



## AirLink OS 3.1

### RELEASE NOTES

## About AirLink OS 3.1

This release of AirLink OS 3.1 is for the AirLink XR90, XR80 and RX55. These release notes describe new features, bug fixes and known issues that apply to this release.

Sierra Wireless encourages all customers to maintain their AirLink routers with the current AirLink OS release and security patches via our AirLink Management Service (ALMS). Sierra Wireless tests and validates upgrades from the previous major software releases.

Sierra Wireless has tested and validated upgrading to AirLink OS 3.1 from the following releases:

- 3.0.35
- 2.1.30
- 2.1.28

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**Warning:** *Routers running AirLink OS 2.0.43 or earlier must be upgraded to 3.0 before upgrading to AirLink OS 3.1. Upgrading directly to 3.1 from 2.0.43 will fail, resulting in radio module failure and WAN disconnection.*

*Routers running AirLink OS 2.0.45 or later can be upgraded to 3.1 directly.*

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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 AirLink OS 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 AirLink devices.

## New Features

### EM9190 and EM7690 Radio Module Firmware

Added support for firmware 03.09.06.00

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*Note: For EM9190, includes support for non-standalone (NSA) and standalone (SA) modes for all available 5G bands when running radio module firmware based on 03.09.06. Bands supported are n1, n2, n3, n5, n28, n41, n66, n71, n77, n78, n79.*

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#### Carriers:

- Added support for Bell (Carrier certification in progress)
- Added support for Telus (Not certified; certification expected on a future version of radio module firmware)
- Added support for Rogers

#### Carrier Firmware Matrix:

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|-------------------------|------------------------|
| • Verizon: 01.07.23.00  | • Bell: 01.07.13.0     |
| • AT&T: 03.09.06.00     | • Telus: 03.09.06.00   |
| • FirstNet: 03.09.06.00 | • Rogers: 01.07.13.0   |
| • T-Mobile: 03.09.06.00 | • Telstra: 03.04.03.00 |
| • Generic: 03.09.06.00  |                        |

### EM7411 and EM7421 Radio Module Firmware

#### Carrier Firmware Matrix:

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|-------------------------|--------------------------------|
| • Verizon: 01.14.07.00  | • Generic: 01.14.13.00         |
| • AT&T: 01.14.13.00     | • Sierra (EM7411): 01.14.03.00 |
| • FirstNet: 01.14.13.00 | • Sierra (EM7421): 01.14.07.00 |
| • T-Mobile: 01.14.03.00 |                                |

### Supported hardware/SKUs

Updated AirLink OS to include support for the AirLink RX55 router.

### Cellular

Added FirstNet 5G support (enabled by default), allowing 5G bands when a FirstNet SIM is inserted.

## Bug Fixes

### Templates

Resolved an issue where a template generated in ALMS would overwrite an existing template if the template names shared a text substring. For example, *new\_template* would overwrite *template\_June-28*.

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Resolved an issue where, after editing an existing template in ALMS, saving the file with a name sharing a text substring with the original file would overwrite the original template file. For example, *new\_template* would overwrite *template\_June-28*.

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Resolved an issue with exporting templates to ALMS, where “false”, “empty string” and “0” settings were changed to “null”. Templates exported to .json were not affected.

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Resolved an issue where “null” values were ignored when applying templates created in ALMS, causing the update to fail.

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Resolved an issue where some template values were changed to default after export/import.

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Resolved an issue where a template created “from current configuration” caused validation errors with Bridge > Default-LAN when the template was applied.

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Resolved an issue where IPv4/IPv6 Pool Starting/Ending Addresses were not saved to a template, causing validation errors when the template was applied.

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Resolved an issue where Wi-Fi SSID and Security Mode settings were not saved to a template created from scratch, causing validation errors when the template was applied.

## Networking

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Resolved an issue where disabling DMZ did not disable full DMZ functionality for the traffic session in progress.

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Resolved an issue where, in cases when the LPWA WAN interface was the only WAN interface for AirVantage traffic, and it lost connection due to network instability, OOBM (AirVantage) traffic failure persisted.

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Resolved an issue where renaming the Default-LAN bridge would block local access to the AirLink OS UI after upgrading to version 3.0. The Default-LAN name is now a read-only setting and can no longer be renamed.

