



Class III Change Letter

Date: 2022/3/24
Federal Communications Commission
7435 Oakland Mills Road
Columbia MD 21046

To Whom It May Concern:

Request for Class III Permissive Change
FCC ID: UXX-S5A052A / Grant Date: 06/25/2021

Pursuant to CFR 2.1043, Cradlepoint, Inc. hereby requests a Class III Permissive Change.

Modification:

Add a remote modem as a potential source for MCC location data that is used for automatic region setting
(Please refer to the next page for more detail)
New Regulatory SW version 4.

This change does not alter any RF operating parameters for the 15.207/15.407 DTS/UNII radios in the device. Rather it only adds a new path for the reception of MCC location data that allows automatic region setting to the established DTS/UNII operating parameters.

I understand that the modified software shall not be loaded into the equipment, and the equipment shall not be marketed with the modified software under the existing grant of certification, prior to acknowledgement that the change is acceptable. Class III changes are permitted only for equipment in which no Class II changes have been made from the originally approved device.

Sincerely,

Applicant's company name: Cradlepoint, Inc.
Applicant's company address: 1111 West Jefferson Street ,Boise ,Idaho, United States 83702
Date signed:
Signature:

DocuSigned by:

A handwritten signature in blue ink that reads "Steve Howarth".

3/25/2022

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Name and Job Title: Steve Howarth / VP of Engineering
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Cover Letter for SDR C3PC with FCC ID: UXX-S5A052A, IC: 6921A-S5A052A

Greetings.

We are filing a SDR Permissive Change to provide a minor update to the cellular MCC location determining mechanism that is used for automatic region settings.

The RF parameters of the device are unchanged; it is only the region setting algorithm that gains one new method to determine the location (country) in which it is operating and then apply the appropriate region settings to the UXX-S5A052A/6921A-S5A052A during the automatic region setting process. .

Under the original grant of equipment authorization, the MCC was solely detected by a cellular radio integrated into the UXX-S5A052A/6921A-S5A052A device. This location data would then allow UXX-S5A052A/6921A-S5A052A to automatically self-configure for full operation to the FCC/ISED Grant of Equipment Authorization, as applicable.

This permissive change would add an additional method to detect MCC from a modem integrated into a separate device (not UXX-S5A052A/6921A-S5A052A) that is located on the Local Area Network of this device.

However, other than location determination methods, all other features (including all radio parameter settings for the UXX-S5A052A/6921A-S5A052A) are unchanged.

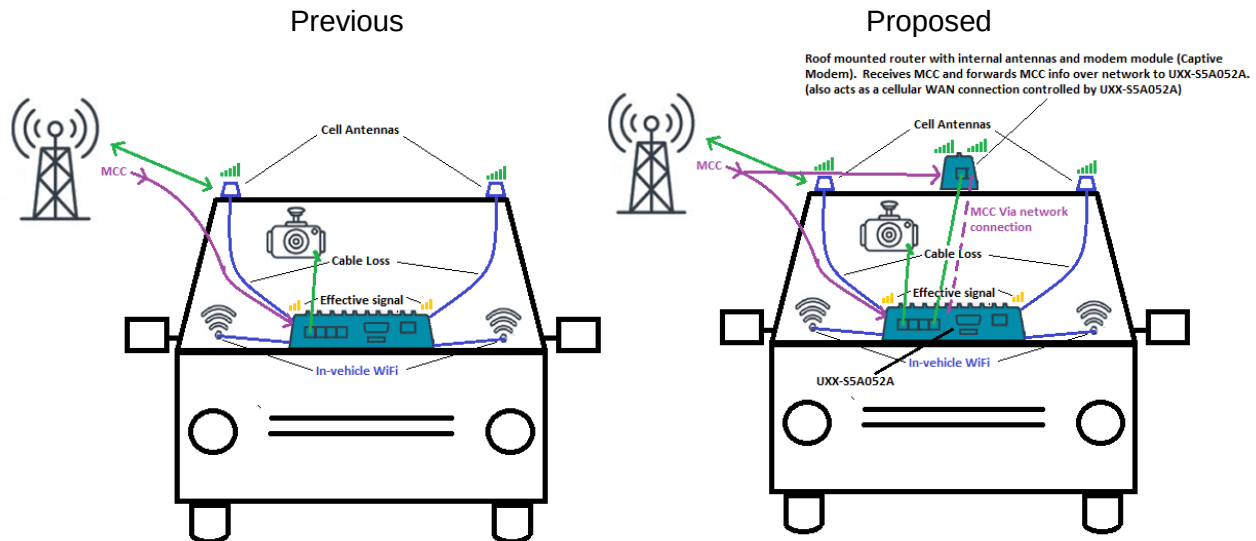
This change mitigates a concern where cable losses between vehicle-mounted cellular antennas and a trunk or cabinet mounted UXX-S5A052A result in potential cellular signal loss when the device is at edge-of-service locations. This signal loss is a particular concern for first responders, who are the primary intended market for this device.

In the proposed scenario, instead of (or in addition to) the cellular radio module integrated /co-located inside UXX-S5A052A/6921A-S5A052A, a separate ethernet connected cellular router (referred to in this filing as a "Captive Modem") provides a cellular WAN network interface. Specific to this filing, this Captive Modem can also be used to receive cellular MCC location data, and pass the MCC over the wired ethernet connection to UXX-S5A052A/6921A-S5A052A). This MCC data can, in the context of this SDR filing, allow the UXX-S5A052A/6921A-S5A052A to complete the automatic region setting procedure and result in operation to the FCC/ISED grant of equipment Authorization.

Note the separate "Captive Modem" router must be directly connected via Ethernet to the UXX-S5A052A / 6921A-S5A052A. This feature will not function over a VPN or other remote connection.



A graphical representation of the proposal is here



This change only allows the UXX-S5A052A/6921A-S5A052A device to receive the cellular MCC location info via a different path.

This information is use for location determination during initial automatic region setting configuration, or after a factory reset operation, in order to configure the device's WiFi radio from a limited global "lowest common denominator" factory default setting to full operation according to the FCC/ISED grant of equipment authorization.

Other than the new method for MCC location determination, no changes to this device were made (and specifically, no changes to the 15.247 or 15.407 WiFi operation parameters are made).