



AirLink OS 4.0

RELEASE NOTES

About AirLink OS 4.0

This release of AirLink OS 4.0 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 4.0 from the following releases:

- 3.1
- 3.0.35

Warning: Routers running AirLink OS 2.0.43 must be upgraded to 3.0 before upgrading to AirLink OS 4.0. Upgrading directly to 4.0 from 2.0.43 will fail, resulting in radio module failure and WAN disconnection.

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.

Note: The LPWA radio module firmware update can take five minutes.

New Features and Enhancements

EM9190 and EM7690 Radio Module Firmware

Carrier Firmware Matrix:

- | | |
|-------------------------|------------------------|
| • Verizon: 03.09.11.00 | • Telus: 03.09.11.00 |
| • AT&T: 03.09.11.00 | • Rogers: 03.09.11.00 |
| • FirstNet: 03.09.11.00 | • Telstra: 03.04.03.00 |
| • T-Mobile: 03.09.06.00 | |
| • Generic: 03.09.11.00 | |
| • Bell: 03.09.11.00 | |

EM7411 and EM7421 Radio Module Firmware

Carrier Firmware Matrix:

- Verizon: 01.14.20.00
- AT&T: 01.14.13.00
- FirstNet: 01.14.13.00
- T-Mobile: 01.14.03.00
- Generic: 01.14.13.00
- Sierra (EM7411): 01.14.03.00
- Sierra (EM7421): 01.14.03.00

Supported hardware/SKUs

RX55: Added Wi-Fi and Wi-Fi Plus support

Networking

Added an option to disable Masquerade per WAN link.

Added local interface and hostname to the Neighbor table.

Added support for configurable MSS clamping per WAN interface.

Added a Proxy ARP option for IPv4 WAN interfaces when Masquerade is disabled.

Added the option to forward IP broadcast packets through a bridge interface.

Added third-party captive portal support.

Added an Alert setting to firewall rules. Note that this is an alpha feature. Please contact Sierra Wireless for guidance.

Cellular

Limited configuration options for the LPWA interface, including a non-editable system monitoring rule and removing the interface from the Network Watchdog.

Added support for Smart Transmit (SAR) on the EM9190 radio module.

Added the ability to enter either the carrier name or PLMN in SIM configuration templates.

Wi-Fi

Added displaying MAC addresses for connected access point and client hardware interfaces.

Improved the Scanned SSIDs table: collapsed 2.4GHz and 5GHz SSID scan entries into one selectable SSID row, displaying all BSSIDs for each SSID, along with channels, Band, RSSI and Bars (via a tool tip).

User experience improvement: added automatic pop-up during SSID selection.

Added support for Wi-Fi Geolocation. Country is now set automatically using GPS or Cellular.

Security

HSTS (HTTP Strict Transport Security) is now enabled by default.

Firmware downgrade is disabled by default. Downgrade can be enabled in AirLink OS, with an option to reset settings (enabled by default) during the downgrade.

Telemetry

Non-defined (as part of the AirLink Telemetry Protocol specification) CAN telemetry items are no longer being stored in the data store.

RX55 Wi-Fi: Added CANbus and vehicle telemetry support.

Enhanced vehicle telemetry with:

- selectable reporting destination per-report
- report mode option for vehicle behavior reports
- making triggers for Advanced Mobility Reporting non-configurable.

Location

Added support for Vehicle ID with NMEA GPS reports.

Added GNSS module firmware version to Status/Monitoring > Services > Location.

Apps

Added support for Docker registry and configuration.

Logging

Added messages during a reset to specify RESET TO FACTORY or RESET TO TEMPLATE.

Added several improvements to logging, including startup information, firmware update, VPN log levels, log-in attempt information, and GNSS firmware download.

Increased the log size to 4 MB.

Added radio module thermal mitigation levels and level changes to the logs.

Added the following Cellular-related data to the logs when a cellular data connection is attempted.