## Cellular

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Resolved an issue where, after a radio module firmware and carrier switch, the Cellular UI showed carrier aggregation information for the previously used radio module firmware/carrier.

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Resolved an issue where, in a multi-APN SIM card application, a single template containing a firewall rule on the virtual interface could not be applied.

## Hardware Interfaces

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Resolved an intermittent issue where an XP cartridge Ethernet port may drop its connection, and must be restarted to reconnect.

# Known Issues

## Cellular

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XR80-LTE/RX55: Under System > Radio Module, only DL carrier aggregation information is shown. UL carrier aggregation information is not displayed.

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An issue exists where, when an XR Series router is connected to a 5G network, LTE primary band info is not shown under System > Radio Module.

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After inserting a new SIM that requires a manual APN setting, when configuring the manual APN using a template generated on a device with the previous SIM, the SIM database is updated, but the APN mode remains in “Auto” mode. and the manual APN is not used. To enable the manual APN, disable/enable the cellular interface, or reboot the router.

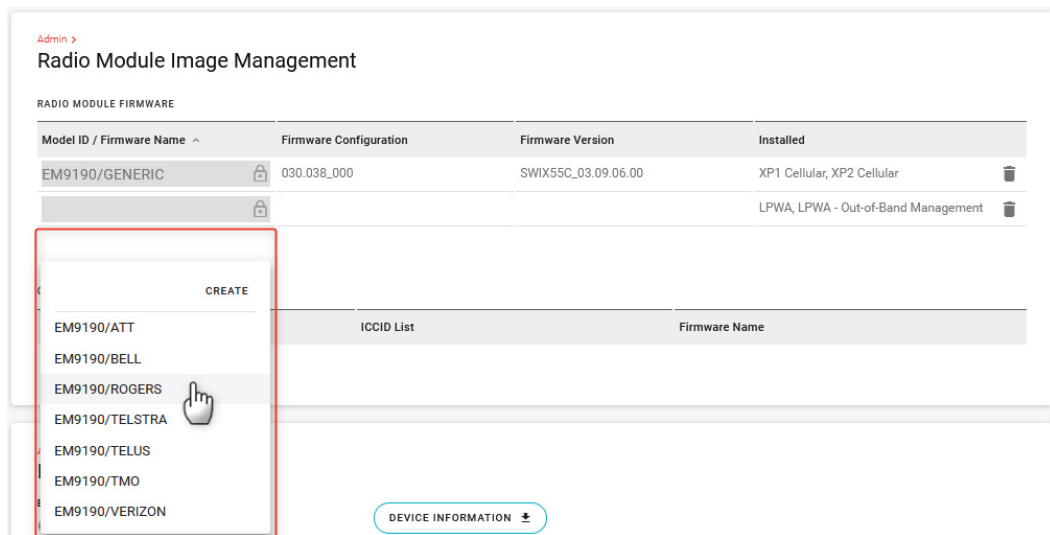
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RX55: When adding EM7411 radio module firmware to Radio Module Image Management, a validation error indicates the addition will exceed the maximum number of entries in the table. The error message appears even when there are available entries in the table. Despite the error message, the radio module firmware is added to the device when there are available entries in the table.

After upgrading from AirLink OS 3.0 to 3.1, the Cellular LED may flash red even though the Cellular interface is connected and passing traffic. This is caused by a radio module firmware mismatch after the update. AirLink OS 3.1 adds new radio module firmware for Canadian carriers.

To restore normal LED operation:

- Manually add your radio module/carrier name to the Radio Module Firmware table at Admin > Radio Module Firmware Image Management.
  - Click an empty field in the Model ID/Firmware Name column and then select your radio module/carrier name, as shown in the example below.
- Repeat the upgrade to AirLink OS 3.1. The router will reboot and apply the correct radio module firmware.



XR90: An issue exists where, in a dual APN configuration, XP1 Cellular-1 APN failed to pass traffic after the router was powered down, XP2 cartridge connected, and then rebooted.

## Wi-Fi

An issue exists where a laptop cannot connect to Wi-Fi using WPA2 Enterprise, with authentication passing through an IPsec VPN to a RADIUS server.

