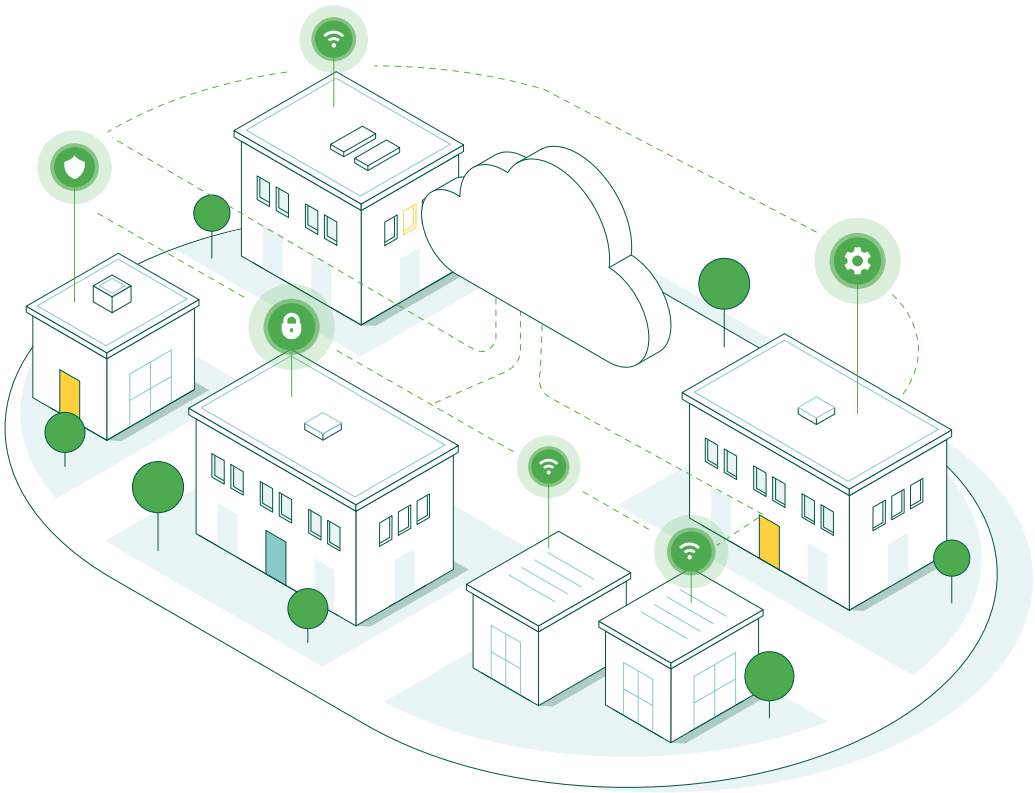
Meraki

FAMILY DATASHEET

Meraki Wireless Cloud-Managed Wireless Access Points

Overview

The Cisco Meraki wireless series is an enterprise-grade line of cloud-managed WLAN access points (APs) that leverage the award-winning Cisco Meraki cloud-managed architecture to provide powerful and intuitive centralized management, while eliminating the cost and complexity of traditional on-site wireless controllers. Meraki wireless APs are designed for challenging enterprise environments characterized by high-performance hardware, multiple radios, and advanced software features with proven scale and reliability (99.9 cloud SLA) to support the most demanding use cases.



Centralized cloud management

The Meraki cloud-managed architecture allows users to seamlessly manage campus-wide Wi-Fi deployments and distributed multi-site networks with zero-touch access point provisioning, network-wide visibility and control, self-learning RF optimization, seamless firmware updates, and more. With an intuitive browser-based user interface, Meraki WLAN configures in minutes without training or dedicated staff, offering scalability with templates. Adding new sites to a network takes minutes, not hours or days, and there's no need to train additional staff to monitor or manage the remote networks. Meraki devices are self-provisioning, enabling large campus and multi-site deployments without on-site IT. Learning from billions of touchpoints, AI and data-powered Meraki Health empowers customers with the data they need to stay informed and the context they need to make decisions.

