

# MR84

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



IP67- rated for harsh deployments

## High performance 802.11ac Wave 2 wireless

The Cisco Meraki MR84 is a four-radio, cloud-managed 4x4 MU-MIMO 802.11ac Wave 2 access point. Designed for high-performance next-generation deployments — in high-density environments with tough RF — the MR84 offers performance, enterprise-grade security, and simple cloud-based management. A unique industrial design enables flexible installation in harsh outdoor conditions or indoor spaces.

The MR84 provides a maximum 2.5 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, and a fourth integrated radio delivers Bluetooth Low Energy (BLE) scanning and Beaconing.

The combination of cloud management, powerful hardware, multiple radios, and advanced software features make the MR84 an outstanding platform for the toughest use cases — including high-density deployments and support for latency-sensitive applications like voice and high-definition video.

## MR84 and Meraki cloud management: A powerful combination

Management of the MR84 is handled through the Meraki dashboard, an intuitive browser-based interface that enables rapid deployment across multiple sites without the need for time-consuming training or costly certifications. Since the MR84 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.

24x7 monitoring via the Meraki cloud delivers real-time alerts if the network encounters problems. Remote diagnostic tools enable immediate troubleshooting so that distributed networks can be managed with a minimum of hassle.

The MR84'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

- 4x4:4 160 MHz MU-MIMO 802.11ac Wave 2
- 2.5 Gbps\* dual-radio aggregate frame rate
- 24x7 real-time WIDS/WIPS and spectrum analytics via dedicated 3rd radio
- Integrated BLE Beacon and scanning radio
- 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
- Flexible omni- and directional antenna options
- Sleek, low-profile design blends into indoor and outdoor environments

\* Refers to maximum over-the-air data frame rate capability of the radio chipset, and may exceed data rates allowed by IEEE 802.11ac-compliant operation.

# Recommended Use Cases

## Outdoor coverage for high client-density corporate campuses, educational institutions, metro Wi-Fi, and parks

- High-speed access to a large number of concurrent clients
- Wi-Fi delivery to locations lacking cable drops via point-to-multipoint mesh

## Indoor coverage for industrial and high-density open spaces (e.g., warehouses, auditoriums, event centers)

- Reliable coverage for scanner guns, security cameras, and POS devices
- High speed-access for high-density iPads, tablets and laptops

## Zero-touch point-to-point links

- Build a long-distance bridge between two networks
- Extend hotspot networks via mesh while simultaneously serving clients

# Features

## Dual-radio aggregate data rate of up to 2.5 Gbps\*

A 5 GHz 4x4:4 radio supporting 160 MHz channel widths and a 2.4 GHz 4x4:4 radio supporting 40 MHz channel widths offer a combined dual-radio aggregate frame rate of 2.5 Gbps\*, with up to 1,733 Mbps in the 5 GHz band and 800 Mbps in the 2.4 GHz band. Technologies like transmit beamforming and enhanced receive sensitivity allow the MR84 to support a higher client density than typical enterprise-class access points, resulting in fewer APs for a given deployment.

## Rugged industrial design

The MR84 is designed and tested for salt spray, vibration, extreme thermal conditions, shock and dust and is IP67 rated, making it ideal for extreme environments. Despite its ruggedized design, the MR84 has a low-profile and is as easy to deploy indoors as out.

## Multi User Multiple Input Multiple Output (MU-MIMO)

The MR84 offers MU-MIMO (an 802.11ac Wave 2 standard) for efficient transmission to multiple clients. Especially suited for environments with numerous mobile devices, MU-MIMO enables multiple clients to receive data simultaneously. This increases the total network performance and improves the end user experience.

## Multigigabit and Link Aggregation uplink options

The MR84's integrated multigigabit uplink ensures maximum capacity for this high performance 802.11ac Wave 2 hardware configuration. The MR84's two Ethernet uplinks can be configured for link aggregation if switch infrastructure does not yet support multigigabit. The second Ethernet port can be used to connect wired client devices, like a security camera, when not used for link aggregation.

## 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 MR84 enables the next generation of location-aware applications while futureproofing your deployment, making it ready for any new user engagement strategies.

## Integrated enterprise security and guest access

The MR84 features integrated, easy-to-use security technologies that 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. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

## 24x7 wireless security and RF analytics

The MR84's dedicated dual-band scanning and security radio continually assesses the environment, characterizing RF interference and automatically containing wireless threats like rogue access points. There's no 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.

## Application-aware traffic shaping

The MR84 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 optimizations

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 prioritized correctly, not only on the MR84, but on other steps in the traffic flow. Unscheduled Automatic Power Save Delivery (U-APSD) ensures minimal battery drain on wireless VoIP phones.

## Always up-to-date self-configuration and maintenance

When plugged in, the MR84 automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. If new firmware is required, it 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 the details of your network usage with highly granular traffic analytics. Extend your visibility into the physical world: View visitor numbers, dwell times, repeat visit rates, and compare trends. Fully customize your analysis with simple APIs.

