



APPLICATION FOR NEW STA – EXHIBIT

Introduction

Harman International Industries, Inc. (Harman) is a leading pioneer in developing reliable and secure platforms for the Connected Car, providing integrated solutions for the automotive industry. By this application, Harman seeks experimental special temporary authority (STA) to operate certain modular Cellular-V2X (C-V2X) prototypes at the Consumer Electronics Show (“CES”) in Las Vegas, Nevada for purposes of demonstrating functionality to invited guests. Harman proposes to operate the devices in the same manner and with the same parameters as has been authorized in its experimental license (Call Sign WJ2XWD; File No. 0791-EX-CN-2018).

The Commission has established the Dedicated Short Range Communications (DSRC) service in the 5.850-5.925 GHz band for enabling vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications. See 47 CFR §§90.371-90.377; Amendment of Parts 2 and 90 of the Commission's Rules to Allocate the 5.850-5925 GHz Band to the Mobile Service for Dedicated Short Range Communications of Intelligent Transportation Services, ET Docket No. 98-95, *Report and Order*, 14 FCC Rcd 18221 (1999). Recently, cellular specifications have emerged that support vehicle-to-everything (V2X) communications – V2V, V2I, vehicle-to-pedestrian (V2P), and vehicle-to-network (V2N). In recognition of both the DSRC and the emerging C-V2X platforms, Harman wishes to demonstrate modular technologies that would employ C-V2X functionality as an add-on module in a manner that allows for developmental flexibility.

Proposed Demonstration and Objectives

The proposed demonstration would support equipment research and development, field testing, and proof of concept. Harman is integrating the C-V2X functionality into its Telematics Control Units (TCU) by using an add-on module that would attach to the TCU. The devices to be demonstrated would operate on frequencies allocated to DSRC service.

The C-V2X module would be demonstrated using an indoor “bench” setup. Basic message transmission and reception statistics would be demonstrated. Operation would be fixed.

Transmitter operating parameters:

Type	Frequency (MHz)	Power (dBm EIRP)	Power (mW EIRP)	Antenna Height (m)
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HARMAN

400 Atlantic Street, 15th Floor

Stamford, CT 06901 USA



Fixed	5850-5925	23 dBm (max)	200 (max)	1 (max)
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Test Location

The temporary experimental demonstration will be restricted to the following location:

Hard Rock Hotel
4455 Paradise Road
Las Vegas, NV 89169

Minimizing Interference

Harman understands that the proposed temporary demonstration at CES under Part 5 of the Commission's rules must avoid causing interference to co-channel licensed operations. As noted, the devices to be tested would operate on frequencies allocated to DSRC service. Harman understands that the City of Las Vegas holds an FCC authorization to operate on DSRC frequencies at various locations throughout the city. Given, however, the temporary, sporadic and non-continuous nature of the demonstrations, the maximum transmitting antenna height of 1 meter, and the low power indoor operation, it is highly unlikely that the proposed experiment would result in harmful interference.