

MR70

Dual-band, 802.11ac Wave 2 ruggedized access point delivering basic enterprise wireless for outdoor or low-density deployments



Entry-level cloud-managed 802.11ac wireless

The Cisco Meraki MR70 is a dual-radio, cloud-managed 2x2:2 802.11ac Wave 2 access point with MU-MIMO support. Designed for basic, best-effort deployments that require rapid installation, the MR70 provides enterprise-grade security and simple management in a ruggedized, IP67-rated form factor that sports integrated omni-directional antennas.

The MR70 is ideal for municipal athletic fields, garages, public gardens, space-constrained outdoor deployments, and even rapid-response emergency kits designed to quickly deliver wireless in disaster-struck areas. The MR70 provides a maximum 1.3 Gbps* aggregate frame rate with concurrent 2.4 GHz and 5 GHz radios.

MR70 and Meraki cloud management: a powerful combination

The MR70 is managed through the Meraki cloud, with an intuitive browser-based interface that enables rapid deployment without training or certifications. Because the access point is monitored 24x7 by the Meraki cloud, the MR70 can deliver real-time alerts if the network encounters problems, and diagnostic tools enable real-time troubleshooting over the web. The MR70'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
- 1.3 Gbps* aggregate dual-band frame rate
- Integrated enterprise security and guest access
- Built-in WIPS for threat detection and remediation
- Application-aware traffic shaping
- Self-configuring, plug-and-play deployment
- Rapid, plug-and-play deployment
- Integrated location analytics and heat map

* 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.

Features and capabilities

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 MR70 offers MU-MIMO for more efficient transmission to multiple clients. This increases the total network performance and improves the end user experience.

Integrated enterprise security and guest access

The MR70 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.

Secure wireless environments using Air Marshal

The MR70 comes equipped with Air Marshal, a built-in wireless intrusion prevention system (WIPS) for threat detection and attack remediation. MR70 access points will scan their environment opportunistically based on user-defined preferences. Alarms and auto-containment of malicious rogue APs are configured via flexible remediation policies, ensuring optimal security and performance in even the most challenging wireless environments.

Application-aware traffic shaping

The MR70 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.

Self-configuring, self-optimizing, self-healing

The MR70's advanced mesh technologies like multi-channel routing protocols and multiple gateway support enable scalable coverage of hard-to-wire areas with zero configuration. Mesh also improves network reliability – in the event of a switch or cable failure, the MR70 will automatically revert to mesh mode, providing continued gateway connectivity to clients.

Rapid, plug-and-play deployment

When plugged in, the MR70 automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. It self-optimizes, determining the ideal channel, transmit power, and client connection parameters.

Integrated analytics

Drill down into the details of your network usage with highly granular traffic analytics. Extend your visibility into the physical world with built-in location analytics that enables you to view visitor numbers, dwell time, repeat visit rates, and track foot traffic trends.

MR70 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	-99 dBm
		2 Mb/s	19 dBm	-96 dBm
		5.5 Mb/s	19 dBm	-94 dBm
		11 Mb/s	19 dBm	-91 dBm
2.4 GHz	802.11g	6 Mb/s	19 dBm	-94 dBm
		9 Mb/s	19 dBm	-93 dBm
		12 Mb/s	19 dBm	-92 dBm
		18 Mb/s	19 dBm	-89 dBm
		24 Mb/s	19 dBm	-86 dBm
		36 Mb/s	18 dBm	-83 dBm
		48 Mb/s	17 dBm	-78 dBm
		54 Mb/s	16 dBm	-77 dBm
2.4 GHz	802.11n (HT20)	MCS0/8	19/19 dBm	-93/-93 dBm
		MCS1/9	19/19 dBm	-90/-90 dBm
		MCS2/10	19/19 dBm	-88/-88 dBm
		MCS3/11	19/19 dBm	-84/-84 dBm
		MCS4/12	18/18 dBm	-81/-81 dBm
		MCS5/13	17/17 dBm	-77/-77 dBm
		MCS6/14	16/16 dBm	-75/-75 dBm
		MCS7/15	15/15 dBm	-74/-74 dBm

