MR42

Dual-band 802.11ac Wave 2 access point with separate radios dedicated to security, RF management, and Bluetooth

High performance 802.11ac Wave 2 wireless

The Cisco Meraki MR42 is a four radio, cloud-managed 3x3 MU-MIMO 802.11ac Wave 2 access point. Designed for next-generation deployments in offices, schools, hospitals, shops, and hotels, the MR42 offers performance, security, and simple management.

The MR42 provides a maximum 1.9 Gbps frame rate with concurrent 802.11ac Wave 2 and 802.11n 3x3:3 MIMO radios. A dedicated third radio provides real-time WIDS/WIPS with automated RF optimization. In addition, an integrated fourth radio delivers Bluetooth Low Energy (BLE) scanning and Beaconing functionality.

With a combination of cloud management, high perfomance hardware, multiple radios, and advanced software features, the MR42 makes an outstanding platform for the most demanding of uses today and tomorrow. These uses include high-density deployments and support for applications like voice and high-definition video.

MR42 and Meraki cloud management: a powerful combination

Management of the MR42 is handled through the Meraki cloud, enabling rapid deployment across multiple sites without the need for time-consuming training or costly certifications. Since the MR42 is self-configuring and managed over the web, it can be deployed at a remote location in a matter of minutes, even without on-site IT staff.

24/7 monitoring via the Meraki cloud delivers real-time alerts if the network encounters problems. Remote diagnostic tools enable immediate troubleshooting over the web, meaning multi-site, distributed networks can be easily managed.

The MR42's firmware is automatically kept up to date via the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web. This means no manual software updates to download or missing security patches to worry about.

Product Highlights

- 3x3:3 MU-MIMO 802.11ac Wave 2
- 1.9 Gbps aggregate dual-band frame rate
- 24x7 real-time WIDS/WIPS and spectrum analytics via dedicated third radio
- Integrated Bluetooth Low Energy Beacon and scanning radio
- Enhanced transmit power and receive sensitivity
- Full-time WiFi location tracking via dedicated 3rd radio
- Integrated enterprise security and guest access
- Application-aware traffic shaping
- Optimized for voice and video
- Self-configuring, plug-and-play deployment
- Sleek, low-profile design blends into office environments

Features

Aggregate data rate of up to 1.9 Gbps

A 5 GHz 3x3:3 radio and a 2.4 GHz 3x3:3 radio offer a combined aggregate dual-band frame rate of 1.9 Gbps. Supports up to 1,300 Mbps in the 5 GHz band and 600 Mbps in the 2.4 GHz band. Technologies like transmit beamforming and enhanced receive sensitivity allow the MR42 to support a higher client density than typical enterprise-class access points, resulting in fewer APs for a given deployment.

Multi User Multiple Input Multiple Output (MU-MIMO)

With support for the 802.11ac Wave 2 standard, the MR42 offers MU-MIMO for efficient transmission to multiple clients. Especially suited for enviroments with numerous mobile devices, MU-MIMO enables multiple clients to receive data simultanously. This increases the total network perfomance and improves the end user experience.

Third radio delivers 24x7 wireless security and RF analytics

The MR42's sophisticated, dedicated dual-band radio scans the environment continuously, characterizing RF interference and containing wireless threats like rogue access points. No longer choose between wireless security, advanced RF analysis, and serving client data: a dedicated third radio means that all three occur in real-time, without any impact to client traffic or AP throughput.

Bluetooth Low Energy Beacon and scanning radio

An integrated fourth radio for Bluetooth Low Energy (BLE) provides seamless deployment of BLE Beacon functionality and effortless visibility of BLE devices. The MR42 enables the next generation of location-aware applications while futureproofing your deployment, making it ready for any new customer engagement strategies.

Automatic cloud-based RF optimization

The MR42's sophisticated, automated RF optimization means that there is no need for the dedicated hardware and RF expertise typically required to tune a wireless network. The RF analysis data collected by the dedicated third radio is continuously fed back to the Meraki cloud. This then automatically tunes the MR42's channel selection, transmit power, and client connection settings for optimal performance under even the most challenging RF conditions.

