



ePMP™

Release Notes

System Release 2.6

Sections included:

- Product Releases
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Introduction

This document provides information for the Cambium Networks ePMP Series System Release 2.6.

The information in this document is subject to change without notice. The recommendations, technical data, configurations and statements in this document are believed to be reliable and accurate, but are presented without implied or express warranty. Users must take full responsibility for their applications of any product specified in this document. The information in this document is proprietary to Cambium Networks Ltd.

Product Releases

Hardware

The following tables provides the key components available for purchase:

Model Number	Description
C050900A011A	ePMP 1000: 5 GHz Connectorized Radio with Sync (ROW)
C050900A013A	ePMP 1000: 5 GHz Connectorized Radio with Sync (EU)
C058900A112A	ePMP 1000: 5 GHz Connectorized Radio with Sync (FCC)
C050900A021A	ePMP 1000: 5 GHz Connectorized Radio (ROW)
C050900A023A	ePMP 1000: 5 GHz Connectorized Radio (EU)
C058900A122A	ePMP 1000: 5 GHz Connectorized Radio (FCC)
C050900C031A	ePMP 1000: 5 GHz Integrated Radio (ROW)
C050900C033A	ePMP 1000: 5 GHz Integrated Radio (EU)
C058900C132A	ePMP 1000: 5 GHz Integrated Radio (FCC)
C024900A011A	ePMP 1000: 2.4 GHz Connectorized Radio with Sync
C024900A021A	ePMP 1000: 2.4 GHz Connectorized Radio
C024900C031A	ePMP 1000: 2.4 GHz Integrated Radio

FORCE 110

Model Number	Description
C058900C042B	ePMP Force 110AR5-25 High Gain (25 dBi) SM/PTP Radio (FCC)
C050900C043B	ePMP Force 110AR5-25 High Gain (25 dBi) SM/PTP Radio (EU)
C050900C041B	ePMP Force 110AR5-25 High Gain (25 dBi) SM/PTP Radio (ROW)
C058900B052A	ePMP Force 110 PTP - High Performance PTP Radio (FCC)
C050900B053A	ePMP Force 110 PTP - High Performance PTP Radio (EU)
C050900B051A	ePMP Force 110 PTP - High Performance PTP Radio (ROW)

FORCE 180

Model Number	Description
C058900C072A	ePMP 5 GHz Force 180 Integrated Radio (FCC) (US cord)
C050900C071A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (no cord)
C050900C073A	ePMP 5 GHz Force 180 Integrated Radio (EU) (EU cord)
C050900C171A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (US cord)
C050900C271A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (EU cord)
C050900C371A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (UK cord)
C050900C373A	ePMP 5 GHz Force 180 Integrated Radio (EU) (UK cord)
C050900C471A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (India cord)
C050900C571A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (China cord)
C050900C671A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (Brazil cord)
C050900C771A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (Argentina cord)
C050900C871A	ePMP 5 GHz Force 180 Integrated Radio (ROW) (ANZ cord)

FORCE 200

Model Number	Description
C058900C062A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (FCC) (US cord)
C050900C061A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (ROW) (no cord)
C050900C063A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (EU) (EU cord)
C050900C161A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (ROW) (US cord)
C050900C261A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (ROW) (EU cord)
C050900C361A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (ROW) (UK cord)
C050900C363A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (EU) (UK cord)
C050900C461A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (ROW) (India cord)
C050900C561A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (ROW) (China/ANZ cord)
C050900C661A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (ROW) (Brazil cord)
C050900C761A	ePMP 5 GHz Force 200AR5-25 High Gain Radio (ROW) (Argentina cord)
C024900C161A	ePMP 2.4 GHz Force 200AR2-25 High Gain Radio (US cord)
C024900C261A	ePMP 2.4 GHz Force 200AR2-25 High Gain Radio (EU cord)

N000900L021A	ePMP Force 200 Radome
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ACCESSORIES

Model Number	Description
C050900D002A	ePMP 1000: 5 GHz Sector Antenna - 120°
C050900D003A	ePMP 1000: 5 GHz Sector Antenna - 90°
C024900D004A	ePMP 1000: 2.4 GHz Sector Antenna - 90° / 120°
N000900L001A	ePMP 1000: Spare Power Supply for Radio with Gigabit Ethernet (no cord)
N000900L002A	ePMP 1000: Spare Power Supply for Radio with 100Mbit Ethernet (no cord)
N000900L005A	ePMP 1000: Spare GPS Antenna
C050900H007B	4 pack of C050900D007B: ePMP 110A5-25 Dish Antenna (25 dBi) for ePMP Connectorized Radio

Embedded Software

RELEASE SOFTWARE

The following software update is provided with ePMP System Release 2.6:

Device Description	Applicable Software Package
Connectorized Radio with Sync	ePMP-GPS_Synced-v2.6.tar.gz
Integrated Radio / Connectorized Radio	ePMP-NonGPS_Synced-v2.6.tar.gz
CNUT package (for all radios)	ePMP-2.6.pkg3

When available, new ePMP software releases may be downloaded from:

<https://support.cambiumnetworks.com/files/epmp>

SPECIAL SOFTWARE UPGRADE NOTICE

All users of ePMP product are encouraged to upgrade the Connectorized Radio with Sync, Integrated Radio, Connectorized Radio, Force 180 and Force 200 units to the latest System Release 2.6. ePMP software updates can be downloaded from the [Cambium Support website](#). For instructions on upgrading an ePMP device, see the *ePMP User Guide*.