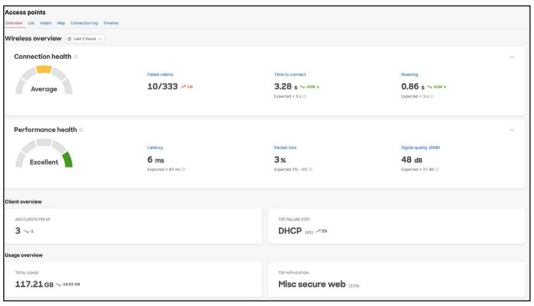
Class-leading enterprise features

Meraki cloud-managed wireless access points come equipped with industry-leading features that make them ideal for demanding enterprise deployments:

- Self-configuring plug-and-play deployment
- 802.11ax MU-MIMO with up to eight spatial streams built for voice and video
- Dedicated radio for security and RF optimization with integrated spectrum analysis (indoor models)
- Advanced security to protect against malware, ransomware, and C2 callbacks with Umbrella integration
- Integrated intrusion detection and prevention system (WIDS/WIPS)
- Intelligent firmware upgrades that minimize downtime
- AI/ML-powered analytics for root cause analysis and Wi-Fi troubleshooting
- Advanced application visibility with Cisco Network-Based Application Recognition (NBAR)
- Flexible group policy engine for creating and applying application-aware policies by network, device type, and end user
- Wi-Fi personal network (WPN) on any shared network (dorms, senior living, hotel rooms, etc.)
- Integrated Bluetooth® IoT radio
- IoT ready (ESL integration)
- Self-healing, zero-configuration mesh
- Role-based administration and automatic, scheduled firmware upgrades delivered over the web
- Email and text message alerts upon power loss, downtime, or configuration changes
- FIPS-140-2 compliant, IPv6 compatible, WFA-certified APs

Cloud-managed network assurance

Meraki Health



Meraki Health is a suite of tools and analysis to assist wireless administrators by providing each client's and access point's unique perspective of connectivity to the WLAN, enabling IT organizations to achieve faster issue remediation, maximize uptime, and optimize performance.

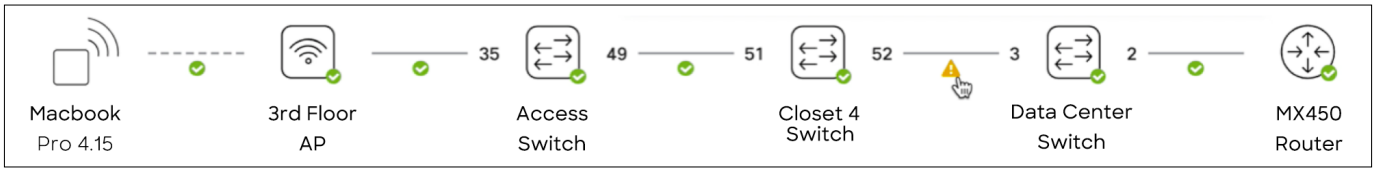
By ingesting data from a complete network infrastructure platform, the Meraki Health heuristics engine rapidly identifies anomalies impacting wireless end users' experiences across every stage of client connectivity—association, authentication, IP addressing, and DNS availability—for rapid root- cause analysis and response.

Global Scalability

Using Meraki Health, immediate visibility is provided to identify problematic APs and clients, gain actionable insights to pinpoint stages of failure, and determine if users are able to access the network. Remotely identify problematic devices anywhere across a campus or thousands of separate geographical sites and access built-in live troubleshooting tools. Globally apply network data collection to extract insights and make configuration changes at scale to optimize Wi-Fi performance.