For more information if you encounter this issue, please contact Sierra Wireless support.

An issue exists where the XR Series router cannot connect to a Fortinet access point set for "WPA2 PMF- Required" when the router is also set to "PMF - REQUIRED". The XR Series client successfully connects when set to "PMF - OPTIONAL".

The XR Series router in 2.4GHz (802.11 b/g/n/ax) Client mode cannot connect to a Cisco 9117AX remote access point.

## Networking and Connectivity

XR90: When configuring IP Passthrough under Networking > General > WAN Services, the interfaces available on the IPV4 PASSTHROUGH list shows **XP2 Ethernet**, not **XP1 Ethernet**, when an XP2 Cartridge is not connected.

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Unlike XR Series routers, the RX55 does not support Multi-WAN Policies for AirVantage Software Servers and AirVantage Management Servers.

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Port forwarding to the router's localhost for remote access is not configurable in AirLink OS 3.0. Devices that upgrade to this release will retain the configuration; however if the device is factory reset or updates are made to the port forwarding configuration, this rule cannot be reconfigured. It is possible to restore the rule via a template update as a workaround.

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When creating a bandwidth profile under Quality of Service (QoS) > Bandwidth Policies, the UI converts Download and Upload settings from kilobytes and kilobytes/sec to megabytes and megabytes/sec. These conversions are inexact: 40,000 KB is converted to 39.06 MB, for example.

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IPv6 DNS Propagate fails for the Ethernet WAN interface. Manually configured DNSv6 servers are not propagated from WAN to HOST-PC on the LAN.

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XR90: QoS (traffic shaping and policing) cannot be applied for traffic to/from the gateway itself, and may not be applied to some flows through the gateway.

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XR90: An issue exists where IPv6 routes on multi-APN interfaces were not created after multiple reboots.

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XR90: Port forwarding only works on the current active WAN interface. For example, when port forwarding is enabled on the active Cellular WAN interface, if the active WAN interface switches to Wi-Fi, port forwarding will only work on the Wi-Fi Interface. If the active WAN switches back to the Cellular WAN interface, port forwarding will begin to work on it again.

### Hardware Interfaces

Serial communication with a remote server won't establish after the cellular interface is disabled and then re-enabled. Rebooting the router will re-establish the communication between the host behind the device and the remote server.

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XR80 LTE CAT-20: After adding or reconnecting an XP cartridge to the router, the router must be reset to factory default settings.

### VPN

With an IKEv2 LAN-to-LAN tunnel established, if the primary VPN server goes down and Dead Peer Detection (DPD) fails over to a secondary server at the same time as a WAN interface switch occurs, the tunnel may repeatedly connect/disconnect as DPD erroneously detects failures on the secondary server.

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IPv4 IPsec VPN (connected over cellular) does not work after IPv6 Clat is enabled.

### AirLink OS

When creating a Smart Reporting dataset "from scratch", some of the installed radio module firmware is not automatically selected after selecting "Add line to dataset" in the Radio Module Firmware table under System > Admin > Radio Module Image Management.

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When creating a template "from scratch", the installed radio module firmware cannot be selected in the Radio Module Firmware table under System > Admin > Radio Module Image Management.

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A template generated on an XR80-CAT20 router cannot be applied to XR80-5G due to validation errors.

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A template containing a SIM configuration cannot be used to modify a SIM configuration on another XR90 (that is, when a SIM configuration is already present on the target XR90). A template containing a SIM configuration can only be used to create a new configuration on another XR90 (that is, no SIM configuration has been applied to the target device yet).

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To use a template containing a SIM configuration, first delete the SIM configuration from the target XR90.

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An issue exists where a Multi-APN configuration using SIM Database -> Associated PLMN cannot be created. This also means template cannot be created from the UI with this setting. Please contact Sierra Wireless for support in creating templates that need Multi-APN configuration.

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A UI glitch can occur after selecting a WAN interface in the USER-DEFINED POLICIES section of the Multi-WAN configuration menu with a narrow window (approximately 1300 px). The WAN interface menu can persist as a pop-up window. To get rid of the pop-up, click elsewhere on the page.

### **Location and Telemetry**

During drive tests, store-and-forward operation to maintain NMEA data during network outages does not start consistently after an outage is detected.