# MR84 Tx / Rx Tables

## 2.4 GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	19 dBm	-96.5 dBm
		2 Mb/s	19 dBm	-92 dBm
		5.5 Mb/s	19 dBm	-90.5 dBm
		11 Mb/s	19 dBm	-85.5 dBm
2.4 GHz	802.11g	6 Mb/s	19 dBm	-91 dBm
		9 Mb/s	19 dBm	-90 dBm
		12 Mb/s	18.5 dBm	-88.5 dBm
		18 Mb/s	18.5 dBm	-86.5 dBm
		24 Mb/s	18 dBm	-83.5 dBm
		36 Mb/s	18 dBm	-81.5 dBm
		48 Mb/s	17 dBm	-76 dBm
		54 Mb/s	17 dBm	-73.5 dBm
2.4 GHz	802.11n (HT20)	MCS0/8/16/24	19/22/23/27 dBm	-90.5/-93.5/-94.5/-96.5 dBm
		MCS1/9/17/25	18.5/21.5/22.5/24.5 dBm	-86.5/-89.5/-90.5/-92.5 dBm
		MCS2/10/18/26	18.5/21.5/22.5/24.5 dBm	-84.5/-87.5/-88.5/-90.5 dBm
		MCS3/11/19/27	17.5/20.5/21.5/23.5 dBm	-80.5/-83.5/-84.5/-86.5 dBm
		MCS4/12/20/28	17/20/21/23 dbm	-78.5/-81.5/-82.5/-84.5 dBm
		MCS5/13/21/29	16/19/20/25 dBm	-73.5/-76.5/-77.5/-79.5 dBm
		MCS6/14/22/30	15.5/18.5/19.5/21.5 dBm	-72/-75/-76/-78 dBm
		MCS7/15/23/31	15/18/19/21 dBm	-71/-74/-75/-77 dBm

# 5 GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s	20 dBm	-90 dBm
		9 Mb/s	20 dBm	-89 dbm
		12 Mb/s	20 dBm	-87.5 dbm
		18 Mb/s	20 dBm	-85.5 dBm
		24 Mb/s	19 dBm	-78.5 dBm
		36 Mb/s	19 dBm	-75.5 dBm
		48 Mb/s	18 dbm	-73.5 dBm
		54 Mb/s	17 dBm	-73 dBm
5 GHz	802.11n (HT20)	MCS0/8/16/24	20/23/24/26 dBm	-90/-93/-94/-96 dBm
		MCS1/9/17/25	20/23/24/26 dBm	-87/-90/-91/-93 dBm
		MCS2/10/18/26	20/23/24/26 dBm	-84/-87/-88/-90 dBm
		MCS3/11/19/27	20/23/24/26 dBm	-81/-84/-85/-87 dBm
		MCS4/12/20/28	19/22/23/25 dBm	-77/-80/-81/-83 dBm
		MCS5/13/21/29	19/22/23/25 dBm	-73/-76/-77/-79 dBm
		MCS6/14/22/30	18/21/22/24 dBm	-70/-73/-74/-76 dBm
		MCS7/15/23/31	17/20/21/23 dBm	-71/-74/-75/-77 dBm
5 GHz	802.11n (HT40)	MCS0/8/16/24	20/23/24/26 dBm	-87.5/-90.5/-91.5/-93.5 dBm
		MCS1/9/17/25	20/23/24/26 dBm	-84/-87/-88/-90 dBm
		MCS2/10/18/26	20/23/24/26 dBm	-82/-85/-86/-88 dBm
		MCS3/11/19/27	20/23/24/26 dBm	-78/-81/-82/-84 dBm
		MCS4/12/20/28	19/22/23/25 dBm	-74.5/-77.5/-78.5/-80.5 dBm
		MCS5/13/21/29	19/22/23/25 dBm	-71.5/-74.5/-75.5/-77.5 dBm
		MCS6/14/22/30	18/21/22/24 dbm	-70.5/-73.5/-74.5/-76.5 dBm
		MCS7/15/23/31	17/20/21/23 dBm	-68.5/-71.5/-72.5/-74.5 dBm
5 GHz	802.11ac (VHT20)	MCS0/0/0/0	20/23/24/26 dBm	-90/-93/-94/-96 dBm
		MCS1/1/1/1	20/23/24/26 dBm	-87/-90/-91/-93 dBm
		MCS2/2/2/2	20/23/24/26 dBm	-84/-87/-88/-90 dBm
		MCS3/3/3/3	20/23/24/26 dBm	-81/-84/-85/-87 dBm
		MCS4/4/4/4	19/22/23/25 dBm	-77/-80/-81/-83 dBm
		MCS5/5/5/5	19/22/23/25 dBm	-73/-76/-77/-79 dBm
		MCS6/6/6/6	18/21/22/24 dBm	-70/-73/-74/-76 dBm
		MCS7/7/7/7	17/20/21/23 dBm	-71/-74/-75/-77 dBm
		MCS8/8/8/8	16/19/20/25 dBm	-64.5/-67.5/-68.5/-70.5 dBm
		MCS9/9/9/9	15/18/19/21 dBm	-61/-64/-65/-67 dBm

