MR Cloud-Managed Wireless Access Points

OVERVIEW

The Meraki MR series is the world's first enterprise-grade line of cloud-managed WLAN access points. Designed for challenging enterprise environments, the MR access points use advanced Wi-Fi 6 technologies including MU-MIMO, OFDMA, beam forming and channel bonding to deliver the throughput and reliable coverage required by demanding business applications.

CENTRALIZED CLOUD MANAGEMENT

The award-winning Cisco Meraki cloud management architecture provides powerful and intuitive centralized management, while eliminating the cost and complexity of tranditional on-site wireless controllers. Seamlessly manage campus-wide Wi-Fi deployments and distributed multi-site networks with zero-touch access point provisioning, network-wide visibility and control, cloud-based RF optimization, seamless firmware updates and more. With an intuitive browser-based user interface, Meraki WLAN configures in minutes without training or dedicated staff. 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 self-provision, enabling large campus and multi-site deployments without on-site IT.

## CLASS-LEADING ENTERPRISE FEATURES

The MR series comes 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

- Integrated enterprise security and guest access

- Dedicated radio for security and RF optimization with integrated spectrum analysis (indoor models)

- Integrated intrusion detection and prevention system (WIDS/WIPS)

- Self-learning application-aware traffic analytics engine

- Flexible group policy engine for creating and applying application-aware policies by network, device-type, and end-user

- Integrated Bluetooth IoT radio

- Self-healing, zero-configuration mesh

- Role-based administration and automatic, scheduled firmware upgrades delivered over the web

- E-mail and text message alerts upon power loss, downtime, or configuration changes

RAPID DEPLOYMENT AND SCALABILITY

Built from the ground up, for multi-site networks, Meraki access points have revolutionized distributed branch wireless networking. Zero-touch deployments, multi-site visibility and control, and automated alerts make deploying, securing, and centrally managing branch networks a breeze.

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's cloud, applying your network and security policies automatically so you don't have to provision them on-site.
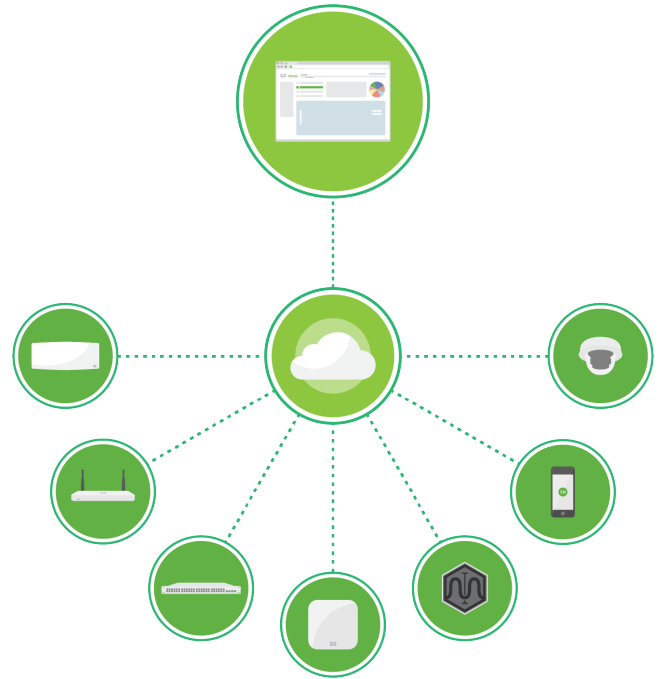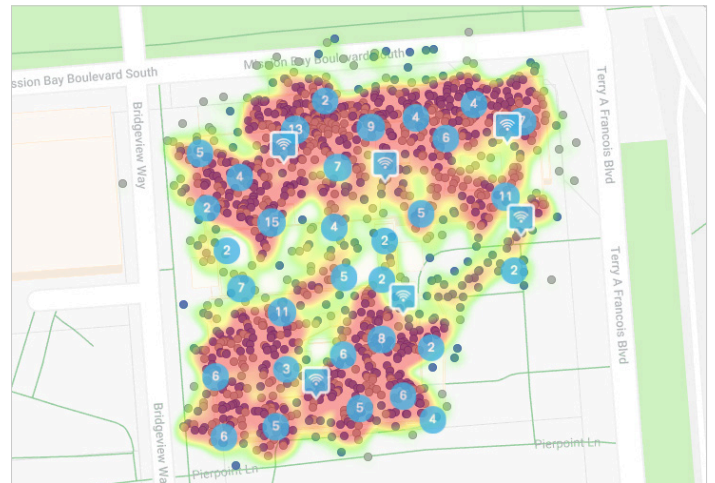
HIGH PERFORMANCE RF DESIGN

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 Megabits per second 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.

