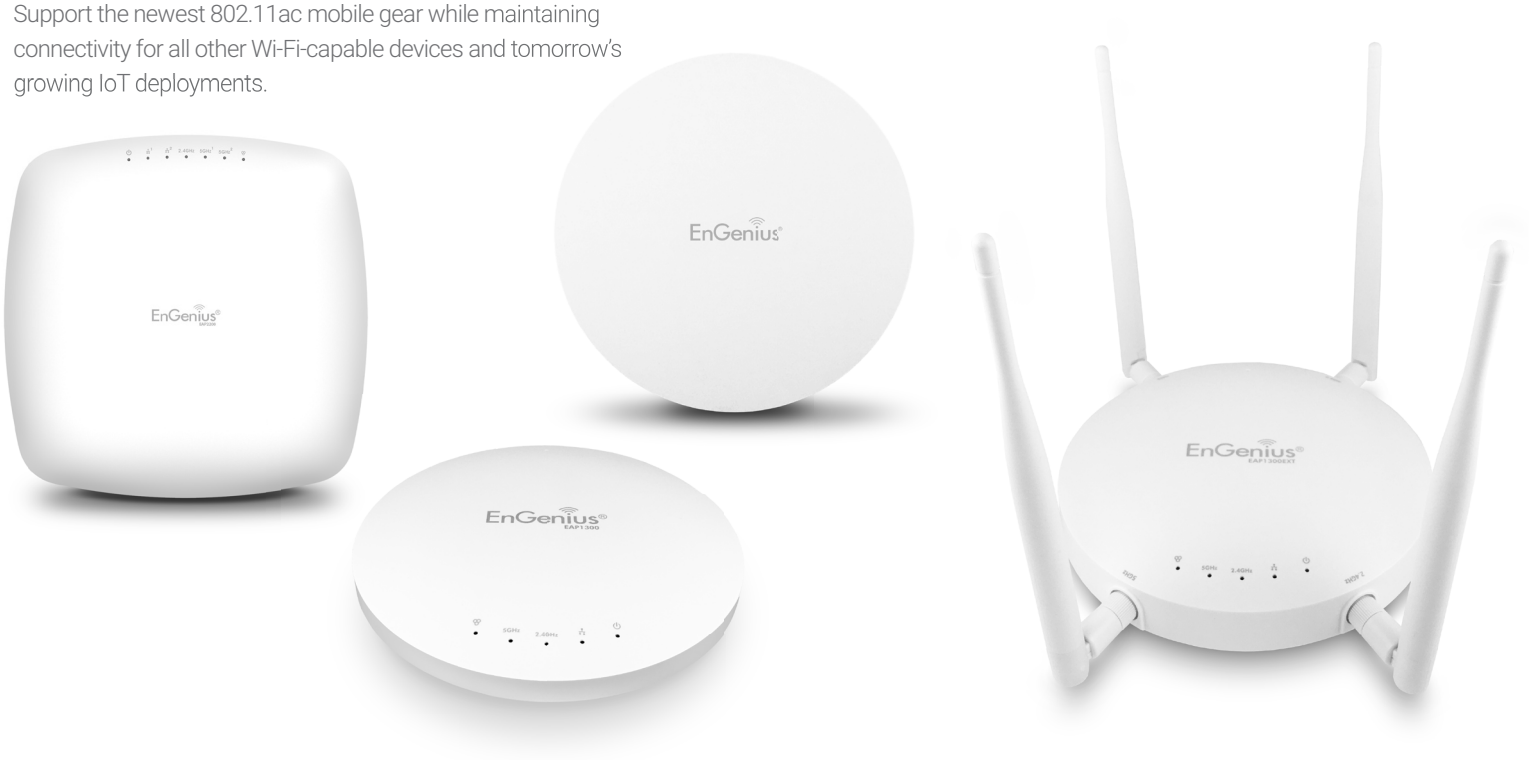
Uncompromised Audio & Video Streaming

Tri-band technology delivers double the available bandwidth ensuring stable multimedia streaming performance for more wireless users simultaneously by adding a second 5 GHz band.

Support the newest 802.11ac mobile gear while maintaining connectivity for all other Wi-Fi-capable devices and tomorrow's growing IoT deployments.

