

C-V2X Waiver Orders

Frequently Asked Questions

October 12, 2023

These FAQs are provided only as a general reference. They do not constitute, and should not be relied upon as, legal advice.

What waiver requests has the FCC granted so far?

The FCC has, as of the date of these FAQs, granted 31 waiver requests in two orders, which this FAQ refers to as “the Waiver Orders”:

- [Joint Waiver Order](#), released April 24, 2023, granted 14 waiver requests
- [August Waiver Order](#), released August 16, 2023, granted 17 additional waiver requests

In addition, in July 2023, the FCC issued the [Joint Waiver Modification Order](#), which eliminated a technical restriction that had initially been included in the Joint Waiver Order.

Who is covered by these Waiver Orders?

The FCC granted waivers only to the specifically named parties listed in the Waiver Orders.

For the Joint Waiver Order, that included:

- Utah DOT and Virginia DOT
- Automakers Audi of America, Inc., Ford Motor Company, and Jaguar Land Rover
- Equipment manufacturers AAEON Technology Inc., Advantech Co., Ltd., Applied Information, Inc., Cohda Wireless Pty Ltd., Commsignia, Inc., Danlaw Inc., HARMAN International Industries, Inc., Kapsch TrafficCom USA Inc., and Panasonic Corporation of North America

For the August Waiver Order, that included:

- The Colorado, Florida, Georgia, Hawaii, Maryland, Michigan, Nebraska, New Jersey, Ohio, Oregon, Texas, and Wyoming state departments of transportation, the City and County of Denver, the Macomb County Department of Roads, and the Regents of the University of Michigan
- Equipment manufacturers Sonamore, Inc. d/b/a P3Mobility and Connex2X, LLC

What do the waivers allow the waiver recipients to do?

The various state, local, and municipal transportation authorities listed above may deploy C-V2X RSUs and OBUs within their jurisdictions for transportation and vehicle safety-related communications in the 5905-5925 MHz frequencies.

Audi, Ford, and Jaguar Land Rover may deploy C-V2X-based OBUs in all of their vehicles operating in the United States.

The equipment manufacturers listed above are eligible to obtain the necessary equipment certifications for their C-V2X RSUs and OBUs. FCC requirements generally applicable to equipment authorization apply to all RSUs and OBUs to be approved under the Waiver Orders, and any application for equipment authorization needs to include a copy of the relevant waiver grant. Once equipment is FCC-certified, it can be marketed throughout the United States (although the purchaser may require authorization to deploy it).

When can they start?

The Waiver Orders were effective immediately when they were released.

What technical or other conditions were imposed on the waiver grants?

The Waiver Orders include some general conditions including technical requirements—for instance, OBUs may generally operate at 33 dBm EIRP as requested in the original joint waiver request, except that there is a limit of 27 dBm EIRP within ± 5 degrees of the horizon. In addition, the site locations for RSUs must be registered with the FCC before they are operated, and each waiver recipient must ensure that RSU and OBU operations and devices authorized under the waiver will comply with the final rules or other guidance provided by the FCC in any timeframe determined by the FCC. A full discussion of the waiver conditions is found in paragraphs 17 through 26 of the Joint Waiver Order (linked above), and the same conditions appear at pages 6 through 9 of the August Waiver Order (also linked above).

The Joint Waiver Order initially included a 20 dBm Transmitter Output Power limit for OBUs, but that condition was eliminated in the Joint Waiver Modification Order and was not imposed in the August Waiver Order.

Where can I get a copy of the Waiver Orders?

You can download copies at these links: [Joint Waiver Order](#) and [August Waiver Order](#).

Are there other pending waiver requests? When will the FCC grant them?

There are some waiver requests still pending, and new requests continue to be filed. The timetable for action is determined by the FCC, but 5GAA has encouraged waiver applicants to reach out to the FCC to confirm, if necessary, that they will accept the same terms, including power limits, required under the Waiver Orders (as modified), and to urge the FCC to act quickly on the pending requests. 5GAA is encouraging the FCC to issue additional grants promptly.

How can others get their own waivers?

Those who want waivers need to file individual requests with the FCC. 5GAA has prepared a template waiver application that can be shared with state DOTs, equipment manufacturers, or

others who are interested in obtaining waivers, as well as filing instructions, in order to make it easier for them to file a waiver request.

Do private parties who want to deploy RSUs need waivers?

Yes. The FCC licenses both governmental and non-governmental applicants to use 5.9 GHz spectrum to operate RSUs, but [Rule 90.375\(a\)](#) provides only for DSRC operations. Both governmental and private applicants require waivers in order to operate C-V2X RSUs.

Do waiver applicants need to have a DSRC license in order to get a waiver to operate RSUs?

An Intelligent Transportation Services license is required in order to operate RSUs in the 5.9 GHz band, and currently, licenses are issued only for DSRC. At a minimum, a DSRC license is needed to register and operate RSUs once a waiver has been granted. It also appears that the FCC expects those licenses to be in place before it will grant a waiver request.

What steps must applicants (including private parties) take in order to get a DSRC license to deploy and operate RSUs?

First, the applicant needs an FCC Registration Number (FRN). There are instructions for getting an FRN [here](#). Once the applicant has its FRN, it can go to the FCC's Universal Licensing System ([ULS](#)) to apply for a license. At the ULS screen, choose "File Online," which will bring up a Log In screen that requires the FRN and password associated with the FRN to be entered. Successful login will open a screen that prompts the applicant to select the radio service for the new license. The radio service code for DSRC licenses is IQ – Intelligent Transportation Service (Public Safety). ULS will then ask whether the application is for a public safety license or a non-public safety license and will pose a series of additional questions about the applicant and the license type requested.

What happens if the final rules are different from the waiver parameters?

The Waiver Orders state that waiver recipients, including but not limited to equipment manufacturers, should consider the pendency of the FCC's final rulemaking in the 5.9 GHz band, and incorporate technology that will allow prompt and efficient regulatory compliance with respect to individual RSUs, OBUs, and C-V2X-based operations once any relevant final rules are implemented. If final rules differ from the parameters of the Waiver Orders, the FCC would typically allow some transition period for coming into compliance.

We expect the final rules to be at least as permissive as the Waiver Orders, in which case we expect the FCC to permit devices deployed under the Waiver Orders to continue operating. It also is possible that RSUs and OBUs approved under the Waiver Orders may operate at lower levels than permitted under the Waiver Orders and will comply with the final rules even if they are more restrictive than the terms in the Waiver Orders.