Real-time and historical metrics ensure maximum system-wide performance. Wireless channels, AP output power, and client connection settings are automatically adapted to changing performance and interference conditions, eliminating the need for tedious manual adjustment of dozens of independent parameters.

Mesh networking, included in every Meraki AP, extends coverage to hard-to-wire areas and creates a self-healing network that is resilient to cable and switch failures, continuing to operate despite failures or configuration changes in the rest of the network, without the need for manual configuration or optimization.
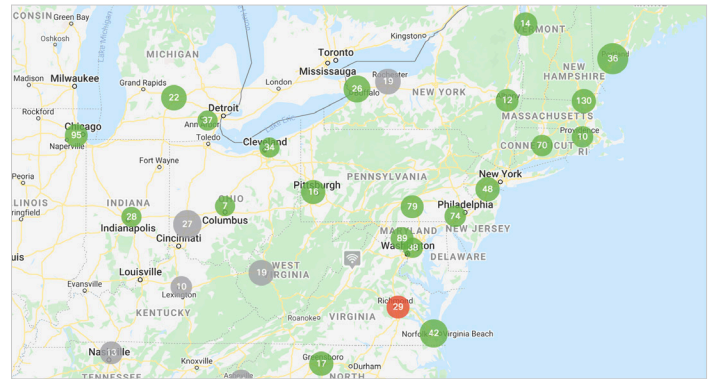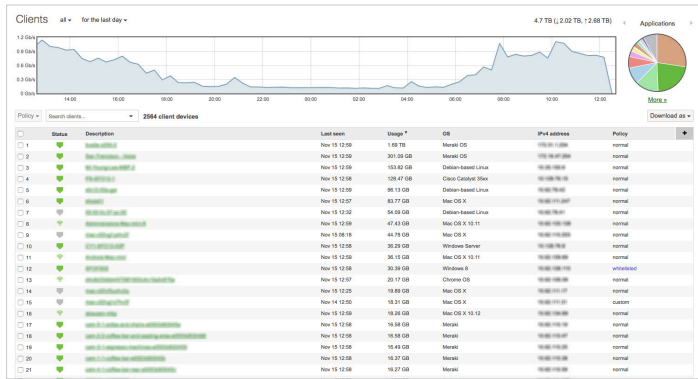
User analytics and traffic shaping

Multi-site management
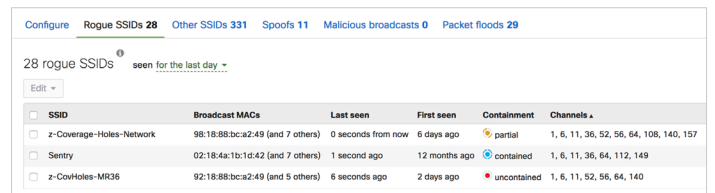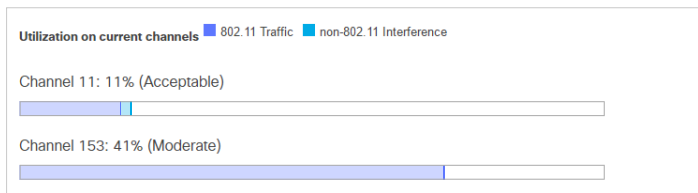
Live troubleshooting tools

Air Marshal: Real-time wireless intrusion prevention system

ENTERPRISE SECURITY AND A DEDICATED RADIO

The MR series comes equipped with complete out-of-the-box enterprise class security. Segment wireless users, applications, and devices; secure your network from attacks and enforce the right policies for each class of users. A built-in stateful policy l3/L7 firewall, 802.1X/RADIUS support, and native Active Directory integration deliver fine-grained access control, while a guest access firewall provides secure, Internet-only guest Wi-Fi in just one click. Integrated network access control (NAC) provides end-user anti-virus scanning for accurate client device posture assessment to protect your wired and wireless network against virus infections.

Indoor 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. 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.

Meraki MR APs integrate with Cisco Umbrella™ (formerly OpenDNS) offering a cloud-delivered first line of defense against security threats like malware, ransomware, and phishing. Cisco Umbrella, the industry's first secure Internet gateway, protects clients' devices at the DNS layer. The integration ensures DNS blind spots are proactively monitored and not exposed to malicious security threats.