Features & Benefits

- Quad-Core CPU, 717 MHz "Turbo Engine"
- 802.11ac Wave 2 Tri-Band AP Supports 2.4/5/5 GHz
- Reach Over Air Speeds to 2.2 Gbps on 3 Bands; 400 Mbps (2.4 GHz); 867 Mbps (5 GHz) +867 Mbps (5 GHz) (EAP2200)
- 11ac Wave 2 Wireless Speeds to 867 Mbps (5 GHz); to 400 Mbps (2.4 GHz) (EAP1300/EAP1300EX/EAP1250)
- Up to 30% Faster Throughput Over 11ac Wave 1 3x3 APs
- Ceiling-Mount, Integrated or Detachable High-Gain Antennas
- Compact, Sleek, Stylish Design (EAP1250)
- MU-MIMO Improves Performance & Device Capacities
- Beamforming Optimizes Antenna Signal, Reception & Reliability for Clients
- Combine Tri-Band's Dual-GigE Ports, Maximize Wired Speed to 2 Gbps via Link Aggregation
- 802.3af PoE for Easy Placement Where Outlets are Scarce
- Suite of Advanced AP Management & Security Features
- Flexible Operation Modes: AP, WDS & Repeater
- Simple Web-Based AP Monitoring & Management Software
- Stand-Alone or Manage APs via EnGenius Switches or ezMaster™ Software
- Mesh Wireless Support Simplifies Setup, Optimizes Signals & Automatic Self-Heals



Next Generation Wireless Technology

Replace your old wireless with new, advanced 11ac Wave 2 technology to support today's content-rich mobile world.

Maximized Speed & Performance

The feature-rich EnTurbo Indoor Series leverages the advanced 11ac Wave 2 Wi-Fi technology that maximizes wireless speed and performance while eliminating network lag.

Improved Signal Reliability

Beamforming Antenna technology directs and adjusts signal beams as staff or customers move throughout the area, ensuring optimal signal and reception reliability.

Increased User Capacities

Multi-User (MU) MIMO sends dedicated wireless streams to multiple user devices at the same time, improving your network's efficiency.

Future-Proof Network

Upgrade from slower, older technology while supporting the future needs of IoT and mobile technology. Ensure your network against further upgrades for the next five years.

Indoor Form & Function

Clean lines and low profile housing ensure the EnTurbo Indoor AP's ceiling-mount design (EAP1300 & EAP2200) blends seamlessly into most deployment environments.

Maneuver EAP1300EXT's four detachable antennas to ensure optimal signal alignment, increasing the effectiveness of your network deployment. Remove the antennas and replace them with higher gain antennas to further amplify your wireless range.

EAP1250 boasts a clean white, minimalistic design that stylishly blends into any business or residential environment. Its small, round footprint and extremely low profile makes the EAP1250 easy to discretely place where needed.

Optimize Connectivity With Wireless Mesh

Utilize mesh access point mode for retrofit or new install applications where wire runs are not possible. Mesh's smart sensing technology adds devices quickly, optimizes routes between APs, and automatically self-heals the network in the event an AP should ever lose connection.

Far-Reaching Wireless Blankets Coverage

Wide reaching, detachable 360-degree antennas minimize interference for blanketed coverage through floors, ceilings and walls to provide far-reaching reliable connectivity.

Reliable Connectivity & Network Protection

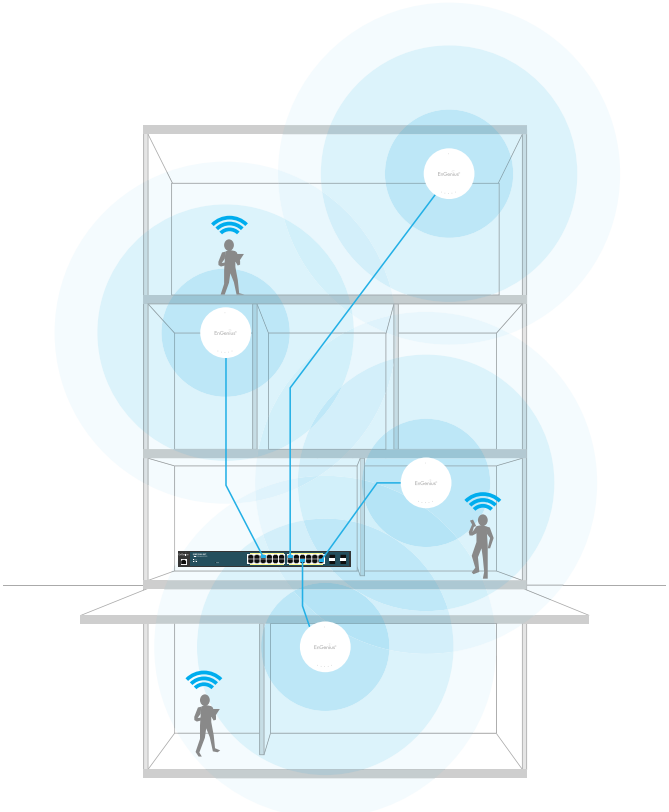
Configure multiple APs to ensure seamless, reliable connectivity for users as they move about the network with standards-based roaming. Quickly detect and avoid network threats through a suite of advanced security features including Guest Networks and email alerts.

