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CISCO

MR74

Dual-band 2x2 MIMO 802.11ac Wave 2 access point with separate radios dedicated to security, RF Management, and Bluetooth

General purpose industrial / outdoor 802.11ac Wave 2 wireless

The Cisco Meraki MR74 is a four-radio, cloud-managed 2x2 MIMO 802.11ac Wave 2 access point. Designed for general purpose, next-generation deployments in harsh outdoor locations and industrial indoor conditions, the MR74 offers performance, enterprise-grade security, and intuitive management.

The MR74 delivers 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. A fourth radio delivers seamless Bluetooth Low Energy (BLE) scanning and Beaconing.

The combination of cloud management, 802.11ac, full-time RF environment scanning, and an integrated Bluetooth Low Energy radio delivers the high throughput, reliability, and flexibility required by the most demanding business applications like voice and high-definition streaming video, even in the most harsh outdoor environments.

MR74 and Meraki Cloud Management: A Powerful Combination

The MR74 is managed through the Meraki cloud, an intuitive browser-based interface that enables rapid deployment across multiple sites without the need for time-consuming training or costly certifications. Since the MR74 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 diagnostics tools enable immediate troubleshooting so that distributed networks can be managed with a minimum of hassle.

The MR74'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

- Ideal for outdoor and industrial indoor environments

- 2x2:2 802.11ac, 1.3 Gbps aggregate dual-band data rate

- 24x7 real-time WIPS/WIDS and spectrum analytics via dedicated third radio

- Integrated Bluetooth Low Energy (BLE) Beaconing and scanning radio

- Forms point-to-point links with optional sector antennas

- Self-healing, zero-configuration mesh

- Integrated enterprise security and guest access

- Application-aware traffic shaping

- Self-configuring, plug-and-play deployment

*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.

Recommended Use Cases

Outdoor coverage for corporate campuses, educational institutions, metro Wi-Fi, and parks

- Weather-resistant Wi-Fi delivery in open spaces
- Monetizeable hotspots with built-in splash pages

Indoor coverage for industrial areas (e.g., warehouses, manufacturing facilities)

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

Zero-touch point-to-point links

- Build a long-distance bridge between two networks
- Two MR74s can establish a long range link using high-gain antennas

Features

Dual-radio aggregate data rate of up to 1.3 Gbps*
An 867 Gbps 5 GHz 2x2:2 802.11ac radio and a 400 Mbps 2.4 GHz 2x2:2 802.11ac radio offer a combined aggregate dual-band throughput of 1.3 Gbps. Technologies like transmit beamforming and enhanced receive sensitivity allow the MR74 to support a higher client density than typical enterprise-class outdoor access points, resulting in fewer required APs for a given deployment. Band steering further enhances overall throughput, moving 5 GHz-capable clients to the 5 GHz radio and maximizing capacity in the 2.4 GHz range for older 802.11b/g clients.

Rugged industrial design
The MR74 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 rugged design, MR74 has a low profile and is easy to deploy.

Multi User Multiple Input Multiple Output (MU-MIMO)
The MR74 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.

Bluetooth Low Energy Beaconing and scanning
An integrated fourth radio for Bluetooth Low Energy (BLE) provides seamless deployment of BLE Beaconing functionality and effortless visibility of BLE client devices within range of the network. The MR74 enables the next generation of location-aware applications while future-proofing your deployment for new user engagement strategies.

24x7 wireless security and RF analytics
The MR74'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.

Integrated enterprise security and guest access
The MR74 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.

Application-aware traffic shaping
The MR74 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.

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.

High performance mesh
The MR74's advanced mesh technologies, like multi-channel routing protocols and multiple gateway support, make it possible to cover hard-to-wire areas and improve network resilience. In the event of a switch or cable failure, the MR74 will automatically revert to mesh mode.

Self-configuring, self-optimizing, self-healing
When plugged in, the MR74 automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. If new rmware is required, it is retreived by the AP and updated automatically. This ensures the network is maintained with bug fixes, security updates, and new features managed for you.

