UniFi Network UAP Flex HD

DATASHEET



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 console. 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 OS Cosole is a powerful software engine ideal for high-density client deployments requiring low latency and high uptime performance.

Use the UniFi Network Application 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*

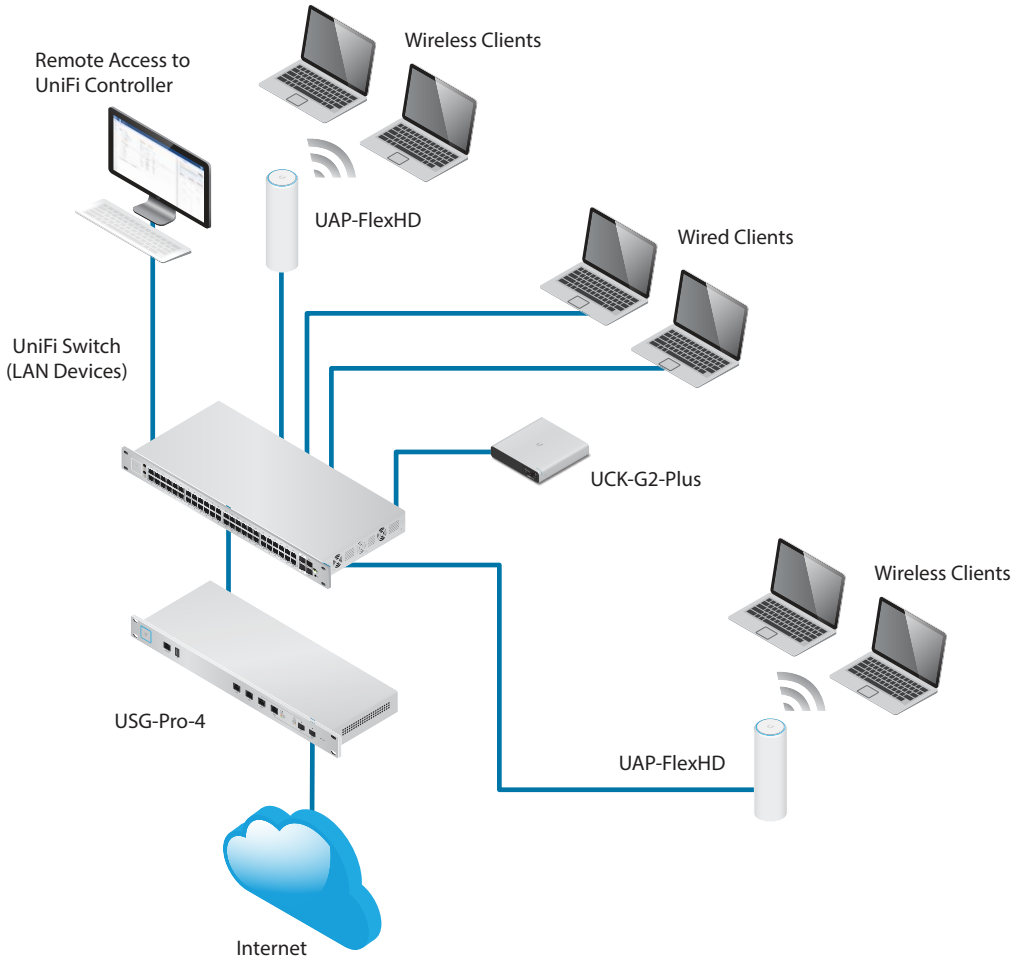
Features

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

Intuitive UniFi Network Application 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 Application

Management Capabilities

The UniFi Network Application 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 Application 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

UniFi OS 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 Console 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.

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*

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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.

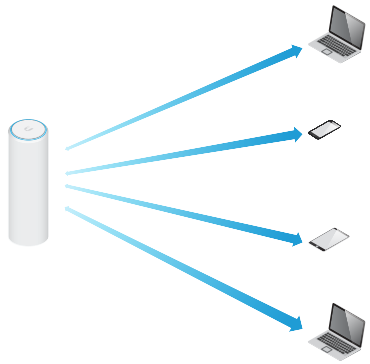
802.11ac Wave 2 MU-MIMO (Multi-User, Multiple Input, Multiple Output) technology allows a Wave 2 AP, such as the UniFi AP Flex HD, to communicate with multiple clients at the same time – significantly increasing multi-user throughput and overall user experience. The following describes a 4-client scenario:

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.

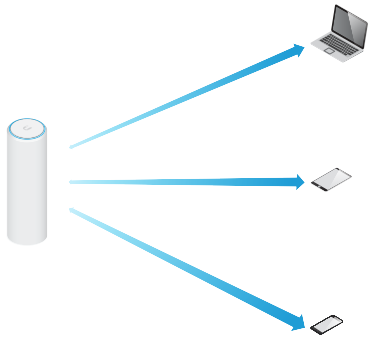
4x4 Spatial Streams At any single time, a Wave 2 AP can communicate with the following MU-MIMO clients:

- 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.



MU-MIMO with 1x1 clients: Each client radio of the Flex HD communicates with four 1x1 clients at a time



MU-MIMO with 2x2 and 1x1 clients: Each client radio of the Flex HD communicates with one 2x2 client and two 1x1 clients at a time

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.

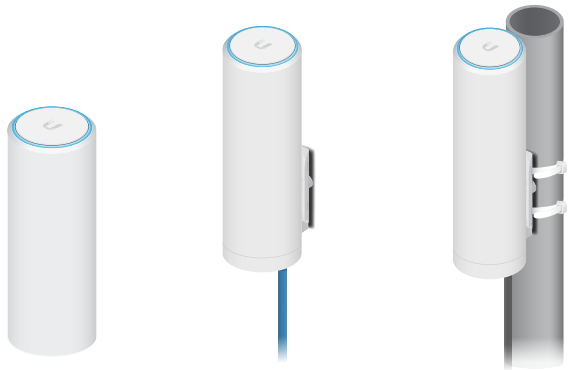
When you use the 2.4 GHz band in a high-density location, you encounter self-interference and channel saturation.

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.

UAP-FlexHD	
Dimensions	Ø 48.50 x 159.49 mm (1.90 x 6.28")
Weight	315 g (0.69 lb)
Networking Interface	(1) 10/100/1000 Ethernet Port
Button	Reset
LED	System / Status
Power Method	802.3af
Power Supply	802.3af 48V, 0.32A Gigabit PoE Adapter
Max Power Consumption	10.5W
Voltage Range	44 - 57VDC
Operating Frequency	2.4 GHz 5 GHz
Max TX Power EIRP 2.4 GHz 5 GHz	 23 dBm 26 dBm
Throughput 2.4 GHz 5 GHz	 300 Mbps 1733 Mbps
Antenna Gain 2.4 GHz 5 GHz	 1.6 dBi 4 dBi
Wi-Fi Standards	802.11 a/b/g/n/ac/ac-wave2
Wireless Security	WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2/WPA3, TKIP/AES)
Mounting	Ceiling/Pole/Tabletop/Wall
Operating Temperature	-30 to 70° C (-22 to 158° F)
Operating Humidity	5 to 95% Noncondensing
Certifications	CE, FCC, IC



Specifications are subject to change. Ubiquiti products are sold with a limited warranty described at: ui.com/support/warranty
The limited warranty requires the use of arbitration to resolve disputes on an individual basis, and, where applicable, specify arbitration instead of jury trials or class actions.
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