Automatic Band Selection

Efficiently steer dual-band client devices to the optimal, less congested frequency band. While the Tri-band AP also routes dedicated 2.4 and 5 GHz devices directly to the respective bands ensuring the fastest bandwidth for all devices.

Flexible Power Options

Connect and power the EnTurbo Indoor APs via their Gigabit 802.3af Power-over-Ethernet ports for discrete placement in locations where power outlets are limited or unavailable, such as ceilings, hallways, rafters and attics. Place the APs up to 328 feet from a PoE-compliant switch or PoE adapter.



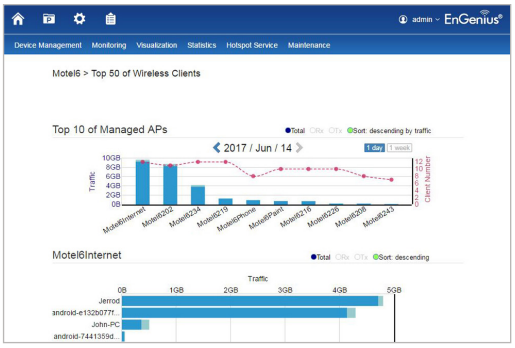
ezMaster™

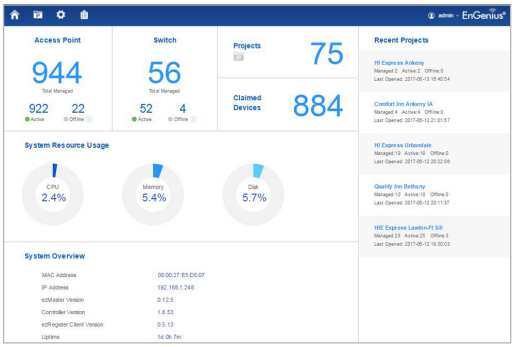
Network Management

The EnTurbo Indoor can operate as stand-alone APs or as part of a scalable EnGenius Wireless Network Management Solution, centrally managed by ezMaster, and expandable as your network needs grow.

Manage Up to 50 APs With EnGenius Managed Switches

Any EnGenius Gigabit Managed Switch can also manage up to 50 EnTurbo APs. Through the switch, access all connected EnGenius devices and a full array of wireless and Layer 2 management tools. Choose between PoE+ and non-PoE switch models with flexible deployment and management options and no AP license or subscription fees.





System Requirements

Recommended environment for managing up to 500 APs
CPU: Intel® Core™ i7 quad-core or above
RAM: 4 GB minimum
HDD: 500 GB (actual requirement dependent on log size)
OS: Microsoft® Windows® 7 or later + VMware® Player 7.0 or compatible virtualization software

Recommended environment for managing up to 1,000+ APs
CPU: Intel® Xeon® Processor E3 or above
RAM: 4 GB minimum
HDD: 500 GB (actual requirement dependent on log size)
OS: Microsoft® Windows® 7 or later + VMware® Player 7.0 or compatible virtualization software

Browser Requirements
Internet Explorer 10 or better
Firefox 34.0 or better
Chrome 31.0 or better
Safari 8.0 or better

Network Topology Requirements
At sites where APs are deployed: A DHCP-enabled network for APs to obtain an IP address

ezMaster Network Management Software

EnGenius ezMaster Software's simple, intuitive Web-based interface allows flexible access point monitoring - locally or remotely. Quickly and easily set up, manage, monitor, and troubleshoot multiple APs at the same time. See real-time network performance and monitor AP traffic through ezMaster's at-a-glance dashboard.