- APN
- IMSI
- Cellular device
- Active SIM ICCID
- Active slot
- SIM presence
- Radio module type
- RM FW version
- RM FSN
- Voice number
- Current carrier
- NOS carrier
- Preferred carrier
- Cell PRI ID
- Cell PRI revision
- IMEI
- ICCID
- Serving Network Operator
- Preferred technology

VPN

Added multi-point GRE tunneling.

Added support for NHRP.

Added support for Port Forwarding for IPsec Tunnels.

ALMS

Added the "Reset to Template" option to ALMS.

Added iPerf client to AirLink OS, and made network diagnostics (ping and traceroute and IP capture) available from ALMS.

AirLink OS

Added various revisions to the user interface:

- Better visualization of connectivity status
- Second-Level Section Headings
- Show IP address in hover icon for all WAN links
- Various color adjustments
- Show VPN status in WAN section of dashboard
- Change to “cell tower” icon for cellular
- Rename “bridge” to “LAN segment”
- “Nested” representation for multi-WAN
- Use “ALMS” instead of LWM2M for device management

Added a “Reset to Factory Defaults” step after downgrading AirLink OS software.

Added contextual help for WAN Auto-Detect (Enable/Disable) and LAN Segment (in Wi-Fi).

Added the ability to add text (for a warning message or acceptable use policy, for example) to the login screen.

Templates

Prevented known SIM entries from being added to a template by default when creating a template from the current configuration.

Bug Fixes

Templates

Resolved an issue where Radio Module firmware could not be added to the template.

Resolved an issue where some status items could not be selected for inclusion in a template (either created from the current configuration, or created from scratch).

Resolved an issue where the values for the “build” and “version” fields were reversed in the template file.

Resolved an issue where device-defined firewall rules for multi-APN interfaces prevented a template created from current configuration from being applied to same device.

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*.

Resolved an issue with Telemetry > Custom Reports where GENERATE THIS REPORT AT POWER ON could not be added to a template.

Resolved an issue where creating a template on an XR80-CAT20 device and then applying the template to an XR80-5G device caused validation errors.

Resolved an issue where a template containing Firewall and Port Forwarding rules (for Bandwidth Limiting) could not be applied.

Resolved an issue where a template containing a SIM configuration could not be used to modify a SIM configuration on another XR90 (that is, when a SIM configuration was already present on the target XR90).

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.

Resolved an issue where a template generated on an XR80-CAT20 router could not be applied to XR80-5G due to validation errors.

Resolved an issue where a Multi-APN configuration using SIM Database -> Associated PLMN could not be created, and a template could not be created from the UI with this setting.

Resolved an issue where the WAN Ethernet port configuration was not saved to the template by default.

Networking

Resolved an issue where an Active FTP session could not be established from a LAN-connected host to a remote FTP server.

Resolved an issue where DNS queries on LAN segments failed when DHCP was disabled.

Resolved an issue where DNS resolution failure was not detected by the Network Watchdog.

Resolved an issue where the router sometimes had an incomplete route after the WAN interface was toggled between enabled and disabled.

Resolved an issue where deleting a Bridge that had a name ending in a letter caused an error. Bridge names must end in a number; "br0", for example.

XR90: Resolved an issue where port forwarding only worked on the current active WAN interface.

Cellular

Resolved an issue where download throughput for an APN in Multi-APN mode (as a Virtual interface) was much lower for the same APN when configured without Multi-APN.

Resolved an issue where RSRP and RSRQ were not shown in System > Radio Module when in 5G coverage.

Resolved an issue where Radio Module Firmware Update failed on an AirLink RX55 with Sierra SIM.

Resolved an issue where VLAN packets were dropped after the TX queue was full.

Resolved an issue where some AT&T SIM cards did not trigger the router to use the correct APN and radio module firmware.

RX55: Resolved an issue found during testing where repeated SIM slot switching caused the cellular adapter to enter a "Stopped" state.

Resolved an issue found during testing where repeated SIM slot switching (two SIM slots on two cellular interfaces) caused one interface to enter a "Radio reset" state.

