Corporate Armor For more information, please call 877.449.0458, or email us at Sales@CorporateArmor.com.

MR42E

Dual-band, 802.11ac Wave 2 access point with external antenna connectors for general-purpose Wi-Fi and focused coverage

General purpose, cloud-managed 802.11ac wireless

The Cisco Meraki MR42E is a cloud-managed 3x3 MIMO 802.11ac Wave 2 access point. Designed for general purpose deployments in offices, schools, shops, and hotels, the MR42E provides performance, security, and manageability. The MR42E provides a maximum 1.5 Gbps frame rate with concurrent 802.11ac Wave 2 and 802.11n 3x3:3 MIMO radios, and security and spectrum visibility via a third radio dedicated to 24x7 WIDS/WIPS and automated RF optimization. An integrated Bluetooth low energy (BLE) radio delivers Beacon functionality and BLE device scanning.

The MR42E supports a variety of smart, auto-detectable external antenna that can deliver both focused, targeted coverage in challenging RF scenarios as well as broader coverage in a variety of environments, including those with very high ceilings. These antenna include panel and panel downtilt omni-directionals, wide patch, and narrow patch options.

The combination of cloud management, 802.11ac Wave 2, full-time RF environment scanning, and an integrated Bluetooth technology delivers the high throughput, reliability, and flexibility required by the most demanding business applications like voice and high-definition streaming video, both today and tomorrow.

MR42E and Meraki cloud management: a powerful combination

Management of the MR42E is handled through the Meraki dashboard, an intuitive browser-based interface that enables rapid deployment across multiple sites without the need for time-consuming training or costly certifications.

Since the MR42E 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 diagnostic tools enable immediate troubleshooting so that distributed networks can be managed with a minimum of hassle.

The MR42E's firmware is automatically kept up to date via the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web. This means no manual software updates to download or missing security patches to worry about.

Product Highlights

- External antenna connectors
- 3 x 3 MU-MIMO 802.11ac Wave 2
- 1.9 Gbps aggregate dual-band frame rate
- 24 x 7 real-time WIPS/WIDS and spectrum analytics via dedicated third radio
- Integrated Bluetooth Low Energy Beacon and scanning radio
- Enhanced transmit power and receive sensitivity
- Full-time Wifi location tracking via dedicated 3rd radio
- 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

Aggregate data rate of up to 1.9 Gbps

A 5 GHz 3x3:3 802.11ac Wave 2 radio and a 2.4 GHz 2x2:2 802.11ac radio offer a combined aggregate dual-band data rate of 1.9 Gbps. Supports up to 1,300 Mbps in the 5 GHz band (with 3SS/VHT80 clients) and 600 Mbps in the 2.4 GHz band (with 3SS/VHT40 clients). Technologies like transmit beamforming and enhanced receive sensitivity allow the MR42E to support a higher client density than typical enterprise-class access points, resulting in fewer required APs for a given deployment.

Dedicated third radio delivers 24x7 wireless security and RF analytics

The MR42E's sophisticated, 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.

Bluetooth low energy Beacon and scanning

An integrated Bluetooth low energy radio provides seamless deployment of BLE Beacon functionality and effortless visibility of BLE devices within range of the AP. The MR42E enables the next generation of location-aware applications and engagement right out of the box.

Automatic cloud-based RF optimization

The MR42E'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. The real-time fullspectrum RF analysis data collected by the dedicated third radio is continuously fed back to the Meraki cloud. The Meraki cloud then automatically tunes the MR42E's channel selection, transmit power, and client connection settings for optimal performance under the most challenging RF conditions.

Secure wireless environments using 24x7 Air Marshal

No longer 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 optional auto-containment of rogue APs are configured via flexible remediation policies, ensuring optimal security and performance in even the most challenging wireless environments.

Integrated enterprise security and guest access

The MR42E 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 or device-based, granular access policy control. Meraki Teleworker VPN makes it easy to extend the corporate LAN to remote sites, without requiring all clients and devices to have client VPN software. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

Application-aware traffic shaping

The MR42E 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.

Voice and Video optimization

Industry standard QoS features are easy to configure like Wireless Multi Media (WMM) Access Categories, 802.1p, and DSCP.

Low-profile, environmentally friendly design

Despite its robust feature set, the MR42E is packaged in a sleek, low-profile enclosure that blends seamlessly into any environment. Energy-saving components and intelligent power management techniques deliver best-in-class energy efficient performance and mean that pollution, material utilization, and your electric bill are kept to a minimum.