Integrated enterprise security and guest access

The MR42 features 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 WPA2-Enterprise authentication with 802.1X and Active Directory integration provide wire-like security while still being easy to configure. One-click guest isolation provides secure, Internet-only access for visitors. Our policy firewall (Identity Policy Manager) enables granular access control at the group or device level. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) integration

Meraki Systems Manager natively integrates with the MR42 to offer simple automatic security that is context aware. Rapidly deploy self-service MDM enrolment without installing additional equipment or dynamically tie firewall policies to client posture. End-to-end security has never been so easy.

Application-aware traffic shaping

The MR42 includes an integrated layer 7 packet inspection, classification, and control engine, enabling you to set QoS policies based on traffic type. Prioritize your mission critical applications, while setting limits on recreational traffic, e.g., peer-to-peer and video streaming. Importantly, controls can be implemented per network, per SSID, per user group, or per individual user.

Voice and video optmizations

Industry standard QoS features are easy to configure and come built in. Wireless Multi Media (WMM) access categories, 802.1p, and DSCP industry standards all ensure important applications get priorotized correctly, not only on the MR42, but on other steps in the traffic flow. Unscheduled Automatic Power Save Delivery (U-APSD) ensures minimal battery drain on wireless VoIP phones.

Low-profile, modern, user friendly design

Despite its extensive capabilities, the MR42 is packaged in a sleek, low-profile enclosure that blends seamlessly into any environment. This makes it ideal for modern offices, high end retail locations, and discrete deployments. Using human interface design principles, even the physical installation and mounting experience has been developed to eliminate error and simplify installation process.

Self-configuring, self-maintaining, always up-to-date

When plugged in, the MR42 automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. If new firmware is required, this is retrieved by the AP and updated automatically. This ensures the network is maintained with bug fixes, security updates, and new features managed for you.

Advanced analytics

Drill down into exceptional detail with highly granular traffic analytics. Understand how your network is used with access to numerous datasets. Extend your visibility to the physical world with journey tracking through location analytics. View vistor numbers, dwell time, repeat visit rates, and track trends. Fully customize your analysis with raw data available via simple APIs.

Specifications

Radios

2.4 GHz 802.11b/g/n client access radio

5 GHz 802.11a/n/ac client access radio

2.4 GHz & 5 GHz dual-band WIDS/WIPS, spectrum analysis, & location analytics radio

2.4 GHz Bluetooth radio with Bluetooth Low Energy (BLE) and Beacon support

Concurrent operation of all four radios

Max aggregate frame rate 1.9 Gbit/s

Supported frequency bands (country-specific restrictions apply):
2.412-2.484 GHz
5.150-5.250 GHz (UNII-1)
5.250-5.350 GHZ (UNII-2)
5.470-5.600, 5.660-5.725 GHz (UNII-2e)
5.725 -5.825 GHz (UNII-3)

Antenna

Integrated omni-directional antennas (5 dBi gain at 2.4 GHz, 5.5 dBi gain at 5 GHz)

Individual antenna elements for each radio

802.11ac Wave 2 and 802.11n Capabilities

3 x 3 multiple input, multiple output (MIMO) with three spatial streams

SU-MIMO and MU-MIMO support

Maximal ratio combining (MRC) & beamforming

20 and 40 MHz channels (802.11n), 20, 40, and 80 MHz channels (802.11ac)

Up to 256-QAM on both 2.4 GHz & 5 GHz

Packet aggregation

Power

Power over Ethernet: 37 - 57 V (802.3at required with functionality-restricted 802.3af mode supported)

Alternative 12 V DC input

Power consumption: 20W max (802.3at)

Power over Ethernet injector and DC adapter sold separately

LED Indicators

Multi color & multi function status indicator

Interfaces

1x 10/100/1000Base-T Ethernet (RJ45)