Cisco ISE with Change of Authorization (CoA) provides secure access for authorized guests, oversight on guest onboarding, and identifies potential BYOD security threats.

BUILT-IN GUEST ACCESS

Meraki cloud management provides the ability to customize and integrate splash pages onto each Meraki MR 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 MR 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.

PRESENCE

The Meraki MR series tracks probing MAC addresses from associated and non-associated clients. This data is exported in real-time from the access points to Meraki's 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 an optimization of opening hours, marketing campaigns, and staffing policies.
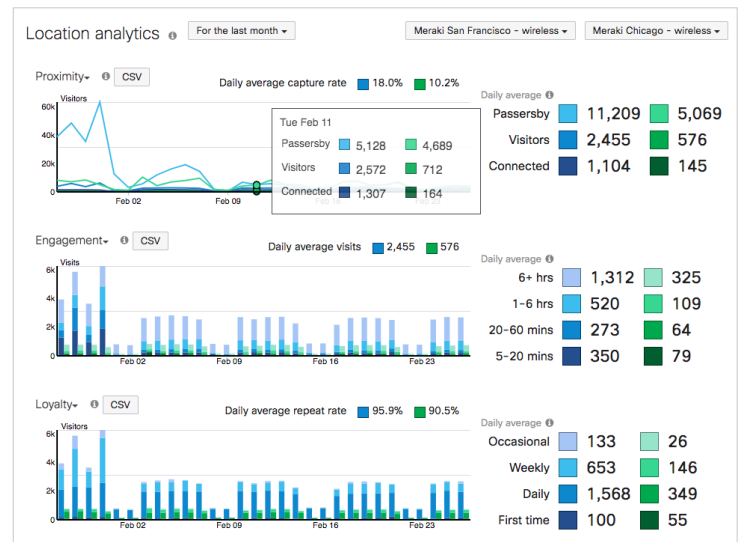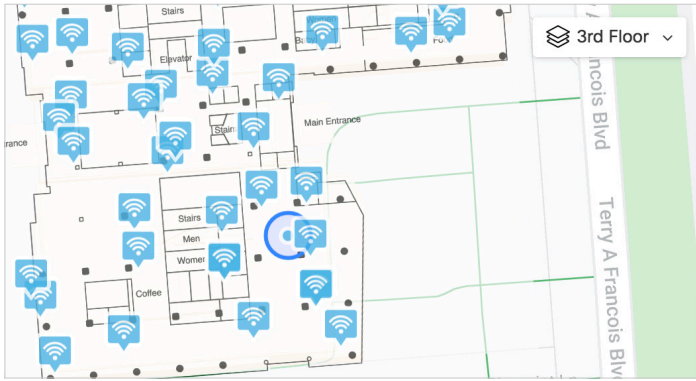

Presence analytics (for non-associated clients)

BYOD-READY, OUT OF THE BOX

User-owned devices have exploded onto networks everywhere, with new iPads, Androids, and smartphones connecting every day. Meraki MR series APs feature built-in support for BYOD and make it easier than ever to securely track and support user-owned iPads, tablets, smartphones, and laptops—without exta appliances, licenses, or complex VLAN configurations. Using integrated Layer 7 client fingerprinting, client devices are automatically identified and classified, letting you distinguish between iPads and iPohnes, 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 allow 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.

Combine Meraki MR 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.