EzMaster provides business-class features, unlimited scalability and centralized management of hundreds of EnTurbo Access Points and EnGenius Switches - locally, remotely or via a cloud-based service, with no licensing or subscription fees.

ezMaster Software Features

- **Network Management**
  - Configure, Manage & Monitor
  - Cross-Network AP Management
  - AP Group Configuration
- **Access Point Configuration & Management**
  - Band Steering
  - Client Isolation
  - Client Limiting
  - Fast Roaming
  - L2 Isolation
  - LED On/Off Control
  - Multiple SSID
  - RSSI Threshold
  - Secure Guest Network
  - Traffic Shaping
  - VLAN Isolation
  - VLAN Tag
- **Comprehensive Monitoring**
  - Device Status Monitoring
  - Floor Plan View
  - Map View
  - System Status Monitoring
  - Visual Topology View
  - Wireless Client Monitoring
  - Wireless Coverage View
  - Wireless Traffic & Usage Statistics
- **Management & Maintenance**
  - Bulk Firmware Upgrade
  - Email Alert
  - Kick/Ban Clients
  - One-Click Update
  - Remote Logging
  - Seamless Migration
  - Syslog

EnTurbo Series Indoor Access Points




Models	EAP2200	EAP1300	EAP1300EXT	EAP1250
Standards	802.11a/b/g/n/ac Wave 2	802.11a/b/g/n/ac Wave 2	802.11a/b/g/n/ac Wave 2	802.11a/b/g/n/ac Wave 2
Frequency	2.4/5/5 GHz	2.4 GHz & 5 GHz	2.4 GHz & 5 GHz	2.4 GHz & 5 GHz
2.4 GHz Max. Data Rate	400 Mbps	400 Mbps	400 Mbps	400 Mbps
5 GHz Max. Data Rate	867+867 Mbps	867 Mbps	867 Mbps	867 Mbps
Radio Chains/Streams	2x2:2	2 x 2:2	2 x 2:2	2 x 2:2
RF Output Power (2.4 GHz)	22 dBm	23 dBm	23 dBm	23 dBm
RF Output Power (5 GHz)	22 dBm	23 dBm	23 dBm	23 dBm
Ethernet Ports	2 x Gigabit (1 x PoE)	1 x Gigabit PoE	1 x Gigabit PoE	1 x Gigabit PoE
Power-over-Ethernet	802.3af	802.3af	802.3af	802.3af
Power Consumption (Peak)	11.76W	12W	12W	9W
Integrated Antenna	2 x 5 dBi (2.4 GHz) 2 x 5 dBi (5 GHz) 2 x 5 dBi (5 GHz)	2 x 5 dBi (2.4 GHz) 2 x 5 dBi (5 GHz)	N/A	2 x 5 dBi (2.4 GHz) 2 x 5 dBi (5 GHz)
External Antenna	N/A	N/A	4 x 5 dBi Omni-Directional Detachable SMA-Type	N/A

Technical Specifications

Standards
IEEE 802.11b/g/n on 2.4 GHz
IEEE802.11a/n/ac on 5 GHz

Processor
Qualcomm® 717 MHz Quad-Core CPU
4x ARM Cortex A7

Antennas
EAP2200
4 x 2.4 GHz: 5 dBi
4 x 5 GHz: 5 dBi
Omni-Directional Integrated
EAP1300
4 x 5 dBi Omni-Directional Integrated
EAP1300EXT
4 x 5 dBi Omni-Directional Detachable (SMA-Type)

Physical Interface
EAP2200
2 x 10/100/1000 Gigabit Ethernet Port
Link Aggregation Achieves 2 Gbps Throughput
DC Jack
Reset Button
Kensington Security Slot

Physical Interface continued
EAP1300/EAP1300EXT /EAP1250
10/100/1000 Gigabit Ethernet Port
DC Jack
Reset Button
Kensington Security Slot

LED Indicators
EAP2200
Power/2x LAN/1x 2.4 GHz/2x 5 GHz
EAP1300/EAP1300EXT
Power/LAN/2.4 GHz/5 GHz
EAP1250
Power (Green)/Ready to Config (Yellow)/Internet Connectio (Blue)/Internet Disconnection (Red)

Power Source
Power-over-Ethernet: 802.3af Input
IEEE 802.11e Compliant Source
12VDC/1A Power Adapter

Maximum Power Consumption
EAP2200 11.76W
EAP1300/EAP1300EXT 12W
EAP1250 9W

Surge Protection
0.5KV

Wireless & Radio Specifications
Operating Frequency
EAP2200
Tri-Radio Concurrent 2.4 GHz/5 GHz/5 GHz
EAP1300/EAP1300EXT/EAP1250
Dual-Radio Concurrent 2.4 GHz & 5 GHz

Operation Modes
EAP2200
Access Point Mode (AP Mode)
WDS: WDS AP, WDS Bridge
Repeater
EAP1300/EAP1300EXT
Access Point Mode (AP mode)
WDS: WDS AP, WDS Bridge
EAP1250
Access Point Mode (AP mode)
WDS: WDS AP, WDS Bridge
Access Point