Note

While upgrading a **Connectorized Radio with Sync** from the factory, ensure both the device software banks are updated. Upgrade to the latest software **TWICE** so that both Active & Backup are updated. This is NOT required for Integrated or Connectorized Radios since these radios do not have two software banks.

While upgrading devices with System Release 1.0.3 or earlier, ensure that the browser cache is cleared prior to the upgrade.

UPGRADING THE ON-BOARD GPS CHIP FIRMWARE

Beginning with System Release 2.0, users can upgrade the firmware of the on-board GPS chip present on the **Connectorized Radio with Sync**. All users are strongly encouraged to upgrade the on-board GPS chip in order to avoid sporadic lock up of the chip during normal operation. ePMP software updates can be downloaded from the [Cambium support website](#). For instructions on upgrading the GPS chip, see below or refer the *ePMP User Guide*.

To upgrade the on-board GPS chip on a Connectorized Radio with Sync:

1. Navigate to **Monitor > GPS** to check the **GPS Firmware Version** that is currently present on the radio.
2. If the GPS Firmware Version displays **AXN_1.51_2838** and/or **"GPS Firmware is up-to-date"**, do nothing. The on-board GPS chip already has the latest firmware.
3. If the GPS Firmware Version displays **AXN_1.51_2801**, navigate to **Tools > Software Upgrade** page.
4. Under the **GPS Firmware** upgrade section, select the same package used to upgrade the device's firmware ex: **ePMP-GPS_Synced-v2.6.tar.gz**.
5. Click the **Upgrade** button.

6. The upgrade can take up to 3 minutes. Once the upgrade is done, the radio's UI prompts for a reboot and the reboot button will be highlighted.
7. Click the Reboot button on the top right corner of the UI.
8. Once the radio has completed its reboot process, check under the **Monitor > GPS** page to ensure that the **GPS Firmware Version** displays **AXN_1.51_2838**.

**Note**

On occasion the **GPS Firmware Version** under **Monitor > Tools** may display NA. This means that the GPS chip has already locked up and is no longer communicating with the main processor. Perform a hard reboot (power cycle the entire unit) to restore communication. Then perform steps 3 through 8 above.

This is NOT required for Integrated or Connectorized Radios since these radios do not have an on-board GPS chip.

NEW LOCAL IP

Prior to System Release 2.1, in both Bridge and NAT mode, the ePMP Device was previously accessible through a local IP of 10.1.1.254 through the LAN port. Beginning with System Release 2.1, the local IP has been updated to **169.254.1.1(/16)**.

EPMP POST-UPGRADE IP ADDRESSING

If **Device IP address Mode** is set to **DHCP** and the device is unable to retrieve IP address information via DHCP, the device management IP is set to fallback IP of *192.168.0.1* (AP mode), *192.168.0.2* (SM mode), *192.168.0.3* (Spectrum Analyzer mode) or a previously configured static Device IP Address. Units can always be accessed via the Ethernet port with a local IP of *169.254.1.1*.

SPECTRUM ANALYZER ON SM WHEN USING PORT FORWARDING OR DMZ

If port forwarding or DMZ is enabled on the SM, it is necessary to add a port forwarding entry for the Spectrum Analyzer to work. The Spectrum Analyzer uses port 8001 and this must be explicitly added in the port forwarding table under **Configure->Network->NAT->Advanced**, on the radio's GUI. In addition, once the Spectrum Analyzer is launched on the client PC, select the Port Forwarding IP as the device IP address under **Tools->Preferences**, on the Spectrum Analyzer Java tool. Depending on the network configuration, the generation configuration scheme must be **Client PC -> Port_Forwarding_IP:8001 -> Device_IP:8001**.

SPECTRUM ANALYZER WHEN MANAGEMENT VLAN IS ENABLED

When Management VLAN is enabled on the ePMP radio, the Spectrum Analyzer client must be launched from the same network as the Management VLAN.

Cambium Networks Services Server (CNSS)

CNSS may be used to upgrade, manage and monitor ePMP systems. For more information, see https://support.cambiumnetworks.com/files/cns_server/

Scope

System Release 2.6 adds the following:

5 MHz and 10 MHz Support in ePTP mode

5 MHz and 10 MHz Support in AP and SM WiFi Modes

Licensing Support to Expand an AP Lite from 10 SMs to 120 SMs

VLAN VSAs

The ability for the AP to receive SM VLAN VSAs from a RADIUS server and pass these along to the SMs:

- Data VLAN and Priority
- Management VLAN and Priority
- Separate Management VLAN and Priority
- Membership VLANs
- Multicast VLAN
- VLAN Mapping C-VLAN to S-VLAN

GUI User Authentication Extended to RADIUS

- Local GUI Authentication is the default
- Ability to select Remote RADIUS Server Authentication Only
- Ability to select Remote RADIUS Server Authentication and Fallback to Local GUI Authentication

LLDP (Link Layer Discovery Protocol) support

The Link Layer Discovery Protocol (LLDP) is a vendor-neutral link layer protocol (as specified in IEEE 802.1AB) used by ePMP for advertising its identity, capabilities, and neighbors on the Ethernet/wired interface.

