MR30H

Dual-band, 802.11ac Wave 2 2x2:2 Wall Switch Access Point with dedicated security and RF management radio as well as an integrated Bluetooth Low Energy beacon and scanning radio

Robust Feature Set for Multi-dwelling Wireless

The Cisco Meraki MR30H is a quad-radio, cloud-managed 2x2:2 802.11ac Wave 2 wall switch access point with MU-MIMO support. Designed for next-generation deployments in hotel rooms, university residences, and other multi-dwelling units, the MR30H provides performance, enterprise-grade security, and simple management.

The MR30H provides a maximum 1.3 Gbps* aggregate frame rate with concurrent 2.4 GHz and 5 GHz radios. A dedicated third radio provides real-time WIDS/WIPS with automated RF optimization. Four ethernet ports on the wall switch allow easy connectivity of external wired devices. An integrated Bluetooth Low Energy (BLE) radio delivers beacon and scanning capabilities.

The combination of cloud management, 802.11ac Wave 2, full-time RF environment scanning, a wall switch, and integrated Bluetooth technology delivers the throughput, reliability, convenience and flexibility required by demanding multi-dwelling use cases.

MR30H and Meraki Cloud Management: A Powerful Combination

The MR30H is managed through the Meraki cloud, with an intuitive browser-based interface that enables rapid deployment without training or certifications. Since the MR30H is self-configuring and managed over the web, it can even be deployed at a remote location without on-site IT staff.

The MR30H is monitored 24x7 via the Meraki cloud, which delivers real-time alerts if the network encounters problems. Remote diagnostics tools enable real-time troubleshooting over the web, meaning multi-site, distributed networks can be managed remotely.

The MR30H's firmware is always kept up to date from the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web, meaning no manual software updates to download or missing security patches to worry about.

Product Highlights

- 2x2 MU-MIMO 802.11ac Wave 2

- 4 port ethernet switch

- 1.3 Gbps* aggregate dual-band frame rate

- 24x7 real-time WIPS/WIDS, spectrum analytics, and WiFi location tracking via dedicated 3rd radio

- Integrated BLE Beacon and scanning radio

- Integrated enterprise security and guest access

- Application-aware traffic shaping

- Optimized for voice and video

- Self-configuring, plug-and-play deployment

- Secure, wall-flush installation with included mounting bracket

- Sleek, low-profile design blends into any environment

Features

Aggregate data rate of up to 1.3 Gbps*
A 5 GHz 2x2:2 radio supporting 80 MHz channel widths and a 2.4 GHz 2x2:2 radio supporting 40 MHz channel widths offer a combined dual-radio aggregate frame rate of 1.3 Gbps*, with up to 866 Mbps in the 5 GHz band thanks to 802.11ac Wave 2 and 400 Mbps in the 2.4 GHz band.

Multi User Multiple Input Multiple Output (MU-MIMO)
With support for the 802.11ac Wave 2 standard, the MR30H offers MU-MIMO for more effcient 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 the improves the end user experience.

Dedicated third radio delivers 24x7 wireless security and RF analytics
The MR30H's sophisticated, dedicated dual-band third radio scans the environment continuously, characterizing RF interference and containing wireless threats like rogue access points. No more need to 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.

4 Ethernet ports for external devices
Connect up to four network devices to a MR30H. With one 802.3af PoE port, devices such as an IP phone can be powered directly from the access point. The versatility of the MR30H port configuration dramatically reduces the need for cabling infrastructure in multi-tenant dwellings, while still providing the ability to connect several wired and wireless devices to the network.

Bluetooth Low Energy beacon and scanning
An integrated Bluetooth low energy radio provides seamless deployment of BLE beacon functionality and effortless visibility of BLE devices within range of the AP. The MR30H enables the next generation of location-aware applications and engagement right out of the box.

Automatic cloud-based RF optimization
The MR30H's sophisticated, automated RF optimization algorithms use a dedicated third radio to collect real-time, full-spectrum RF analysis data — which is continuously fed back to the Meraki cloud. The Meraki cloud then automatically tunes the MR30H's channel selection and transmit power for optimal performance under the most challenging RF conditions.