Resolved an issue where APN mode remained in "Auto" mode and the manual APN was not used after configuring the manual APN using a template generated on another device.

Resolved an issue where system time could not be retrieved from the LPWA radio module.

Resolved an issue where the LPWA connection to ALMS was lost and didn't reconnect.

Resolved an issue where two firmware images claimed to be installed on the same radio in the Radio Module Image Management table.

Resolved an issue with incomplete information available in the logs by adding messages for when and why auto failover is triggered.

Wi-Fi

Resolved an issue where the router could not connect to an access point with a hidden SSID.

Resolved an issue where XR90 Wi-Fi couldn't connect to 2.4GHz Cisco IW3702 when Voice ACM was enabled.

XR90: Resolved an issue where Access Point mode could be enabled, with the router broadcasting the Wi-Fi module SSID, when no SSID was configured.

Resolved an issue where an invalid configuration could be saved when configuring Wi-Fi from Client mode to Access Point mode, and then to Client mode again.

Resolved an issue where it was possible to configure identical SSIDs (SSID name and band) with different Security Modes.

Resolved an issue where a WPA2-Enterprise Access Point could be configured without a RADIUS authentication server.

Improved Wi-Fi reconnect time after a disconnect.

Resolved an issue where the Wi-Fi module could crash at startup if n/ac mode was selected.

Resolved an issue where a WPA2-Enterprise Access Point could not get the Secret from a RADIUS authentication server when the Access Point was configured before the RADIUS server was configured.

Resolved an issue where an iPhone could not connect to the router Access Point when no other non-iOS devices were connected.

Resolved an issue where Intel AX200 throughput dropped after five minutes of TCP downlink.

To reduce power consumption, the Wi-Fi reference clock is disabled when Wi-Fi is thermally disabled.

Resolved an issue where the router could not connect to a WPA2 Enterprise network using PEAP without a root certificate.

Resolved an issue where a RADIUS server could be configured without a shared secret.

Resolved an issue where it was possible to delete a RADIUS server despite being included in a WPA2-Enterprise Access Point configuration.

Resolved an issue where RADIUS/LDAP/TACACS+ server configurations saved in a template could not be applied to the router using "Reset to Template".

Resolved an issue where adding more than 6 SSIDs in the Client SSID Database table caused a Datastore error in the UI. The number of SSIDs is limited to 6.

Resolved an issue where a client SSID configured with WPA2/3 transition mode appeared as offline in the client SSID database even when the router was connected to the SSID.

Resolved an issue where various devices sometimes failed to connect to an XR80 Access Point when additional APs on the router were disabled/enabled.

XR80/XR90: Resolved an issue where the router did not support connecting to a WPA2-PSK SSID with SHA256 and PMF required.

Resolved an issue where access points remained disabled after switching a router Wi-Fi interface from Client mode to Access Point mode with "DISABLE APS ON CLIENT ASSOCIATION" enabled.

Resolved an issue where an XR80 briefly broadcast an SSID containing nonstandard characters.

Resolved an issue where an XR80 could not connect to a 2.4GHz WPA3 access point.

Resolved an issue where the XR80/XR90 Wi-Fi 2.4GHz client periodically disconnected/reconnected from the Remote AP, causing Internet disruptions.

Resolved an issue where the Wi-Fi status did not report "Connecting".

Resolved an issue where the router allowed indoor-only channels to be used in OUTDOOR mode when the REGION had been set to EU: Europe.

XR90: Resolved an issue where a router failed to start Wi-Fi on daily power-on.

XR80: Resolved an issue where degraded performance was observed when using Access Point and Client disabled.

Resolved an issue where Ethernet to Wi-Fi throughput was lower than expected.

Hardware Interfaces

Resolved an issue where an XR90 repeatedly rebooted if the hardware clock failed to synchronize.

Resolved an issue where the connect timeout feature stopped working when TCP Reconnect On Disconnect is enabled then disabled.