Technical Specifications continued

Frequency Radio

EAP2200

Radio I

2.4 GHz: 2400 MHz~2835 MHz

Radio II

Main: 5 GHz: 5470 MHz~5725 MHz, 5725 MHz~5875 MHz

Radio III

Second: 5150 MHz~5250 MHz, 5250 MHz~5350 MHz

EAP1300/EAP1300EXT/EAP1250

2.4 GHz: 2400 MHz~2472 MHz

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

Transmit Power

EAP2200

2.4 GHz: 22 dBm

5 GHz: 22 dBm

EAP1300/EAP1300EXT/EAP1250

2.4 GHz: 23 dBm

5 GHz: 23 dBm

Tx Beamforming (TxBF)

Radio Chains/Spatial Streams

2x2:2

EAP2200

SU-MIMO

2.4 GHz - Two (2) Spatial Stream SU-MIMO up to 400 Mbps to individual 2x2 VHT40 client devices (300 Mbps for HT40 802.11n client devices)

5 GHz - Two (2) Spatial Stream SU-MIMO up to 867 Mbps to individual 2x2 VHT40 client devices for the both 5 GHz radios.

MU-MIMO

Two (2) Spatial Stream Multi User (MU) MIMO for up to 867 Mbps to two (2) MU-MIMO capable wireless devices simultaneously for the both 5 GHz radios.

EAP1300/EAP1300EXT/EAP1250

SU-MIMO

2.4 GHz - Two (2) Spatial Stream SU-MIMO up to 400 Mbps to individual 2x2 VHT40 client devices (300 Mbps for HT40 802.11n client devices)

5 GHz - Two (2) Spatial Stream SU-MIMO up to 867 Mbps to individual 2x2 VHT40 client devices

MU-MIMO

Two (2) Spatial Streams MU-MIMO up to 867 Mbps to two (2) MU-MIMO capable wireless devices simultaneously

Supported Data Rates (Mbps):

2.4 GHz: Max 400

5 GHz: Max 867

802.11b: 1, 2, 5.5, 11

802.11a/g: 6, 9, 12, 18, 36, 48, 54

802.11n: 6.5 to 400 Mbps (MCS0 to MCS15)

802.11ac: 6.5 to 867 Mbps (MCS0 to MCS9, NSS = 1 to 2)

Supported Radio Technologies

802.11b: Direct-Sequence Spread Spectrum (DSSS)

802.11a/g/n/ac: Orthogonal Frequency-Division Multiplexing (OFDM)

802.11n/ac: 2x2 MIMO with 2 Streams

Channelization

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 (VHT) Under the 2.4 GHz Radio—VHT 40 MHz (256-QAM)

802.11n/ac Packet Aggregation: AMPDU, ASPDU

Supported Modulation

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

Management

Multiple BSSID

EAP2200

Supports 24 SSIDs, 8 on 2.4 GHz & 16 on both 5 GHz Band

EAP1300/EAP1300EXT

Supports 16 SSIDs (8 SSIDs per Band)

VLAN Tagging

Supports 802.1q SSID-to-VLAN Tagging

Cross-Band VLAN Pass-Through

Management VLAN

Spanning Tree

Supports 802.1d Spanning Tree Protocol

QoS (Quality of Service)

Compliant With IEEE 802.11e Standard

WMM

SNMP

v1, v2c, v3

MIB

I/II, Private MIB

Management Features

Deployment Options

Stand-Alone (Individually Managed)

Managed Mode (w/ezMaster & Neutron Switch)

Stand-Alone Management Features

Auto Channel Selection

Auto Transmit Power

Wireless STA (Client) Connected List

Guest Network

Fast Roaming (802.11k & 802.11r)

Pre-Authentication (802.11i, 802.11x)

PMK Caching (802.11i)

RSSI Threshold

Band Steering

Traffic Shaping

VLANs for Access Point – Multiple SSIDs

Backup/Restore Settings

Auto Reboot

E-Mail Alert

Site Survey

Save Configuration as Default

Band Steering

- Prefer 5 GHz
- Force 5 GHz
- Band Balance

EAP2200

Load Balance

Control Features

Managed Mode (w/ezMaster/Neutron Switch)

Distance Control (ACK Timeout)

Multicast Supported

Wi-Fi Scheduler

Client Traffic Status

RADIUS Accounting (802.1x)

Power Save Mode (U-APSD Support)

CLI Support

HTTPS

Wireless Security

WEP Encryption 64/128/152 bit

WPA/WPA2 Enterprise (WPA-EAP using TKIP or AES)

