Meraki MR14

Dual-Radio, Dual-Band 802.11n Access Point

Multi-radio performance for the most demanding office environments

The Power of Two Radios and 802.11n

The Meraki MR14 is a dual-radio 802.11n access point designed to provide ultra high-speed, reliable, and cost-effective wireless coverage in even the most challenging indoor environments. The MR14 delivers the high throughput and advanced features required by the most demanding business applications, such as voice and streaming video.

Dual 802.11n radios enable the MR14 to simultaneously serve up to twice as many clients as a single-radio access point. The MR14's dual-concurrent design also dramatically increases mesh networking performance over multiple hops. MIMO technology plus advanced radio techniques like beam forming, multiple ratio combining, and expanded channel widths provide superior speed and more dependable coverage regardless of your deployment scenario.

The MR14 is compatible with the Meraki Cloud Controller, which provides centralized management, authentication, monitoring, and performance optimization.

Product Highlights

- 802.11n MIMO provides up to six times a/b/g speeds with improved range and more reliable coverage
- Enhanced dual-concurrent performance with advanced noise filtering for improved range and speed
- Self-healing, full-duplex mesh operation
- Seamless, reliable operation with auto-recovery from power or local interference events
- Powered with energy-efficient 802.3af Power over Ethernet
- Sleek design with internal antennas that blends into office environments
- Easy and flexible installation options
- Rated for mounting in plenum spaces
- Fully Integrated with the Meraki Cloud Controller

Rapid, Simple and Flexible Deployment Anywhere You Need the Highest Levels of Wireless Performance

A sleek industrial design allows the MR14 to be installed even in the most highly visible locations. A simple, intuitive, and flexible mount system makes secure installation possible within minutes on walls and ceilings without the need for expensive technicians. The MR14 is also UL 2043 compliant, meaning it can be mounted in building plenum spaces in compliance with even the strictest building codes.

Since the MR14 is configured and controlled through the web-based Meraki Cloud Controller, creating a secure and sophisticated network takes just minutes. In addition, the MR14 features Meraki's award-winning, self-healing mesh technology, which can further reduce installation time by enabling rapid extension of your network into areas where laying Ethernet or fiber cabling would be impractical.

Ease of Management with Limited IT Resources

The Meraki Cloud Controller provides automatic, over-the-air firmware upgrades, hosted branding, and simplified authentication. Network administrators can also remotely monitor and configure their networks from any web-enabled device. The Meraki Cloud Controller also runs network-wide optimizations and frequency-planning to maximize capacity and throughput. With a global view of network health, the Meraki Cloud Controller automatically balances capacity to maximize client throughput across the network.

The Metric that Matters: ROI

Meraki's hosted network architecture eliminates the need for expensive controller hardware and software, significantly reducing upfront capital expenditures. In addition, for areas where installing Ethernet or fiber cabling is cost-prohibitive, Meraki's mesh technology reduces upfront wiring costs. Also, the MR14's low, fully 802.3af-compliant power consumption means not having to pay to upgrade your switches. But most importantly, Meraki simplifies the network design process, makes installation "plug-and-play" and allows even the largest networks to be managed by a single person from any web browser, substantially reducing the necessary expenditure on IT staff and consultants.

Recommended Use Cases

Serving Mixed Legacy and 802.11n Clients Simultaneously

- Use one radio at 2.4 GHz primarily for 802.11b/g clients
- Use other radio at 5 GHz to serve 802.11n clients the fastest possible speed

Very High User Density Networks

- Two 802.11n radios serve up to twice as many clients as single radio access points
- Maximum user density is attained when there is a high density of 802.11a/b/g/n clients

High-Performance Networks

- Provide high-speed access to support bandwidth-intensive applications such as streaming video and audio
- The highest performance is achieved when each MR14 is connected to a wired backhaul.

Networks Requiring Sophisticated Mesh

- Dual-concurrent design allows several access points to wirelessly share the same Ethernet connection with minimal drop in client performance
- Lower deployment cost due to fewer required gateways

Networks in Challenging RF Environments

- Areas with high levels of RF noise
- Buildings with large amounts of metal in the structure that can wreak havoc on a/b/g networks

Specifications

Radios

- Two 802.11 a/b/g/n radios
- Dual concurrent operation in both 2.4 and 5 GHz bands
- Auto-selection of optimal 2.4 or 5 GHz frequencies
- Max radio rate 300 mbit/s per radio
- Operating Bands:

FCC (US)	EU (Europe)
2.412-2.484 GHz	2.412-2.484 GHz
5.150-5.250 GHz (UNII-1)	5.150-5.250 GHz (UNII-1)
5.725 -5.825 GHz (UNII-3)	5.250-5.350, 5.470-5.725 GHz (UNII-2)

802.11n Capabilities

- 2 x 2 multiple input, multiple output (MIMO) with two spatial streams
- Maximal ratio combining (MRC)
- Beamforming
- 20 and 40 MHz channels
- Packet aggregation
- Cyclic shift diversity (CSD) support