Separate Management IP Address Port Forwarding:

- Ability to forward packets addressed to the Separate Management IP Address port
- Ability to map a range of source ports to destination ports for both the Data Port Forwarding and Separate Management IP Address Port Forwarding Tables

Wireless MAC Address Filtering for Network Entry:

- Ability to specify the exact SM MAC addresses to permit for network entry, or
- Ability to specify the exact SM MAC addresses to prevent from network entry
- Ability to specify up to 120 entries

Distance to AP Displayed for Each Registered SM in AP -> Monitor -> Wireless

SNMP trap for failed registration

A new SNMP trap informs the network management system when an SM fails to register to the AP. The trap is named cambiumpmp80211NetworkEntryFailureTrap

Improved Interference Tolerance at the AP for On-Channel Interferers

Known problems or limitations (System Release 2.6)

Tracking	Description / Workaround
10907	When in AP WiFi mode and the SM connected is an 802.11a SM, the downlink throughput can be lower by 20%.
10866	When switching channel bandwidth from 20 MHz to 5 MHz, the GUI will throw a warning that only Max Registration of 30 is allowed and saving the configuration will not be possible. Workaround is to edit the Max Registrations field under Configuration->Radio and save configuration.
10846	After performing a factory reset using the physical reset button on the unit, User defined RADIUS certificates are not deleted from the device. Workaround it perform a factory reset through the GUI under Tools->Backup/Restore.
10770	After a factory default through the GUI, user may not be able login into the GUI. Workaround is to reload the GUI in the browser.
10704	When editing the MAC Addresses entries in the Wireless MAC Filtering table using the configuration file upload, care must be taken to ensure MAC address format integrity. The ePMP device will not validate the format.
10702	When editing the Description field of the Wireless MAC Address Filtering table and saving, the wireless driver will be restarted resulting in the AP dropping all SMs and causing them to reregister.

Known problems or limitations (System Release 2.5.2)

Tracking	Description / Workaround
10849	WPA2 Encryption Key validation does not accept "-" symbol. (Resolved in 2.6)
10798	Bridge table on AP is empty when there are more than 32 entries. (Resolved in 2.6)
10729	When registration to the primary AP fails the first time, the SM does not attempt to register to the primary AP in subsequent attempts. This results in the SM registering to an undesired AP (adjacent or back AP). (Resolved in 2.6)
10695	SM does not register to an alternate channel if the alternate channel is a non-DFS channel. (Resolved in 2.6)

Known problems or limitations (System Release 2.5.1)

Tracking	Description / Workaround
10796	Incorrect memory allocation causes snmpd process to use an abnormal amount of CPU on the SM resulting in poor SM performance. (Resolved in 2.6)
10754 10757	An overload of ARP packets (>30K per second) from a PC connected to the SM can cause the SM to run out of memory. Alternately this issue can be caused by a DDOS attack on port 80 of the SM. (Resolved in 2.6)
10752	On rare occasion, management access to the SM is lost even though the SM continues to pass user traffic. A reboot of the SM is required to re-establish management access.
10725	On occasion 2.4 GHz Force 200 cannot be switched from SM mode to AP mode. (Resolved in 2.5.2)
10707	Uruguay, Vanuatu and Qatar country codes were missing from the Country drop down list. (Resolved in 2.5.2)

Tracking	Description / Workaround
10683	2.4 GHz Force 200 were incorrectly locked to FCC region. (Resolved in 2.5.2)
10662	During a wireless link test, uplink user traffic does not pass during the downlink portion of the Wireless Link Test. (Resolved in 2.6)
10647	Cambium ID is not removed once the device is in cnMaestro's onboarding queue and deleted before approval. (Resolved in 2.5.2)
10653	cnMaestro Remote Management Status is not displayed on the GUI for ePTP and Wi-Fi modes (Resolved in 2.5.2)
10630	On occasion, ePTP Slave does not register to ePTP Master's Alternate channel after a radar event. (Resolved in 2.5.2)
10627	After setting the Uplink Max Rate to a value lower than MCS15, the GUI still displays MCS15 even though the device has accepted the change. (Resolved in 2.5.2)
10580	On rare occasions, in Standard WiFi mode, the "Available APs" table under Monitor->Wireless page on the SM is empty. (Resolved in 2.5.2)
10550	Garbage logs written to syslog console. (Resolved in 2.5.2)
10489	When using 20 MHz DFS channels and 2.5ms frame size, SMs may take up to 10 minutes to register. (Resolved in 2.5.2)
10481	When an invalid channel is set through SNMP, it may cause the radio to reboot. (Resolved in 2.5.2)
10384	Under extremely high interference/noise, ePTP Slave may crash resulting in a reboot of the SM. (Resolved in 2.5.2)

Known problems or limitations (System Release 2.5)