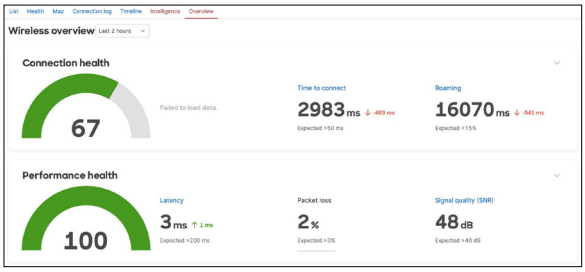
Analytics

Rich analytics ensure performance levels with color-coded historical metrics—signal quality, client count, wireless latency, channel utilization, and data rates—allowing for time-based correlation to significant events. Real-time analytics are provided for specific access points as well as individual wireless clients. Client timelines include automated root-cause identification and suggested remediation for client connectivity failures.



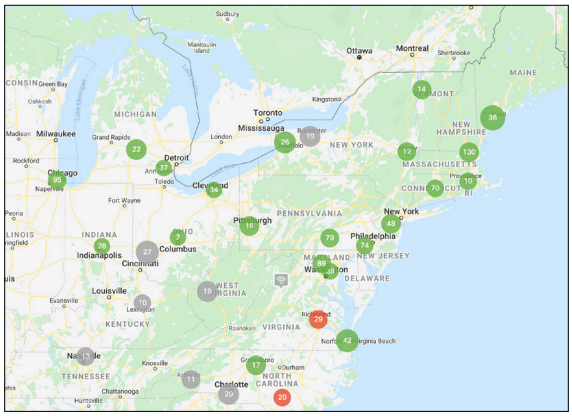
Network-wide visibility

Visibility and status of the entire network is provided when combining Meraki access poin ts with Meraki switches and routers. The end-to-end network infrastructure snapshot shows client connectivity failures and metrics that would dictate the health of a connection or device along the path to the network's layer 3 gateway. With a reduction in reactive troubleshooting and an increase in proactive and predictive network management, client, application, and service performance can be assured.



Rapid Deployment and Scalability

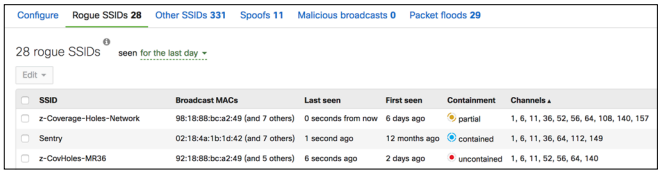
The Meraki cloud-managed architecture enables plug-and-play branch deployments and provides centralized visibility and control across any number of distributed locations. Since Meraki MR series APs are managed entirely through the Meraki web-based dashboard, configuration and diagnostics can be performed remotely just as easily as on-site, eliminating costly field visits. Each device downloads its configuration via Meraki cloud, applying your network and security policies automatically so you don't have to provision them on-site.



MULTI-SITE MANAGEMENT

Dedicated Radio

Meraki wireless APs feature a radio dedicated to full-time scanning, rogue AP containment, and automatic RF optimization. With Air Marshal, it is possible to set up a real-time wireless intrusion detection and prevention system (WIDS/WIPS) with user-defined threat remediation policies and intrusion alarms, enabling secure wireless environments without complex setup or systems integration.



AIR MARSHALL: REAL-TIME WIRELESS INTRUSION

Automatic cloud-based RF optimization

All Meraki Wireless Access Points feature sophisticated and automated RF optimization, eliminating the need for the dedicated hardware and RF expertise typically required to tune a wireless network. The RF data collected by the dedicated third radio is continuously fed back to the Meraki cloud. This data is then used to automatically tune the channel selection, transmit power, and client connection settings for optimal performance under even the most challenging RF conditions.

Auto RF eliminates the need for manual RF configuration by scanning the environment for utilization, interference, and other metrics, and computing the optimal channel and power settings for every AP in the network. Meraki WLANs are fully HIPAA and PCI compliant.