MR70 Tx / Rx tables | 5 GHz

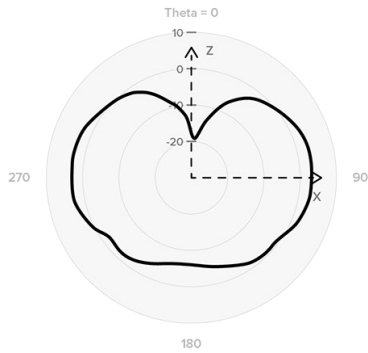
Operating band	Operating mode	Data rate	TX power	RX sensitivity
5 GHz	802.11a	6 Mb/s	19 dBm	-92 dBm
		9 Mb/s	19 dBm	-91 dBm
		12 Mb/s	19 dBm	-90 dBm
		18 Mb/s	19 dBm	-88 dBm
		24 Mb/s	19 dBm	-85 dBm
		36 Mb/s	18 dBm	-72 dBm
		48 Mb/s	17 dBm	-77 dBm
		54 Mb/s	16 dBm	-75 dBm
5 GHz	802.11n (HT20)	MCS0/8	18/18 dBm	-92/-92 dBm
		MCS1/9	18/18 dBm	-88/-88 dBm
		MCS2/10	18/18 dBm	-87/-87 dBm
		MCS3/11	18/18 dBm	-83/-83 dBm
		MCS4/12	18/18 dBm	-80/-80 dBm
		MCS5/13	17/17 dBm	-76/-76 dBm
		MCS6/14	16/16 dBm	-74/-74 dBm
		MCS7/15	15/15 dBm	-72/-72 dBm
5 GHz	802.11n (HT40)	MCS0/8	18/18 dBm	-88/-88 dBm
		MCS1/9	18/18 dBm	-86/-86 dBm
		MCS2/10	18/18 dBm	-83/-83 dBm
		MCS3/11	18/18 dBm	-80/-80 dBm
		MCS4/12	18/18 dBm	-77/-77 dBm
		MCS5/13	17/17 dBm	-73/-73 dBm
		MCS6/14	16/16 dBm	-72/-72 dBm
		MCS7/15	15/15 dBm	-70/-70 dBm

MR70 Tx / Rx tables | 5 GHz

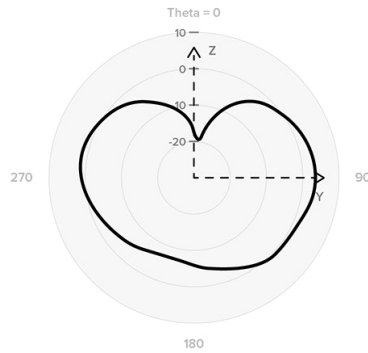
Operating band	Operating mode	Data rate	TX power	RX sensitivity
5 GHz	MCS0	MCS0	18 dBm	-92 dBm
		MCS1	18 dBm	-89 dBm
		MCS2	18 dBm	-87 dBm
		MCS3	18 dBm	-84 dBm
		MCS4	18 dBm	-81 dBm
		MCS5	17 dBm	-77 dBm
		MCS6	16 dBm	-75 dBm
		MCS7	15 dBm	-74 dBm
		MCS8	14 dBm	-70 dBm
5 GHz	802.11ac (VHT40)	MCS0	18 dBm	-88 dBm
		MCS1	18 dBm	-86 dBm
		MCS2	18 dBm	-84 dBm
		MCS3	18 dBm	-81 dBm
		MCS4	18 dBm	-78 dBm
		MCS5	17 dBm	-74 dBm
		MCS6	16 dBm	-72 dBm
		MCS7	15 dBm	-71 dBm
		MCS8	14 dBm	-67 dBm
		MCS9	13 dBm	-66 dBm
5 GHz	802.11ac (VHT80)	MCS0	18 dBm	-86 dBm
		MCS1	18 dBm	-84 dBm
		MCS2	18 dBm	-81 dBm
		MCS3	18 dBm	-78 dBm
		MCS4	18 dBm	-75 dBm
		MCS5	17 dBm	-71 dBm
		MCS6	16 dBm	-69 dBm
		MCS7	15 dBm	-68 dBm
		MCS8	13 dBm	-64 dBm
		MCS9	11 dBm	-62 dBm