Secure wireless environments using 24x7 Air Marshal
No longer choose between a wireless intrusion prevention system (WIPS) and serving client data: thanks to the dedicated third radio, Air Marshal, a highly optimized built-in WIPS, scans continuously for threats and remediates them as commanded, all without disrupting client service. Alarms and optional auto-containment of rogue APs are configured via flexible remediation policies, ensuring optimal security and performance in even the most challenging wireless environments.

Integrated enterprise security and guest access
The MR30H 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 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 group or device-based, granular access policy control. Meraki Teleworker VPN makes it easy to extend the corporate LAN to remote sites, without requiring all clients and devices to have client VPN software. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

Application-aware traffic shaping
The MR30H 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.

Voice and Video optmizations
Industry standard QoS features are easy to configure like Wireless Multi Media (WMM) Access Categories, 802.1p, and DSCP.

Low-profile, sleek, and compact design
Despite its robust feature set, the MR30H is packaged in a sleek, low-profile enclosure that blends seamlessly into any environment.

Self-configuring, self-optimizing, self-healing
When plugged in, the MR30H automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. The MR30H then self-optimizes, determining the ideal channel, transmit power, and client connection parameters. As necessary, it will also self-heal, responding automatically to switch failures and other errors.

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*Refers to maximum over-the-air data frame rate capability of the radio chipset, and may exceed data rates allowed by IEEE Std 802.11ac-compliant operation.
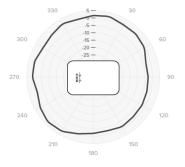
MR30H Tx / Rx Tables
2.4 GHz

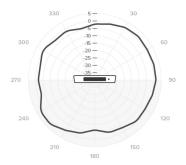| Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s 2 Mb/s 5.5 Mb/s 11 Mb/s	19dBm 19dBm 19dBm 19dBm	-94 dBm -91 dBm -89 dBm -87 dBm
2.4 GHz	802.11g	6 Mb/s 9 Mb/s 12 Mb/s 18 Mb/s 24 Mb/s 36 Mb/s 48 Mb/s 54 Mb/s	18dBm 18dBm 18dBm 18dBm 18dBm 17dBm 17dBm 17dBm	-89 dBm -88 dBm -86 dBm -83 dBm -80 dBm -77 dBm -73 dBm -71 dBm
2.4 GHz	802.11n(HT20)	MCS0/8 MCS1/9 MCS2/10 MCS3/11 MCS4/12 MCS5/13 MCS6/14 MCS7/15	18/18 dBm 18/18 dBm 18/18 dBm 18/18 dBm 18/18 dBm 17/17 dBm 17/17 dBm 16/16 dBm	-89/-89 dBm -86/-86 dBm -83/-83 dBm -80/-80 dBm -77/-77 dBm -73/-73 dBm -71/-71 dBm -68/-68 dBm
2.4 GHz	802.11n(HT40)	MCS0/8 MCS1/9 MCS2/10 MCS3/11 MCS4/12 MCS5/13 MCS6/14 MCS7/15	18/18 dBm 18/18 dBm 18/18 dBm 18/18 dBm 18/18 dBm 17/17 dBm 17/17 dBm 16/16 dBm	-85/-85 dBm -82/-82 dBm -80/-80 dBm -78/-78 dBm -73/-73 dBm -69/-69 dBm -67/-67 dBm -66/-66 dBm

MR30H Tx / Rx Tables
5 GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s 9 Mb/s 12 Mb/s 18 Mb/s 24 Mb/s 36 Mb/s 48 Mb/s 54 Mb/s	16dBm 16dBm 16dBm 16dBm 16dBm 15dBm 15dBm 14dBm	-85dBm -82dBm -80dBm -78dBm -76dBm -74dBm -72dBm -70dBm
5 GHz	802.11n(HT20)	MCS0/8 MCS1/9 MCS2/10 MCS3/11 MCS4/12 MCS5/13 MCS6/14 MCS7/15	16/16 dBm 16/16 dBm 16/16 dBm 16/16 dBm 15/15 dBm 15/15 dBm 15/15 dBm 14/14 dBm	-85/-85 dBm -82/-82 dBm -80/-80 dBm -76/-76 dBm -73/-73 dBm -70/-70 dBm -69/-69 dBm -68/-68 dBm
5 GHz	802.11n(VHT20)	MCS0/0 MCS1/1 MCS2/2 MCS3/3 MCS4/4 MCS5/5 MCS6/6 MCS7/7 MCS8/8	16/16 dBm 16/16 dBm 16/16 dBm 16/16 dBm 15/15 dBm 15/15 dBm 15/15 dBm 14/14 dBm 13/13 dBm	-85/-85 dBm -82/-82 dBm -80/-80 dBm -76/-76 dBm -73/-73 dBm -70/-70 dBm -69/-69 dBm -68/-68 dBm -64/-64 dBm
5 GHz	802.11n(HT40)	MCS0/8 MCS1/9 MCS2/10 MCS3/11 MCS4/12 MCS5/13 MCS6/14 MCS7/15	16/16 dBm 16/16 dBm 16/16 dBm 16/16 dBm 14/14 dBm 14/14 dBm 14/14 dBm 13/13 dBm	-83/-83 dBm -82/-82 dBm -81/-81 dBm -76/-76 dBm -74/-74 dBm -69/-69 dBm -67/-67 dBm -65/-65 dBm