Hide SSID in Beacons

MAC Address Filtering, Up to 32 MACs per SSID

Wireless STA (Client) Connected List

SSH Tunnel

Client Isolation

Technical Specifications continued

Wireless Management Features (w/ezMaster & Neutron Switch) (Available in AP Mode) **continued**
AP Auto Discovery & Provisioning
AP Auto IP Assignment
AP Group Management
Auto AP Rebooting
AP Device Name Editing
AP Radio Settings
Band Steering
- Prefer 5 GHz
- Force 5 GHz
- Band Balance
Traffic Shaping
Fast Roaming (802.11k & 802.11r)
Pre-Authentication (802.11i, 802.11x)
PMK Caching (802.11i)
RSSI Threshold
AP Client Limiting
Client Fingerprinting
AP VLAN Management
VLANs for AP - Multiple SSIDs
Secured Guest Network
Access Point Status Monitoring
Wireless Client Monitoring
Email Alert
Wireless Traffic & Usage Statistics
Real-Time Throughput Monitoring
Visual Topology View
Floor Plan View
Map View
Wireless Coverage Display
Secure Control Messaging (SSL Certificate)
Local MAC Address Database
Remote MAC Address Database (RADIUS)
Unified Configuration Import/Export
Bulk Firmware Upgrade Capability
One-Click Update
Intelligent Diagnostics
Kick/Ban Clients
Wi-Fi Scheduler
Band Steering
- Prefer 5 GHz
- Force 5 GHz
- Band Balance
EAP2200
Load Balance

Temperature Range
Operating: 32º F~104º F (0º C~40º C)
Storage: -22º F~176º F (-30º C~80º C)

Humidity (non-condensing)
Operating: 90% or less
Storage: 90% or less

Dimensions & Weights
EAP2200
Weight: 1.35 lbs. (0.61 kg)
Length: 7.87" (200 mm)
Width: 7.87" (200 mm)
Height: 1.6" (40.64 mm)
EAP1300
Weight: 0.62 lbs. (0.28 kg)
Diameter: 6.36" (161.54 mm)
Height: 1.64" (41.66 mm)
EAP1300EXT
Weight: 0.65 lbs. (0.29 kg)
Diameter: 6.36" (161.54 mm)
Height: 1.85" (47 mm)
EAP1250
Weight: 0.41 lbs. (0.18 kg)
Diameter: 5.2" (132.08 mm)
Height: 1.47" (37.34 mm)

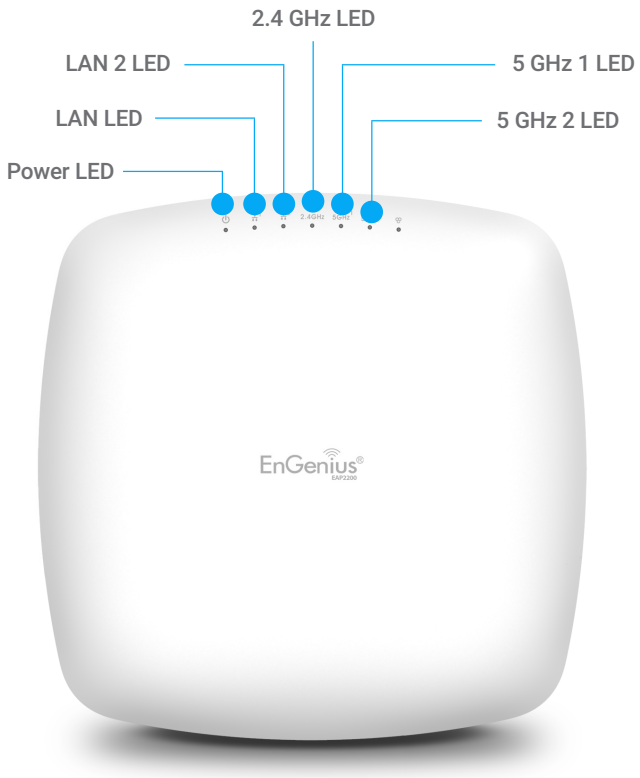
Package Contents
EAP2200
EAP2200 Tri-Band Indoor Access Point
Power Adapter (12V/1A)
T-Rail Mounting Kits
Ceiling & Wall Mount Screw Sets
Mounting Brackets
RJ-45 Ethernet Cable
Quick Installation Guide

