MX67 and MX68 Datasheet

After **April 30, 2024**, MX with Third-party USB Cellular Modems will only receive support related to security vulnerabilities for third-party USB modems. All support for Third-party USB Modems will be deprecated as of **June 30, 2026**.

Overview

Designed from the ground up with a new built-in cellular modem the MX67C and MX68CW are designed to simplify any deployment that requires a cellular uplink. This is ideal for small remote locations with unreliable WAN circuit providers or for sites that want the highest level of redundancy and availability. The Meraki Dashboard in addition with the built-in cellular uplink allows for simple and easy deployment of the MX67C or MX68CW with minimal pre-configuration in almost any location.

For smaller sites that don't require a cellular uplink but still need a capable device that can be easily deployed, the base models of the MX67 and MX68 are available without a built-in cellular uplink. The MX67 and MX68 are also available in Wireless models (MX67W / MX68CW) that can provide 802.11ac coverage for wireless clients.

Features

- Managed via Cisco Meraki Dashboard
- Automatic Firmware upgrades
- WAN Link Balancing
- Automatic WAN Failover
- SD-WAN over Meraki AutoVPN
- L3/L7 Stateful Firewall
- Geo based firewall rules
- 1:1 and 1:Many NAT
- Configurable VLANs / DHCP support
- Static Routing
- Client VPN endpoint
- Meraki AutoVPN and IPSec VPN endpoint
- Active Directory integration
- Content Filtering
- Malware Protection (AMP) w/ optional Threat Grid integration
- IDS/IPS protection
- Custom Traffic Shaping
- Historical Client Usage statistics
- Netflow support
- Syslog integration
- Remote Packet Capture tools
- 802.1X wired and wireless support

Hardware Features

- Dual WAN uplinks
- Built-in Cellular CAT 6 LTE Uplink (Cellular models only, requires SIM card)
- Built-in 802.11ac Wireless capability (Wireless models only)
- Built-in PoE+ capabilities (MX68 only)

Configuration

The basic initial configuration of the MX67 and MX68 is just as simple as with other MX models. The links below provide additional information and instructions relating to each step in getting the device setup and configured for the first time.

1. Claim the device to an Organization on the Meraki Dashboard
    a. If a Dashboard Organization does not yet exist, Create one

2. Add the device to a Dashboard Network
    a. If a Network does not yet exist, Create one first
3. Physically connect the device to the local network
    a. Before inserting the SIM card, ensure the SIM is activated with the PIN disabled or the correct PIN entered. It may be necessary to use an external modem, or work with the cellular provider to have the PIN disabled or the SIM unlocked. (Cellular models only)
    b. If a custom APN is needed, ensure it is applied from **Cellular** section of the **Uplink** tab on the **Security & SD-WAN > Monitor > Appliance Status** page. (Cellular models only)
    c. Insert an activated SIM card to allow the cellular uplink to function (Cellular models only)
    d. Ensure the cellular and/or wireless antennas are connected correctly (Cellular and Wireless models only)
    e. Power on the device and let it check in to the Dashboard
    f. If necessary, configure a Static IP on the WAN interface through the Local Status Page to allow it to check in.
4. Finish configuring the device from the Meraki Dashboard
    a. Manage local VLANs
    b. Modify Firewall rules
    c. Configure VPN connectivity

Context and Comparisons

	MX64	MX65	MX67	MX68
Dual WAN Uplinks	Yes (With LAN conversion)	Yes	Yes (With LAN conversion)	Yes
Cellular Uplink	Via 3rd Party USB Modem	Via 3rd Party USB Modem	Built-in (Cellular models only), Via 3rd Party USB Modem	Built-in (Cellular Models Only), Via 3rd Party USB Modem
Stateful Firewall Throughput	250 Mbps	250Mbps	700 Mbps	700 Mbps
Maximum VPN Throughput	100 Mbps	100Mbps	400 Mbps	400 Mbps
Security Throughput	200 Mbps	200 Mbps	400 Mbps	400 Mbps
PoE Capabilities	No	Yes, 2x GbE RJ45 LAN Ports	No	Yes, 2x GbE RJ45 LAN Ports

	MX64	MX65	MX67	MX68
Recommended Device Count	Small branch with up to 50 devices	Small branch with up to 50 devices	Small branch with up to 50 devices	Small branch with up to 50 devices

Note : in the Recommended use case field above the term users refers to the number of the Client devices that are connected to the network, you can check the number of those devices by navigating to **Network-Wide > monitor > Clients,** for more information regarding that page please refer to Clients Usage Page Overview .