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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.

MR74 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	20dBm 20dBm 20dBm 20dBm	-96dBm -93dBm -91dBm -89dBm
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	20dBm 20dBm 20dBm 19dBm 19dBm 18dBm 18dBm 18dBm	-91dBm -90dBm -88dBm -87dBm -84dBm -81dBm -76dBm -75dBm
2.4 GHz	802.11n(HT20)	MCS0/8 MCS1/9 MCS2/10 MCS3/11 MCS4/12 MCS5/13 MCS6/14 MCS7/15	20/20 dBm 20/20 dBm 19/19 dBm 19/19 dBm 18/18 dBm 18/18 dBm 18/18 dBm 18/18 dBm	-91/91 dBm -88/-88 dBm -85/-85 dBm -82/-82 dBm -79/-79 dBm -75/-75 dBm -73/-73 dBm -70/-70 dBm
2.4 GHz	802.11ac(VHT20)	MCS0/0 MCS1/1 MCS2/2 MCS3/3 MCS4/4 MCS5/5 MCS6/6 MCS7/7 MCS8/8	20/20 dBm 20/20 dBm 19/19 dBm 19/19 dBm 18/18 dBm 18/18 dBm 18/18 dBm 18/18 dBm 17/17 dBm	-90/-90 dBm -88/-88 dBm -85/-85 dBm -83/-83 dBm -81/-81 dBm -79/-79 dBm -76/-76 dBm -72/-72 dBm -70/-70 dBm
2.4 GHz	802.11n(HT40)	MCS0/8 MCS1/9 MCS2/10 MCS3/11 MCS4/12 MCS5/13 MCS6/14 MCS7/15	20/20 dBm 20/20 dBm 19/19 dBm 19/19 dBm 18/18 dBm 18/18 dBm 18/18 dBm 18/18 dBm	-89/-89 dBm -86/-86 dBm -84/-84 dBm -82/-82 dBm -77/-77 dBm -73/-73 dBm -71/-71 dBm -70/-70 dBm

		MCS0/0	20/20 dBm	-88/-88 dBm
2.4 GHz	802.11ac(VHT40)	MCS1/1	20/20 dBm	-86/-86 dBm
		MCS2/2	19/19 dBm	-83/-83 dBm
		MCS3/3	19/19 dBm	-81/-81 dBm
		MCS4/4	18/18 dBm	-78/-78 dBm
		MCS5/5	18/18 dBm	-75/-75 dBm
		MCS6/6	18/18 dBm	-71/-71 dBm
		MCS7/7	18/18 dBm	-68/-68 dBm
		MCS8/8	17/17 dBm	-65/-65 dBm
		MCS9/9	16/16 dBm	-63/-63 dBm

MR74 Tx / Rx Tables
5 GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s	21dBm	-90dBm
		9 Mb/s	21dBm	-87dBm
		12 Mb/s	20dBm	-86dBm
		18 Mb/s	20dBm	-85dBm
		24 Mb/s	20dBm	-84dBm
		36 Mb/s	20dBm	-79dBm
		48 Mb/s	20dBm	-74dBm
		54 Mb/s	20dBm	-71dBm
5 GHz	802.11n(HT20)	MCS0/8	21/21 dBm	-88/-88 dBm
		MCS1/9	21/21 dBm	-85/-85 dBm
		MCS2/10	20/20 dBm	-83/-83 dBm
		MCS3/11	20/20 dBm	-79/-79 dBm
		MCS4/12	20/20 dBm	-76/-76 dBm
		MCS5/13	20/20 dBm	-72/-72 dBm
		MCS6/14	20/20 dBm	-71/-71 dBm
		MCS7/15	19/19 dBm	-69/-69 dBm
5 GHz	802.11n(VHT20)	MCS0/0	21/21 dBm	-88/-88 dBm
		MCS1/1	21/21 dBm	-86/-86 dBm
		MCS2/2	20/20 dBm	-83/-83 dBm
		MCS3/3	20/20 dBm	-79/-79 dBm
		MCS4/4	20/20 dBm	-77/-77 dBm
		MCS5/5	20/20 dBm	-75/-75 dBm
		MCS6/6	20/20 dBm	-72/-72 dBm
		MCS7/7	19/19 dBm	-70/-70 dBm
		MCS8/8	18/18 dBm	-67/-67 dBm