XR90/XR80: Resolved an issue with GPIO configuration where configuring all five I/Os as Digital Inputs, then enabling or disabling all of them resulted in inconsistent Active/Inactive Status for each input in the Digital Inputs table.

Resolved an issue where serial communication with a remote server wouldn't establish after the cellular interface was disabled and then re-enabled.

RX55: Resolved an issue where serial DCD and DSR lines were not working when configured in 8-wire mode.

RX55: Resolved an issue where, after a reset to factory defaults, Serial Interfaces > Configuration was showing Port 1 and Port 2 when Dual Serial Mode was disabled.

Resolved an issue where serial PAD data was not transmitted over the XP Cellular WAN.

RX55: Resolved an issue where ASSERT DSR and ASSERT DCD settings were not shown when Dual Serial mode was disabled.

VPN

Added an option to configure the MTU size for IPSec Tunnels when in FIPS mode to resolve an issue with dropped packet fragments in networks.

Resolved an issue where NAT bindings were unstable when passing VPN encapsulated traffic.

Reduced VPN failover time by adjusting the Dead Peer Detection timer range and number of retries.

Resolved an issue where non-FIPS MOBIKE L2L/H2L VPN Tunnel dropped traffic and never recovered when a WAN switchover from Cellular to Ethernet occurred.

Resolved an issue where full tunnel exemptions were incorrectly set up in FIPS mode.

Resolved an issue where the negotiated traffic selector did not appear in the firewall rule.

Location and Telemetry

Resolved an issue where NMEA sentence forwarding replayed historical messages if the router system time is behind the local time at power up.

Resolved an issue where atp.igns was sent periodically as part of the AVStandard report instead of only on edge transitions of the ignition line.

Resolved an issue where Ignition Status was available only on CAN-enabled AirLink routers. Settings for Ignition Wiring and Ignition Status are now displayed for all routers.

Removed the AMR report definitions from the Telemetry > AMR Reports UI because the content was not configurable and did not provide status information.

RX55: Removed invalid datapoints from AMR reporting.

RX55: Resolved an issue where some telemetry functionality was missing.

Resolved an issue where the router did not report shutdown/power off events reliably.

Resolved an issue where Location Reports could incorrectly calculate the checksum for NMEA sentences.

Resolved an issue where the GNSS module could not be recovered after a failed GNSS firmware update.

Resolved an issue where AMR Trip Reports could place the router at longitude 0, latitude 0.

Updated the J1939 PROTOCOL STATUS and J1979 PROTOCOL STATUS to reflect the real-time status of the connection ("Detected" or "Signal Lost").

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

Apps

Resolved an issue with the RAM limit for containers by increasing the limit to 100MB.

Resolved an issue where a volume archive (applied via a template) was not stored when the Container Application was not enabled.

Resolved an issue with buffer size in order to support container images with a larger number of layers.

To clarify space available for image loading, updated the available flash size reported to no longer include reserved space for the system.

Resolved an issue where container applications were slow to load and reload.

Logs

Resolved an issue where cellular "Band in use" messages were flooding the logs.

Resolved an issue where "No GNSS Fix" was reported every second at default log levels.

Resolved an issue where cellular connection attempt log messages did not provide enough information. Added "Verbose call end type" and "Verbose call end code [reason]" messages when a cellular connection is terminated.

Resolved an issue where, after accessing logs, router memory use remained high after logging out and closing the browser.

Resolved an issue with Logs > Troubleshooting Package where clicking the "Generate Package" button resulted in a "Cannot connect to device" error.

Resolved an issue where a "Connection error" message appeared after successfully generating a Troubleshooting Package.

Resolved an issue where empty InitNG messages could be seen in the logs.

Resolved an issue where LPWA interface errors were flooding the logs at startup.

AirLink OS

RX55: Resolved an issue where system time was incorrect for over 10 minutes even while WAN connection was up.

Resolved an issue where IP Capture (Networking > Diagnostics > IP Capture) was not working in Basic mode for IPv6 when ICMP was selected under SERVICES.

