

## MGOS 4.4.2.2

### RELEASE NOTES

## About MGOS 4.4.2.2

MGOS 4.4.2.2 is specifically for customers with GPS location applications that use TAIP messaging.

This release may be used for MG90 4G routers (currently running MGOS 4.3.1.2+) and 5G routers (currently running MGOS 4.4.0+).

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*Note: Customers who do not use TAIP messaging do not need to upgrade to this release.*

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This release specifically addresses an issue with GPS TAIP messaging.

It also addresses all items described in [MGOS 4.4.2.1 Release Notes](#), including:

- MGOS 4.4.2 radio instability issue per [MGOS 4.4.2 Radio Instability Issue Bulletin](#)
- AirLink connection issues per [AirLink Connection Issues Bulletins](#)
- New features/updated functionality, addressed issues, and security updates

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**Important:**

- **Do not** install MGOS 4.4.2 before upgrading to MGOS 4.4.2.2. Use the appropriate upgrade path described in [Upgrade Methods](#) on page 2.
- After upgrading to MGOS 4.4.2.2, **do not** downgrade below MGOS 4.4.2.1, as the radio instability and AirLink connection issues may reappear.

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Customers with location applications that use TAIP messaging are recommended to upgrade to this latest release to take advantage of the addressed TAIP messaging issue and the items described in the MGOS 4.4.2.1 Release Notes.

**Important:** FIPS customers should upgrade to either MGOS 4.4.2.1 (if not using TAIP messaging) or MGOS 4.4.2.2 (if using TAIP messaging) to stay current with security bug fixes.

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**Important:** All MG90 5G customers running MGOS 4.4.0 must follow the [\(MG90 5G\) Upgrade MGOS 4.4.0 to MGOS 4.4.2.2 instructions on page 2](#)—in brief, the required process is:

1. Upgrade to MGOS 4.4.1 (via AMM OTA (Over-The-Air) or via USB stick).
2. Make sure the EM9190 module(s) are running the correct radio module firmware version.  
*If the wrong firmware is running, the router may not be able to connect to the carrier network.*
3. Upgrade to MGOS 4.4.2.2.

*If you upgraded directly from MGOS 4.4.0 to MGOS 4.4.2 or MGOS 4.4.2.2 and are experiencing network connectivity issues, please contact Support for further instructions.*

**Important:** MG90 5G customers only—If your MG90 5G routers are operating with a Sierra Wireless engineering-supplied version of EM9190 5G radio module firmware, please contact Support for further instructions on how to upgrade to MGOS 4.4.2.2.

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*Note: Sierra Wireless recognizes that our customers deploy devices in a wide range of network environments with varying configurations. It is always good practice to install a new MGOS release with the planned operation workflow on a few trial devices to ensure that standard operation is maintained within your environment before deploying the new release across your fleet of MG90 5G devices.*

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## Upgrade Methods

The following upgrade paths to MGOS 4.4.2.2 are supported:

- MG90 4G: MGOS 4.3.1.2+ → MGOS 4.4.2.2 (See below for details.)
- MG90 5G: MGOS 4.4.0 → MGOS 4.4.1 → MGOS 4.4.2.2 (See below for details.)
- MG90 5G: MGOS 4.4.1 → MGOS 4.4.2.2 (See [page 3](#) for details.)
- MG90 4G/MG90 5G: MGOS 4.4.2 → MGOS 4.4.2.2 (See [page 4](#) for details.)
- MG90 4G/MG90 5G: MGOS 4.4.2.1 → MGOS 4.4.2.2 (See [page 4](#) for details.)

