

# MR18

Dual-radio 2x2 MIMO 802.11n access point with third radio dedicated to RF and security



## Dual-band cloud-managed wireless LAN

The Cisco Meraki MR18 is an industry-first three-radio, cloud managed 2x2 MIMO 802.11n access point designed for deployments in offices, schools, hospitals, hotels, and large retail stores. The MR18 features dual-concurrent, dual-band operation and advanced 802.11n technologies such as MIMO and beam forming, delivering the high throughput and reliable coverage required by demanding business applications like voice and video. Not only does the MR18 provide speeds of up to 600 Mbps with two concurrent 2x2:2 MIMO radios, but also delivers unprecedented security and spectrum visibility via a third radio dedicated to 24x7 WIDS/WIPS and advanced RF analytics.

### MR18 and Meraki Cloud Management: A Powerful Combo

The MR18 is managed via the Meraki cloud, with an intuitive browser-based interface that lets you get up and running quickly without training or certifications. Since the MR18 is self-configuring and managed over the web, it can even be deployed at a remote location without on-site IT staff.

The MR18 is monitored 24x7 via the cloud, which delivers real-time alerts if your network encounters problems. Remote diagnostics tools enable real-time troubleshooting over the web, meaning multi-site, distributed networks can be managed remotely.

The MR18'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

- Dual-concurrent 802.11n radios
- Up to 600 Mbps combined data rate
- 24x7 real-time WIPS/WIDS and spectrum analytics via dedicated third radio\*
- Enhanced transmit power and receive sensitivity
- Self-healing, zero-configuration mesh
- Integrated enterprise security and guest access
- Application-aware traffic shaping
- Self-configuring, plug-and-play deployment
- Sleek, low profile design blends into office environments
- Optimized for voice and video

# Features

## Dual enterprise class 802.11n radios, up to 600 Mbps

The MR18 features two powerful radios and advanced RF design for enhanced receive sensitivity. Combined with 802.11n technologies including 2x2 MIMO and transmit beamforming, the MR18 delivers data rates of up to 600 Mbps and enhanced coverage, meaning fewer access points are required for a given deployment. In addition, the MR18 uses band steering to automatically serve 5 GHz-capable clients with the 5 GHz radio, maximizing capacity in the 2.4 GHz range for older 802.11b/g and 2.4 GHz-only clients

## Dedicated third radio delivers 24x7 wireless security and RF analytics\*

The MR18's 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.

## Application-aware traffic shaping

The MR18 includes an integrated layer 7 packet inspection, classification, and control engine, enabling QoS policies based on traffic type. Integrated support for Wireless Multi Media (WMM) and 802.1p DSCP tagging. Prioritize your mission critical applications, while setting limits on recreational traffic, e.g., peer-to-peer and video streaming.

## Automatic RF optimization with spectrum analysis

The MR18's sophisticated, automated RF optimization means that there is no need for the dedicated hardware and RF expertise typically required to tune a wireless network. An integrated spectrum analyzer monitors the airspace for neighboring WiFi devices as well as non-802.11 interference – microwave ovens, Bluetooth headsets, etc. The Meraki cloud then automatically optimizes the MR18's channel selection, transmit power, and client connection settings, providing optimal performance even under challenging RF conditions.

## Integrated enterprise security and guest access

The MR18 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. The integrated policy firewall (Identity Policy Manager) enables granular group or device-based access control. Meraki Teleworker VPN makes it easy to extend the corporate LAN to remote sites, without requiring clients and devices to have client VPN software. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

## Secure wireless environments 24x7 using Air Marshal

There's no need to 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 auto-containment of malicious and rogue APs are configured via flexible remediation policies, ensuring optimal security and performance in even the most challenging wireless environments.

## High performance mesh

The MR18's advanced mesh technologies like multi-channel routing protocols and multiple gateway support enable scalable, high throughput coverage of hard-to-wire areas with zero configuration. Mesh also improves network reliability – in the event of a switch or cable failure, the MR18 will automatically revert to mesh mode, providing continued gateway connectivity to clients.

## Self-configuring, self-optimizing, self-healing

When plugged in, the MR18 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. It also self heals, responding automatically to switch failures and other errors.