Cisco Systems, Inc. | 500 Terry A. Francois Blvd, San Francisco, CA 94158 | (415) 432-1000 | sales@meraki.com

5 GHz	802.11n(HT40)	MCS0/8 MCS1/9 MCS2/10 MCS3/11 MCS4/12 MCS5/13 MCS6/14 MCS7/15	21/21 dBm 21/21 dBm 20/20 dBm 20/20 dBm 19/19 dBm 19/19 dBm 19/19 dBm 19/19 dBm	-85/-85 dBm -84/-87 dBm -84/-84 dBm -79/-79 dBm -77/-77 dBm -72/-72 dBm -70/-70 dBm -68/-68 dBm
5 GHz	802.11n(VHT40)	MCS0/0 MCS1/1 MCS2/2 MCS3/3 MCS4/4 MCS5/5 MCS6/6 MCS7/7 MCS8/8 MCS9/9	21/21 dBm 21/21 dBm 20/20 dBm 20/20 dBm 19/19 dBm 19/19 dBm 19/19 dBm 19/19 dBm 18/18 dBm 17/17 dBm	-85/-85 dBm -82/-82 dBm -79/-79 dBm -77/-77 dBm -74/-74 dBm -70/-70 dBm -68/-68 dBm -67/-67 dBm -64/-64 dBm -63/-63 dBm
5 GHz	802.11ac(VHT80)	MCS0/0 MCS1/1 MCS2/2 MCS3/3 MCS4/4 MCS5/5 MCS6/6 MCS7/7 MCS8/8 MCS9/9	20/20 dBm 20/20 dBm 19/19 dBm 19/19 dBm 18/18 dBm 18/18 dBm 18/18 dBm 18/18 dBm 17/17 dBm 17/17 dBm	-83/-83 dBm -81/-81 dBm -79/-79 dBm -76/-76 dBm -73/-73 dBm -70/-70 dBm -67/-67 dBm -66/-66 dBm -62/-62 dBm -60/-60 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 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 (2.4Ghz), 20, 40, and 80 MHz channels (5Ghz)

Up to 256 QAM on both 2.4 GHz and 5 GHz bands

Packet aggregation

Power

Power over Ethernet: 37 - 57 V (802.3af compatible)

Power consumption: 11 W max (802.3af)

Power over Ethernet injector sold separately

Mounting

Mounts to walls and vertical poles.

Mounting hardware included

Physical Security

Security screw included

Environment

Operating temperature: -40 °F to 131 °F (-40 °C to 55 °C)

IP67 environmental rating

Physical Dimensions

10" x 6.2" x 2.6" (256 mm x 158 mm x 65 mm)

Weight: 2.4 lbs. (1.09 kg)

Interfaces

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

Four external N-type female antenna connectors

Security

IIntegrated 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

1 power/booting/firmware upgrade status

Regulatory

RoHS

For additional country-specific regulatory information, please contact Meraki sales

Warranty

1 year hardware warranty with advanced replacement included

Ordering Information

MR74-HW	Meraki MR74 Cloud Managed 802.11ac AP
MA-INJ-4-XX	Cisco Meraki 802.3at Power over Ethernet Injector (XX = US, EU, UK or AU)
MA-ANT-20	Meraki Dual-Band Omni Antennas
MA-ANT-27	Meraki Dual-Band Sector Antenna
MA-ANT-25	Meraki Dual-Band Patch Antenna

Note: Meraki Enterprise license required.