### (MG90 4G) Upgrade MGOS 4.3.1.2+ to MGOS 4.4.2.2

#### USB Stick Upgrade

1. Upgrade directly from MGOS 4.3.1.2+ to MGOS 4.4.2.2.
2. Reboot the MG90.

#### AMM OTA Upgrade

1. Confirm your AMM version—AMM 2.17.1 or newer is required to upgrade OTA to MGOS 4.4.2.2.

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**Important:** Upgrading using older AMM versions will result in MGOS firmware upgrade failures, and can require a USB-stick install to recover. For more information, refer to [Product Bulletin: AMM 2.16 Prerequisite to MG90 firmware upgrade](#).

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2. Make sure software update options are correctly configured—[Set MGOS Auto Software Update Options](#) on page 5.
3. In AMM, upgrade OTA to MGOS 4.4.2.2.

### (MG90 5G) Upgrade MGOS 4.4.0 to MGOS 4.4.2.2

#### USB Stick Upgrade

1. Make sure software update options are correctly configured—[Set MGOS Auto Software Update Options](#) on page 5.
2. Upgrade via USB stick to MGOS 4.4.1.
3. Reboot the MG90.
4. Check the EM9190 firmware version—[Confirm Correct EM9190 Radio Module Firmware](#) on page 6.

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**Important:** The MG90 must be running MGOS version 4.4.1. Otherwise, it may not be able to connect to the carrier network.

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5. Upgrade via USB stick to MGOS 4.4.2.2.
6. Reboot the MG90.

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## AMM OTA Upgrade

1. Confirm your AMM version—AMM 2.17.1 or newer is required to upgrade OTA to MGOS 4.4.2.2.

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**Important:** Upgrading using older AMM versions will result in MGOS firmware upgrade failures, and can require a USB-stick install to recover. For more information, refer to [Product Bulletin: AMM 2.16 Prerequisite to MG90 firmware upgrade](#).

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2. Make sure software update options are correctly configured—[Set MGOS Auto Software Update Options](#) on page 5.
3. In AMM, upgrade OTA to **MGOS 4.4.1** (do NOT upgrade to MGOS 4.4.2.2 yet) from the Software Distribution panel.  
Wait until AMM indicates Download Complete. (Note—AMM performs two downloads. If ‘Reboot when done’ was selected, the MG90 reboots after the first download and then AMM starts downloading the second file. Wait until Download Complete displays a second time.)
4. Reboot the MG90.
5. Check the EM9190 firmware version—[Confirm Correct EM9190 Radio Module Firmware](#) on page 6.

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**Important:** The MG90 must be running MGOS version 4.4.1. Otherwise, it may not be able to connect to the carrier network.

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6. In AMM upgrade OTA to MGOS 4.4.2.2.
7. Reboot the MG90.

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**Important:** If you upgraded directly from MGOS 4.4.0 to MGOS 4.4.2.2 (instead of 4.4.0→4.4.1→4.4.2.1) and are experiencing network connectivity issues, please contact Support for further instructions.

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## (MG90 5G) Upgrade MGOS 4.4.1 to MGOS 4.4.2.2

### USB Stick Upgrade

1. Confirm your AMM version—AMM 2.17.1 or newer is required to upgrade OTA to MGOS 4.4.2.2.

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**Important:** Upgrading using older AMM versions will result in MGOS firmware upgrade failures, and can require a USB-stick install to recover. For more information, refer to [Product Bulletin: AMM 2.16 Prerequisite to MG90 firmware upgrade](#).

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2. Make sure software update options are correctly configured—[Set MGOS Auto Software Update Options](#) on page 5.
3. Check the EM9190 firmware version—[Confirm Correct EM9190 Radio Module Firmware](#) on page 6.

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**Important:** The MG90 must be running MGOS version 4.4.1. Otherwise, it may not be able to connect to the carrier network.

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4. Upgrade via USB stick to MGOS 4.4.2.2.

## AMM OTA Upgrade

1. Confirm your AMM version—AMM 2.17.1 or newer is required to upgrade OTA to MGOS 4.4.2.2.

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**Important:** Upgrading using older AMM versions will result in MGOS firmware upgrade failures, and can require a USB-stick install to recover. For more information, refer to [Product Bulletin: AMM 2.16 Prerequisite to MG90 firmware upgrade](#).