Technical Breakdown

WAN Interface

MX67 / W	MX67C	MX68 / W	MX68CW
1x Dedicated GbE RJ45 1x Convertible LAN GbE RJ45	1x Dedicated GbE RJ45 1x Convertible LAN GbE RJ45	2x Dedicated GbE RJ45	2x Dedicated GbE RJ45
Cellular Uplink via 3rd Party USB Modem	Built-in Cellular Uplink or 3rd Party USB Modem	Cellular Uplink via 3rd Party USB Modem	Built-in Cellular Uplink or 3rd Party USB Modem

LAN Interface

MX67 / C / W	MX68 / W / CW
3x Dedicated GbE RJ45	8x Dedicated GbE RJ45
1x Convertible LAN/WAN GbE RJ45	2x Dedicated GbE RJ45 PoE+

802.11 Wireless Interface

	MX67W	MX68W / CW

Radio Information	802.11a/b/g/n/ac Wave 2 (2.4 or 5Ghz) 2x2 MU-MIMO	802.11a/b/g/n/ac Wave 2 (2.4 or 5Ghz) 2x2 MU-MIMO
Antennas	2 x 2 MU-MIMO with two spatial streams	2 x 2 MU-MIMO with two spatial streams
Maximum Data Rate	1.3 Gbps	1.3 Gbps

NOTE: The MX68CW has fixed antennas that serve both 802.11 and LTE connectivity and cannot be removed.

Both MX67W and MX68W support up to 4 SSIDs with integrated enterprise security and personal / guest access.

Cellular Interface

When bringing the units online for the very first time, MX67C/68CW units should be connected via a wired WAN interface to the Meraki Dashboard to retrieve an update to allow for proper use of the integrated cellular connectivity.

	US / North America Bands	**Worldwide Bands**
HSPA+	2, 4, 5	1, 3, 5/6, 8
FDD-LTE	2, 4, 5(*), 12/17, 13, 29	1, 3, 7, 8, 20, 26/5, 28A, 28B
TDD-LTE	-	34, 39, 40, 41/38
TD-SCDMA Bands	-	34 (Band A), 39 (Band F)
GSM Bands	850, 900, 1800, 1900	900, 1800
CA	2xDL-CA up to 40Mhz: 2+17, 4+17, 2+29, 4+29, 4+5, 2+5	2xDL-CA up to 40Mhz: 3+20, 3+8, 7+20, 1+8, 1+5, 3+5
Certifications	PTCRB (US)	RCM (ANZ, APAC), GCF (EU)
Certified Carriers	Verizon, AT&T, T-Mobile	Orange, Telia, Telecom Italia, Telenor, Telefonica, Post, BT, STC, NTT docomo, Telstra, Optus, Spark NZ, Vodafone NZ, SingTel , Vodafone (UK, Germany, Ireland, Spain, Italy, Portugal)

Carrier compatibility is generally based on having compatible bands on the modem. In the open market, carriers may

only require regulatory domain certifications and open market certifications, like the PTCRB and GCF, to be compatible for their network. Sometimes carriers will require additional testing before a device can be used on their network. The section Certified Carriers is based on Meraki device certifications being approved by those specific carriers. A carrier being listed above means that they have officially certified the Meraki product for their cellular network. There maybe many unlisted carriers could be functionally compatible with Meraki devices. The list of certified carriers is based on the carrier validating Meraki per their network parameter requirements. If a carrier you are looking to use is not listed above, it could be that they do not require additional compliance testing for their network.

