MR57 Datasheet

Ultra-High-Performance Wi-Fi 6E wireless

Tri-band 802.11ax-compatible access point with separate radios dedicated to security, RF management, and Bluetooth® coupled with dual Ethernet ports and a USB port for added connectivity options.

Software configurable flex radio architecture for 6 GHz support

MR57 supports a software defined flex radio which can be toggled between a 5 GHz and 6 GHz. This provides an option to operate MR57 in either a dual 5 GHz configuration or a true tri-band configuration. Tri-band configuration unlocks the use of new spectrum in the 6 GHz frequency range which provides additional channels to increase throughput and reduce interference and noise from legacy devices. 6 GHz support ensures that the MR57 supports future technologies.

High Performance 802.11ax compatible wireless

The Cisco Meraki MR57 is a cloud-managed 4x4:4 802.11ax compatible access point that raises the bar for wireless performance and efficiency. Designed for next-generation deployments in offices, schools, hospitals, retail shops, and hotels, the MR57 offers high throughput, enterprise-grade security, and simple management. The MR57 provides a maximum of 7.78 Gbps* aggregate frame rate with concurrent 2.4 GHz, 5 GHz and 6 GHz radios. A dedicated fourth radio provides real-time WIDS/WIPS with automated RF optimization, and a fifth integrated IoT radio delivers Bluetooth scanning and beaconing. With the combination of cloud management, high-performance hardware, multiple radios, and advanced software features, the MR57 makes an outstanding platform for the most demanding of uses—including high-density deployments and bandwidth or performance-intensive applications like voice (Cisco WebEx) and high-definition video.

Support for dual Ethernet ports to enable high availability

MR57 will support dual 5 Gigabit mGig Ethernet ports for high availability or for link aggregation. These ports can also be used for power-sharing to power up the AP and fully support the required functionality. The secondary Ethernet port can also be used for power and data sharing* or in a high availability mode* for

added resiliency.

> Minimum firmware support for Dual Uplink High Availability is MR30.1.

MR57 and Meraki cloud management

Management of the MR57 is through the Meraki cloud, with an intuitive browser-based interface that enables rapid deployment without time-consuming deployment complexity and time consuming staging process. Since the MR57 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 over the web so that distributed networks can be managed with a minimum of hassle. New features, bug fixes, and enhancements are delivered seamlessly over from the dashboard.

Product Highlights

- Four 4:4 MU-MIMO 802.11ax compatible
- 7.78 Gbps tri-radio aggregate frame rate
- 24x7 real-time WIDS/WIPS and spectrum analytics via dedicated fourth radio
- Integrated Bluetooth Low Energy beacon and scanning radio
- Dual 5 Gbps mGig ethernet port support
- USB 2.0 host interface (Type A connector) with 9.5W power budget
- Enhanced transmit power and receive sensitivity
- Full-time Wi-Fi location tracking via dedicated third radio
- Integrated enterprise security and guest access
- Application-aware traffic shaping
- Optimized for voice and video
- Self-configuring, plug-and-play deployment

Features

Tri–radio aggregate frame rate of up to 7.78 Gbps*

A 6 GHz 4x4:4, 5 GHz 4x4:4 and 2.4 GHz 4x4:4 radio offer a combined tri–radio aggregate frame rate of 7.78 Gbps*, with up to 4,804 Mbps in 6GHz band, 2,402 Mbps 5 GHz band and, 574 Mbps in the 2.4 GHz band. Technologies like transmit beamforming and enhanced receive sensitivity allow the MR57 to support a higher client density than typical enterprise-class access points, resulting in better performance for more clients, from each AP.

> * Refers to maximum over-the-air data frame rate capability of the radio chipset, and may exceed data rates allowed by IEEE 802.11ax operation.

Multi User Multiple Input Multiple Output (MU-MIMO)

With support for features of 802.11ax, the MR57 offers DL and UL MU-MIMO and OFDMA for more efficient transmission to multiple clients. Especially suited to environments with numerous mobile devices, MU-MIMO and OFDMA enables multiple clients to receive data simultaneously. This increases the total network performance and improves the end user experience.