Tracking	Description / Workaround
10746	OS Command Injection Vulnerability Using SNMP (Resolved in 2.6)
10380	On occasion upon boot up, AP sends DHCP request on the wireless interface in addition to the Ethernet interface. (Resolved in 2.5.1)
10371	2.4 GHz AP will not use more than 20 dBm TX power when in Standard WiFi mode. (Resolved in 2.5.1)
10363	RFC1213 OID .1.3.6.1.2.1.2.2.1.5.1 (ifSpeed) always returning "10000000" regardless of what the speed is configured/negotiated to. (Resolved in 2.5.1)
10344	OID numbers for cambiumAPConnectedSTAEntry table incremented by 1 in Release 2.5. (Resolved in 2.5.1)
10332	SMs take longer than normal to register to AP when using 2.5ms frame size. (Resolved in 2.5.1)
10326	When AP is in Standard WiFi mode and using 5.2 GHz, it incorrectly uses 33 dBm EIRP instead of 36 dBm in FCC regions. (Resolved in 2.5.1)
10321	Ping utility (under Tools->Ping) will not work if buffer size is larger than 1472 bytes. (Resolved in 2.5.1)
10301	When in ePTP mode, the radio would stop transmitting data after a few days of normal operation, requiring a reboot. (Resolved in 2.5.1)
10283	In Flexible mode, when sending bidirectional TCP data, the throughput may degrade up to 17% on the Uplink compared to previous releases. (Resolved in 2.5.1)
10276	When an ePMP SM is switched to Standard WiFi mode, the "Distance To AP" under Configuration->Radio incorrectly gets set to 52 miles. Workaround is to manually adjust this parameter to the correct distance of SM to the AP. (Resolved in 2.6)
10273	SMs occasionally do not register issue with Reason: INVALID SECURITY KEY in PTP TDD and ePTP modes. (Resolved in 2.5.1)

Tracking	Description / Workaround
10271	When the SM is in ePTP or Standard WiFi mode, the web interface incorrectly displays "Subscriber Module Priority" field. SM Priority is supported in TDD mode only and this issue has no impact on the normal operation of the system.
10110 10108	On rare occasion, SM crashes when using 2.5ms frame when the SM is under heavy interference. (Resolved in 2.5.1)
10026	'home' user can execute ping/traceroute and download full device configuration. (Resolved in 2.6)
5405	ePMP radios may be exposed to the open internet when using white IP addresses. This makes the radio vulnerable to attacks. (Resolved in 2.5.1)

Known problems or limitations (System Release 2.4.3)

Tracking	Description / Workaround
10127	On occasion, multicast traffic may not be forwarded by the AP on the downlink. (Resolved in 2.5)
10112	Periodic disconnects of the SM are in TDD mode when the SM is under high interference. (Resolved in 2.6)
10099	When the AP is SNMP polled for the list of registered SMs, the SNMP agent returns an empty string until the web interface is pulled up. (Resolved in 2.5)
10060	When special characters such as apostrophes are used in Device Name, System Name and System Description fields and spaces are used in AP SSID field, upgrade from 2.4.2 to 2.4.3 results in configuration errors. Field validation checks have been added to the web interface to warn the users of invalid special characters for the impacted fields. (Resolved in 2.5)
10032	When Separate Management IP is enabled and the SM is configured as a PPPoE client, it is possible to access the management interface of the SM through its Wireless IP. (Resolved in 2.5)
9927 9930 10644 10301	On occasion, when an ePTP Slave disconnects, it may not register back to its Master because the Master has a stale session still active and cannot allow a second session. The issue also manifest itself into a scenario where there is no data passing in the Uplink or Downlink direction of the link. A reboot of the Master or Slave resolves the issue. (Resolved in 2.6)
9951	On occasion, pings are lost when continuously pinging the SM from the AP. The ping loss can occur for a period of 30-60 seconds before it operates normally. User traffic may also be lost during this time and a reboot of the SM may be required to recover the SM.
9911	List of available frequencies for country code Thailand is incorrect. (Resolved in 2.5)
9893	The transmitter output power displayed by the GUI varies significantly as the radio switches between management and data packets to take power measurements. (Resolved in 2.5)
9837	On release 2.4.3, the AP will not allow more than 106 SMs to register to it. (Resolved in 2.5)
9808	After changing the IP address of the ePMP radio, the GUI does not auto reconnect to the device using the new IP. As a workaround, type in the new IP address on the web browser to access the radio's GUI. (Resolved in 2.5)
9655	When in ePTP and after several days of the link being up and functioning normally, the ePTP Slave may stop passing user traffic. (Resolved in 2.5)
9376	On occasion, when changing parameters under Configuration->Network (and Saving), the device may take up to 60 seconds to apply the changes. (Resolved in 2.5)
9333	On the GUI, where the page has internal vertical scroll bars (ex: Monitor->Performance), the table may overlap the page footer. There is no impact to normal operation of the system. (Resolved in 2.5)

Known problems or limitations (System Release 2.4.2)

Tracking	Description / Workaround
9283	On the Connectorized radio with Sync supporting GigE port speeds where the Radio Mode is an AP and Ethernet Port Setting is set to manual/1000Mbps; then if the Radio Mode is switched to SM, the port speed will default to 100Mbps. Please ensure that after changing the Radio Mode to SM, the port speed is set to 1000Mbps. (Resolved in 2.5)
9255	On rare occasions, when an SM reregisters, the Network Entry Attempts counter under Monitor->Performance page will show twice the number of actual NE attempts. (Resolved in 2.5)