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2. Make sure software update options are correctly configured—[Set MGOS Auto Software Update Options](#) on page 5.
3. Check the EM9190 firmware version—[Confirm Correct EM9190 Radio Module Firmware](#) on page 6.

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**Important:** The MG90 must be running MGOS version 4.4.1. Otherwise, it may not be able to connect to the carrier network.

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4. In AMM upgrade OTA to MGOS 4.4.2.2.

## (MG90 4G/MG90 5G) Upgrade MGOS 4.4.2 to MGOS 4.4.2.2

### USB Stick Upgrade

1. Upgrade directly from MGOS 4.4.2 to MGOS 4.4.2.2.
2. Reboot the MG90.

### AMM OTA Upgrade

1. Confirm your AMM version—AMM 2.17.1 or newer is required to upgrade OTA to MGOS 4.4.2.2.

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**Important:** Upgrading using older AMM versions will result in MGOS firmware upgrade failures, and can require a USB-stick install to recover. For more information, refer to [Product Bulletin: AMM 2.16 Prerequisite to MG90 firmware upgrade](#).

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2. Make sure software update options are correctly configured—[Set MGOS Auto Software Update Options](#) on page 5.
3. In AMM, upgrade OTA to MGOS 4.4.2.2.

## (MG90 4G/MG90 5G) Upgrade MGOS 4.4.2.1 to MGOS 4.4.2.2

### USB Stick Upgrade

1. Upgrade directly from MGOS 4.4.2.1 to MGOS 4.4.2.2.
2. Reboot the MG90.

### AMM OTA Upgrade

1. Confirm your AMM version—AMM 2.17.1 or newer is required to upgrade OTA to MGOS 4.4.2.2.

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**Important:** Upgrading using older AMM versions will result in MGOS firmware upgrade failures, and can require a USB-stick install to recover. For more information, refer to [Product Bulletin: AMM 2.16 Prerequisite to MG90 firmware upgrade](#).

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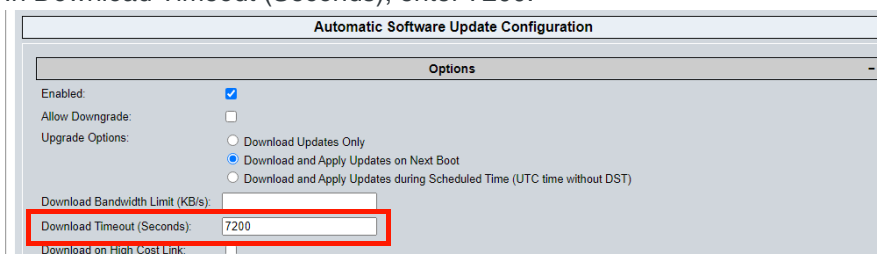
2. Make sure software update options are correctly configured—[Set MGOS Auto Software Update Options](#) on page 5.
3. In AMM, upgrade OTA to MGOS 4.4.2.2.

## Set MGOS Auto Software Update Options

Make sure the MG90 is configured to perform automatic radio module firmware updates—this is required if the EM9190 module(s) are running the wrong firmware version, and is recommended for all customers:

1. Go to General > Auto Software Updates.
2. Sierra Wireless recommends setting the download timeout value to 7200 s, to ensure the download completes in one attempt. (Otherwise, if the download times out, it will resume at the next opportunity — for example, when the active link changes, the next scheduled update window, when the device reboots, etc.)

In Download Timeout (Seconds), enter 7200.