Resolved an issue where a new line in a table was not deleted completely using the Edit page, but could be fully deleted from the "Action" options (three dots) menu.

Resolved an issue in ALMS where clicking the Configuration button resulted in a "Warning: these paths might not exist" message with two unresponsive Cancel and Confirm buttons.

Resolved an issue where, after disabling GNSS from ALMS, the router received the new setting, but the UI did not update.

Resolved an issue where the software version displayed under System > Admin > Software Update could be inconsistent between ALMS and the local UI.

Resolved an issue where, when creating a dataset "from scratch", some of the installed radio module firmware was not automatically selected after selecting "Add line to dataset" in the Radio Module Firmware table under System > Admin > Radio Module Image Management.

Resolved an issue where, when resizing the browser window, the top-row navigation links could collapse to two lines.

Resolved an issue where "disabled" options within a table (indicated by a "lock" icon) could not be deleted from the "Action" options (three dots) menu, but could be deleted after opening the Edit page for that option.

Resolved an issue with Dataset Mode where selecting "ADD TABLE TO DATASET" did not add settings from all columns in the table to the dataset.

Resolved an issue where a dataset containing 30 data points could not be edited to remove one data point and then re-add the same data point.

Resolved an issue where the ALMS COMM. STATUS on the Status/Monitoring > System > Dashboard did not update after CHECK NOW was clicked.

Resolved an issue where, when creating a new instance of an IP/Network on an Edit page (Create Firewall Rule or Create Port Forward Rule, for example), implicit values for creation were not grouped with other values in the pending modification bar.

Resolved issues with cryptic error messages for a Reset to Custom Template failure.

Resolved an issue where the Synchronize command in Software Image Management sometimes timed out before it was executed.

Resolved an issue where invalid text strings for Host and Destination could be accepted in Ping, Traceroute and iPerf Client settings.

Resolved an issue where the Edit PEM Certificates page in ALMS did not display "File is stored" when Private Keys or Certificates were already stored on the router.

Resolved an issue where logging out of AirLink OS and then attempting to quickly log in again did not succeed (an empty login screen appeared instead).

Resolved an issue where, after logging out of AirLink OS due to a timeout and logging back in, the UI did not return to the location the user had been viewing.

Resolved an issue where the help message "Hit ENTER to validate" appeared on an Edit page field after the input was validated instead of before the validation is performed.

Resolved an issue with slow initialization of the AirLink OS UI.

Resolved error-handling issues with the Update Software processing window by adding a “close” button when there is an error or failure.

Resolved an issue in a table field where overlong text would overlap the clipboard option icon.

Resolved an issue with a 64kb limitation with uploading certificates to ALMS. A warning message indicates when the file is too large.

Resolved an issue where clicking to acknowledge notifications was broken when viewing notifications in ALMS.

Resolved an issue where the DELETE button on the Edit SSID page did not delete the SSID.

Resolved an issue where some dropdown elements were showing incorrect configuration options. For example, Multi-WAN configuration wasn't presenting the correct WAN interfaces to include when configuring certain rules.

Resolved an issue where Warning signs in the UI were only visible only when moving the mouse over a heading.

Resolved an issue where clicking the link to System > MCU navigated to System > NTP.

Resolved an issue where units entered for a setting were not converted to the default scale for that unit (V to mV, for example).

Resolved an issue where a tooltip containing a hyperlink did not appear in the UI.

Resolved an issue where, after configuring the “Secret” field in the Create Server or Update Server page (for configuring a Remote Authentication server under Web > Authentication), the field showed as empty (instead of *****, as expected for a password string) after logging out, logging in, and viewing the Update Server page again.

Known Issues

Cellular

An issue exists in Multi-APN mode where the default APN was connected even when it wasn't included in the APN list. To remedy the issue, configure Manual APN mode using one of the APNs to be used in multi-APN mode and then configure Multi-APN mode with all required APNs defined.