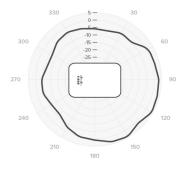| Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11n(VHT40)	MCS0/0	16/16 dBm	-83/-83 dBm
		MCS1/1	16/16 dBm	-82/-82 dBm
		MCS2/2	16/16 dBm	-81/-81 dBm
		MCS3/3	16/16 dBm	-76/-76 dBm
		MCS4/4	14/14 dBm	-74/-74 dBm
		MCS5/5	14/14 dBm	-69/-69 dBm
		MCS6/6	14/14 dBm	-67/-67 dBm
		MCS7/7	13/13 dBm	-65/-65 dBm
		MCS8/8	12/12 dBm	-62/-62 dBm
		MCS9/9	12/12 dBm	-60/-60 dBm
5 GHz	802.11ac(VHT80)	MCS0/0	15/15 dBm	-80/-80 dBm
		MCS1/1	15/15 dBm	-78/-78 dBm
		MCS2/2	15/15 dBm	-76/-76 dBm
		MCS3/3	15/15 dBm	-73/-73 dBm
		MCS4/4	13/13 dBm	-70/-70 dBm
		MCS5/5	13/13 dBm	-67/-67 dBm
		MCS6/6	13/13 dBm	-64/-64 dBm
		MCS7/7	13/13 dBm	-63/-63 dBm
		MCS8/8	11/11 dBm	-59/-59 dBm
		MCS9/9	11/11 dBm	-57/-57 dBm

MR30H

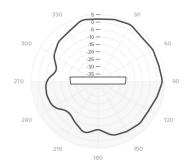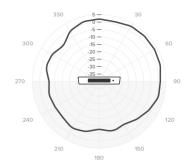## Radiation Pattern for 2.4GHz Antennas

MR30H

Radiation Pattern for 5GHz Antennas

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 WIDS/WIPS, spectrum analysis, and location analytics radio

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

Concurrent operations of all four radios

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)

802.11ac and 802.11n Capabilities

2 x 2 multiple input, multiple output (MIMO) with two 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 and 5 GHz bands

Packet aggregation

Power

Power over Ethernet: 37 - 57 (802.3at compatible)

Power consumption: 25W max (802.3at)

802.3af operating mode disables PoE out

Power over Ethernet injector sold separately

Mounting

Mounting hardware included for US, UK, EU, AU & Asia single gang wall jacks

Physical Security

Two security screw options (included)

Concealed mount plate

Environment

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

Humidity: 5 to 95% non-condensing

Physical Dimensions

6.1" x 4.3" x 0.9" (155 mm x 110 mm x 23 mm), not including mount foot or mount plate

Weight: 14.4 oz (409 g)

Antenna

Integrated omni-directional antennas (3.7 dBi gain at 2.4 GHz, 4.8 dBi gain at 5 GHz)

Interfaces

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

1x Gigabet Ethernet (RJ45) with 802.3af Power over Ethernet output

3x Gigabit Ethernet (RJ45) outputs

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, OKC, and 802.11r for fast Layer 2 roaming

Distributed or centralized layer 3 roaming

LED Indicators

4x 2 Ethernet status for Ethernet ports

1 power/booting/firmware upgrade status

Warranty

Lifetime hardware warranty with advanced replacement included

Compliance

EN 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC

Ordering Information

MR30H-HW: Meraki MR30H Cloud Managed 802.11ac AP

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

Note: Meraki Enterprise license required.