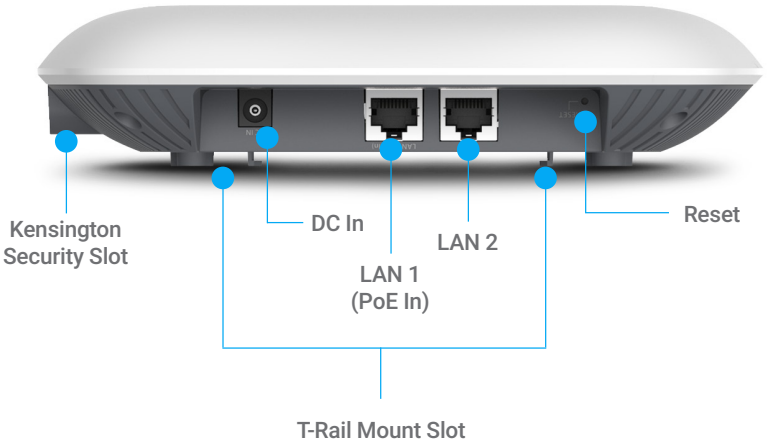
Package Contents continued
EAP1300/EAP1250
EAP1300 Indoor Access Point
Power Adapter (12V/1A)
T-Rail Mounting Kits
Ceiling & Wall Mount Screw Sets
Mounting Brackets
RJ-45 Ethernet Cable
Quick Installation Guide
EAP1300EXT
EAP1300EXT Indoor Access Point
Power Adapter (12V/1A)
(4) 5 dBi SMA Antennas
T-Rail Mounting Kits
Ceiling & Wall Mount Screw Kits
Mounting Brackets
RJ-45 Ethernet Cable
Quick Installation Guide