Automatic Software Update Configuration

Options

Enabled: ☒

Allow Downgrade: ☐

Upgrade Options:

- ☐ Download Updates Only
- ☒ Download and Apply Updates on Next Boot
- ☐ Download and Apply Updates during Scheduled Time (UTC time without DST)

Download Bandwidth Limit (KB/s):

Download Timeout (Seconds):

Download on High Cost Link: ☐

3. Expand the Radio Module Firmware Options section (click anywhere in the section heading).



Radio Module Firmware Options

Firmware Upgrade Option:

Firmware Upgrade on High Cost Link: ☐

SIM-based Switching Enabled on CA: ☒

SIM-based Switching Enabled on CB: ☒

4. Make sure Firmware Upgrade Option is set to Upgrade Active or Upgrade All.
5. Make sure SIM-based Switching Enabled is selected for each EM9190.
6. Click Submit.

## Confirm Correct EM9190 Radio Module Firmware

Before upgrading from MGOS 4.4.1 to MGOS 4.4.2.2, it is important to ensure the MG90 5G router's EM9190 module(s) are running carrier firmware version(s) from the following list:

AT&T	01.07.13.00_00_ATT_012.007_001
GENERIC	01.07.13.00_00_GENERIC_016.006_001
T-MOBILE	01.07.13.00_00_TMO_001.005_001
VERIZON	01.07.23.00_01_VERIZON_012.019_000

1. Display the currently running firmware version(s) for the EM9190 module(s)—Use either of the following methods, and compare them to the list above:
  - Go to General > Auto Software Updates—The firmware is listed in the Radio Module Current Status section as “Firmware”.

Radio Module Current Status			
Cellular CA		Cellular CB	
RM:	EM9190	RM:	EM9190
SIM:	GENERIC	SIM:	UNKNOWN
SIM ICCID:	89302720399911475274	SIM ICCID:	UNKNOWN
SIM IMSI:	302720491186132	SIM IMSI:	UNKNOWN
Firmware:	01.07.13.00_GENERIC_016.006_001	Firmware:	01.07.13.00_GENERIC_016.006_001
SKU PRI:	9909484	SKU PRI:	9909484
Carrier PRI:	9999999_9909621_SWIX55C_01.07.13.00_00_GENERIC_016.006_001	Carrier PRI:	9999999_9909621_SWIX55C_01.07.13.00_00_GENERIC_016.006_001

- Go to Status > WAN > Extended Status—The carrier firmware is listed in the Cellular Info section as “Carrier PRI ID”.

Cellular Info	
IMEI	351735110108939
MEID	35173511010893
SIM ID	89302720399911475274
Network Type	LTE
Band Number	66
Bandwidth	20MHz
SSC1	State: Inactive, Band: 7, BW: 20MHz, Channel: 3050
SSC2	State: Not Assigned
SSC3	State: Inactive, Band: 12, BW: 10MHz, Channel: 5070
SSC4	State: Not Assigned
RSSI	-76.0dBm / -77.0dBm
RSRP	-90.0dBm / -92.0dBm
RSRQ	-13.4dB
SINR	4.4dB
Programmed APN(s)	m2minternet.apn, ims, m2minternet.apn
Manufacturer	Sierra Wireless, Incorporated
Model	EM9190
Hardware Version	G
Firmware Version	SWIX55C_01.07.13.00
SKU PRI ID, Revision	9909484, 001.020
Carrier PRI ID	9999999_9909621_SWIX55C_01.07.13.00_00_GENERIC_016.006_001

**Important:** Make sure the entire version matches—sometimes only the last digit is different. (e.g., 01.07.13.00\_00\_GENERIC\_016.006\_000 vs 01.07.13.00\_00\_GENERIC\_016.006\_001.

2. If the wrong firmware is running, AMM should automatically download the correct firmware—AMM will indicate “Downloading” when it starts.  
When AMM indicates “Download Complete”, reboot the MG90.

## Addressed Issues

### GNSS

Resolved an issue that caused TAIP message timestamps to not update when a GPS fix was lost.

### Cellular

Resolved an issue that caused APN authentication via PAP or CHAP using the AT\$QCPDPP command to stop working after upgrading to MGOS 4.4.2 or later.