Bluetooth Low Energy Beacon and Scanning Radio

An integrated Bluetooth radio provides seamless deployment of BLE Beacon functionality and effortless visibility of Bluetooth devices. The MR57 enables the

next generation of location-aware applications while future proofing deployments, ensuring it's ready for any new customer engagement strategies.

Automatic Cloud-Based RF Optimization

The MR57's sophisticated and automated RF optimization means that there is no need for the dedicated hardware and RF expertise typically required to tune a wireless network. The RF data collected by the dedicated fourth radio is continuously fed back to the Meraki cloud. This data is then used to automatically tune the channel selection, transmit power, and client connection settings for optimal performance under even the most challenging RF conditions.

Integrated Enterprise Security and Guest Access

The MR57 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 Enterprise authentication with 802.1X and Active Directory integration provide wired-like security while still being easy to configure. MR57 will also support 192-bit encryption along with WPA3 support for added security of the wireless network. One-click guest isolation provides secure, Internet-only access for visitors. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

Dedicated Scanning Radio Delivers 24x7 Air Marshal and RF analytics

The MR57's dedicated tri-band scanning and security radio continually assess the environment, characterizing RF interference and containing (in 2.4GHz and 5GHz only, since 6GHz mandates PMF) wireless threats like rogue access points. There's no need to choose between wireless security (AirMarshal), advanced RF analysis, and serving client data - a dedicated fourth radio means that all functions occur in real-time, without any impact to client traffic or AP throughput.

Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) Integration

Meraki Systems Manager natively integrates with the MR57 to offer automatic, context-aware security. Systems Manager's self-service enrollment helps to rapidly deploy MDM without installing additional equipment, and then dynamically tie firewall and traffic shaping policies to client posture.

Application-Aware Traffic Shaping

The MR57 includes an integrated layer 7 packet inspection, classification, and control engine, enabling the configuration of QoS policies based on traffic type, helping to prioritize mission critical applications while setting limits on recreational traffic like peer-to-peer and video streaming. Policies can be implemented per network, per SSID, per user group, or per individual user for maximum flexibility and control.

Voice and Video Optimizations

Industry-standard QoS features are built-in and easy to configure. Wireless Multimedia (WMM) access categories, 802.1p, and DSCP standards support, all ensure important applications get prioritized correctly, not only on the MR57, but on other devices in the network. Unscheduled Automatic Power Save Delivery (U-APSD) and new Target Wait Time feature in 802.11ax clients ensure minimal battery drain on wireless VoIP phones.

Self-configuring, Self-Maintaining, Always Up-to-Date

When plugged in, the MR57 automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. Administrators can schedule automatic firmware upgrades for their dashboard network seamlessly. This ensures the network is kept up-to-date with bug fixes, security updates, and new features.

Meraki Health

MR57 will support all the latest and greatest analytics to provide machine learning-based anomaly detection, server root cause analysis, wireless client scoring based on performance and connectivity metrics and network benchmarking for networks of similar size and vertical. Along with these features, MR57 will provide advanced location analytics via API and graphs in the dashboard to provide a clear picture of client density and their movement across the floor plan.

* Refers to maximum over-the-air data frame rate capability of the radio chipsets, and may exceed data rates allowed by IEEE-compliant operation.