Self-configuring, self-optimizing, self-healing

When plugged in, the MR42E automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. The MR42E then self-optimizes, determining the ideal channel, transmit power, and client connection parameters. As necessary, it will also self-heal, responding automatically to switch failures and other errors.

Advanced analytics

Drill down into the details of your network usage with highly granular traffic analytics. Extend your visibility into the physical world with journey tracking through location analytics. View visitor numbers, dwell time, repeat visit rates, and track trends. View real-time, per-radio spectrum analytics to troubleshoot nearby interference. Analyze AP events, client utilization, and bandwidth usage on a per-radio basis. Fully customize your analysis with raw data available via simple APIs.

MR42E Tx / Rx Tables | **2.4 GHz**

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	21 dBm	-96.5 dBm
		2 Mb/s	21 dBm	-92 dBm
		5.5 Mb/s	21 dBm	-90.5 dBm
		11 Mb/s	21 dBm	-84.5 dBm
2.4 GHz	802.11g	6 Mb/s	21 dBm	-91.5 dBm
		9 Mb/s	21 dBm	-91 dBm
		12 Mb/s	20.5 dBm	-89.5 dBm
		18 Mb/s	20.5 dBm	-87.5 dBm
		24 Mb/s	19 dBm	-83.5 dBm
		36 Mb/s	19.5 dBm	-81 dBm
		48 Mb/s	18.5 dBm	-76.5 dBm
		54 Mb/s	18.5 dBm	-74.5 dBm
2.4 GHz	802.11n (HT20)	MCS0/8/16	21/24/25.7 dBm	-91.5/-94.5/-96.2 dBm
		MCS1/9/17	20.5/23.5/25.2 dBm	-87.5/-90.5/-92.2 dBm
		MCS2/10/18	20.5/23.5/25.2 dBm	-85.5/-88.5/-90.2 dBm
		MCS3/11/19	19/22/23.7 dBm	-81.5/-84.5/-86.2 dbm
		MCS4/12/20	19.5/22.5/24.2 dBm	-78.5/-81.5/-83.2 dBm
		MCS5/13/21	18.5/21.5/23.2 dBm	-74.5/-77.5/-79.2 dBm
		MCS6/14/22	18.5/21.5/23.2 dBm	-72.5/-75.5/-77.2 dBm
		MCS7/15/23	18/21/22.7 dBm	-71.5/-74.5/-76.2 dBm
2.4 GHz	802.11n (HT40)	MCS0/8/16	20.5/23.5/25.3 dBm	-88.5/-91.5/-93.2 dBm
		MCS1/9/17	20.5/23.5/25.3 dBm	-85.5/-88.5/-90.2 dBm
		MCS2/10/18	20/23/24.7 dBm	-82.5/-88.5/-87.2 dBm
		MCS3/11/19	20/23/24.7 dBm	-79.5/-82.5/-84.2 dBm
		MCS4/12/20	19.5/22.5/24.2 dBm	-76.5/-79.5/-81.2 dBm
		MCS5/13/21	19.5/22.5/24.2 dBm	-71.5/-74.5/-76.2 dBm
		MCS6/14/22	17/20/21.7 dBm	-70.5/-73.5/-75.2 dBm
		MCS7/15/23	17/20/21.7 dBm	-68.5/-71.5/-73.2 dBm