Known problems or limitations (System Release 2.4.1)

Tracking	Description / Workaround
9290	On a json config import using Firefox, if the Device Name has a space, the config import fails. (Resolved in 2.4.2)

Known problems or limitations (System Release 2.4)

Tracking	Description / Workaround
9238	Bridge table on the SM under Monitor->Network displays "NA" under Port for certain entries. (Resolved in 2.4.2)
9267	When the radio is in TDD mode, the "show rssi" command provides no results. (Resolved in 2.4.2)
9146	When performing an SNMP get on the MIR Profile Names, the last character is truncated. (Resolved in 2.4.1)
9041	Software/Upgrade downgrade fails when using the HTTPS under the URL option under Tools->Software Upgrade. (Resolved in 2.4.1)
8990	CNUT upgrade fails when trying to upgrade from Release 2.4. (Resolved in 2.4.1)
8987	When operating in ePTP mode, the Slave displays the Operating Frequency 10 MHz lower than the actual operating frequency. (Resolved in 2.4.1)
8967	Available AP List under Monitor->Wireless on the SM is no longer displayed. In addition, on occasion, the Bridge Table does not display any devices connected to the LAN port of the SM. (Resolved in 2.4.1)
8959	It is not possible to use the '-' symbol when configuring the SSID through CLI. (Resolved in 2.4.1)
8893	On occasion, when changing from ePTP to TDD, the GUI may display incorrect values (ex: Country Code and Frequency Carrier) after the change is saved. Workaround is to refresh the browser window to reload correct values. (Resolved in 2.4.3)
8820	When changing modes from ePTP Master to SM TDD, the device may incorrectly boot up as ePTP Slave after the change is saved. Workaround is to change from ePTP Master to AP TDD mode and then switch to SM TDD mode. (Resolved in 2.4.3)
8732	When an SM is not registered to an AP, eAlign (under Tools->eAlign) incorrectly displays an RSSI value. Ignore the measurement until a valid link is established. (Resolved in 2.4.3)
8690	eAlign not available on the AP when operating as an Enhanced PTP Master. This functionality will be added in a near future release. (Resolved in 2.4.3)

Tracking	Description / Workaround
8578	On rare occasion, when the GUI of the ePMP radio is opened in Google Chrome and left inactive for a few hours, the browser loses connectivity with the radio and hangs. Workaround is to close the browser window/tab and open a fresh GUI session. (Resolved in 2.5)
8532	On rare occasion, when the GUI of the ePMP radio is open and left inactive for four or more hours, a java scripts error occurs and the GUI becomes unresponsive. Workaround is to close the browser window/tab and open a fresh GUI session. (Resolved in 2.4.3)
8321	Separate Management IP is not accessible from the AP on the same subnet if a Separate Management Gateway is configured. (Resolved in 2.4.1)
8198	On occasion, stale ARP entries are not cleared from the ARP table (under Monitor->network) on the SM. The entries should be cleared in 5 minutes but it may take up to 10 minutes for them to be cleared.

Known problems or limitations (System Release 2.3.4)

Tracking	Description / Workaround
8147	When SM is in Bridge mode, the Separate Management IP and Separate Management VLAN configurations are available on the GUI under Configuration->Network. There is no system impact due to this. (Resolved in 2.4.1)

Known problems or limitations (System Release 2.3.3)

Tracking	Description / Workaround
8285	On rare occasions, it may not be possible to change the Synchronization Source under Configuration->Radio after upgrading the AP to 2.3.3. This is a GUI issue; the radio still operates normally using the previously chosen Synchronization Source. Workaround is to reboot the AP and reload the GUI on the browser. (Resolved in 2.3.4)
8063	When both the SM's Wireless IP and Separate Wireless Management IP are in the same subnet, then if both Data VLAN and Separate Wireless Management VLAN are the same, the SM's management interface is not accessible. As a workaround, please ensure that the two Wireless IPs are not on the same subnet and VLAN. (Resolved in 2.4.3)

Known problems or limitations (System Release 2.3.1)

Tracking	Description / Workaround
8025	The management interface (GUI, ssh, SNMP etc.) of the AP is accessible only from within the same subnet as the AP. (Resolved in 2.3.3)
8011	When Separate Wireless Management IP is enabled and the SM's Wireless IP is obtained via DHCP, then the SM is accessible through the SM's Wireless IP. (Resolved in 2.3.4)
7946	On rare occasions, if eDetect is run system wide (i.e. Detecting Device set to AP/SMs) followed by clicking the Reset Stats button under Monitor->Performance, the GUI may lock up. Workaround is to reboot the AP to gain access to the GUI again. (Resolved in 2.3.4)
7822	When the SM is in NAT mode, it's possible to configure the Separate Wireless Management IP in the same subnet as the IP of the SMs Ethernet/LAN interface. Care should be taken to configure the Separate Wireless Management IP on a different subnet for security.