Specifications

Category	Specifications
Radios	• 2.4 GHz 802.11b/g/n/ax client access radio • 5 GHz 802.11a/n/ac/ax client access radio • 6 GHz 802.11ax client access radio • 2.4 GHz, 5 GHz, and 6 GHz tri-band Air Marshal WIDS/WIPS, spectrum analysis, & location analytics radio • 2.4 GHz Bluetooth Low Energy radio with beacon and scanning support concurrent operation of all five radios
Antenna	• Integrated omni-directional antennas (4.5 dBi gain at 2.4 GHz, 5.5 dBi gain at 5 GHz, and 5.5 dBi gain at 6GHz)
802.11ax, 802.11ac Wave 2 and 802.11n capabilities	• DL-OFDMA, TWT support, BSS coloring* • 4 x 4 multiple input, multiple output (MIMO) with four spatial streams on 6 GHz • 4 x 4 multiple input, multiple output (MIMO) with four spatial streams on 5 GHz • 4 x 4 multiple input, multiple output (MIMO) with four spatial streams on 2.4 GHz • SU-MIMO, UL and DL MU-MIMO support • Maximal ratio combining (MRC) & beamforming • 20 and 40 MHz* channels (802.11n); 20, 40*, and 80 MHz channels (802.11ac Wave 2); 20, 40* and 80 MHz channels (802.11ax **Note:** *40MHz channels are supported only in 5 & 6 GHz bands. • Up to 1024-QAM on all three - 2.4 GHz, 5 GHz, and 6 GHz bands • Packet aggregation
Power	• Power over Ethernet: 42.5 - 57V (PoE+ and 802.3bt compliant) • Alternative 54V DC input via DC adapter • Power consumption: 30W to 40W (802.3bt)

	• Minimum power requirement: 30W (PoE+, *USB is disabled*) • Maximum power consumption: 40W • Power over Ethernet injector and DC adapter sold separately. **Note:** Actual power consumption may vary depending on the AP usage.
Interfaces	• 2x 100/1000/2.5G/5G BASE-T Ethernet (RJ45) • 1x DC power connector (5.5 mm x 2.5 mm, center positive)
Mounting	• All standard mounting hardware included (AIR-AP-BRACKET-2) • Desktop, ceiling, and wall mount capable • Ceiling tile rail (9/16, 15/16, or 1 ½" flush or recessed rails), assorted cable junction boxes
Physical Security	• Kensington lock slot • Concealed mount plate with anti-tamper cable bay
Environment	• Operating temperature: 32 °F - 104 °F (0 °C - 40 °C) • Humidity: 5% to 95% non-condensing
Reliability	• Mean time between failure (MTBF): 998,440 hrs at +25° C operating temperature
Physical Dimensions	• 260 mm x 260 mm x 56 mm, including desk-mount feet or mount plate • Weight: 1.7 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, WPA3 - Personal*, WPA3 - Enterprise*, WPA3 - Enhanced Open (OWE)* • 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 layer 7 traffic analytics reporting per network, per device, and per application
LED Indicators	• One power/booting/firmware upgrade status
Regulatory	• RoHS • For additional country-specific regulatory information, please contact Meraki sales
Warranty	• Indoor access point • Lifetime hardware warranty with advanced replacement included
Ordering Information	• MR57-HW: Meraki MR57 cloud-managed 802.11a-compatible AP • MA-PWR-50WAC: Meraki AC adapter for MR series • MA-INJ-6: Meraki MR MultiGigabit 802.3bt Injector (Power Cord Not Included) **Note:** Power cord - MA-PWR-CORD-XX (XX Country Code) should be ordered separately for the AC adapter and Ethernet injector • Mounting bracket: AIR-AP-BRACKET-1 and AIR-AP-BRACKET-2 • Meraki access point license required.

* software features can be enabled via firmware updates

Compliance and Standards

Category	Standards
IEEE Standards	• 802.11a, 802.11ac, 802.11ax, 802.11b, 802.11e, 802.11g, 802.11h, 802.11i, 802.11k, 802.11n, 802.11r, 802.11w and 802.11u
Safety Approvals	• CSA and CB 60950 & 62368 • Conforms to UL 2043 (Plenum Rating) • EN 60601 Certified
Radio Approvals	• Canada: FCC Part 15C, 15E, RSS-247 • Europe: EN 300 328, EN 301 893 • Australia/NZ: AS/NZS 4268 • Mexico: IFT, NOM-208 • 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/NZ: AS/NZS 2772

