

# Mist AP21 Access Point



## High Performance Wi-Fi and Bluetooth® LE

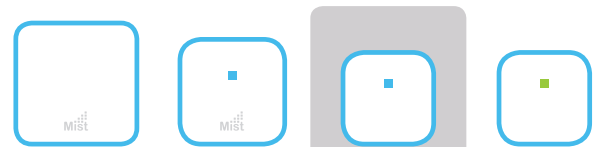
Mist built the first AI-driven wireless platform, designed specifically for the Smart Device Era. Mist's Learning Wireless LAN (WLAN) makes Wi-Fi predictable, reliable and measurable by providing unprecedented visibility into the user experience and by replacing time consuming manual IT tasks with proactive automation. In addition, Mist is the first vendor to bring Enterprise-grade Wi-Fi, Bluetooth® LE and IoT together to deliver personalized, location-based wireless services without requiring battery-powered beacons.

### The Mist Learning WLAN consists of the following components:

**Mist Marvis AI** - Patent-pending machine learning algorithms adapt in real-time to optimize the wireless user experience. In addition, Marvis uses AI to proactively automate IT operations, provide real-time alerts, and predict problems before they arise.

**Mist Cloud** - All wireless deployment, setup, operations, and insight are handled via the Mist cloud, which was designed to provide unprecedented visibility and control at web scale. A microservices architecture provides maximum agility when rolling out new features/services.

**Mist Access Points** - The AP21 (detailed here), AP41, and AP61 are high performance, enterprise-grade Access Points for 802.11ac Wave 2 Gigabit Wi-Fi and Bluetooth® Low Energy. The Mist BT11 is an enterprise-grade Access Point exclusively for Bluetooth® Low Energy. To view other datasheets, go to [www.mist.com/resources/datasheets/](http://www.mist.com/resources/datasheets/)



	AP61	AP41	AP21	BT11
<b>Deployment</b>	Outdoor	Indoor	Indoor	Indoor
<b>Wi-Fi</b>	802.11ac Wave2 4x4:4	802.11ac Wave2 4x4:4	802.11ac Wave2 2x2:2	-
<b>Wi-Fi Tri-Radio</b>	✓	✓	✓	-
<b>IoT Interface</b>	-	✓	-	-
<b>Antenna Options</b>	Internal/External	Internal/External	Internal	Internal
<b>Virtual Bluetooth® LE</b>	✓	✓	✓	✓
<b>Warranty</b>	1 Year	Limited Lifetime	Limited Lifetime	Limited Lifetime



The Mist cloud, featuring a micro-services architecture, and powered by Marvis AI

### Services available on the Mist Learning WLAN:

Wi-Fi Assurance Service	Virtual Network Assistant	BLE Engagement Service	BLE Asset Visibility Service
<ul style="list-style-type: none"> <li>Predictable &amp; Reliable Wi-Fi</li> <li>Proactive Operations</li> <li>Minimize Wi-Fi Costs</li> </ul>	<ul style="list-style-type: none"> <li>Natural language queries, data mining, and feature ranking</li> <li>Simplified troubleshooting</li> <li>Proactive notifications</li> </ul>	<p>Push location-based information to mobile users, such as turn-by-turn directions and messages.</p>	<p>Immediately locate high value resources + analyze traffic patterns.</p>

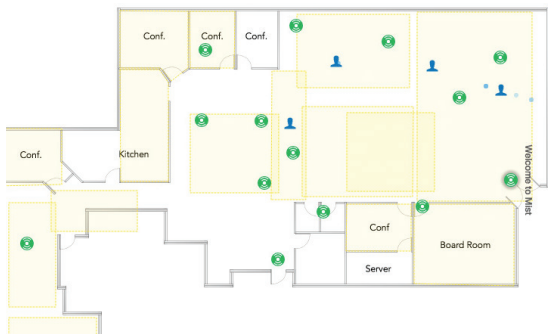
# Mist AP21 Features

## High performance Wi-Fi access

The AP21 delivers high performance wireless access with three 802.11ac Wave 2 radios that deliver up to 867 Mbps in the 5GHz band and up to 400 Mbps in the 2.4Ghz band.

