Meraki MR16

Dual-Radio 802.11n Access Point

High performance cloud-managed wireless LAN

The Meraki MR16 is an enterprise class, dual-concurrent 802.11n access point designed for high-density deployments in large offices, schools, hospitals, hotels and large retail stores. The MR16 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 the most demanding business applications like voice and video.

MR16 and the Meraki Cloud Controller: A Powerful Combo

The MR16 is managed through the Meraki Enterprise Cloud Controller, with an intuitive browser-based interface that lets you get up and running quickly without training or certifications. Since the MR16 is self-configuring and managed over the web, you can even deploy the MR16 at a remote location without on-site IT staff.

The MR16 is monitored 24x7 from the Meraki Enterprise Cloud Controller 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 MR16's firmware is always kept up to date from the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web, so you never have to manually download software updates or worry about missing security patches.

Product Highlights

- Dual-concurrent 802.11n radios, up to 600 Mbps throughput
- 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 mbit/sec

The MR16 features two powerful radios and advanced RF design for enhanced receive sensitivity. Combined with 802.11n technologies including 2x2 MIMO and transmit beamforming, the MR16 delivers up to 600 mbit/sec throughput and up to 50% increased range compared to typical enterprise-class 802.11n access points, meaning fewer access points are required for a given deployment. In addition, dual-concurrent 802.11n radios and band steering technology allow MR16 to automatically serve legacy 802.11b/g clients with the 2.4 Ghz radio and newer 802.11n clients to the 5 Ghz band to provide maximum speed to all clients.

Application-aware traffic shaping

The MR16 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.

Automatic cloud-based RF optimization with spectrum analysis

The MR16'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 Controller then automatically optimizes the MR16's channel selection, transmit power, and client connection settings, providing optimal performance even under challenging RF conditions.

Integrated enterprise security and guest access

The MR16 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. Our policy firewall (Identity Policy Manager) enables group-based, granular access policy control.

Voice and video optimized

The MR16 is highly optimized for to deliver reliable performance for latency-sensitive applications such as wireless voice and video, featuring Wireless Multi Media (WMM) support, 802.1p DSCP tagging and application-aware traffic shaping and QoS policies.

High performance mesh

The MR16'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 MR16 will automatically revert to mesh mode, providing continued gateway connectivity to clients.

Self-configuring, self-optimizing, self-healing

When plugged in, the MR16 automatically connects to the Meraki Enterprise Cloud Controller, downloads its configuration, and joins the appropriate network. It self optimizes, determining the ideal channel, transmit power, and client connection parameters. And it self heals, responding automatically to switch failures and other errors.

Low profile, environmentally friendly design

Despite its incredible power and feature set, the MR16 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 MR16 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 10.5 watts and a cloud-hosted, multi-tenant controller mean that pollution, material utilization and your electric bill are kept to a minimum.

Specifications

› Radios
- One 802.11b/g/n and one 802.11a/n radio
- Dual concurrent operation in 2.4 and 5 GHz bands
- Max throughput rate 600 mbit/s
- 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)
- 12V DC
- Power consumption: 10.5 W max
- Power over Ethernet injector and DC adapter sold separately

› Mounting
- All standard mounting hardware included
- Desktop
- Wall mount
- Ceiling tile rail (9/16, 15/16 or 1 ½" 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
- 7.3" x 5.8" x 1.0" (185 mm x 147 mm x 25 mm) not including desk-mount feet or mount plate
- Weight: 17 oz (0.48 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)
- 24x7 wireless intrusion detection
- Guest isolation
- 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)
- Advanced Power Save (U-APSD)
- DSCP (802.1p)

› LED Indicators
- 4 signal strength
- 1 Ethernet connectivity
- 1 power/booting/firmware upgrade status

› Regulatory
- FCC (US)
- IC (Canada)
- CE (Europe)
- C-Tick (Australia/New Zealand)
- IEC / EN60950-1
- UL2043 (Plenum rating)
- RoHS

› Certifications
- Wi-Fi Alliance

› Warranty
- Lifetime hardware warranty included

› Ordering Information

MR16-HW	Meraki MR16 Cloud-Managed Dual-Radio 802.11n Access Point
POE-INJ-3-XX	Meraki 802.3af Power over Ethernet Injector (XX = US, EU, UK or AU)
AC-MR-1-XX	Meraki AC Adapter for MR Series (XX = US, EU, UK or AU)

Note: Meraki Cloud Controller license required.

› RF Performance Table

Operating Band	Operating Mode	Data Rate	TX Power (dBm)	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	23	-96
		2 Mb/s	23	-94
		5.5 Mb/s	22	-95
		11 Mb/s	21	-92
2.4 GHz	802.11g	6 Mb/s	20	-95
		9 Mb/s	26	-94
		12 Mb/s	25	-93
		18 Mb/s	25	-93
		24 Mb/s	24	-90
		36 Mb/s	24	-87
		48 Mb/s	23	-83
		54 Mb/s	21	-81
2.4 GHz	802.11n (HT20)	MCS0/8 HT20	22	-96
		MCS1/9 HT20	22	-94
		MCS2/10 HT20	21	-92
		MCS3/11 HT20	21	-89
		MCS4/12 HT20	21	-85
		MCS5/13 HT20	21	-82
		MCS6/14 HT20	20	-81
		MCS7/15 HT20	19	-79
2.4 GHz	802.11n (HT40)	MCS0/8 HT40	21	-93
		MCS1/9 HT40	21	-91
		MCS2/10 HT40	21	-89
		MCS3/11 HT40	21	-86
		MCS4/12 HT40	21	-82
		MCS5/13 HT40	21	-79
		MCS6/14 HT40	19	-78
		MCS7/15 HT40	18	-77
5 GHz	802.11a	6 Mb/s	24	-97
		9 Mb/s	24	-96
		12 Mb/s	23	-94
		18 Mb/s	23	-92
		24 Mb/s	22	-90
		36 Mb/s	21	-87
		48 Mb/s	20	-85
		54 Mb/s	20	-83
5 GHz	802.11n (HT20)	MCS0/8 HT20	23	-98
		MCS1/9 HT20	23	-96
		MCS2/10 HT20	22	-93
		MCS3/11 HT20	21	-90
		MCS4/12 HT20	21	-84
		MCS5/13 HT20	20	-82
		MCS6/14 HT20	19	-80
		MCS7/15 HT20	15	-79
5 GHz	802.11n (HT40)	MCS0/8 HT40	23	-94
		MCS1/9 HT40	22	-93
		MCS2/10 HT40	21	-91
		MCS3/11 HT40	20	-88
		MCS4/12 HT40	19	-85
		MCS5/13 HT40	18	-81
		MCS6/14 HT40	18	-78
		MCS7/15 HT40	14	-76

*Maximum hardware capability shown above. Transmit power is configurable in increments of 1 dBm and is automatically limited by the Meraki Cloud Controller to comply with local regulatory settings.

› Signal Coverage Patterns