5 GHz	802.11ac (VHT40)	MCS1/1/1/1	20/23/24/26 dBm	-84/-87/-88/-90 dBm
		MCS2/2/2/2	20/23/24/26 dBm	-82/-85/-86/-88 dBm
		MCS3/3/3/3	20/23/24/26 dBm	-78/-81/-82/-84 dBm
		MCS4/4/4/4	19/22/23/25 dBm	-74.5/-77.5/-78.5/-80.5 dBm
		MCS5/5/5/5	19/22/23/25 dBm	-71.5/-74.5/-75.5/-77.5 dBm
		MCS6/6/6/6	18/21/22/24 dbm	-70.5/-73.5/-74.5/-76.5 dBm
		MCS7/7/7/7	17/20/21/23 dBm	-68.5/-71.5/-72.5/-74.5 dBm
		MCS8/8/8/8	16/19/20/22 dBm	-61.5/-64.5/-65.5/-67.5 dBm
		MCS9/9/9/9	15/18/19/21 dBm	-59.5/-62.5/-63.5/-65.5 dBm
5GHz	802.11ac (VHT80)	MCS0/0/0/0	20/23/24/26 dBm	-84/-87/-88/-90 dBm
		MCS1/1/1/1	20/23/24/26 dBm	-80/-83/-84/-86 dBm
		MCS2/2/2/2	20/23/24/26 dBm	-78/-81/-82/-84 dBm
		MCS3/3/3/3	20/23/24/26 dBm	-75/-78/-79/-81 dBm
		MCS4/4/4/4	19/22/23/25 dBm	-70.5/-73.5/-74.5/-76.5 dBm
		MCS5/5/5/5	19/22/23/25 dBm	-67/-70/-71/-73 dBm
		MCS6/6/6/6	18/21/22/24 dBm	-65/-68/-69/-71 dBm
		MCS7/7/7/7	17/20/21/23 dBm	-63.5/-66.5/-67.5/-69.5 dBm
		MCS8/8/8/8	16/19/20/22 dBm	-59.5/-62.5/-63.5/-65.5 dBm
		MCS9/9/9/9	15/18/19/21 dBm	-58/-61/-62/-64 dBm
5GHz	802.11ac (VHT80P80/160)	MCS0	20 dBm	-80.5 dBm
		MCS1	20 dBm	-76.5 dBm
		MCS2	20 dBm	-74.5 dBm
		MCS3	20 dBm	-71.5 dbm
		MCS4	20 dBm	-67 dBm
		MCS5	19 dBm	-63.5 dBm
		MCS6	18 dBm	-61.5 dBm
		MCS7	17 dbm	-60 dBm
		MCS8	16 dBm	-56 dBm
		MCS9	15 dBm	-55 dbm

# Specifications

## Radios

2.4 GHz 802.11b/g/n/ac 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 Low Energy (BLE) radio with Beacon and 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 Wave 2 and 802.11n Capabilities

4 x 4 multiple input, multiple output (MIMO) with four spatial streams
SU-MIMO and MU-MIMO support
Maximal ratio combining (MRC) & beamforming
20 and 40 MHz channels (802.11n), 20, 40, 80, 160, 80 + 80 MHz channels (802.11ac)
Up to 256-QAM on both 2.4 GHz & 5 GHz bands
Packet aggregation

## Power

Power over Ethernet: 37 - 57 V (802.3at required with functionality-restricted 802.3af mode supported)
Power consumption: 21W max (802.3at)
Power over Ethernet injector sold separately

## Mounting

Mounts to walls and vertical poles.
Mounting hardware included

## Physical Security

Security screw included
Concealed mount plate

## Environment

Operating temperature: -40 °F to 122 °F (-40 °C to 50 °C)
Humidity: 5 to 95% non-condensing
IP67 environmental rating

## Physical Dimensions

285.73 X 175.67 X 84.64 mm including mounting bracket
285.73 X 175.67 X 66.34 mm without mounting bracket
Weight: 3.142 lbs. (1.425 kg) with connector cap
Weight of connector cap: 3.2

## Compliance

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

## Interfaces

1x 100/1000/2.5G BASE-T Ethernet & 1x 10/100/1000 BASE-T Ethernet (RJ45)
Four external N-type female antenna connectors

## 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
Cisco ISE integration for Guest access and BYOD Posturing

## 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, & 802.11r 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

1 year hardware warranty with advanced replacement included
---

## Mean Time Between Failure (MTBF)

25°C: 227,707 hrs
50°C: 76,441 hrs

## Ordering Information

MR84-HW	Meraki MR84 Cloud Managed 802.11ac AP
MA-INJ-5-XX	Meraki Multigigabit 802.3at PoE Injector (XX = US/EU/UK/AU)
MA-ANT-20	Meraki Dual-Band Omni Antennas
MA-ANT-25	Meraki Dual-Band Patch Antenna
MA-ANT-27	Meraki Dual-Band Sector Antenna
AIR-ANT2513P4M-N=	Dual-band, 4-port, 30° beam

Note: Meraki Enterprise license required. For AIR-ANT2513P4M-N= antenna, contact Cisco directly.