Signal coverage patterns

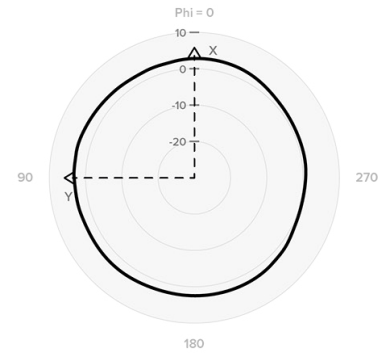
Radiation Pattern for 2.4 GHz Antennas



XZ-cut

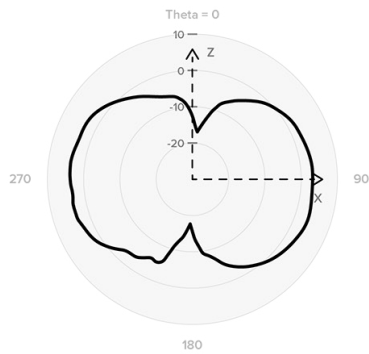


YZ-cut

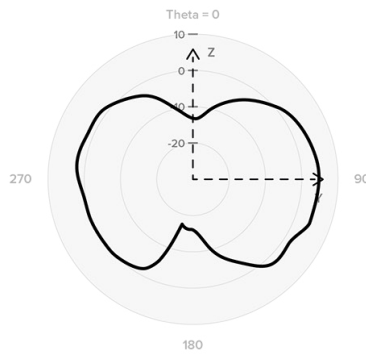


XY-cut
(Theta = 90°)

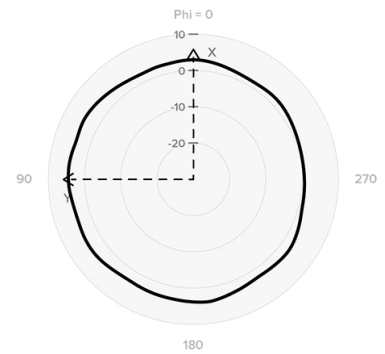
Radiation Pattern for 5 GHz Antennas



XZ-cut



YZ-cut



XY-cut
(Theta = 90°)

MR70 specifications

Radios management

2.4 GHz 802.11b/g/n/ac client access radio

5 GHz 802.11a/n/ac Wave 2 client access radio

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 (2.4 GHz), 20, 40, and 80 MHz channels (5 GHz)

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)

Alternative 12 V DC input

Power over Ethernet injector sold separately

Mounting

Mounts to walls and vertical poles

Mounting hardware included

Physical security

Security screw included

Environment

Operating temperature: -4 °F to 131 °F (-20 °C to 55 °C)

IP67 environmental rating

Operating Altitude: Up to 40,000 feet (12,192 meters)

Operating humidity: 5% to 95%

Physical dimensions

9.65" x 4.53" x 1.18" (245 mm x 115 mm x 30 mm)

Weight: 15.87 oz (0.45 kg)

Antenna

Integrated omni-directional antennas
(4.5 dBi gain at 2.4 GHz, 4.7 dBi gain at 5 GHz)

Interfaces

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

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

MR70 specifications

Quality of service

Advanced Power Save (U-APSD)

WMM Access Categories with DSCP and 802.1p support

Layer 7 application traffic identification and shaping

LED indicators

PMK, OKC, & 802.11r for fast Layer 2 roaming

Distributed or centralized layer 3 roaming

Warranty

1 power/booting/firmware upgrade status

Regulatory

RoHS

EN50155: 2017 (Railway)

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

Warranty

1 year hardware warranty with advanced replacement included

Ordering information

MR70-HW: Meraki MR70 Cloud Managed 802.11ac AP

MA-PWR-30W-XX: Meraki AC Adapter for MR Sseries (XX = US/EU/UK/AU)

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

Note: Meraki Enterprise license required

Compliance and standards

Safety approvals

UL 60950-1

CAN/CSA-C22.2 No. 60950-1

IEC 60950-1

EN 60950-1

Radio approvals

Canada: FCC Part 15C, 15E, RSS-247

Europe: EN 300 328, EN 301 893

Australia/NZ: AS/NZS 4268

Mexico: NOM-121

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EMI approvals (class B)

Canada: FCC Part 15B, ICES-003

Europe: EN 301 489-1-17, EN 55032, EN 55024

Australia/NZ: CISPR 32

Exposure approvals

Canada: FCC Part 2, RSS-102

Europe: EN 50385, EN 62311

Australia: AS/NZS 2772