## High accuracy indoor location

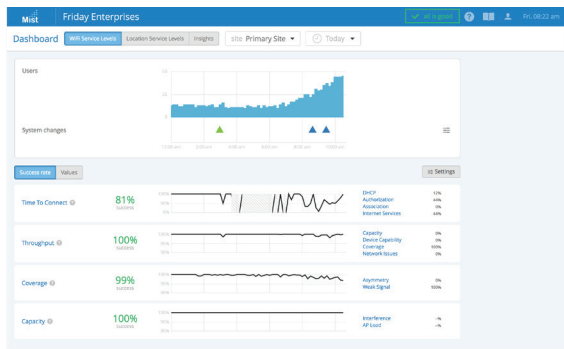
The AP21 has a 16-element Virtual Bluetooth® LE (vBLE) antenna array controlled from the Mist Cloud. Passive antennas enhance the power of a single transmitter and produce directional beams to accurately detect distance and location with 1 to 3 meter accuracy. With Mist's patented vBLE technology, you can deploy an unlimited amount of virtual beacons in your physical environment without requiring battery powered BLE beacons.



The AP21 works with the Mist cloud to provide high accuracy enterprise-grade Bluetooth® LE location services using virtual beacons

## Unprecedented insight and action

A dedicated dual band radio collects data for Mist's patent-pending Proactive Analytics and Correlation Engine (PACE), which leverages machine learning to analyze user experience, correlate problems and automatically detect the root cause of problems. These metrics are used to monitor service level expectations and provide proactive recommendations to ensure problems don't occur (or are fixed as quickly as possible when they do).



The AP21 collects data for the Mist cloud to use for Proactive Analytics and Event Correlation, as well as enforcing Service Level Expectations

## Dynamic packet capture

The Mist platform automatically captures packets and streams them to the cloud when major issues are detected. This saves IT time and effort and eliminates the need for truck rolls with sniffers.

Client Events	47 Total	31 Good	7 Neutral	9 Bad	
Association	Scanner 2	12:25:56:827 AM, Jun 30			
Fast BSS Assoc Failure	Scanner 2	12:25:48:458 AM, Jun 30			
IP Assigned	Scanner 2	12:25:47:305 AM, Jun 30			
DNS OK	Scanner 2	12:25:45:023 AM, Jun 30			
Default Gateway ARP Success	Scanner 2	12:25:42:837 AM, Jun 30			
DHCP Stuck - Bind Failure	Scanner 2	12:25:38:947 AM, Jun 30			
Authorization	Scanner 2	12:25:38:207 AM, Jun 30			
DNS OK	Scanner 2	12:25:38:104 AM, Jun 30			
Fast Roaming 802.11R	Scanner 2	12:25:37:098 AM, Jun 30			
Reassociation	Scanner 2	12:25:36:098 AM, Jun 30			

Reason	Server IP Address	BSSID	SSID	Subnet	Transaction ID
Failing DHCP DISCOVER from 5d:5d:25:10:10:02 on wlan1 with Xid 1234567728: No DHCP Request seen from client in response to the Offer from the Server	10.1.1.1	5d5d:25:10:10:02	Network 1	10.1.1.1/16	922349945

## Effortless, cloud-based setup and updates

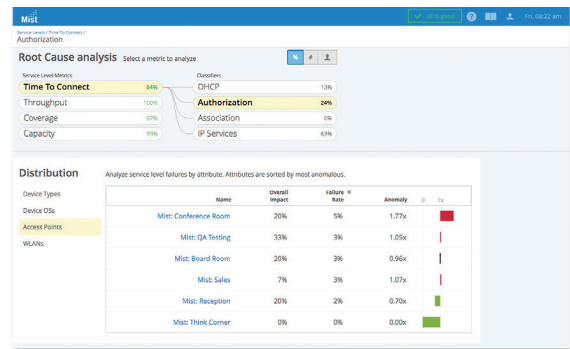
The AP21 automatically connects to the Mist cloud, downloads its configuration, and joins the appropriate network. Firmware updates are retrieved and installed automatically, ensuring that the network is always up to date with new features, bug fixes, and security updates.