Certifications
FCC, CE

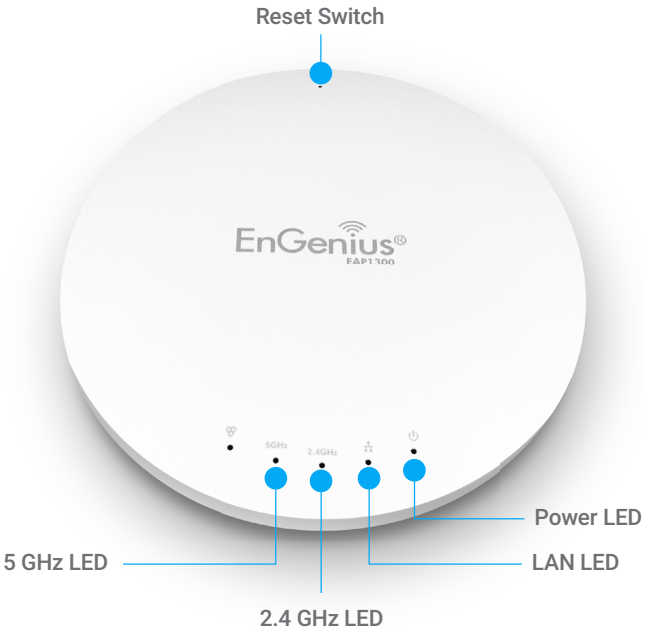
Warranty
1-Year Standard

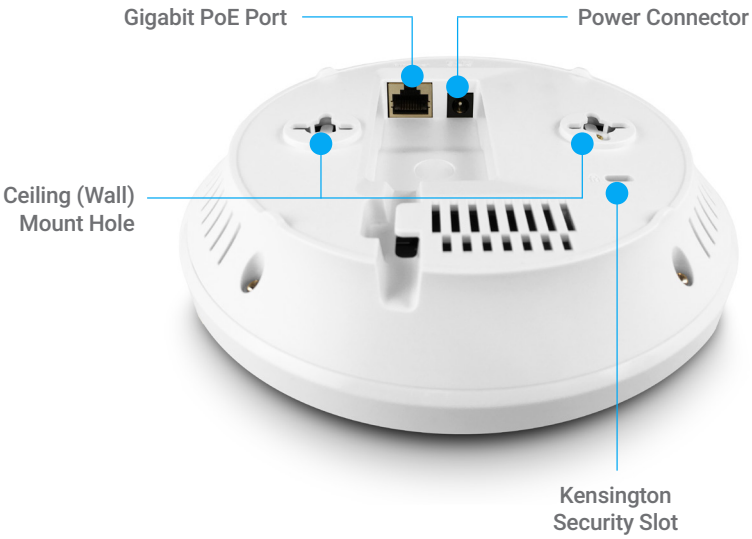
EAP2200 Indoor Access Point



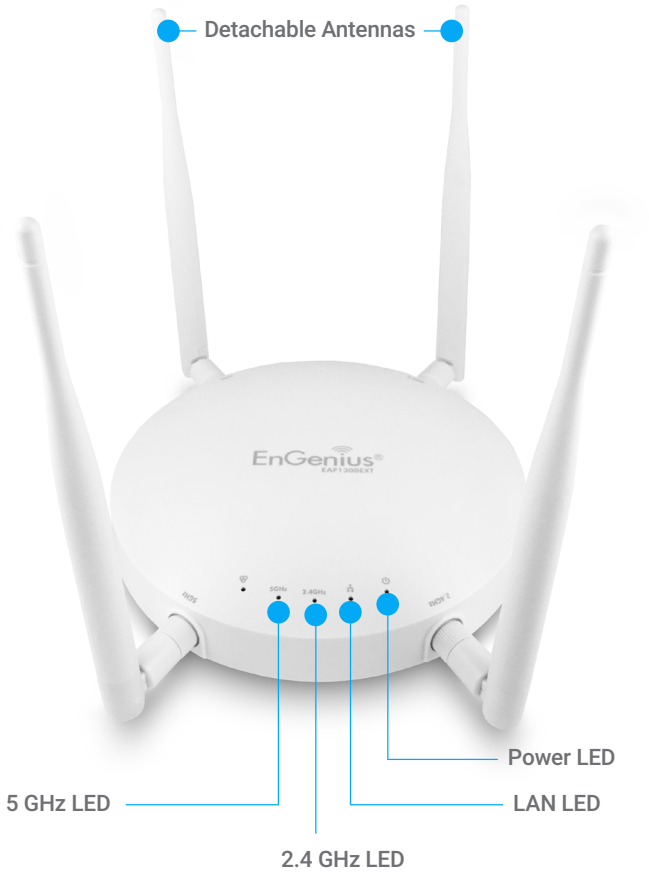


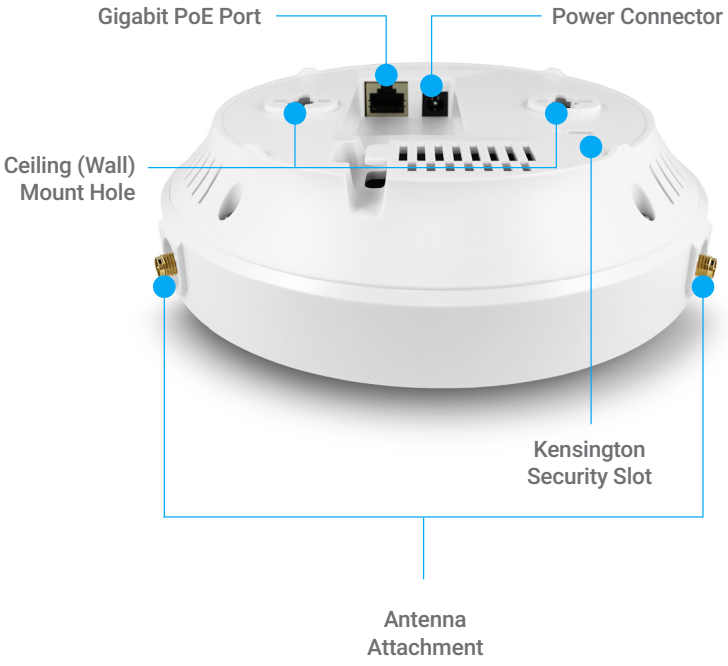
EAP1300 Indoor Access Point



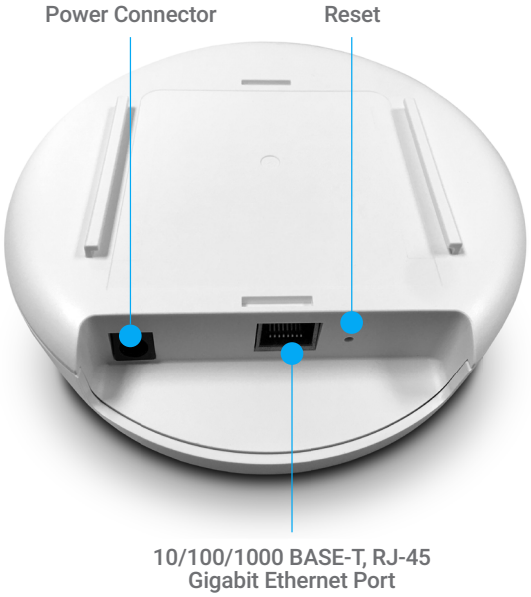


EAP1300EXT Indoor Access Point





EAP1250 Indoor Access Point



Maximum data rates are based on IEEE 802.11 standards. Actual throughput and range may vary depending on distance between devices or traffic and bandwidth load in the network.

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