Physical

	MX67	MX67W	MX67C	MX68	MX68W	MX68CW
Mount Type	Desktop / Wall Mount	Desktop / Wall Mount	Desktop / Wall Mount	Desktop / Wall Mount	Desktop / Wall Mount	Desktop / Wall Mount
Dimensions (h x d x w)	1.1 x 5.1 x 9.4 in / 27 x 130 x 239 mm	1.1 x 6.5 x 9.4 in / 27 x 164 x 239 mm	1.1 x 6.9 x 9.4 in / 27 x 176 x 239 mm	1.1 x 5.8 x 11.2 in / 27 x 148 x 284 mm	1.1 x 6.8 x 11.2 in / 27 x 172 x 284 mm	1.1 x 7.0 x 11.2 in / 27 x178 x 284 mm
Weight	1.74 lb / 0.79 kg	1.84 lb / 0.83 kg	1.87 lb / 0.85 kg	2.46 lb / 1.12 kg	2.55 lb / 1.16 kg	2.61 lb / 1.18 kg
Power Supply	18W DC	18W DC	18W DC	100W DC	100W DC	100W DC
Power Load (idle/max)	5W / 14W	15W / 23W	6W / 17W	11W / 79W	19W / 87W	19W / 89W
Operating Temperature	32°F - 113°F 0°C - 45°C	32°F - 113°F 0°C - 45°C	32°F - 113°F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C
Humidity	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%

Accessories

Accessory	Description
MA-PWR-30WAC	Meraki MX Replacement Power Adapter (MX67, MX67C, MX67W) (30 Watts AC)

MA-PWR-100WAC	Meraki MX Replacement Power Adapter (MX68 / 68W / 68CW) (100 Watts AC)
MA-ANT-MX	One pair of external dual-band dipole 802.11 antennas for MX67W or MX68W (Connector type: RP-SMA)
MA-ANT-LTE-1	Replacement LTE Antenna for the MX67C
MA-SIMTRAY-2C	Two SIM Card Trays (MX67C / MX68CW)
MA-SIMTRAY-5C	Five SIM Card Trays (MX67C / MX68CW)
MA-PWR-CORD-US	1x AC Power Cable, US plug
MA-PWR-CORD-EU	1x AC Power Cable, EU plug
MA-PWR-CORD-UK	1x AC Power Cable, UK plug
MA-PWR-CORD-AU	1x AC Power Cable, AU plug

NOTE: The MX68CW has fixed antennas that serve both 802.11 and LTE connectivity and cannot be removed.

Warranty

MX Warranty coverage periods are as follows:

Product	Warranty Period	Warranty Information
MX67/68	Lifetime	Full lifetime hardware warranty with next-day advanced replacement included.
MX67/68 Accessories	1 Year	The following are considered accessories: SFP Modules, all mounting kits and stands, interface modules, additional power cords

Additional warranty information can be found on the Return Policy and Requesting an RMA page of the Cisco Meraki website.

If your Cisco Meraki device fails and the problem cannot be resolved by troubleshooting, contact support to address the issue. Once support determines that the device is in a failed state, they can process an RMA and send out a replacement device free of charge. In most circumstances, the RMA will include a pre-paid shipping label so the faulty equipment can be returned.

In order to initiate a hardware replacement for non-functioning hardware that is under warranty, you must have access to the original packaging the hardware was shipped in. The original hardware packaging includes device serial number and order information, and may be required for return shipping.

Troubleshooting

Common Troubleshooting Steps

My cellular uplink is stuck at 'Connecting'

Built-in Cellular - Ensure the following:

- The SIM is activated with the PIN disabled or the correct PIN entered. It may be necessary to use an external modem, or work with the cellular provider to have the PIN disabled or the SIM unlocked.
- There is no external USB modem connected as the MX will prefer an external USB modem to the internal modem, if available.
- If a custom APN is needed, ensure it is applied from **Cellular** section of the **Uplink** tab on the **Security & SD-WAN > Monitor > Appliance Status** page.
- The SIM card is fully inserted.