## Low profile, environmentally friendly design

Despite its incredible power and feature set, the MR18 is the lowest profile 802.11n access point available – at just one inch thick, it blends seamlessly into any environment. In addition to looking great, the MR18 is earth friendly: we've eliminated excess packaging and documentation, and 90% of the access point materials are recyclable. A maximum power draw of only 9.8 watts and a cloud-managed architecture mean that pollution, material utilization and electricity bills are minimized.

\*Available Q2 CY2014 via software update

# Specifications

## Radios

One 2.4 GHz 802.11b/g/n radio, one 5 GHz 802.11a/n radio

Dedicated radio for dual-band WIPS & spectrum analysis<sup>1</sup>

Concurrent operations of all three radios

Max data rate 600 Mbit/s

Operating Bands:

### FCC (US)

2.412-2.484 GHz

5.150-5.250 GHz (UNII-1)

5.725 -5.825 GHz (UNII-3)

### EU (Europe)

2.412-2.484 GHz

5.150-5.250 GHz (UNII-1)

5.250-5.350, 5.470-5.600, 5.650-5.725 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)

12V DC

Power consumption: 9.8 W max

Power over Ethernet injector and DC adapter sold separately

## Mounting

All standard mounting hardware included

Desktop and wall mount

Ceiling tile rail (9/16, 15/16 or 1 1/2" flush or recessed rails), assorted cable junction boxes

## Physical Security

Security screw included

Kensington lock hard point

Anti-tamper cable bay

Concealed mount plate

## Environment

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

Humidity: 5 to 95% non-condensing

## Physical Dimensions

7.25" x 5.69" x 1.17" (186 mm x 146 mm x 30 mm) excluding deskmount feet or mount plate

Weight: 25.7 oz (0.73 kg)

## Antenna

Integrated omni-directional antennas

Gain: 3 dBi @ 2.4 GHz, 5 dBi @ 5 GHz

## Interfaces

1x 100/1000Base-T Ethernet (RJ45) with 48V DC 802.3af PoE

1x DC power connector (5mm x 2.1mm, center positive)

## Security

Integrated policy firewall (Identity Policy Manager)

Mobile device policies

Air Marshal: Real-time WIPS (wireless intrusion prevention system) with alarms

Guest isolation

Teleworker VPN with IPsec

PCI compliance reporting

WEP, WPA, WPA2-PSK, WPA2-Enterprise with 802.1X

TKIP and AES encryption

VLAN tagging (802.1q)

## Quality of Service

Wireless Quality of Service (WMM/802.11e)

DSCP (802.1p)

Layer 7 application traffic shaping and firewall

## Mobility

PMK and OKC credential support for fast Layer 2 roaming

802.11r and 802.11k

Layer 3 roaming

## LED Indicators

2 Ethernet status

1 power/booting/firmware upgrade status

## Regulatory

Anatel (Brazil), FCC (US), IC (Canada), CE (Europe), C-Tick (Australia/New Zealand)

RoHS

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

## Mean Time Between Failure (MTBF)

575,000 hours

## Guarantee

Lifetime hardware warranty with advanced replacement included

## Ordering Information

MR18-HW Cisco Meraki MR18 Cloud Managed AP

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

AC-MR-1-XX Cisco Meraki AC Adapter for MR Series (XX = US, EU, UK or AU)

Note: Cisco Meraki Enterprise license required.

\*Available Q2 CY2014 via software update

## RF Performance Table

Operating Band	Operating Mode	Data Rate	TX Power (dBm)	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	24	-91
		11 Mb/s	24	-89
2.4 GHz	802.11g	6 Mb/s	23	-92
		54 Mb/s	20	-82
2.4 GHz	802.11n (HT20)	MCS0/8 HT20	24	-93
		MCS7/15 HT20	19	-75
2.4 GHz	802.11n (HT40)	MCS0/8 HT40	22	-91
		MCS7/15 HT40	19	-78
5 GHz	802.11a	6 Mb/s	24	-98
		54 Mb/s	20	-80
5 GHz	802.11n (HT20)	MCS0/8 HT20	24	-98
		MCS7/15 HT20	19	-80
5 GHz	802.11n (HT40)	MCS0/8 HT40	23	-94
		MCS7/15 HT40	14	-73

\* Maximum hardware capability shown above. Transmit power is configurable in increments of 1 dB and is automatically limited to comply with local regulatory settings.

## Signal Coverage Patterns