MR42E Tx / Rx Tables | **5 GHz**

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s	22 dBm	-90.5 dBm
		9 Mb/s	22 dBm	-89.5 dBm
		12 Mb/s	22 dBm	-88.5 dBm
		18 Mb/s	22 dBm	-86.5 dBm
		24 Mb/s	22 dBm	-82.5 dBm
		36 Mb/s	19 dBm	-79.5 dBm
		48 Mb/s	19 dBm	-74.5 dBm
		54 Mb/s	19 dBm	-72.5 dBm
5 GHz	802.11n (HT20)	MCS0/8/16	22/25/26.7 dBm	-90.5/-93.5/-95.2 dBm
		MCS1/17	22/25/26.7 dBm	-86.5/-89.5/-91.2 dBm
		MCS2/10/18	22/25/26.7 dBm	-84.5/-87.5/-89.2 dBm
		MCS3/11/19	22/23/24.7 dBm	-80.5/-83.5/-85.2 dBm
		MCS4/12/20	19/22/23.7 dBm	-77.5/-80.5/-82.2 dBm
		MCS5/13/21	19/22/23.7 dBm	-72.5/-75.5/-77.2 dBm
		MCS6/14/22	19/22/23.7 dBm	-71.5/-74.5/-76.2 dBm
		MCS7/15/23	19/22/23.7 dBm	-69.5/-72.5/-74.2 dBm
5 GHz	802.11n (HT40)	MCS0/8/16	22/25/26.7 dBm	-86.5/-89.5/-91.2 dBm
		MCS1/9/17	21.5/24.5/26.2 dBm	-83.5/-86.5/-88.2 dBm
		MCS2/10/18	20/23/24.7 dBm	-81.5/-84.5/-86.2 dBm
		MCS3/11/19	20/23/24.7 dBm	-77.5/-80.5/-82.2 dBm
		MCS4/12/20	19.5/22.5/24.2 dBm	-74.5/-77.5/-79.2 dBm
		MCS5/13/21	19.5/22.5/24.2 dBm	-70.5/-73.5/-75.2 dBm
		MCS6/14/22	18.5/21.5/23.2 dBm	-68.5/-71.5/-73.2 dBm
		MCS7/15/23	18/21/22.7 dBm	-67.5/-70.5/-72.2 dBm

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11ac (VHT20)	MCS0/0/0	22/25/26.7 dBm	-90.5/-93.5/-95.2 dBm
		MCS1/1/1	22/25/26.7 dBm	-86.5/-89.5/-91.2 dBm
		MCS2/2/2	22/25/26.7 dBm	-84.5/-87.5/-89.2 dBm
		MCS3/3/3	22/25/26.7 dBm	-80.5/-83.5/-85.2 dBm
		MCS4/4/4	19/22/23.7 dBm	-77.5/-80.5/-82.2 dBm
		MCS5/5/5	19/22/23.7 dBm	-72.5/-75.5/-77.2 dBm
		MCS6/6/6	19/22/23.7 dBm	-71.5/-74.5/-76.2 dBm
		MCS7/7/7	19/22/23.7 dBm	-69.5/-72.5/-74.2 dBm
		MCS8/8/8	18.5/21.5/23.2 dBm	-65.5/-68.5/-70.2 dBm
		MCS9/9/9	18.5/21.5/23.2 dBm	-61.5/-64.5/-66.2 dBm
5 GHz	802.11ac (VHT40)	MCS0/0/0	22/25/26.7 dBm	-86.5/-89.5/-91.2 dBm
		MCS1/1/1	21.5/24.5/26.2 dBm	-83.5/-86.5/-88.2 dBm
		MCS2/2/2	20/23/24.7 dBm	-81.5/-84.5/-86.2 dBm
		MCS3/3/3	20/23/24.7 dBm	-77.5/-80.5/-82.2 dBm
		MCS4/4/4	19.5/22.5/24.2 dBm	-74.5/-77.5/-79.2 dBm
		MCS5/5/5	19.5/22.5/24.2 dBm	-70.5/-73.5/-75.2 dBm
		MCS6/6/6	18.5/21.5/23.2 dBm	-68.5/-71.5/-73.2 dBm
		MCS7/7/7	18/21/22.7 dBm	-67.5/-70.5/-72.2 dBm
		MCS8/8/8	18/21/22.7 dBm	-65.5/-68.5/-70.2 dBm
		MCS9/9/9	18/21/22.7 dBm	-61.5/-64.5/-66.2 dBm
5 GHz	802.11ac (VHT80)	MCS0/0/0	22/25/26.7 dBm	-84.5/-87.5/-89.2 dBm
		MCS1/1/1	21.5/24.5/26.2 dBm	-80.5/-83.5/-85.2 dBm
		MCS2/2/2	21.5/24.5/26.2 dBm	-78.5/-81.5/-83.2 dBm
		MCS3/3/3	20.5/23.5/24.2 dBm	-74.5/-77.5/-79.2 dBm
		MCS4/4/4	20.5/23.5/24.2 dBm	-71.5/-74.5/-76.2 dBm
		MCS5/5/5	19.5/22.5/24.2 dBm	-67.5/-70.5/-72.2 dBm
		MCS6/6/6	19/22/23.7 dBm	-65.5/-68.5/-70.2 dBm
		MCS7/7/7	19/22/23.7 dBm	-64.5/-67.5/-69.2 dBm
		MCS8/8/8	18/21/22.7 dBm	-59.5/-62.5/-64.2 dBm
		MCS9/9/9	18/21/22.7 dBm	-57.5/-60.5/-62.2 dBm