Client location tracking

Device reporting and analytics

Auto-tunneling VPN technology

Leveraging the Meraki cloud architecture, site-to-site VPNs can be enabled via a single click without and command-line configurations or multi-step key permission setups. Complete with IPsec encryption, deploy the following architectural setups within minutes:
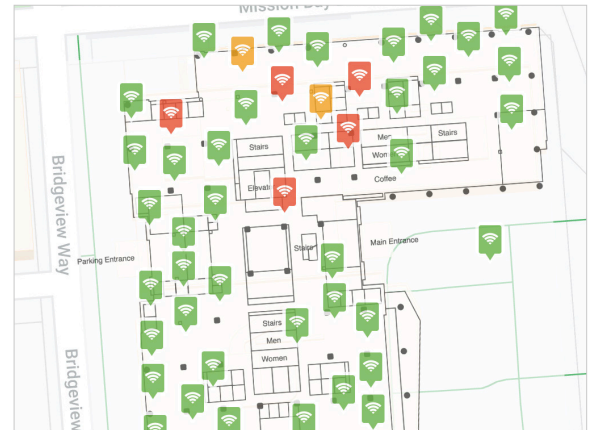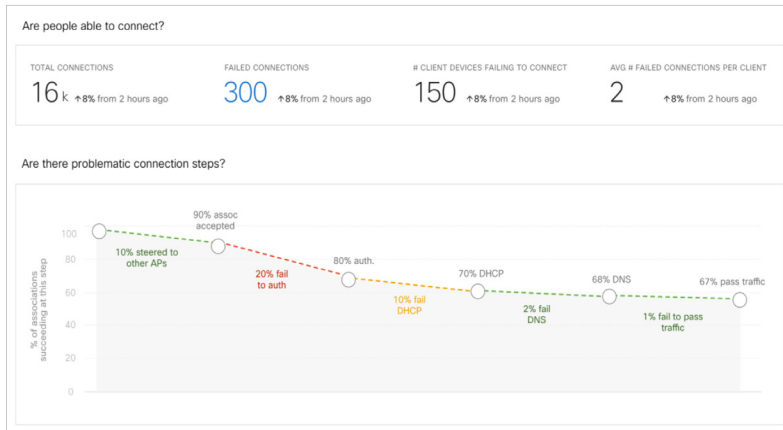
- Teleworker VPN: Securely extend the corporate LAN to remote sites wirelessly, using the MR series with your own server or a Meraki MX

- 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

Distributed packet processing

Meraki devices execute packet processing at the edge. Each wireless access point features a high performance CPU that enforces Layer 3-7 firewall policies, applicaiton QoS, network access control (NAC), and more. Meraki networks scale seamlessly—add capacity by simply deploying more APs, without concern for controller bottlenecks or choke points.

Every Meraki wireless access point is built with the packet processing resources to secure and control its client traffic, without need for a wireless LAN controller. Meraki APs are built with a high performance CPU, hardware-accelerated encryption, and extended memory resources to implement stateful firewall policies, voice and video optimization, and even Layer 7 traffic classification and QoS.

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CLOUD-MANAGED HEALTH

Meraki Wireless Health provides a powerful heuristics engine that rapidly identifies anomalies impacting wireless end users' experience across every stage of client connectivity — association, authentication, IP addressing, and DNS availability — for rapid root cause analysis and response.

Using Wireless Health, immediate visibility is provided to determine if users are able to access the network, identify problematic APs and clients, and gain actionable insights to pinpoint stages of failure.

Dramatically simplify troubleshooting of the entire network infrastructure when combining Meraki access points with Meraki switches, and routers. Meraki wireless allows for a reduction in reactive troubleshooting and an increase in proactive and predictive network management, ensuring client, application, and service performance.

Product Options - Indoor Wi-Fi 6

	MR36	MR46	MR56	MR46E
Usage	Next generation, entry-level high performance Wi-Fi 6 AP with security scanning radio and BLE included	Next generation AP with Wi-Fi 6 technology. Ideal for high density locations. Security scanning radio and BLE included	Next generation AP with Wi-Fi 6 technology. Ideal for ultra high density and performance deployments. Security radio and BLE included	Next generation AP with Wi-Fi 6 technology. Ideal for high density locations with need for focused wireless coverage and external antennas.
Radio specification	1 × 2.4 Ghz 802.11b/g/n/ax 1 × 5 GHz 802.11a/n/ac/ax 1 × WIDS/WIPS 1 × Bluetooth 1.7 Gbit/sec max rate 2×2:2 MU-MIMO with beamforming	1 × 2.4 Ghz 802.11b/g/n/ax 1 × 5 GHz 802.11a/n/ac/ax 1 × WIDS/WIPS 1 × Bluetooth 3.5 Gbit/sec max rate 4×4:4 MU-MIMO with beamforming	1 × 2.4 GHz 802.11b/g/n/ax 1 × 5 Ghz 802.11a/n/ac/ax 1 × WIDS/WIPS 1 × Bluetooth 5.9 Gbit/sec max rate 8×8:8 MU-MIMO with beamforming	1 × 2.4 Ghz 802.11b/g/n/ax 1 × 5 GHz 802.11a/n/ac/ax 1 × WIDS/WIPS 1 × Bluetooth 3.5 Gbit/sec max rate 4×4:4 MU-MIMO and OFDMA with beamforming
Interface	1 × Gigabit Ethernet port	1 × 2.5 Multigigabit Ethernet port	1 × 5 Gbps Multigigabit Ethernet port	1 × 2.5 Multigigabit Ethernet port
Power	802.3af PoE DC power adapter	802.3at PoE DC power adapter	802.3at PoE DC power adapter	802.3at PoE DC power adapter
Performance features	2×2:2 MU-MIMO and OFDMA Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering	4x4:4 UL/DL MU-MIMO and OFDMA Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering	8x8:8 UL/DL MU-MIMO and OFDMA Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering	4x4:4 UL/DL MU-MIMO and OFDMA Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering Removable antennas
Dimensions	9.84" x 4.72" x 1.42" (25 cm x 12 cm x 3.6 cm)	12.05" × 5.06" × 1.74" (30.6 cm × 12.84 cm × 4.43 cm)	12.83" × 5.54" × 1.76" (32.6 cm × 14.08 cm × 4.47 cm)	9.84" x 4.72" x 1.42" (30.72 cm x 15.62 cm x 3.49 cm)
Weight	17.35 oz (0.5 kg)	28.21 oz (0.8 kg)	35.27 oz (1 kg)	29.98 oz (0.85 kg)