* feature can be enabled for required networks

Context and Comparisons

802.11ax, 802.11ac Wave 2 and 802.11n Capabilities

MR44	MR46	MR56	MR57
DL-OFDMA**, UL-OFDMA**, TWT support**, BSS coloring**	DL-OFDMA**, UL-OFDMA**, TWT support**, BSS coloring**	DL-OFDMA**, UL-OFDMA**, TWT support**, BSS coloring**	DL-OFDMA**, UL-OFDMA**, TWT support**, BSS coloring**

2.4GHz: 2 x 2 multiple input, multiple output (MIMO) with two spatial streams 5GHz: 4 x 4 multiple input, multiple output (MIMO) with four spatial streams	2:4GHz: 4 x 4 multiple input, multiple output (MIMO) with four spatial streams 5GHz: 4 x 4 multiple input, multiple output (MIMO) with four spatial streams	2.4GHz: 4 x 4 multiple input, multiple output (MIMO) with four spatial streams 5GHz: 8 x 8 multiple input, multiple output (MIMO) with eight spatial streams	2.4GHz 4 x 4 multiple input, multiple output (MIMO) with four spatial streams 5GHz: 4 x 4 multiple input, multiple output (MIMO) with four spatial streams 6GHz: 4 x 4 multiple input, multiple output (MIMO) with four spatial streams
Maximal ratio combining (MRC) & beamforming	Maximal ratio combining (MRC) & beamforming	Maximal ratio combining (MRC) & beamforming	Maximal ratio combining (MRC) & beamforming
SU-MIMO, UL MU-MIMO** and DL MU-MIMO support	SU-MIMO, UL MU-MIMO** and DL MU-MIMO support	SU-MIMO, UL MU-MIMO** and DL MU-MIMO support	SU-MIMO, UL MU-MIMO** and DL MU-MIMO support
20 and 40 MHz* channels (802.11n); 20, 40*, and 80 MHz channels (802.11ac Wave 2); 20, 40* and 80 MHz channels (802.11ax)	20 and 40 MHz* channels (802.11n); 20, 40*, and 80 MHz channels (802.11ac Wave 2); 20, 40* and 80 MHz channels (802.11ax)	20 and 40 MHz* channels (802.11n); 20, 40*, and 80 MHz channels (802.11ac Wave 2); 20, 40* and 80 MHz channels (802.11ax)	20 and 40 MHz* channels (802.11n); 20, 40*, and 80 MHz channels (802.11ac Wave 2); 20, 40*, 80MHz and 160MHz channels (802.11ax)

Note: *40MHz channels are supported only in 5 & 6 GHz bands.

Up to 1024-QAM on both 2.4 GHz & 5 GHz bands	Up to 1024-QAM on both 2.4 GHz & 5 GHz bands	Up to 1024-QAM on both 2.4 GHz & 5 GHz bands	Up to 1024-QAM on all three - 2.4 GHz, 5 GHz and 6GHz bands
Packet aggregation	Packet aggregation	Packet aggregation	Packet aggregation

Power

MR44	MR46	MR56	MR57
Power over Ethernet: 42.5 - 57 V (802.3at) **or** 37 - 57 V (802.3af) - low power mode **	Power over Ethernet: 42.5 - 57 V (802.3at compliant)	Power over Ethernet: 42.5 - 57 V (802.3at compliant)	Power over Ethernet: 42.5 - 57 V (802.3at and 802.3bt compliant)
Alternative: 12 V DC input	Alternative: 12 V DC input	Alternative: 12 V DC input	Alternative: 54 V DC input

Power consumption: 30W max (802.3at) **or** 15W max (802.3af) - low power mode **	Power consumption: 30W max (802.3at **required**)	Power consumption: 30W max (802.3at **required**)	Power consumption: 40W max with USB support and 30W max without USB support
Power over Ethernet injector and DC adapter sold separately	Power over Ethernet injector and DC adapter sold separately	Power over Ethernet injector and DC adapter sold separately	Power over Ethernet injector and DC adapter sold separately