Integrated enterprise security

Meraki Wireless Access Points feature integrated, easy-to-use security technologies to provide secure connectivity for employees and guests alike. Advanced security features such as AES hardware-based encryption and Enterprise authentication with 802.1X and Active Directory integration provide wired-like security while still being easy to configure. One-click guest isolation provides secure, Internet-only access for visitors. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

Built-in Guest Access with Analytics

Meraki cloud management provides the ability to customize and integrate splash pages onto each Meraki wireless access point, with options for click-through or sign-on splash using your own RADIUS server or the Meraki cloud-based RADIUS user database. The Meraki wireless series features a complete array of built-in captive portal tools, including a guest ambassador portal for new user sign-on, splash sign-in tracking, application blocking and traffic shaping, free and paid tiers of access, integrated credit card processing and prepaid code generation, and splash bypass for corporate-issued or recognized devices.

MR56

High-performance RF design

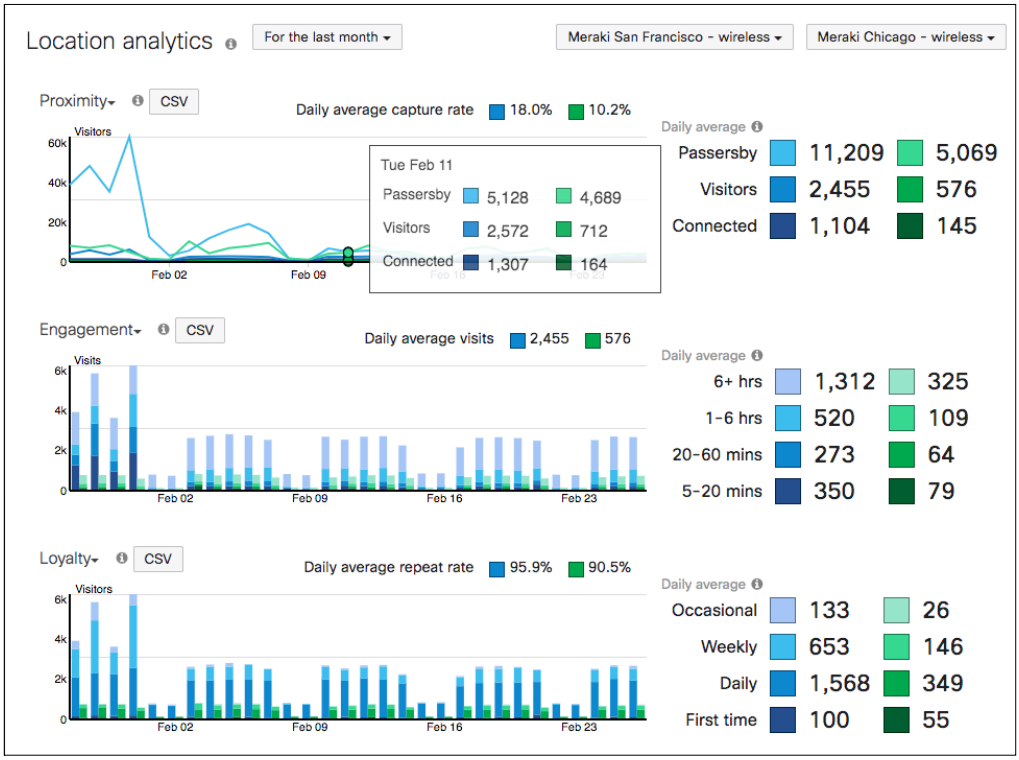
Every Meraki access point continuously and automatically monitors its surroundings to maximize Wi-Fi performance. By measuring channel utilization, signal strength, throughput, signals from non-Meraki APs, and non-Wi-Fi interference, Meraki APs automatically optimize Wi-Fi performance of individual APs and maximize system-wide performance.

Meraki APs have been deployed and proven in the most demanding environments, supporting more than 100 users per AP and collectively serving hundreds of Mbps of user traffic to thousands of devices. By eliminating traditional hardware controllers, Meraki also eliminates the performance bottleneck that often chokes high-density wireless deployments.

By measuring utilization from neighboring APs, detecting Wi-Fi signals from non-Meraki APs, and identifying non-Wi-Fi interference, Meraki APs continuously stay on top of changing and challenging conditions. Tools such as real-time spectrum analysis and live channel utilization deliver immediate information on the RF environment at any part of the network. Even in dynamic environments, Meraki networks automatically detect and adapt to interference from non-Wi-Fi sources.