Power

- Power over Ethernet: 24 - 57 V (802.3af compatible)
- Power consumption: 11.6 W max; 7.5 W typical
- Power over Ethernet injector available separately

Mounting

Standard (all hardware included)

- Desktop
- Wall mount
- Ceiling tile rail (9/16, 15/16 or 1 ½" flush or recessed rails
- Assorted cable junction boxes

Optional (additional mounting hardware required)

- Plenum spaces

Physical Security

- Security screw included
- Kensington lock hard point
- Padlock hard point (Master Lock 120T or equivalent)

Environment

- Operating temperature: 32° F to 104° F (0° C to 40° C)
- Humidity: 5 to 95% non-condensing

Physical Dimensions

- 8.5" x 6.6" x 1.7" (216 mm x 168 mm x 43 mm) not including mount
- Weight: 27 oz (0.76 kg)

Antenna

- Integrated omni-directional antennas
- Gain: 2 dBi @ 2.4 GHz, 4 dBi @ 5 GHz

Interfaces

- 100/1000 Base-T (RJ45) with 48V DC 802.3af Power over Ethernet

Security

- WEP, WPA, WPA2 (802.11i)
- TKIP and AES
- 802.1x
- VLAN tagging (802.1q)

Quality of Service

- Wireless Quality of Service (WMM/802.11e)
- Advanced Power Save (U-APSD)

LED Indicators

- 4 signal strength
- 1 Ethernet connectivity
- 1 Power/booting/firmware upgrade status

Regulatory

Product Safety Certifications

- IEC / EN60950-1
- UL2043 (Plenum rating)
- RoHS

Radio Certifications

- FCC (US)
- IC (Canada)
- CE (Europe) with DFS

Warranty

- 1 year hardware warranty included

RF Performance Table

Operating Band	Operating Mode	Data Rate	Max TX Power	RX Sensitivity
2.4 GHz	802.11b	1Mb/s	18.4	-95
		2Mb/s	19.4	-95
		5.5Mb/s	19.9	-95
		11Mb/s	19.9	-91
2.4 GHz	802.11g	6Mb/s	22.6	-94
		9Mb/s	22.7	-94
		12Mb/s	22.7	-94
		18Mb/s	22.8	-93
		24Mb/s	22.7	-90
		36Mb/s	21.6	-86
		48Mb/s	20.5	-82
		54Mb/s	18.5	-80
2.4 GHz	802.11n Draft 2.0 (HT20)	MCS0 HT20	20.6	-95
		MCS1 HT20	20.6	-94
		MCS2 HT20	20.6	-92
		MCS3 HT20	20.5	-89
		MCS4 HT20	20.5	-85
		MCS5 HT20	20.6	-81
		MCS6 HT20	18.7	-79
		MCS7 HT20	16.6	-78
2.4 GHz	802.11n Draft 2.0 (HT40)	MCS8 HT40	20.1	-90
		MCS9 HT40	19.9	-90
		MCS10 HT40	19.9	-89
		MCS11 HT40	19.9	-85
		MCS12 HT40	19.0	-83
		MCS13 HT40	19.2	-78
		MCS14 HT40	17.9	-77
		MCS15 HT40	15.9	-74
5 GHz	802.11a	6Mb/s	20.4	-95
		9Mb/s	20.5	-94
		12Mb/s	20.5	-93
		18Mb/s	20.5	-91
		24Mb/s	20.4	-87
		36Mb/s	19.6	-84
		48Mb/s	18.6	-80
		54Mb/s	16.2	-79
5 GHz	802.11n Draft 2.0 (HT20)	MCS0 HT20	19.7	-94
		MCS1 HT20	19.8	-92
		MCS2 HT20	19.7	-90
		MCS3 HT20	19.1	-86
		MCS4 HT20	19.1	-83
		MCS5 HT20	19.2	-80
		MCS6 HT20	18.1	-78
		MCS7 HT20	14.3	-76
5 GHz	802.11n Draft 2.0 (HT40)	MCS8 HT40	18.0	-91
		MCS9 HT40	18.0	-89
		MCS10 HT40	18.0	-87
		MCS11 HT40	17.9	-84
		MCS12 HT40	18.0	-81
		MCS13 HT40	18.0	-77
		MCS14 HT40	17.1	-76

- Maximum hardware capability shown above. Maximum transmit power is limited by local regulatory settings and is configurable in increments of 1 dBm through the Meraki Cloud Controller.

Ordering Information

MR14-HW	Meraki MR14 Cloud-Managed Dual-Radio 802.11n Access Point
POE-INJ-3-US	Meraki 802.3af Power over Ethernet Injector (US Plug)
POE-INJ-3-EU	Meraki 802.3af Power over Ethernet Injector (EU Plug)
POE-INJ-3-UK	Meraki 802.3af Power over Ethernet Injector (UK Plug)
POE-INJ-3-AU	Meraki 802.3af Power over Ethernet Injector (AU Plug)

Note: Meraki Cloud Controller license required.