Product Options - Outdoor Wi-Fi 6

	MR76	MR86
Usage	Rugged/outdoor high performance Wi-Fi 6 wireless, outdoor campuses, industrial, point-point links, outdoor location services	Rugged/outdoor highest performance Wi-Fi 6 with Multigigabit for tough RF and high-density environments
Radio specification	1 × 802.11b/g/n/ax 1 × 802.11a/n/ac/ax 1 × WIDS/WIPS 1 × Bluetooth 1.7 Gbit/sec max rate 2×2:2 MU-MIMO and OFDMA with beamforming	1 × 802.11b/g/n/ax 1 × 802.11a/n/ac/ax 1 × WIDS/WIPS 1 × Bluetooth 3.5 Gbit/sec max rate 4×4:4 MU-MIMO and OFDMA with beamforming
Interface	1 × Gigabit Ethernet port 4 × External N-type connectors (Antennas sold separately)	1 × 2.5 Gbps Multigigabit Ethernet port 4 × External N-type connectors (Antennas sold separately)
Power	802.3af PoE	802.3at PoE
Physical design	Rugged industrial design Water and dust sealed (IP67 rated) Vibration and shock tested	Rugged industrial design Water and dust sealed (IP67 rated) Vibration and shock tested
Performance features	Third radio dedicated to security and RF management Priority Voice,Power Save (802.11e/WMM) Hardware-acceler ated encryption Band steering Bluetooth low energy radio for Beacon and BLE scanning	Third radio dedicated to security and RF management Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption High-density support, band steering Bluetooth low energy radio for Beacon and BLE scanning
Dimensions	11.81" × 6.02" × 2.16" (30.0 cm × 15.3 cm × 5.5 cm)	11.81" × 6.02" × 2.16" (30.0 cm × 15.3 cm × 5.5 cm)
Weight	47.27 oz (1.34 kg)	52.91 oz (1.5 kg)

Product Options - Indoor Wi-Fi 5

	MR20	MR30H	MR33	MR42(E)	MR52/53(E)
Usage	Basic wireless, value-designed deployments	In-room hotel or dormitory deployments that must service IP-enabled devices	Entry-level 802.11ac Wave 2 for future-proof deployments	General purpose 802.11ac Wave 2 for campus and enterprise, with external antenna option	High performance 802.11ac Wave 2 with Multigigabit for high-density campus, and MU-MIMO, with external antenna option
Radio specification	1 × 802.11b/g/n 1 × 802.11a/n/ac 1.3 Gbit/sec max rate 2×2:2 MU-MIMO with beamforming	1 × 802.11b/g/n 1 × 802.11a/n/ac 1 × WIDS/WIPS 1 × Bluetooth 1.3 Gbit/sec max rate 2×2:2 MU-MIMO with beamforming	1 × 802.11b/g/n 1 × 802.11a/n/ac 1 × WIDS/WIPS 1 × Bluetooth 1.3 Gbit/sec max rate 2×2:2 MU-MIMO with beamforming	1 × 802.11b/g/n 1 × 802.11a/n/ac 1 × WIDS/WIPS 1 × Bluetooth 1.9 Gbit/sec max rate 3×3:3 MU-MIMO with beamforming	1 × 802.11b/g/n 1 × 802.11a/n/ac 1 × WIDS/WIPS 1 × Bluetooth 2.5 Gbit/sec max rate 4×4:4 MU-MIMO with beamforming
Interface	1 × Gigabit Ethernet port	1 × Gigabit Ethernet input 1 × Gigabit Ethernet LAN port with 802.3af PoE 3 × Gigabit Ethernet LAN ports	1 × Gigabit Ethernet port	1 × Gigabit Ethernet port	1 × 2.5Gbps Multigigabit Ethernet port 1 × Gigabit Ethernet port 2 × Gigabit Ethernet port (MR52)
Power	802.3af PoE DC power adapter	802.3at power w/ 802.3af PoE out/802.3af compatible w/o PoE out	802.3af PoE DC power adapter	802.3at/802.3af PoE DC power adapter	802.3at PoE DC power adapter
Performance features	2×2:2 MU-MIMO and OFDMA Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering	2×2:2 MU-MIMO and OFDMA Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering	2×2:2 MU-MIMO and OFDMA Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering	3×3:3 MU-MIMO Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering Removable antennas (MR42E)	4×4:4 MU-MIMO Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering Removable antennas (MR53E)
Dimensions	7.95" × 4.88" × 1.02" (20.2 cm × 12.4 cm × 2.6 cm)	6.1" x 4.3" x 0.9" (15.5 cm x 11.0 cm x 2.3 cm)	8.5" x 4.3" x 1.3" (21.5 cm x 11.0 cm x 3.2 cm)	10.0" x 6.1" x 1.5" (25.3 cm x 15.6 cm x 3.7 cm)	10.56" x 6.38" x 1.58" (26.8 cm x 16.2 cm x 3.9 cm)
Weight	9.6 oz (0.27 kg)	14.4 oz (.41 kg)	13.2 oz (0.38 kg)	25 oz (0.7 kg)	28.9 oz (0.82 kg)