An issue exists where, after a firmware upgrade, the Radio Module Firmware upgrade for the XP Cellular interface did not occur. The new Radio Module Firmware did not take effect until the router was rebooted again.

Configuring different Preferred Technology settings for two Multi-APN virtual interfaces causes “No Service” on the first virtual APN to be configured.

For XR90/XR80 configured with Cellular Multi-APN mode, an issue exists where, after an upgrade, a reset to factory defaults, and a template application, the Cellular LED may flash red even though the Cellular interfaces (including Virtual interfaces) are connected and passing traffic. To restore the Cellular LED behavior, disable/enable the Cellular interface or reboot the router.

XR80: An issue exists where disabling a Cellular interface, the Media Status remains “up” and Adapter Status remains “Connected”. To disable the interface and restore correct status, reboot the router.

An issue exists where ALMS can persist in reporting the cellular Adapter Status as “No Service” when the cellular interface is connected and reporting the correct status to ALMS.

An issue exists where, after an upgrade, the Radio Module Image Management table is full and the HL7800 (LPWA) FW image is not present and the LPWA Adapter Status is "Stopped". To resolve, delete any unused radio module image(s) from the list, leaving no more than nine images, and then reboot the router.

In rare circumstances, with repeated networking or VPN configuration changes, it was observed that a Cellular interface may indicate that it is connected, but have no IPv4 address or WAN functionality.

An issue was observed where the radio disconnected from the 5G network, stayed connected to LTE, but reported that the Service Type was NR5G (NSA) with a 5G band.

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

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.

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, 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. Finally, upgrade AirLink OS to the desired version again.

The screenshot shows the 'Radio Module Image Management' page in the Admin interface. It features a table with columns for 'Model ID / Firmware Name', 'Firmware Configuration', 'Firmware Version', and 'Installed'. A dropdown menu is open over the 'Model ID / Firmware Name' column, listing several carrier options: EM9190/ATT, EM9190/BELL, EM9190/ROGERS, EM9190/TELSTRA, EM9190/TELUS, EM9190/TMO, and EM9190/VERIZON. A hand cursor is pointing at the 'EM9190/ROGERS' option. Below the table, there is a 'CREATE' button and a 'DEVICE INFORMATION' button.

Model ID / Firmware Name	Firmware Configuration	Firmware Version	Installed
EM9190/GENERIC	030.038_000	SWIX55C_03.09.06.00	XP1 Cellular, XP2 Cellular
			LPWA, LPWA - Out-of-Band Management

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 an XR80 client displays a scanned Cisco Meraki access point configured with WPA2 Enterprise mode as WPA Personal, and the router cannot connect.

This occurs when 802.11w support is required on the Cisco Meraki AP. If 802.11w support is disabled or optional, the XR80 shows the correct security mode, and the XR80 can connect.

After setting a Wi-Fi interface IP Assignment Method to “static” and not configuring a DNS server (as required by such a configuration), traffic may flow normally over the interface but eventually disconnect unexpectedly.

XR80/XR90: Do not support connecting to WPA-PSK-TKIP networks.

An issue exists where the router’s own AP SSIDs appear in the SCANNED SSIDS list.

RX55: Does not support connecting to a WPA2-PSK SSID with SHA256 and PMF required.

An issue exists with the router in Client mode where, after switching between connected SSIDs, the router’s Wi-Fi Interfaces table may show that it is connected to the previous access point, not the currently configured one. This happens only for certain configurations, such as when using a very long SSID or PSK.

RX55: An issue exists where Ethernet LAN to Wi-Fi throughput may be lower than expected on DFS channels.

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.

In general, in any Wi-Fi application, an issue exists where throughput from Wi-Fi LAN to Wi-Fi WAN (using two Wi-Fi interfaces for TX/RX) may be lower than expected. Sierra Wireless recommends configuring channel separation as wide as possible on Access Points. Configuring adjacent channels is not recommended.