Specifications

Radios
2.4 GHz 802.11b/g/n/ac client access radio
5 GHz 802.11a/n/ac Wave 2 client access radio
2.4 GHz & 5 GHz dual-band WIDS/WIPS, spectrum analysis, and location analytics radio
2.4 GHz Bluetoth Low Energy (BLE) radio with Beacon and BLE scanning support Concurrent operation of all three 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) • 5.1725-5.825 GHz (UNII-3)

Antenna
List of compatible antennas: MA-ANT-3-A5/B5/C5/D5/E5/F5
Individual antenna elements for each radio

802.11ac Wave 2 and 802.11n Capabilities
3x3 multiple input, multiple output (MIMO) with four spatial streams
SU-MIMO and MU-MIMO support
Maximal ratio combining (MRC) and beamforming
20 and 40 MHz channels (802.11n), 20, 40, 80, and 160 MHz channels (802.11ac Wave 2)
Up to 256-QAM on both 2.4 GHz and 5 GHz bands
Packet aggregation

Power
Power over Ethernet: 37-57 V (802.3at required; functionality-restricted 802.3af mode supported)
Alternative 12 V DC input
Power consumption: 20 W max (802.3at)
Power over Ethernet injector and DC adapter sold separately

Interfaces
1x 10/100/1000 BASE-T Ethernet (RJ45)
1x DC power connector (5.5 mm x 2.5 mm, center positive)
Five external RP-TNC antenna connectors

Mounting
All standard mounting hardware included
Desktop, ceiling, and wall mount capable
Ceiling tile rail (9/16, 15/16, or 1 1/2" flush or recessed rails), assorted cable junction boxes
Bubble level on mounting cradle for accurate horizontal wall mounting

Physical Security
Two security screw options included
Kensington lock hard point
Concealed mount plate with anti-tamper cable bay

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

Physical Dimensions
10.55" x 6.3" x 1.69" (268 mm x 160 mm x 43 mm), not including deskmount feet or mount plate
Weight: 38.45 oz (1.09 kg)

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
Cisco ISE integration for guest access and BYOD posturing

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

Analytics
Embedded location analytics reporting and device tracking
Global L7 traffic analytics reporting per network, per device, and per application

LED Indicators
1 power/booting/firmware upgrade status

Regulatory
RoHS
For additional country-specific regulatory information, please contact Meraki Sales

Warranty
Lifetime hardware warranty with advanced replacement included

Compliance
EN 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC

Ordering Information
MR42E-HW: Meraki MR42E Cloud Managed 802.11ac Wave 2 AP
MA-PWR-30W-XX: Meraki AC Adapter for MR Series (XX = US/EU/UK/AU)
MA-INJ-5-XX: Meraki Multigigabit 802.3at Power over Ethernet Injector (XX = US/EU/UK/AU)
MA-ANT-3-A5
MA-ANT-3-B5
MA-ANT-3-C5
MA-ANT-3-D5
MA-ANT-3-E5
MA-ANT-3-F5
Note: Meraki access point license required

Compliance and Standards

IEEE Standards
802.11ac Wave 2
802.11a
802.11b
802.11e
802.11g
802.11h
802.11i
802.11k
802.11n
802.11r
802.11u

Safety Approvals
UL 60950-1
CAN/CSA-C22.2 No. 60950-1
IEC 60950-1
EN 60950-1 (Plenum Rating)
Conforms to UL 2043 (Plenum Rating)

Radio Approvals
Canada: FCC Part 15C, 15E, RSS-247
Europe: EN 300 328, EN 301 893
Australia/NZ: AS/NZS 4268
Mexico: NOM-121
Taiwan: NCC LP0002
For additional country-specific regulatory information, please contact Meraki Sales

EMI Approvals (Class B)
Canada: FCC Part 15B, ICES-003
Europe: EN 301 489-1-17, EN 55032, EN 55024
Australia/NZ: CISPR 22
Japan: VCCI

Exposure Approvals
Canada: FCC Part 2, RSS-102
Europe: EN 50385, EN 62311, EN 62479
Australia: AS/NZS 2772