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Product Options - Outdoor Wi-Fi 5

	MR70	MR74	MR84
Usage	Basic outdoor/rugged WLAN, medium-density deployments	Rugged/outdoor general purpose WLAN, outdoor campuses, industrial, point-to-point links, outdoor location services	Highest performance 802.11ac Wave 2 with Multigigabit for tough RF and high-density environments
Radio specification	1 × 802.11b/g/n 1 × 802.11a/n/ac 1.3 Gbit/sec max rate 2×2:2 MU-MIMO with beamforming	1 × 802.11b/g/n 1 × 802.11a/n/ac 1 × WIDS/WIPS 1 × Bluetooth 1.3 Gbit/sec max rate 2×2:2 MU-MIMO with beamforming	1 × 802.11b/g/n/ac 1 × 802.11a/n/ac 1 × WIDS/WIPS 1 × Bluetooth 2.5 Gbit/sec max rate 4×4:4 MU-MIMO with beamforming
Interface	1 × Gigabit Ethernet port Integrated omni-directional antennas	1 × Gigabit Ethernet port Four external N-type connectors (Antennas sold separately)	1 × 2.5 Gbps Multigigabit Ethernet port 1 × Gigabit Ethernet port Four external N-type connectors (Antennas sold separately)
Power	802.3af PoE DC power adapter	802.3af PoE	802.3at PoE
Physical design	Rugged industrial design Water and dust sealed (IP67 rated) Vibration and shock tested	Rugged industrial design Water and dust sealed (IP67 rated) Vibration and shock tested	Rugged industrial design Water and dust sealed (IP67 rated) Vibration and shock tested
Performance features	Priority Voice Power Save (802.11e/WMM) Hardware-accelerated encryption	Third radio dedicated to security and RF management Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption Band steering Bluetooth low energy radio for beacon and BLE scanning	Third radio dedicated to security and RF management Priority Voice, Power Save (802.11e/WMM) Hardware-accelerated encryption High-density support, band steering Bluetooth low energy radio for beacon and BLE scanning
Dimensions	9.65" × 4.53" × 1.18" (24.5 cm × 11.5 cm × 3 cm)	10.1" x 6.22" x 3.3" (25.6 cm x 15.8 cm x 8.3 cm)	11.26" x 6.93" x 7.28" (28.6 cm x 17.6 cm x 18.5 cm)
Weight	15.87 oz (0.45 kg)	49.6 oz (1.4 kg)	60.8 oz (1.7 kg)

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 Years
	LIC-ENT-5YR	Cisco Meraki MR Enterprise License and Support, 5 Years
	LIC-ENT-7YR	Cisco Meraki MR Enterprise License and Support, 7 Years
	LIC-ENT-10YR	Cisco Meraki MR Enterprise License and Support, 10 Years
	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 Years
	LIC-MR-ADV-5Y	Cisco Meraki MR Advanced License and Support, 5 Years
	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

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