802.11ac Wave 2 Enterprise Wi-Fi Access Point

4x4 MU-MIMO Technology with 1.733 Gbps Throughput

Weatherproof for Indoor / Outdoor Installations

Flexible Mounting Options for Ceiling, Pole, Tabletop, or Wall
Scalable Enterprise Wi-Fi Management

UniFi® is the revolutionary Wi-Fi system that combines enterprise performance, unlimited scalability, and a central management controller. The UniFi AP Flex HD access point has a small, sleek design and compact form factor that can easily be deployed indoors or outdoors. With flexible mounting options, the Flex HD can be deployed on tabletops, walls, poles, and ceilings*.

Easily accessible through the UniFi app (iOS or Android™) and any standard web browser, UniFi Controller is a powerful software engine ideal for high-density client deployments requiring low latency and high uptime performance.

Use the UniFi Controller software to quickly configure and administer an enterprise Wi-Fi network – no special training required. RF map and performance features, real-time status, automatic UAP device detection, and advanced security options are all seamlessly integrated.

* Requires optional ceiling mount accessory

Features

Save Money and Save Time  UniFi comes bundled with a non-dedicated software controller that can be deployed on an on-site PC, Mac, or Linux machine; in a private cloud; or using a public cloud service. You also have the option of deploying the compact UniFi Cloud Key with built-in software.

Powerful Hardware  The UniFi AP Flex HD features 802.11ac Wave 2 MU-MIMO technology.

Intuitive UniFi Controller Software  Configure and manage your APs with the easy-to-learn user interface.

Expandable  Unlimited scalability: build wireless networks as big or small as needed. Start with one (or upgrade to a three-pack) and expand to hundreds while maintaining a single unified management system.

Application Diagram
Scalable UniFi Network Controller

Management Capabilities
The UniFi Network Controller can provision UniFi devices, map out networks, and quickly manage system traffic. Important network details are logically organized for a simplified, yet powerful, interface.

Network Overview
From a single pane of glass, view network topology and configuration, real-time statistics, and debugging metrics. Monitor your network’s vitals and make on-the-fly adjustments as needed.

Deep Packet Inspection
Ubiquiti’s proprietary Deep Packet Inspection (DPI) engine includes the latest application identification signatures to track which applications (and IP addresses) are using the most bandwidth.

Detailed Analytics
The UniFi Network Controller provides configurable reporting and analytics to manage large user populations and expedite troubleshooting. Advanced search and sorting capabilities make network management more efficient.

Multi-Site Management
A single controller running in the cloud can manage multiple sites: multiple, distributed deployments and multi-tenancy for managed service providers. Each site is logically separated and has its own configuration, maps, statistics, guest portal, and administrator accounts.

RF Environment
Detect and troubleshoot nearby interference, analyze radio frequencies, and choose optimal AP placement. The auto-optimize feature configures the UDM with best practice settings, and the included radio AI capability optimizes channel selection using a genetic algorithm.

Advanced RF Performance
RF performance and configuration features include spectral analysis, airtime fairness, band steering, and cell-size tuning.

LAN/WLAN Groups
Create multiple LAN and WLAN groups and assign them to the respective UniFi devices and VLAN tags.

Predictive Maps
Upload a map or use Google Maps to represent the areas where your UniFi devices are located. Use the predictive map feature* to get a preview of coverage, and to help you avoid dead spots.

Wireless Uplink
Wireless Uplink functionality enables wireless connectivity between APs for extended range, wireless adoption of APs in their default state, and real-time changes to network topology.

Guest Portal/Hotspot
Configure custom settings, including authentication, Hotspot setup, and the option to use your own external portal server.

* version 5.6 or higher
802.11ac Technology

Initial 802.11ac Wave 1 SU-MIMO (Single-User, Multiple Input, Multiple Output) technology allows an earlier-generation AP, such as the UniFi AC Pro AP, to communicate with only one client at a time.

802.11ac Wave 2 MU-MIMO (Multi-User, Multiple Input, Multiple Output) technology allows a Wave 2 AP, such as the UniFi AP Flex HD, to communicate with multiple clients at the same time—significantly increasing multi-user throughput and overall user experience. The following describes a 4-client scenario:

MU-MIMO Assuming the same conditions, a Wave 2 AP provides up to 75% improvement overall over a Wave 1 AP. This improvement increases wireless performance and/or serves more clients at the same performance level.

4x4 Spatial Streams At any single time, a Wave 2 AP can communicate with the following MU-MIMO clients:
- four 1x1 clients
- two 2x2 clients
- one 2x2 client and two 1x1 clients
- one 3x3 client and one 1x1 client

A 4x4 Wave 2 AP delivers up to 33% greater performance than a Wave 1 AP that is 3x3 in both radio bands.

High-Density Scenarios

Both Wave 1 and Wave 2 APs offer 28 independent (non-overlapping) channels: three for the 2.4 GHz band and twenty-five for the 5 GHz band, including DFS channels.

When you use the 2.4 GHz band in a high-density location, you encounter self-interference and channel saturation.

When you use the 5 GHz band, you can deploy smaller cells (coverage areas), so you can support more clients in any cell that deploys more than one AP.

With the advantages of MU-MIMO technology and 4x4 spatial streams, the UniFi AP Flex HD can support more than triple the number of users than a typical Wave 1 AP.

In practice, the maximum number of users the UniFi AP Flex HD can support is limited by radio link airtime. This depends on the amount of traffic each device creates, types of devices, network configuration, and the presence of other APs on the same channel.

Flexible Mounting Options

Tabletop

Wall Mount

Pole Mount

Ceiling Mount (Optional Accessory)

When installing the UniFi AP Flex HD outdoors, it should be mounted vertically, right-side up. This prevents water and other elements from entering or damaging the device.
<table>
<thead>
<tr>
<th><strong>UAP-FlexHD</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
</tr>
<tr>
<td><strong>Networking Interface</strong></td>
</tr>
<tr>
<td><strong>Button</strong></td>
</tr>
<tr>
<td><strong>LED</strong></td>
</tr>
<tr>
<td><strong>Power Method</strong></td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
</tr>
<tr>
<td><strong>Max Power Consumption</strong></td>
</tr>
<tr>
<td><strong>Voltage Range</strong></td>
</tr>
<tr>
<td><strong>Operating Frequency</strong></td>
</tr>
<tr>
<td><strong>Max TX Power EIRP</strong></td>
</tr>
<tr>
<td><strong>Throughput</strong></td>
</tr>
<tr>
<td><strong>Antenna Gain</strong></td>
</tr>
<tr>
<td><strong>Wi-Fi Standards</strong></td>
</tr>
<tr>
<td><strong>Wireless Security</strong></td>
</tr>
<tr>
<td><strong>Mounting</strong></td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
</tr>
<tr>
<td><strong>Operating Humidity</strong></td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
</tr>
</tbody>
</table>