Tracking	Description / Workaround
7816	When Separate Wireless Management IP is enabled, L2 ACL rules may not work as expected. (Resolved in 2.3.4)
7729	When selecting an AP from the Available APs list to add to the Preferred APs list (under Monitor-Wireless), the WPA2 password popup box may incorrectly present multiple fields to enter password. Workaround is to enter the password in all the fields and click <i>Apply</i> . (Resolved in 2.4.3)

Known problems or limitations (System Release 2.3)

Tracking	Description / Workaround
7887	When using a Cisco SPA-122 ATA device under the SM; then if the SM loses registration and connects back to the AP, a reboot of the Cisco device may be required to restore VoIP services. (Resolved in 2.4.1)
7675	If a Microsoft Window 8.1 PC is used as a client and DHCP option 82 is enabled on the AP, the client may not be able to obtain a lease from the DHCP server above the AP. Currently the only workaround is to disable DHCP Option 82 on the AP. (Resolved in 2.3.1)
7688	On ETSI locked radios if Automatic Channel Selection (ACS) is enabled and/or Alternate Channels (1 and/or 2) are selected, then if radio mode is changed from AP to SM, it may not be possible to change it back to AP. Workaround is to disable ACS and remove Alternate Frequencies (Configuration->Radio) in AP mode before changing it to SM or SA. If this is not done, the only way to recover the radio (to change it back to AP from SM) is to factory default the unit. (Resolved in 2.3.1)
7676	SM may not successfully obtain an IP address via DHCP if certain special characters (ex: parenthesis) are used in the Device Name of the SM.
7639	When the SM is operating in Standard WiFi mode, the SM Priority feature is not supported. However the SM GUI displays the SM priority level on the Home page when in Wi-Fi mode. There is no system impact due to this. (Resolved in 2.4.3)
7638	With the introduction of the Multicast feature in Release 2.3, new GUI parameters have been added. Under Monitor->Network on the SM a subsection called Multicast Status has been added that displays the number of multicast groups identified by the SM. This subsection is repeated on the same page as a blank subsection. There is no system impact due to this. (Resolved in 2.3.4)
7627	In Release 2.3, a minor enhancement was introduced where the user is able to select an AP from the SM's Available APs list (under Monitor->Wireless) and add it to the Preferred APs list (under Configuration->Radio). When adding an AP with Open security mode, the GUI incorrectly prompts for a WPA2 password. Workaround is to enter a blank password, then navigate to the Preferred APs list (under Configuration->Radio) and set the security mode for the AP to Open . (Resolved in 2.4.3)
7626	When there are multiple entries in the Available APs list (under Monitor->Radio) on the SM, a vertical and/or horizontal scroll bar is activated depending on browser resolution and size. When the GUI auto refreshes, these scroll bars snap back to the left (horizontal) and top (vertical) and user will have to scroll again. Workaround is to increase the Webpage Auto Update time to a higher value (under Configuration->System) to reduce the frequency of the snap. (Resolved in 2.4)

Tracking	Description / Workaround
7622	In Release 2.3, a minor enhancement was introduced where the user is able to select an AP from the SM's Available APs list (under Monitor->Wireless) and add it to the Preferred APs list (under Configuration->Radio). However the user is able to add more than 16 entries while the Preferred APs list supports a maximum of 16 entries. User will need to manually delete entries in the Preferred APs list to not exceed 16 before the configuration can be saved.
7529 7706	On a DFS channel and in the presence of interference, especially under bidirectional traffic, SMs may disconnect and not connect back to the AP. Workaround is to reboot the AP. (Resolved in 2.3.1)
7289	On occasion, the GUI does not display data on the Monitor->Wireless Page. Workaround is to refresh/reload the browser.
7287	When ACS is run multiple times, the ACS chart (under Tools->ACS) may display prior results while the radio is operating on a channel selected by the last ACS run. Refresh the browser to see the latest chart.
7236	When using 5 MHz or 10 MHz channel bandwidths, latency is up to 20% higher compared to 20/40 MHz channel bandwidths. (Resolved in 2.3.1)
7122	When there are more than 10 SMs connected to an AP, single stream TCP throughput on the downlink can degrade up to 25% for a single SM. (Resolved in 2.3.1)

Known problems or limitations (System Release 2.2)

Tracking	Description / Workaround
7088	It is recommended to save the configuration right after deleting an L3 ACL rule. If before saving the configuration, a new ACL rule is added or existing rule is modified, it may result in a corrupted configuration of the rules. (Resolved in 2.3)
7083	If an SM is configured to obtain an IP through DHCP, then if the SM is configured to Spectrum Analyzer mode, the device will attempt to obtain an IP address from a DHCP server through the LAN side. If there are no DHCP servers available, the device will fall back to its default Spectrum Analyzer IP of 192.168.0.3. This is not an issue if the SM was configured with a static IP address. (Resolved in 2.3)
7064	When an SM is scanning for APs, even if the scan bandwidth is set to 20MHz, the Home screen on the GUI displays 40MHz under Operating Channel Bandwidth. This is simply a GUI display error. In reality, the SM is scanning 20 MHz channels. (Resolved in 2.3)
7038	After an AP or SM is configured to Spectrum Analyzer mode, parameters that don't apply to AP or SM mode respectively are displayed. The incorrect display of the fields does not have any impact on the normal operation of the system. (Resolved in 2.4)