** features can be enabled via future firmware updates

Interfaces

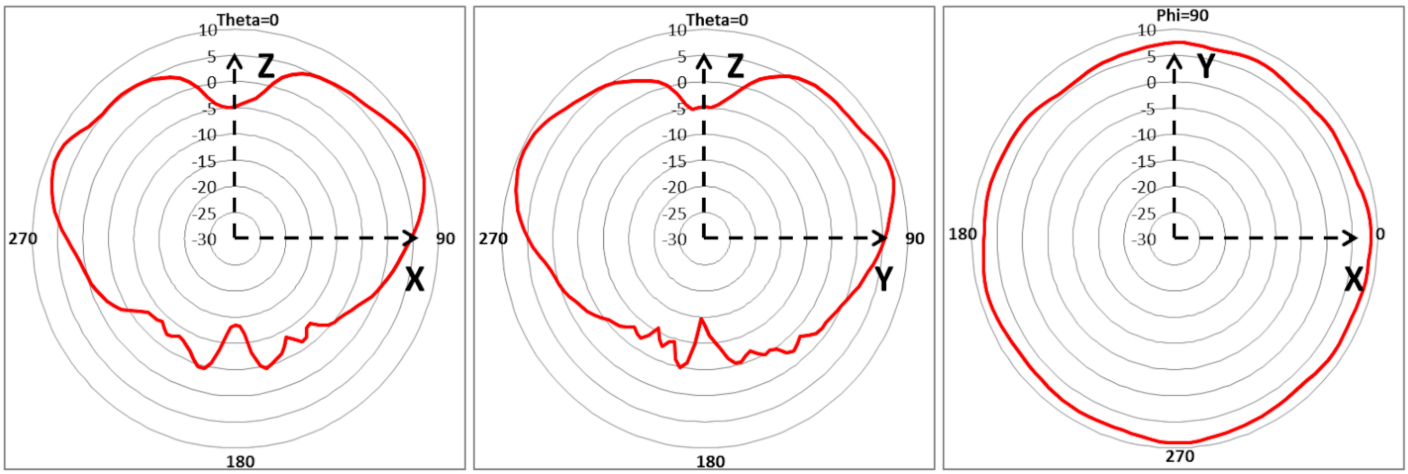
MR44	MR46	MR56	MR57
1x 100/1000/2.5G BASE-T Ethernet (RJ45)	1x 100/1000/2.5G BASE-T Ethernet (RJ45)	1x 100/1000/2.5G/5G BASE-T Ethernet (RJ45)	2x 100/1000/2.5G/5G BASE-T Ethernet (RJ45)
1x DC power connector (5.5 mm x 2.5 mm, center positive)	1x DC power connector (5.5 mm x 2.5 mm, center positive)	1x DC power connector (5.5 mm x 2.5 mm, center positive)	1x DC power connector (5.5 mm x 2.5 mm, center positive)