Presence

Meraki wireless APs track probing MAC addresses from associated and non-associated clients. This data is exported in real time from the access points to Meraki cloud for analytics; information is then calculated and presented in the Meraki dashboard to display metrics such as user dwell time, repeat visits, and capture rate (people passing by vs. engaging with a site). This information can be used by retail, hospitality, and enterprise customers to understand foot traffic and visitor behavior across sites in order to facilitate optimization of opening hours, marketing campaigns, and staffing policies.



BYOD-ready out of the box

The number of user-owned devices connecting to networks increases every day. Meraki wireless APs feature built-in support for BYOD and make it easier than ever to securely track and support user-owned devices—without extra appliances, licenses, or complex VLAN configurations. Using integrated layer 7 fingerprinting, client devices are automatically identified and classified, letting you distinguish between iPads and iPhones, device operation systems, and even manufacturers. Device-specific policies can be automatically applied to restrict, quarantine, or throttle user-owned devices. Client fingerprinting, combined with a heuristics-driven reporting engine, allows you to generate detailed reports of BYOD clients that have connected, measure the bandwidth and applications they've accessed, and even see their percentage of total traffic. Bonjour forwarding facilitates seamless discovery of Apple devices across VLANs, rounding out a full BYOD-centric feature set.

Top operating systems

#	OS	# Clients ▾	% Clients	Usage	% Usage
1	Apple iPhone	843	38.5%	163.22 GB	7.8%
2	Mac OS X	495	22.6%	1.20 TB	59.0%
3	Apple iPad	168	7.7%	78.78 GB	3.8%
4	Apple iPod	167	7.6%	45.13 GB	2.2%
5	Windows 7	158	7.2%	304.96 GB	14.6%
6	Android	144	6.6%	13.77 GB	0.7%
7	Windows XP	59	2.7%	26.85 GB	1.3%
8	Windows Vista	44	2.0%	81.39 GB	3.9%
9	Apple iOS	31	1.4%	1.40 GB	0.1%
10	Mac OS X 10.6	28	1.3%	84.06 GB	4.0%

Mobile Device Management

Combine Meraki wireless access points with Meraki cloud-based mobile device management (MDM)—called Meraki Systems Manager—to monitor each of your organization's devices, showing useful metrics including client hardware/software information and recent location, and centrally manage your corporate devices with a great degree of granularity. Log in with remote desktop or command-line, push new applications, and remotely lock and erase devices. Meraki SM provides secure and seamless client onboarding by encouraging devices connecting to corporate Wi-Fi to enroll into Systems Manager and encrypting network traffic between a user's device and the access point.

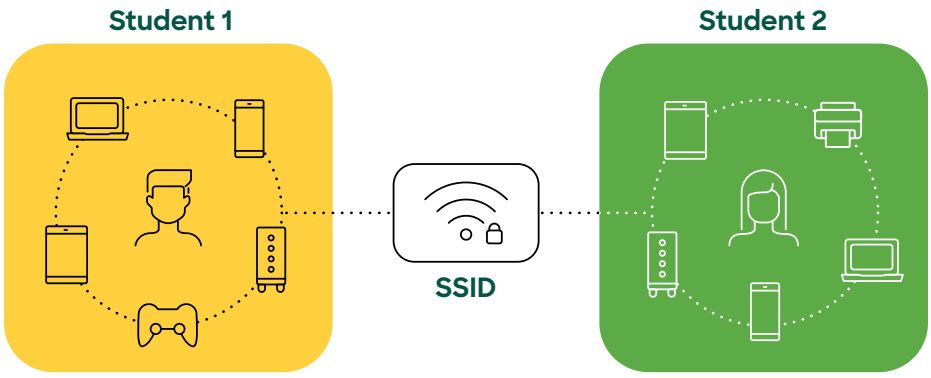
Auto-tunneling VPN technology

Leveraging the Meraki cloud architecture, site-to-site VPNs can be enabled via a single click without any command-line configurations or multistep key permission setups. Complete with IPsec encryption, deploy the following architectural setups within minutes:

- Teleworker VPN: Securely extend the corporate LAN to remote sites wirelessly using the MR series with your own server or a Meraki MX
- Site-to-site VPN: Multi-branch VPN with WAN optimization and content filtering (using Meraki MX security appliance)
- Secure roaming: Layer 2 and layer 3 roaming for large campus environments

Wireless Personal Network (WPN)

In shared networks, such as dormitories, residence halls, senior living facilities, shared office spaces, and hotels, Wireless Personal Network (WPN) offers a "home-like" Wi-Fi experience on any shared network by segmenting the wireless network on a per-user basis. In addition, WPN provides a contained environment to each user where discovery protocols like AirPlay allow users to discover only their own devices connected to an SSID shared by other devices. Even better, WPN allows for segmenting discovery protocols and unicast traffic on a single VLAN, thus eliminating the burden of configuring different VLANs per floor, room, or location and simplifying the network management.



WPN allows all user devices to authenticate to the SSID and communicate, creating a personal network

Wi-Fi 6E: A premium Wi-Fi experience

Wi-Fi 6 (802.11ax) introduced a number of enhancements over previous generations of Wi-Fi, including higher throughput and lower latency, as well as more efficient traffic management to address higher-density applications. Wi-Fi 6E takes wireless connectivity into the 6 GHz band, representing 1200 MHz of spectrum between 5.925 GHz to 7.125 GHz—more than twice the available capacity of the 2.4 and 5 GHz bands combined. This allows for wider channels (80 MHz and 160 MHz) enabling a range of higher bandwidth and latency-sensitive applications. Additionally, this spectrum will help ease congestion, contention, and degradation issues in the legacy 2.4 GHz and 5 GHz bands.

Wi-Fi 6E helps you scale your mission-critical network infrastructure to meet the needs of hybrid work, remote work, and smarter workspaces.

MR57

Key features of Meraki Wi-Fi 6E access points

- 6 GHz band offers interference-free spectrum, lower latency, and jitter
- Three client-serving radios operating in 2.4 GHz, 5 GHz, and 6 GHz, offering up to 7.8 Gbps of throughput
- 7 times more 80 MHz channels (14) compared to 5 GHz (2)*
- WPA3 security
- IoT ready with Bluetooth® Low Energy and USB support

*For regions enabling 1200 MHz of spectrum in 6 GHz band

Flex (XOR) radio

The MR57 and CW9166 access points support a software-defined flex radio which can be operated in either 5 GHz or 6 GHz mode. This provides an option to operate the AP in either a dual 5 GHz configuration or a true tri-band configuration. Tri-band configuration unlocks the use of the new spectrum in the 6 GHz frequency range, which provides additional channels to increase throughput and reduce interference and noise from legacy devices.

High availability/resilience

The flagship MR57 features dual configurable Ethernet ports that can support 1, 2.5, or 5 Gbps, with link aggregation between both network ports for redundancy and high availability.

Flexible deployment options - Catalyst 9100 series wireless access points

The Catalyst 9100 series wireless access points offer the flexibility to choose between Meraki Management Mode (cloud-managed) and DNA Management Mode (on-premises management), ensuring network investment protection while unlocking the power of hybrid work. Pairing the Cisco Catalyst 916x series access points with the Meraki cloud platform gives organizations a unified IT experience for network monitoring and management.

Enterprises that have attached Catalyst 916x series access points to an on-premises controller can migrate those devices to full Meraki management at any time to gain the benefits of Meraki cloud management.