Known problems or limitations (System Release 2.1)

Tracking	Description / Workaround
7113	When the SM IP is set to 172.16.252.0/21 address space, then the SM GUI is not accessible using Firefox (Mozilla) browser. Workaround is to use a different browser (ex: Internet Explorer, Google Chrome or Apple Safari). (Resolved in 2.3)

Tracking	Description / Workaround
7101	On rare occasion, cambiumpmp80211SMRegTrap(1.3.6.1.4.1.17713.21.0.11) may cause a trap flood. Workaround is to reboot the AP to stop the flood. (Resolved in 2.2)
7032	When the SessionTime OID (.3.6.1.4.1.17713.21.1.2.20.1.12.1) on the SM is polled through SNMP, it does not update unless the GUI of the SM is open. (Resolved in 2.2)
6919	When ACS is run multiple times in a row (under Tools->Automatic Channel Selection), the ACS graph may also show the scale on the X-axis incorrectly (40MHz instead of 20MHz). Refresh the browser screen (F5 in MS Windows) to get the correct chart for the last ACS run on that page.
6918	When ACS is run multiple times in a row (under Tools->Automatic Channel Selection), the ACS graph may display a primary frequency different from the frequency at which the radio is operating on. (Resolved in 2.4.3)
6916	After running ACS on a 40MHz channel, the primary frequency displayed on the ACS chart (under Tools->Automatic Channel Selection) will be offset from the operating frequency of the radio by 10MHz. There is no workaround and there is no impact on the normal operation of the radio. This is an ACS chart display issue. (Resolved in 2.2)
6915	When adding preferred APs on the SM under Configuration->Radio, the WPA2 PSK field is not highlighted as a required field. Please ensure you fill in the WPA2 key to allow the GUI to save the changes. (Resolved in 2.3.1)
6913 6626	Using 'snmpget' to obtain SNR values from the device returns an error. Workaround is to use 'snmpbulkget' or 'snmpwalk' to obtain the OID values and parse for specific OIDs. (Resolved in 2.2)
6872	On occasion, when both ACS and Carrier Sense (under Configuration->Radio) are enabled, some SMs may not register to the AP. Workaround is to disable ACS or Carrier Sense. (Resolved in 2.2)
6847	When the AP SSID is 32 characters long, the entire SSID is not displayed on the AP's GUI Home page. (Resolved in 2.3)
6801	When an ETSI license key is applied to an ePMP 5GHz ETSI locked radio, it may come up with "Generic ETSI" as country code. Perform a second reboot of the radio to load the license key.
6772	After selecting text in a text box on the UI, it is not possible to replace it with new text by typing over it; it instead appends the new text. The original text has to be deleted first before entering in the new text. (Resolved in 2.4.3)
6650 6564 6562	After a configuration file is backed up, it is possible to change the file to include invalid scan frequencies and empty MIR entries. Do not configure empty or invalid entries in the configuration file before importing back into the radio. (Resolved in 2.2)
6539	On occasion, when eDetect is run from the AP, the UI will appear to be stuck in "Running" state beyond the time configured for Detection Duration. Refresh the browser for the UI to display the correct state. (Resolved in 2.2)
6407	When a new user logs into the radio UI, notifications for the previously logged in user is visible. Workaround is to clear all notifications before logging out of the radio's UI.

Tracking	Description / Workaround
5677	When logged in using "Home" user account, only the Monitor menu is available and the home user cannot change any configuration. Workaround is to use admin or installer account. (Resolved in 2.2)

Known problems or limitations (System Release 2.0.2)

Tracking	Description / Workaround
6901	On occasion, when using SNMP to monitor the Tx/Rx bytes, the device stops updating the counters after a few hours. Workaround is to reboot the device. (Resolved in 2.1)
6752	On the SM, when all 20MHz and 40MHz frequencies in the scan list are selected and saved, the GUI returns an error and the save is unsuccessful. (Resolved in 2.1)
6444	After altering the order of the APs in the Preferred APs list (under Configuration->Radio), then saving this configuration results in a failed save. (Resolved in 2.1)

Known problems or limitations (System Release 2.0.1)

Tracking	Description / Workaround
6636	For certain ETSI countries, the EIRP limit for 5.8GHz is not enforced. (Resolved in 2.0.2)
6558	An Integrated/Connectorized Radio used as AP may crash when more than 40 SMs are registered to in a high interference environment. (Resolved in 2.0.2)
6509	When country code is set to Germany and using 40 MHz channel bandwidth, it is not possible to configure 5855 MHz at a DFS alternate frequency (Resolved in 2.0.2)
6283	On Connectorized Radio with Sync, when GigE is configured then sporadic packet loss may be seen when the Ethernet cable length is longer than 45 meters. (Resolved in 2.0.2)

Known problems or limitations (System Release 2.0)

Tracking	Description / Workaround
6311	On 2.4GHz radios, operator cannot set country code other than United States/FCC (Resolved in 2.0.1)
6245	When configuring L2 firewall rules and non-numeric values are used for setting the "EtherType" rule, the UI will not display the rule value. However, the rule is set on the radio and will work normally. (Resolved in 2.1)