Physical Dimensions

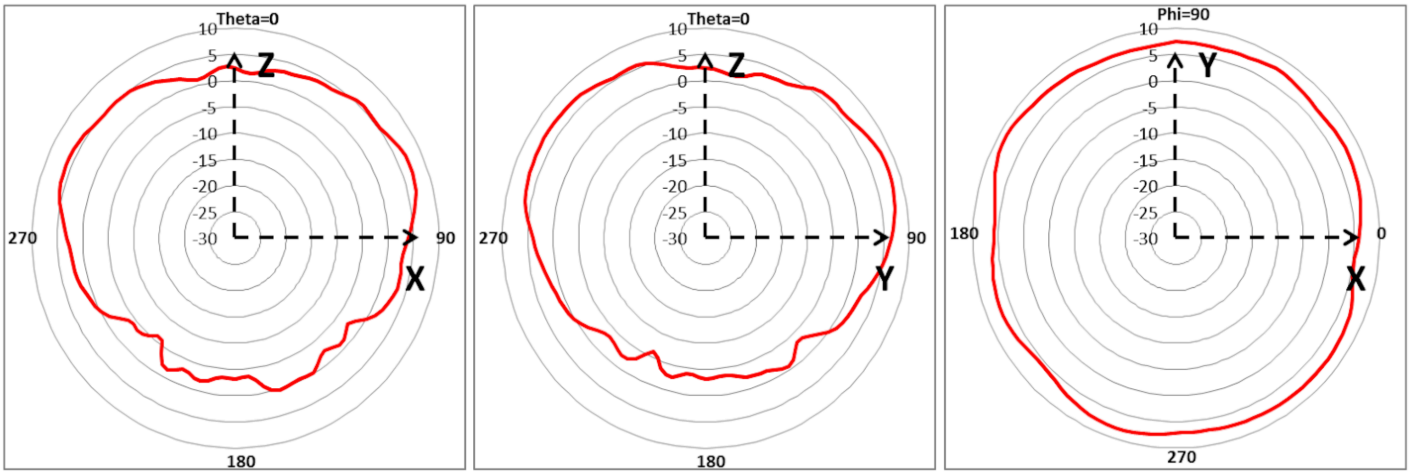
MR44	MR46	MR56	MR57
12.05" × 5.06" × 1.74" (30.6 cm × 12.84 cm × 4.43 cm), not including mount plate	12.05” x 5.06” x 1.74” (30.6 cm x 12.84 cm x 4.43 cm), not including mount plate	12.83” x 5.54” x 1.76” (32.6 cm x 14.079 cm x 4.47 cm), not including mount plate	10.23" x 10.23" x 2.20" (26 cm x 26 cm x 5.6 cm), including the mount plate
Weight: 26.07 oz (739 g)	Weight: 28.22 oz (800 g)	Weight: 35.27 oz (1 kg)	Weight: 59.96 oz (1.7 kg)

Signal Coverage Patterns

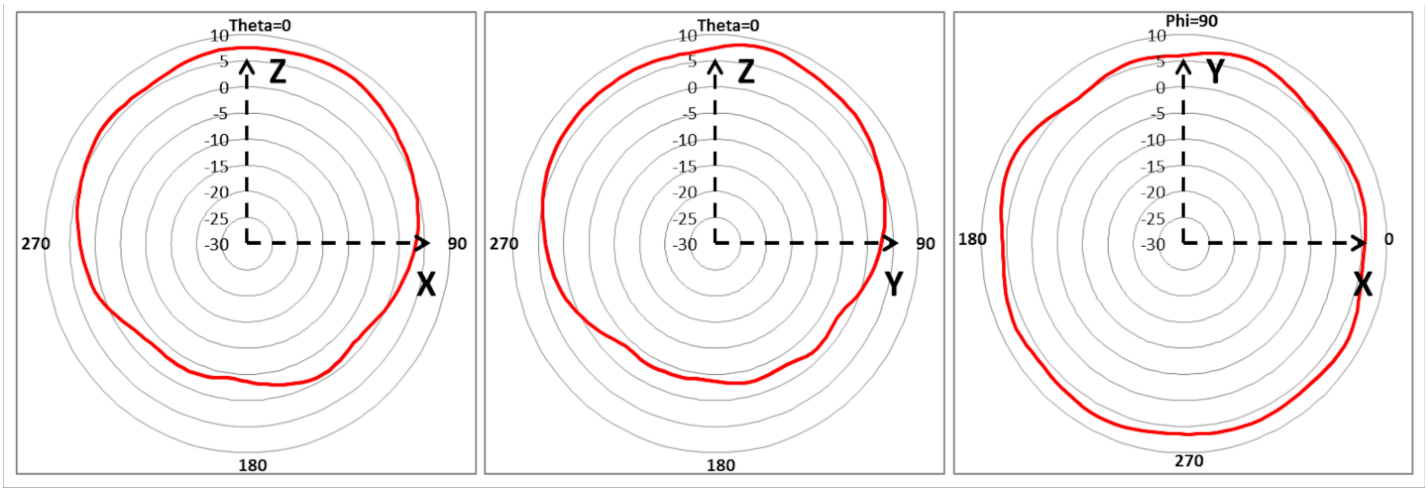
6 GHz - Wireless



5 GHz - Wireless



2.4 GHz - Wireless



Frequently Asked Questions

For more information and some frequently asked questions about the product, please refer to MR57 Frequently Asked Questions