Product options: Wi-Fi 6E indoor models




	CW9162	CW9164	CW9166	MR57
Usage	General purpose Wi-FI 6E AP	High-performance Wi-Fi 6E AP	Ultra-high-performance Wi-Fi 6E AP	Ultra-high-performance Wi-Fi 6E AP
Radio specification	Tri-band (2.4 GHz, 5 GHz,& 6 GHz)			
Spatial streams	2×2: 2 MU-MIMO	2×2: 2 MU-MIMO (2.4 GHz) 4×4: 4 MU-MIMO (5 GHz & 6 GHz)	4×4: 4 MU-MIMO	4×4: 4 MU-MIMO
WIDS/WIPS	Tri-band			
Bluetooth© Low Energy/ IoT Radio	✓			
Aggregate frame rate	3.9 Gbps	7.49 Gbps	7.78 Gbps	7.78 Gbps
Interface	One multigigabit 2.5G		1x multigigabit 5G	Dual multigigabit 5g interface
USB 2.0	4.5W			9.0W
Management	Cloud-managed with Meraki cloud Managed on premises with Cisco DNA Center			Cloud-managed with Meraki cloud
Power*	802.3af PoE (CW9162 only) -802.3at/bt PoE+ and UPoE compliant or DC power adapter			
Performance features	UL/DL-OFDMA, TWT support, BSS coloring, SU-MIMO, UL/DL MU-MIMO support Maximal ratio combining (MRC) and beamforming 20 and 40 MHz channels (802.11n); 20, 40, 80 MHz channels (802.11ac wave 2); 20, 40, 80, and 160 MHz channels (802.11ax) Up to 1024-QAM on all three: 2.4 GHz, 5 GHz, and 6 GHz bands, Packet aggregation			
Dimensions	7.8 in x 7.8 in x 1.7 in (200mm x 200mm x 43mm)	9.5 in x 9.5 in x 2.2 in (241.3 mm x 241.3 mm x 56.9 mm)	9.5 in x 9.5 in x 2.2 in (241.3 mm x 241.3 mm x 56.9 mm)	10.2 in x 10.2 in x 2.2 in (260 mm x 260 mm x 56 mm)
Weight	2.05 lb (0.93 kg)	3.54 lb (1.60 kg)	3.54 lb (1.60 kg)	3.75 lb (1.7 kg)

Product options: indoor Wi-Fi 6



	MR28	MR36	MR36(H)
Usage	Entry Level, Basic Coverage	Entry Level, High performance	High performance optimized for in room deployments
Radio specification	Dual band (2.4 GHz & 5GHz)		
Spatial streams	2×2:2		
WIDS/WIPS	No	Yes	
Bluetooth© Low Energy/ IoT Radio	Yes		
Aggregate frame rate	1.5 Gbps		
Interface	1x Gigabit Ethernet		1x Gigabit Ethernet (RJ45) with 802.3af Power over Ethernet output 2x Gigabit Ethernet (RJ45) outputs 1x Passthrough port (non-managed).
Power*	802.3af PoE or DC power adapter		802.3at power w/ 802.3af PoE out/802.3af compatible w/o PoE out
Performance features	UL/DL-OFDMA, TWT support, BSS coloring SU-MIMO, UL/DL MU-MIMO support Maximal ratio combining (MRC) and beamforming Priority voice, power save (802.11e/WMM) Hardware-accelerated encryption Band Steering		
Dimensions	7.95 in x 4.88 in x 1.02 in (20.2 cm x 12.4 cm x 26cm	6.1 in x 4.33 in x 0.9 in (15.5 cm x 11 cm x 2.3 cm)	6.1 in x 4.3 in x 0.9 in (15.5 cm x 11.0 cm x 2.3 cm)
Weight	9.6 oz (.27 kg)	17.35 oz (0.5 kg)	