Tracking	Description / Workaround
6117	When a device's configuration is backed up and modifications are made to the Radius Server table, only the first table entry is validated when the modified configuration is restored onto a device. Care must be taken to enter valid entries into the Radius Server table when modifying the device configuration file (.json format). (Resolved in 2.1)
6101	On ETSI radios, if an invalid license key is entered, the radio will reset to factory default settings. Care must be taken to enter the exact key string obtained from Cambium licensing web-site and avoid modifying the license key before entering into the radio. (Resolved in 2.3)
5956	When 16 or more L2 ACL rules are configured and full syslog is enabled and the radio is overloaded with small packets of size less than 30 bytes, it may cause of reboot. The radio will recover by itself after the reboot. (Resolved in 2.1)
5798	On occasion, upon launching the UI of the radio in a browser, a red icon may appear on the "Configure" menu button indicating incorrect configuration. The icon will disappear on its own within 3 seconds. (Resolved in 2.1)
5018	On rare occasion, when using Radius and the SM is under poor RF conditions, re-authentication may fail. A device reboot may be required to perform Network Entry again.

Known problems or limitations (System Release 1.4.3/1.4.4)

Tracking	Description / Workaround
5845	When configuring a DMZ IP address on a subnet different from the Device LAN IP address subnet, a reboot of the radio is required for the changes to take effect. (Resolved in 2.0)
5664	When more than 150 membership VLANs are configured on the ePMP SM, there may be a degradation in throughput on that SM. (Resolved in 2.1)
5467	Packet Byte counters under the Monitor->Performance page, are 32-bit instead of 64-bit. (Resolved in 2.0)
4948	During the first 2 minutes after an AP boot up or restart of wireless interface (when changing radio parameters such as Tx power, Center Frequency etc.), the Throughput Test tool will provide poor results on DL. Throughput Test will perform normally after this 2-minute period. (Resolved in 2.0)

Known problems or limitations (System Release 1.4.1)

Tracking	Description / Workaround
5762	The antenna gain parameter of the 2.4 GHz Integrated module is locked at 13 dBi while it must be 11 dBi. (Resolved in 1.4.3)
5751 5746	When running a Throughput Test (Tools => Throughput Test) under high interference conditions, the SM disconnects. (Resolved in 1.4.3)

Known problems or limitations (System Release 1.4.0)

Tracking	Description / Workaround
5933	FCC countries are limited to 13dBm of Max Tx power instead of 14dBm (Resolved in 1.4.4)
5848	Using power reset sequence or reset button to default the radio does not work after the first time. (Resolved in 1.4.4)
5683	On ePMP radios programmed for EU region, two reboots are required when switching device mode from AP to SM. (Resolved in 2.4)
5672	On ePMP radios programmed for EU region, when NAT mode is enabled on the SM, there is no management access to the SM from the AP. This does not impact user traffic through the link. (Resolved in 1.4.1)
5671	On rare occasion, after an upgrade from Release 1.3.4 to Release 1.4.0, the Country Code setting is not carried over and no channels are available for selection. (Resolved in 1.4.1)
5670	A password change for management user accounts does not get applied and the radio falls back to the default password. (Resolved in 1.4.1)
5509	With 25 or more SMs registered to the AP, GUI access to the AP will be slower than normal. This does not impact normal operation of the radio and there is no impact to user traffic in the sector. (Resolved in 2.0)
5621	Trace route tool does provide any indication on the GUI when a different subnet is unreachable. (Resolved in 2.0)
5543	In Spectrum Analyzer mode, some greyed out fields can still be configured. These fields are meant to be read-only so the user must not modify them when device mode is SA. (Resolved in 2.0)

Known problems or limitations (System Release 1.3.4)

Tracking	Description / Workaround
4948	Spectrum Analyzer has small range of frequencies that cannot be scanned (5720-5730 MHz). This is seen only if you manually configure a scan range. (Resolved in 1.4.0)
4598	VoIP priority cannot be assigned to user defined QoS profiles. This does not impact assigning VoIP priority to the overall system. (Resolved in 1.4.0)

Known problems or limitations (System Release 1.2.3)

Tracking	Description / Workaround
4538	When SM is set to NAT and local DHCP server is enabled, it is possible to provide a start and end IP address for the DHCP pool that is outside the IP address/mask of the LAN interface. Please verify that the start and end IP addresses are valid for the DHCP mask when configuring the local DHCP server. (Resolved in 2.0)
4582	Only one DNS server can be configured on the ePMP radio. Configuration of a secondary DNS server is not currently supported. (Resolved in 1.3.4)
4698	When entering a MIR profile, make sure a profile number is configured with it. It is possible to configure a profile without a profile number and this profile will not be usable in the system. (Resolved in 1.3.4)
4189	Configuring alternate DFS frequency is possible on a non-DFS (5.7GHz) band. This has no impact on the system operation.
4705	The DL RSSI level reported at the AP (Monitor->Wireless Status) is an estimated value. For accuracy, use the DL RSSI reported at the SM.

Security Researcher Acknowledgments

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Technical Support

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