1x DC power connector (5.5 mm x 2.5 mm, center positive)

Mounting

All standard mounting hardware included

Desktop, ceiling, and wall mount capable

Ceiling tile rail (9/16, 15/16 or 1 ½" flush or recessed rails), assorted cable junction boxes

Bubble level on mounting cradle for accurate horizontal wall mounting

Physical Security

Two security screw options (included)

Kensington lock hard point

Concealed mount plate with anti-tamper cable bay

Environment

Operating temperature: 32 °F to 104 °F (0 °C to 40 °C)

Humidity: 5 to 95% non-condensing

Physical Dimensions

10.0" x 6.1" x 1.5" (253.4 mm x 155.8 mm x 37.1 mm), not including deskmount feet or mount plate

Weight: 25 oz (0.7kg)

Security

Integrated Layer 7 firewall with mobile device policy management

Real-time WIDS/WIPS with alerting and automatic rogue AP containment with Air Marshal

Flexible guest access with device isolation

VLAN tagging (802.1q) and tunneling with IPsec VPN

PCI compliance reporting

WEP, WPA, WPA2-PSK, WPA2-Enterprise with 802.1X

EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM

TKIP and AES encryption

Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) integration

Quality of Service

Advanced Power Save (U-APSD)

WMM Access Categories with DSCP and 802.1p support

Layer 7 application traffic identification and shaping

Mobility

PMK and OKC credential support for fast Layer 2 roaming

Distributed or centralized layer 3 roaming

Analytics

Embedded location analytics reporting and device tracking

Global L7 traffic analytics reporting per network, per device, per application

Warranty

Lifetime hardware warranty with advanced replacement included

Ordering Information

MR42-HW: Meraki MR42 Cloud Managed 802.11ac AP

MA-PWR-30W-XX: Meraki AC Adapter for MR Series (XX = US, EU, UK or AU)

MA-INJ-4-XX: Cisco Meraki 802.3at Power over Ethernet Injector (XX = US, EU, UK or AU)

Note: Meraki access point license required.

Compliance & Standards

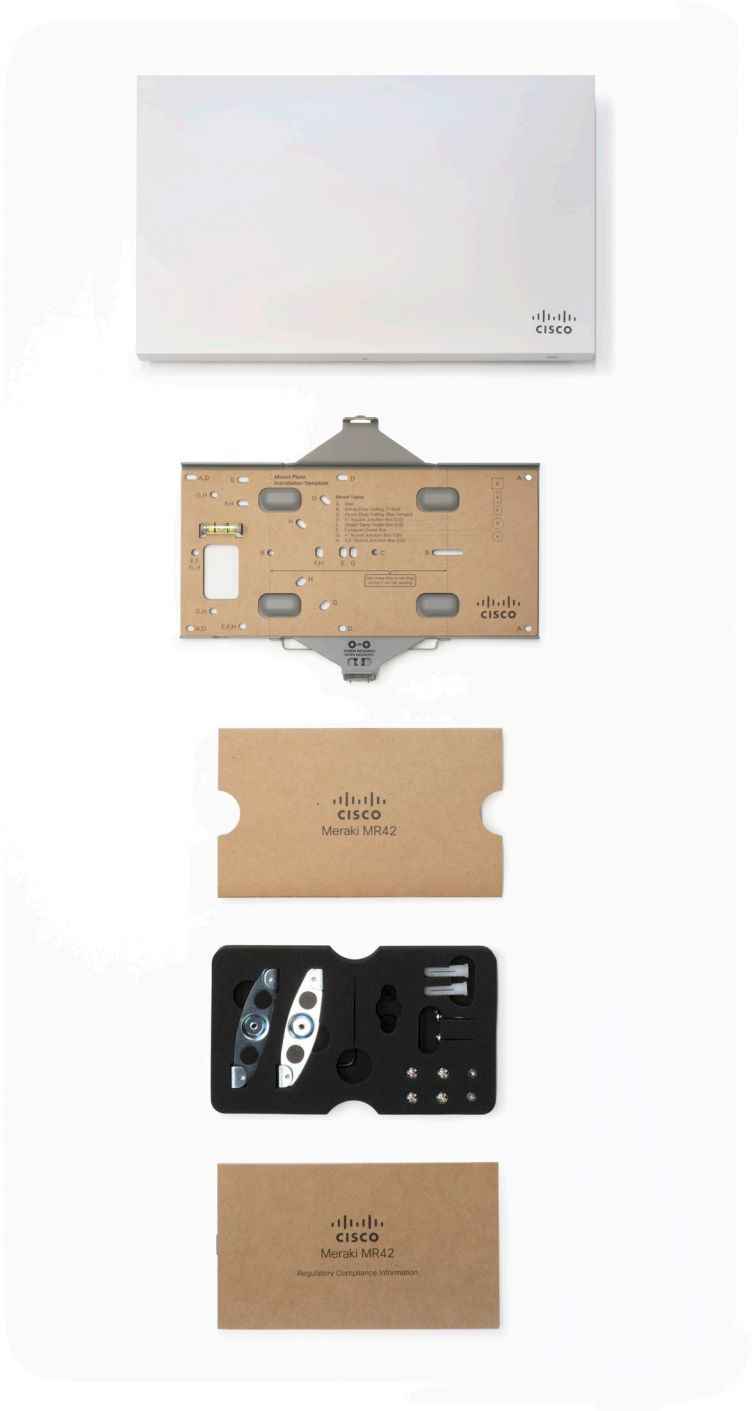
IEEE Standards
802.11b
802.11g
802.11a
802.11n
802.11ac
802.11h
802.11i
802.11e
802.11k
802.11r
802.11u