## Dynamic debugging

Constantly monitor services running on the AP21 and send alerts whenever a service behaves abnormally. Dynamic debugging relieves IT of having to worry about an AP going offline or any services running on becoming unavailable

## Automatic RF optimization

The AP21's dual-band scanning mode continuously scans the airspace for threats and interference. This ensures optimal performance under what could otherwise be challenging RF conditions. The AP21's dual-band sensor continuously scans the airspace for threats and interference.



# Mist AP21 Specifications

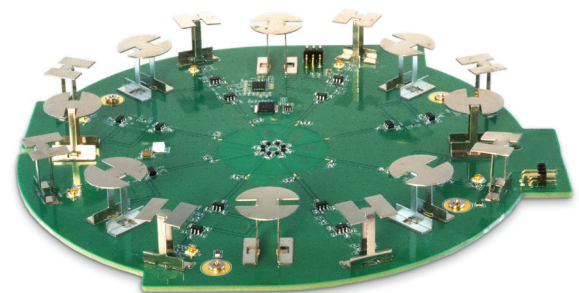
SPECIFICATIONS	AP21
<b>Gigabit Wi-Fi</b>	Wave 2
<b>Combined Highest Supported Data Rates</b>	1.3Gbps
<b>2.4Ghz</b>	2x2:2 802.11b/g/n/ac up to 400 Mbps data rate. 802.11ac for VHT capable Proprietary clients.
<b>5Ghz</b>	2x2:2 802.11a/n/ac Wave 2 up to 867 Mbps data rate.
<b>Dedicated Third Radio</b>	2.4 GHz & 5 GHz dual-band WIDS/WIPS, spectrum analysis & location analytics radio.
<b>Bluetooth®</b>	16 Directional Antenna + 1 Omni Antenna Bluetooth® Array
<b>Beam Forming</b>	Transmit Beamforming and Maximal Ratio Combining
<b>Power Options</b>	802.3af PoE 12V/3A DC power supply
<b>Powering Adaptor</b>	100-240VAC, 50-60 Hz, input All regions (output): 12V/3A DC output
<b>Dimensions</b>	203mm x 203mm x 40mm (7.99in x 7.99in x 1.57in)
<b>Weight</b>	0.636 kg (1.4 lbs)
<b>Operating Temperature</b>	0° to 40° C
<b>Operating Humidity</b>	10% to 90% maximum relative humidity, non-condensing
<b>Operating Altitude</b>	3,048m (10,000 ft)
<b>Electromagnetic Emissions</b>	FCC Part 15 Class B
<b>I/O</b>	1-10/100/1000BASE-T auto-sensing RJ-45 with PoE-in 1-10/100/1000BASE-T auto-sensing RJ-45 with 48Vdc PoE-out
<b>Indicators</b>	Multi-color status LED
<b>Compliance Standards</b>	UL 60950-1 CAN/CSAC22.2 No. 60950-1 FCC Part 15.247, 15.407, 15.107, and 15.109 RSS247 ICES003 (Canada)

I/O PORTS & ACCESSORIES	
<b>Reset</b>	Reset to the factory default settings
<b>12VDC</b>	Support for the 12VDC power supply recommended by Mist
<b>Eth1</b>	10/100/1000 BaseT RJ45 interface
<b>Eth0+PoE</b>	10/100/1000 BaseT RJ45 interface that supports 802.3af/802.3at PoE PD
<b>Brackets</b>	AP41BR1 (T-Bar) BT11BR1 (Dry-wall)
<b>Kensington Lock</b>	Supported

ORDERING INFORMATION	
<b>US/FCC Domain</b>	AP21-US (Internal Antenna)
<b>Rest of the World</b>	AP21-WW (Internal Antenna)



Mist AP21 Access Point



Mist Omni-Directional Bluetooth® Antenna Array