USB Cellular - Ensure the following:

- The USB Modem is activated and able to pass traffic when connected to a PC.
- If a custom APN is needed, ensure it is applied from the **Cellular** section of **Uplink** tab on the **Security & SD-WAN > Monitor > Appliance Status** page.
- It is fully connected and powered on when connected to the MX.

My modem is connected but is getting very poor throughput

Meraki strongly recommends that the cellular uplink be used on a 4G connection with good signal strength to provide adequate bandwidth to support using the cellular connection as a backup/primary uplink. If no 4G signal is available or the available signal is low strength, the achievable throughput may not be adequate to fully support a remote site and more restrictive traffic shaping rules should be used to ensure traffic is prioritized appropriately.

Common Event Log Messages

Common event logs exist for wired, WiFi, and cellular events. As such, no specific MX67 or MX68 event log entries are required at this time.

For more general information about navigating the Event Log and the types of Events that could be expected please check out our Event Log documentation.

FAQ

Is the MX currently using the Cellular Uplink?

When the MX is using the Cellular Uplink it will display a Purple Status LED instead of the usual White LED.

Is this SD-WAN over LTE?

No.

Can LTE be used as the primary uplink?

No, LTE is currently only supported as a fail-over link and should only be primary during a temporary WAN failure event.

Note: From MX16.2+ versions, integrated cellular MXs (MX67C and MX68CW only) have a feature available under "SD-WAN & Traffic shaping" page where cellular connection that was previously only enabled as backup can now be configured as an active uplink.

Can I utilize LTE for warm spare configuration?

Yes, LTE is supported in a warm spare configuration when using the embedded cellular modules. In order to support HA, customers must be using firmware MX 14.53, MX 15.42, or MX 16.11 or higher. At this time, if a cellular uplink is used in an HA pair, the following will occur in order:

1. Primary MX WAN 1+2 fails > fails over to secondary MX
2. Secondary MX WAN 1+2 fails > fails over to primary MX cellular
3. Primary MX cellular fails > fails over to secondary MX cellular

How does LTE work for free trials?

Meraki does not supply SIM cards so while the unit can be trialed, it is up to the end user to procure a working SIM card

on a compatible carrier.

Do these models support eSIM capability?

No. Currently, Meraki customers will need to acquire a SIM card from their carrier and install.

Will the LTE devices be available in the USA and Worldwide?

Yes. There will be two models: a North American model and a Worldwide model

Should I contact Meraki Support for carrier issues?

No, you will need to bring support issues to the carrier for carrier issues.

How do I troubleshoot carrier issues?

The Meraki Dashboard provides the ability to monitor signal strength, performance, and historical traffic for troubleshooting purposes. For additional troubleshooting related to the carrier, the carrier will need to be contacted.

If an external USB cellular modem and the internal LTE SIM card are both connected, which one takes precedence?

The external USB cellular modem will take priority over the internal LTE SIM.

How many SSIDs does the MX67W/MX68W support?

Both MX67W and MX68W support up to 4 SSIDs with integrated enterprise security and personal / guest access.

Can I change the APN?

Custom APNs can be configured from **Cellular** section of the **Uplink** tab on the **Security & SD-WAN > Monitor > Appliance Status** page.

Can I change the antennas to improve my performance?

The MX68CW has fixed antennas for Wi-Fi and LTE that cannot be swapped. For the MX67C, only Meraki antennas are supported. Replacement antennas will be available for purchase.

If my antennae are lost or damaged, can I use 3rd party antennae that fit on the Meraki device?

Only the Meraki antennae are supported. Lost or malfunctioning antennae can be replaced by contacting Meraki support.

Why are the C and W models in the MX67 series separated whereas the MX68 has CW combined in one model?

The MX68CW provides a high-end option for customers who want all features included in one unit (wireless, high port count, PoE, cellular). The MX67, MX67C, MX67W are for customers who don’t need all features in a single unit.