Safety Approvals
UL 60950-1
CAN/CSA-C22.2 No. 60950-1
IEC 60950-1
EN 60950-1
UL 2043 (Plenum Rating)

Radio Approvals
FCC Part 15C, 15E
RSS-247 (Canada)
EN 300 328, EN 301 893 (Europe)
AS/NZS 4268 (Australia/NZ)
NOM-121 (Mexico)
NCC LP0002 (Taiwan)
For additional country-specific regulatory information, please contact Meraki sales

EMI Approvals (Class B)
FCC Part 15B
ICES-003 (Canada)
EN 301 489-1-17, EN 55032, EN 55024 (Europe)
CISPR 22 (Australia/NZ)
VCCI (Japan)

Exposure Approvals
FCC Part 2
RSS-102 (Canada)
EN 50385, EN 62311, EN 62479 (Europe)
AS/NZS 2772 (Australia/NZ)



RF Performance Table

2.4 GHz

Operating Band	Operation Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	21 dBm	-98 dBm
		2 Mb/s	21 dBm	-93.5 dBm
		5.5 Mb/s	21 dBm	-92 dBm
		11 Mb/s	21 dBm	-86 dBm
2.4 GHz	802.11g	6 Mb/s	21 dBm	-93 dBm
		9 Mb/s	21 dBm	-92.5 dBm
		12 Mb/s	20.5 dBm	-91 dBm
		18 Mb/s	20.5 dBm	-89 dBm
		24 Mb/s	19 dBm	-85 dBm
		36 Mb/s	19.5 dBm	-82.5 dBm
		48 Mb/s	18.5 dBm	-78 dBm
		54 Mb/s	18.5 dBm	-76 dBm
2.4 GHz	802.11n (HT20)	MCS0/8/16	21/24/25.7 dBm	-93/-96/-97.7 dBm
		MCS1/9/17	20.5/23.5/25.2 dBm	-89/-92/-93.7 dBm
		MCS2/10/18	20.5/23.5/25.2 dBm	-87/-90/-91.7 dBm
		MCS3/11/19	19/22/23.7 dBm	-83/-86/-87.7 dBm
		MCS4/12/20	19.5/22.5/24.2 dBm	-80/-83/-84.7 dBm
		MCS5/13/21	18.5/21.5/23.2 dBm	-76/-79/-80.7 dBm
		MCS6/14/22	18.5/21.5/23.2 dBm	-74/-77/-78.7 dBm
		MCS7/15/23	18/21/22.7 dBm	-73/-76/-77.7 dBm
2.4 GHz	802.11n (VHT20)	MCS0/0/0	21/24/25.7 dBm	-93/-96/-97.7 dBm
		MCS1/1/1	20.5/23.5/25.2 dBm	-89/-92/-93.7 dBm
		MCS2/2/2	20.5/23.5/25.2 dBm	-87/-90/-91.7 dBm
		MCS3/3/3	19/22/23.7 dBm	-83/-86/-87.7 dBm
		MCS4/4/4	19.5/22.5/24.2 dBm	-80/-83/-84.7 dBm
		MCS5/5/5	18.5/21.5/23.2 dBm	-76/-79/-80.7 dBm
		MCS6/6/6	18.5/21.5/23.2 dBm	-74/-77/-78.7 dBm
		MCS7/7/7	18/21/22.7 dBm	-73/-76/-77.7 dBm
		MCS8/8/8	17/xx/xx dBm	-73/xx/xx dBm
		MCS9/9/9	17/xx/xx dBm	-68/xx/x dBm

RF Performance Table

5 GHz

Operating Band	Operation Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s	22 dBm	-92 dBm
		9 Mb/s	22 dBm	-91 dBm
		12 Mb/s	22 dBm	-90 dBm
		18 Mb/s	22 dBm	-88 dBm
		24 Mb/s	20 dBm	-84 dBm
		36 Mb/s	19 dBm	-81 dBm
		48 Mb/s	19 dBm	-76 dBm
		54 Mb/s	19 dBm	-74 dBm
5 GHz	802.11n (HT20)	MCS0/8/16	22/25/26.7 dBm	-92/-95/-96.7 dBm
		MCS1/9/17	22/25/26.7 dBm	-88/-91/-92.7 dBm
		MCS2/10/18	22/25/26.7 dBm	-86/-89/-90.7 dBm
		MCS3/11/19	22/23/24.7 dBm	-82/-85/-86.7 dBm
		MCS4/12/20	19/22/23.7 dBm	-79/-82/-83.7 dBm
		MCS5/13/21	19/22/23.7 dBm	-74/-77/-78.7 dBm
		MCS6/14/22	19/22/23.7 dBm	-73/-76/-77.7 dBm
		MCS7/15/23	19/22/23.7 dBm	-71/-74/-75.7 dBm
5 GHz	802.11n (HT40)	MCS0/8/16	2/25/26.7 dBm	-88/-91/-92.7 dBm
		MCS1/9/17	21.5/24.5/26.2 dBm	-85/-88/-89.7 dBm
		MCS2/10/18	20/23/24.7 dBm	-83/-86/-87.7 dBm
		MCS3/11/19	20/23/24.7 dBm	-79/-82/-83.7 dBm
		MCS4/12/20	19.5/22.5/24.2 dBm	-76/-79/-80.7 dBm
		MCS5/13/21	19.5/22.5/24.2 dBm	-72/-75/-76.7dBm
		MCS6/14/22	18.5/21.5/23.2 dBm	-70/-73/-74.7 dBm
		MCS7/15/23	18/21/22.7 dBm	-69/-72/-73.7 dBm