Product options: indoor Wi-Fi 6



	MR44	MR46(E)	MR56
Usage	Medium density, high performance	High-density coverage and performance	Ultra-high density and performance
Radio specification	Dual band (2.4 GHz & 5GHz)		
Spatial streams	2×2:2 + 4×4:4	4×4:4	4×4:4 + 8×8:8
WIDS/WIPS	Yes		
Bluetooth© Low Energy/ IoT Radio	Yes		
Aggregate frame rate	2.69 Gbps	3.5 Gbps	5.38 Gbps
Interface	1x Gigabit Ethernet	1x multigigabit 2.5G	1x multigigabit 5G
Power*	802.3af/at PoE or DC power adapter	802.3at PoE or DC power adapter	
Performance features	UL/DL-OFDMA, TWT support, BSS coloring SU-MIMO, UL/DL MU-MIMO support Maximal ratio combining (MRC) and beamforming Band Steering Hardware-accelerated encryption Priority voice, power save (802.11e/WMM) Removable antennas (MR46E)		
Dimensions	12.05 in x 5.06 in x 1.74 in (30.6 cm x 12.84 cm x 4.43 cm)	12.05 in x 5.06 in x 1.74 in (30.6 cm x 12.84 cm x 4.43 cm) (MR46) 9.84 in x 4.72 in x 1.42 in (30.72 cm x 15.62 cm x 3.49 cm) (MR46E)	12.83 in x 5.54 in x 1.76 in (32.6 cm x 14.08 cm x 4.47 cm)
Weight	26.07 oz (0.74 kg)	28.21 oz (0.8 kg) (MR46) 29.98 oz (0.85 kg) (MR46E)	35.27 oz (1 kg)

Product options: Outdoor Wi-Fi 6

	MR76	MR78	MR86
Usage	Ruggedized high performance	Basic ruggedized coverage	Ruggedized high-density, high-performance
Radio specification	Dual band (2.4 GHz & 5GHz)		
Spatial streams	2×2:2		4×4:4
WIDS/WIPS	Yes	No	Yes
Bluetooth© Low Energy/ IoT Radio	Yes		
Aggregate frame rate	1.5 Gbps		3.5 Gbps
Interface	1x Gigabit Ethernet Four External N-type Connectors*	1x Gigabit Ethernet	1x multigigabit 2.5G
Power*	802.3af POE	802.3af PoE or DC power adapter	802.3at POE
Performance features	Rugged industrial design Water and dust sealed (IP67 rated) UL/DL-OFDMA, TWT support, BSS coloring SU-MIMO, UL/DL MU-MIMO support Maximal ratio combining (MRC) and beamforming Band Steering Hardware-accelerated encryption Priority voice, power save (802.11e/WMM)		
Dimensions	11.81 in x 6.02 in x 2.16 in (30.0 cm x 15.3 cm x 5.5 cm)	6.1 in x 4.33 inx 0.9 in (15.5 cm x 11 cm x 2.3 cm)	11.81 in x 6.02 in x 2.16 in (30.0 cm x 15.3 cm x 5.5 cm)
Weight	47.27 oz (1.34 kg)	17.35 oz (0.5 kg)	52.91 oz (1.5 kg)

*Antennas sold separately

Licensing

	License	Description
All Cisco Meraki MR access points	LIC-ENT-1YR	Cisco Meraki MR Enterprise License and Support, 1 Year
	LIC-ENT-3YR	Cisco Meraki MR Enterprise License and Support, 3 Year
	LIC-ENT-5YR	Cisco Meraki MR Enterprise License and Support, 5 Year
	LIC-ENT-7YR	Cisco Meraki MR Enterprise License and Support, 7 Year
	LIC-ENT-10YR	Cisco Meraki MR Enterprise License and Support, 10 Year
	LIC-MR-ADV-1Y	Cisco Meraki MR Advanced License and Support, 1 Year
	LIC-MR-ADV-3Y	Cisco Meraki MR Advanced License and Support, 3 Year
	LIC-MR-ADV-5Y	Cisco Meraki MR Advanced License and Support, 5 Year
	LIC-MR-UPGR-1Y	Cisco Meraki MR ENT to ADV Upgrade License, 1 Year
	LIC-MR-UPGR-3Y	Cisco Meraki MR ENT to ADV Upgrade License, 3 Year
	LIC-MR-UPGR-5Y	Cisco Meraki MR ENT to ADV Upgrade License, 5 Year

To learn more, visit Meraki.com