Networking and Connectivity

An issue exists with IP Passthrough where the targeted Ethernet port toggles on and off when a host MAC address target is unavailable.

In a Multi-WAN scenario involving at least three WAN interfaces (including a Cellular interface with IPv6 only enabled), a lower priority route could be used even when higher priority interfaces are available.

An issue exists where USBNet may stop working on a Windows 10 device. To recover the link, reboot the router.

After starting the iPerf client (Networking > Diagnostics) in ALMS, if the client does not respond, a “Stop” button does not become available to terminate the process, and no error is returned. To recover, exit the ALMS Configuration for the router and then enter the Configuration again.

An issue exists where traffic between LAN devices and the router’s Ethernet or Wi-Fi WAN interfaces is misrouted when the incoming LAN-side packets are from the same subnet as the WAN interface.

After upgrading from AirLink OS 3.0 to 4.0, the LPWA watchdog rule link validation may be incorrectly enabled.

When the masquerade option is disabled or re-enabled on a WAN interface, the change does not take effect for existing flows from Ethernet or Wi-Fi LAN hosts sending traffic over the WAN interface. The change applies to new traffic flows started after the option is disabled or re-enabled.

QOS: DSCP packet marking does not work. Please contact Sierra Wireless for assistance with this feature.

AirLink OS supports Ethernet QOS for upload only.

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

An issue exists where a kernel panic and subsequent reboot may occur when the only active WAN interface(s) on the router are multi-APN virtual interface(s) and Wi-Fi LAN clients are connected to the router in Wi-Fi Access Point mode.

Port forwarding to the router's localhost for remote access is not configurable. 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.

When a WAN link goes down, link validation correctly applies to the link when the link re-connects. However, link validation is also done for other links that did not go down. This causes some unnecessary policy route changes because links are temporarily marked as "not validated."

UDP PAD server does not work when using the IP Passthrough cellular feature and when LISTEN FOR CONNECTIONS (AUTO-ANSWER) is enabled. PAD packets may be forwarded to the passthrough host instead of serial.

An issue exists where Web traffic fails after creating a Multi-WAN policy for HTTP and HTTPS services over Wi-Fi IPv4 and IPv6.

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.

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

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.

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

VPN

An issue exists with two different VPN connections operating on a LAN-side host PC and traffic passing through a single XR80, TCP throughput was degraded, while UDP throughput was good.

After creating a HOST-TO-LAN IKEv1 tunnel with ACM server with multiple subnets, the tunnel state may report "Partially Connected. Some Child SA's failed" although the tunnel is connected with all Child SA's.

An issue found during testing exists where router-originated ICMP pings on Non-FIPS, non-MOBIKE, full tunnels stop during a WAN switch from Wi-Fi to Cellular. After manually reconfiguring ICMP pings for the new WAN interface, successful pings will resume. Note that this issue does not exist when regular network traffic is flowing in the tunnels.

When the XR90 is used as the VPN server, the tunnel can be established, but bi-directional ping traffic does not work. Please contact Sierra Wireless for assistance with this issue.

An issue exists where, if the Intermediate certificate is loaded before the CA certificate is loaded, the Intermediate certificate is the first one and then the CA certificate is appended. This certificate order causes connection issues with the ACM. To remedy the issue, load the Intermediate certificate in the place where the CA certificate is loaded, and load the CA certificate in the place where Intermediate certificate is loaded.

An issue exists where, when editing an IPsec Tunnel configuration, a WAN interface that has been disabled appears in the WAN INTERFACES list as "Value not available".

The minimum VPN failover time is approximately 48 seconds, regardless of DPD timeout.

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.

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

Templates

An issue exists where WAN Outputs cannot be changed in a User Policy showing under the System Policies table when using the “Modify a template from local file” option.