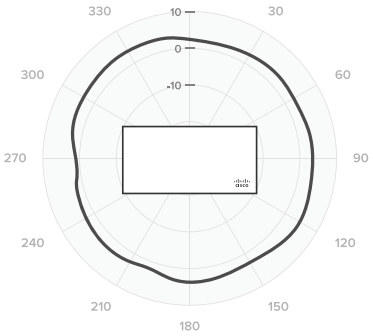
RF Performance Table

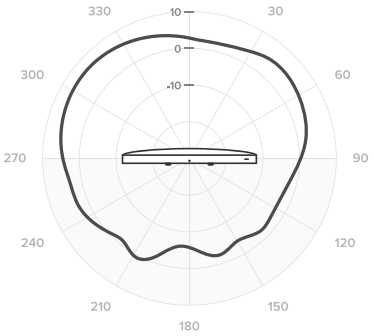
5 GHz

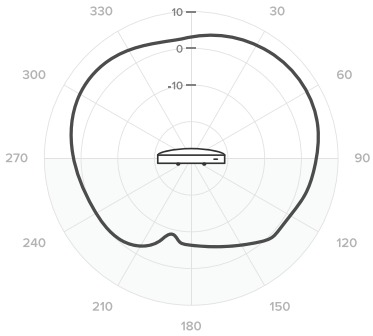
Operating Band	Operation Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11ac (HT20)	MCS0/0/0	22/25/26.7 dBm	-92/-95/-96.7 dBm
		MCS1/1/1	22/25/26.7 dBm	-88/-91/-92.7 dBm
		MCS2/2/2	22/25/26.7 dBm	-86/-89/-90.7 dBm
		MCS3/3/3	22/23/24.7 dBm	-82/-85/-86.7 dBm
		MCS4/4/4	19/22/23.7 dBm	-79/-82/-83.7 dBm
		MCS5/5/5	19/22/23.7 dBm	-74/-77/-78.7 dBm
		MCS6/6/6	19/22/23.7 dBm	-73/-76/-77.7 dBm
		MCS7/7/7	19/22/23.7 dBm	-71/-74/-75.7 dBm
		MCS8/8/8	18.5/21.5/23.2 dBm	-67/-70/-71.7 dBm
		MCS9/9/9	18.5/21.5/23.2 dBm	-63/-66/-67.7 dBm
5 GHz	802.11ac (HT40)	MCS0/0/0	22/25/26.7 dBm	-88/-91/-92.7 dBm
		MCS1/1/1	21.5/24.5/26.2 dBm	-85/-88/-89.7 dBm
		MCS2/2/2	20/23/24.7 dBm	-83/-86/-87.7 dBm
		MCS3/3/3	20/23/24.7 dBm	-79/-82/-83.7 dBm
		MCS4/4/4	19.5/22.5/24.2 dBm	-76/-79/-80.7 dBm
		MCS5/5/5	19.5/22.5/24.2 dBm	-72/-75/-76.7dBm
		MCS6/6/6	18.5/21.5/23.2 dBm	-70/-73/-74.7 dBm
		MCS7/7/7	18/21/22.7 dBm	-69/-72/-73.7 dBm
		MCS8/8/8	18/21/22.7 dBm	-67/-70/-71.7 dBm
		MCS9/9/9	18/21/22.7 dBm	-63/-66/-67.7 dBm
5 GHz	802.11ac (VHT80)	MCS0/0/0	22/25/26.7 dBm	-86/-89/-90.7 dBm
		MCS1/1/1	21.5/24.5/26.2 dBm	-82/-85/-86.7 dBm
		MCS2/2/2	21.5/24.5/26.2 dBm	-80/-83/-84.7 dBm
		MCS3/3/3	20.5/23.5/24.2 dBm	-76/-79/-80.7 dBm
		MCS4/4/4	20.5/23.5/24.2 dBm	-73/-76/-77.7 dBm
		MCS5/5/5	19.5/22.5/24.2 dBm	-69/-72/-73.7 dBm
		MCS6/6/6	19/22/23.7 dBm	-67/-70/-71.7 dBm
		MCS7/7/7	19/22/23.7 dBm	-66/-69/-70.7 dBm
		MCS8/8/8	18/21/22.7 dBm	-61/-64/-65.7 dBm
		MCS9/9/9	18/21/22.7 dBm	-59/-62/-63.7 dBm

Signal Coverage Patterns

Radiation Pattern for 2.4GHz Antennas







Radiation Pattern for 5GHz Antennas