

## Sierra Wireless Product Bulletin: 2019 GPS Week Number Rollover

Date of Issue: March 12, 2019

### Applicable Products

AirLink Routers and Gateways with GPS supported.

### Introduction

The Global Positioning System (GPS) signal provides the positioning and timing information which is used by the GPS receiver in the Applicable Products to calculate time and location. The GPS satellites transmit a 10-bit week number, which number rolls over every 1024 weeks (19.7 years). The next week number rollover event will occur on April 6, 2019 and may have an effect on the GPS functionality of the Applicable Products as further detailed below.

While April 6, 2019 is the next GPS satellite week number rollover date, certain of the Applicable Products contain GPS receivers which have an offset before the effects of the rollover are realized. Consequently, although the GPS week number will rollover on April 6, 2019, the effective rollover date is November 3, 2019 or later for all devices either currently offered for sale or subject to an end of sale notice but still within the critical software maintenance phase.

AirLink devices use the GPS receiver for both location reporting and as a time-source for setting accurate system time. Sierra Wireless has reviewed all devices under active or critical software maintenance and has identified below the recommended actions for all impacted devices for customers to properly manage the effects of the 2019 GPS week number rollover event. As such, customers must follow the recommended actions to ensure proper operation of their devices after the rollover event.

Failure to take action before the effective rollover date may lead to:

- Positioning Issues: incorrect GPS timestamps, loss of GPS fix in CDMA networks, irregular tracking.
- System Issues: invalidation of on-board certificates, inability to connect to management systems (ALMS and AMM), unpredictable operational issues.



## Recommended Actions

### Devices Impacted by 2019 Rollover

The following devices have been identified as impacted by the 2019 GPS week number rollover event.

---

Note: Devices that do not have GPS enabled, or do not have GPS support, are not impacted.

---

- **RV50**  
**Effective Rollover Date: Nov 3, 2019**  
**Recommended Action:** Upgrade firmware to ALEOS 4.12 before the effective rollover date. ALEOS 4.12 will be available May 2019.
- **GX450**  
**Effective Rollover Date: Nov 3, 2019**  
**Recommended Action:** Upgrade firmware to ALEOS 4.9.4 before the effective rollover date. ALEOS 4.9.4 is available now.
- **LS300, GX400**  
**Effective Rollover Date: Nov 3, 2019**  
CDMA shutdown by many carriers has either occurred or is imminent. Hence, for a limited time, Sierra Wireless is offering customers an upgrade program to migrate these devices to new LTE devices. More information can be found at:  
<https://www.sierrawireless.com/promotions/cdmaupgrade/>
  - **CDMA devices: LS300 Verizon Wireless and Sprint, GX400 Verizon Wireless and Sprint**  
**Recommended Action:** Take advantage of Sierra Wireless's CDMA upgrade offer to upgrade devices.  
Sierra Wireless recommends customers who use GPS for positioning upgrade to newer devices before the effective rollover date to mitigate any possible impact. Where CDMA networks are used for connectivity, devices may not be able to acquire a GPS fix after the effective rollover date.

- **Non-CDMA devices: LS300 AT&T, Canada, and International, GX400 AT&T, Canada, and International**

**Recommended Action:** Upgrade firmware to ALEOS 4.4.8 before the effective rollover date. ALEOS 4.4.8 is available now.

- **GX440**

**Effective Rollover Date: Nov 3, 2019**

- **CDMA Fallback devices: GX440 Verizon Wireless**

**Recommended Action:** Upgrade firmware to ALEOS 4.4.8 before the effective rollover date and disable CDMA fallback. ALEOS 4.4.8 is available now.

ALEOS 4.4.8 firmware is expected to resolve system issues and correct GPS timestamps reported after the rollover takes effect. However, devices may still have issues acquiring a GPS fix in CDMA networks. As Verizon is expected to retire its CDMA network by end of 2019, Sierra Wireless recommends configuring devices to be in 'LTE Only' mode to mitigate any potential gaps in GPS positioning.

- **Rest: GX440 AT&T and Canada**

**Recommended Action:** Upgrade firmware to ALEOS 4.4.8 before the effective rollover date. ALEOS 4.4.8 is available now.

---

Note: Customers who are only using GPS as a source of time (not for positioning) can also mitigate impacts of the GPS rollover by configuring another source for system time by:

- a. Ensuring that GPS is disabled, allowing the device to fallback to the mobile network for system time, or
- b. Enabling use of a System Network Time Protocol (SNTP) time server to synchronize system time.

---

### Devices Not Impacted by 2019 Rollover

The following devices have been identified as not impacted by the April 6, 2019 rollover:

- **RV50X:**
  - GPS receiver has extended effective rollover date to year 2032.
- **MP70/E, MG90, LX60:**
  - GPS receiver has extended effective rollover date to year 2035.



- **oMG2000, oMG500:**
  - GPS receiver has extended effective rollover date to year 2029.

### Legacy Devices

Legacy devices (PinPoint, MP890 etc.) are end of sale devices which are now past the critical software maintenance phase. For these devices, it is not known how the GPS receiver will handle the next GPS week number rollover event. Proper operation of GPS functioning may be impacted as soon as April 6, 2019.

### Presumed Effective Rollover Date: April 6, 2019

**Recommended Action:** Take advantage of Sierra Wireless's CDMA upgrade offer to upgrade devices.

These devices may be impacted on or after April 6, 2019. Sierra Wireless recommends customers upgrade to newer devices prior to this date to mitigate any possible impact.

Customers are encouraged to utilize Sierra Wireless' limited time CDMA upgrade offer to upgrade these devices to newer technology. More information can be found at:

<https://www.sierrawireless.com/promotions/cdmaupgrade/>

### Further Information

For assistance performing these actions or for further information, please contact your authorized AirLink reseller or Sierra Wireless representative. To contact Sierra Wireless, please visit <https://www.sierrawireless.com/company/contact-us>.

Sierra Wireless Technical Support is also available by phone or web portal from 6:00 to 17:00 PST, Monday to Friday.

Phone (Toll Free): 1-877-687-7795

Web: [portal.sierrawireless.com](http://portal.sierrawireless.com)