An issue exists where a template created from the current configuration failed to apply to the same router after factory reset. The issue occurs when the conditions below are met:

1. Create and replace the default “WAN” zone in the Default Policies with a zone created including no multi-APN virtual interfaces.
 2. Configure multi-APN on the cellular interface.
 3. Revert the APN configuration to manual or auto.
- or-
1. Configure multi-APN on the cellular interface.
 2. Create and replace the default “WAN” zone in the Default Policies with a zone created including the multi-APN virtual interfaces.
 3. Revert the APN configuration to manual or auto.

To resolve the issue:

- Use the “Modify template from local file” option to delete the Virtual APN from the default policies and save (export) the new file.
-

Applying a template created from a current configuration containing multiple features can take a long time, with any “Undo” actions being slow to respond to clicks. The size and complexity of page you are viewing while responding to any template errors can affect UI performance as well. Viewing a smaller page like “Services” while uploading a template will improve performance.

While in Template mode, actions such as changing the Local User password, reboot, software update, reset to factory default, or ping/traceroute commands can still take effect and apply to the router, and these actions will persist after leaving Template mode.

AirLink OS supports applying templates only across routers running the same AirLink OS version and router model (SKU). Do not downgrade AirLink OS on a router and then apply a template created from a later version of AirLink OS.

As well, do not launch multiple operations (such as software downgrade and apply template) simultaneously on the same router.

An issue exists when creating a template “from scratch”, creating a configuration from a table (such as Create Firewall Rule) and adding the Edit page settings to the template, the Template status bar shows the number of fields templated. However, after clicking Create on the Edit page, the number of fields templated is reset to zero.

AirLink OS

An issue exists where it is possible to interrupt a GNSS firmware update with a user-initiated reboot of the router.

An issue exists during a software update where a “tar file is truncated” error sometimes occurs and the software update fails. If this occurs, run the software update again.

An issue exists where the AirLink OS local access URL `https://airlink./` (as shown in the Quick Start Guide) does not work on computers running Ubuntu. Use `https://192.168.1.1` instead.

RX55/XR80: An issue exists with Edge browsers where items in a dropdown menu cannot be selected after clicking the arrow icon. When clicking in the field area of the dropdown menu, items can be selected.

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.

RX55: The router occasionally entered an Out of Memory state and rebooted when transmitting traffic with low packet sizes.

The Create PEM Certificate feature does not make the valid configuration combinations clear. The ROOT CERTIFICATE field is not optional in some configurations. The valid combinations are one of the following:

- NAME + CERTIFICATE + PRIVATE KEY
- NAME + ROOT CERTIFICATE
- NAME + CERTIFICATE + PRIVATE KEY + ROOT CERTIFICATE

After using the SWITCH TO BACKUP IMAGE option, the Radio Module Image Management table and the cellular radios still have the Radio Module Firmware images from the previous active build. To update both the table and the radios, use ALMS to upgrade to the backup image (now the active software) or use the local UI and run a software update to the same software build.

Downgrading from AirLink OS 4.0 to an earlier release may produce empty entries in the Admin > Radio Module Image Management > Radio Module Firmware table. To restore the table and delete the empty entries, reset the router to factory defaults.

XR90: An issue exists where, after disconnecting an XP cartridge and performing a software upgrade, the disconnected cartridge still appears as installed under System > Radio Module Image Management.

ALMS

When registering a router, the Basic Workflow in Pre-Configuration is not compatible with AirLink OS-based routers.

Location and Telemetry

An issue exists where store-and-forward data points collected during a cellular network outage are not saved after the router is power cycled.

Forwarding GPS info from local ports to the serial port does not work if the destination is set to 127.0.0.1. Use the Default LAN IP address instead.

An issue exists where an inaccurate Trip Report may result from an improper shutdown of the router during the trip.

An issue exists where GNSS sometimes does not report at the expected intervals, resulting in inaccurate Trip Reports.

Serial

XR80/XR90: Serial port 1 supports 8N1 Serial port data bits setting only.

Hardware

An issue exists where disabling the Voltage Threshold settings (MCU > Voltage Threshold) does not cause the router to use its default Standby Voltage, Resume Voltage and Delay settings. The router continues to use the settings that were set previously.