§ 90.377). Such licenses serve as a prerequisite of registering individual RSUs located within the licensed geographic area described in paragraph (a) of this section. Licensees must register each RSU in the Universal Licensing System (ULS) before operating such RSU. RSU registrations are subject, inter alia, to the requirements of § 1.923 of this chapter as applicable (antenna structure registration, environmental concerns, international coordination, and quiet zones). Additionally, RSUs at locations subject to NTIA coordination (see § 90.371(b)) may not begin operation until NTIA approval is received. Registrations are not effective until the Commission posts them on the ULS. It is the DSRCS licensee's responsibility to delete from the registration database any RSUs that have been discontinued.

(c) Licensees must operate each RSU in accordance with the Commission's Rules and the registration data posted on the ULS for such RSU. Licensees must register each RSU for the smallest communication zone needed (for the DSRC-based intelligent transportation systems application) using one of the following four communication zones:

RSU class	Max. output power (dBm) [1]	Communications zone (meters)
A	0	15
B	10	100
C	20	400
D	28.8	1000

[1] The ASTM-DSRC Standard is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51 and approved by The Director of the Federal Register. Copies may be inspected at the Federal Communications Commission, 445 12th Street, SW., Washington, DC 20554 or National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.* Copies of the ASTM E2213–03 DSRC Standard can be obtained from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428–2959. Copies may also be obtained from ASTM via the Internet at *http://www.astm.org.* The ASTM-DSRC Standard limits output power to 28.8 dBm but allows more power to overcome cable losses to the antenna as long as the antenna input power does not exceed 28.8 dBm and the EIRP does not exceed 44.8 dBm. However, specific channels and categories of uses have additional limitations under the ASTM-DSRC Standard.

[69 FR 46444, Aug. 3, 2004, as amended at 82 FR 41548, Sept. 1, 2017]

§ 90.377 Frequencies available; maximum EIRP and antenna height, and priority communications.

(a) Licensees shall transmit only the power (EIRP) needed to communicate with an On-Board Unit (OBU) within the communications zone and must take steps to limit the Roadside Unit (RSU) signal within the zone to the maximum extent practicable.

(b) Frequencies available for assignment to eligible applicants within the 5850–5925 MHz band for RSUs and the maximum EIRP permitted for an RSU with an antenna height not exceeding 8 meters above the roadway bed surface are specified in the table below. Where two EIRP limits are given, the higher limit is permitted only for state or local governmental entities.

Channel No.	Frequency range (MHz)	Max. EIRP [1] (dBm)	Channel use
170	5850–5855	.....	Reserved.
172	5855–5865	33	Service Channel. [2]
174	5865–5875	33	Service Channel.
175	5865–5885	23	Service Channel. [3]
176	5875–5885	33	Service Channel.
178	5885–5895	33/44.8	Control Channel.
180	5895–5905	23	Service Channel.
181	5895–5915	23	Service Channel. [3]
182	5905–5915	23	Service Channel.
184	5915–5925	33/40	Service Channel. [4]

[1] An RSU may employ an antenna with a height exceeding 8 meters but not exceeding 15 meters provided the EIRP specified in the table above is reduced by a factor of 20 log(Ht/8) in dB where Ht is the height of the radiation center of the antenna in meters above the roadway bed surface. The EIRP is measured as the maximum EIRP toward the horizon or horizontal, whichever is greater, of the gain associated with the main or center of the transmission beam. The RSU antenna height shall not exceed 15 meters above the roadway bed surface.

[2] Channel 172 is designated for public safety applications involving safety of life and property.

[3] Channel Nos. 174/176 may be combined to create a twenty megahertz channel, designated Channel No. 175. Channels 180/182 may be combined to create a twenty-megahertz channel, designated Channel No. 181.

[4] Channel 184 is designated for public safety applications involving safety of life and property. Only those entities meeting the requirements of § 90.373(a) are eligible to hold an authorization to operate on this channel.

(c) Except as provided in paragraphs (d) and (e) of this section, non-reserve DSRCS channels are available on a shared basis only for use in accordance with the Commission's rules. All licensees shall cooperate in the selection and use of channels in order to reduce interference. This includes monitoring for communications in progress and any other measures as may be necessary to minimize interference. Licensees of RSUs suffering or causing harmful interference within a communications zone are expected to cooperate and resolve this problem by mutually satisfactory arrangements. If the licensees are unable to do so, the Commission may impose restrictions including specifying the transmitter power, antenna height and direction, additional filtering, or area or hours of operation of the stations concerned. Further the use of any channel at a given geographical location may be denied when, in the judgment of the Commission, its use at that location is not in the public interest; use of any such channel may be restricted as to specified geographical areas, maximum power, or such other operating conditions, contained in this part or in the station authorization.

(d) *Safety/public safety priority*. The following access priority governs all DSRCS operations:

(1) Communications involving the safety of life have access priority over all other DSRCS communications;

(2) Subject to a control channel priority system management strategy (*see* ASTM E2213–03 DSRC Standard at §4.1.1.2(4)), DSRCS communications involving public safety have access priority over all other DSRC communications not listed in paragraph (d)(1) of this section. Roadside Units (RSUs) operated by state or local governmental entities are presumptively engaged in public safety priority communications.

(e) *Non-priority communications*. DSRCS communications not listed in paragraph (d) of this section, are non-priority communications. If a dispute arises concerning non-priority communications, the licensee of the later-registered RSU must accommodate the operation of the early registered RSU, *i.e.*, interference protection rights are date-sensitive, based on the date that the RSU is first registered (*see* §90.375) and the later-registered RSU must modify its operations to resolve the dispute in accordance with paragraph (f) of this section.

(f) Except as otherwise provided in the ASTM–DSRC Standard (*see* §90.379) for the purposes of paragraph (e) of this section, objectionable interference will be considered to exist when the Commission receives a complaint and the difference in signal strength between the earlier-registered RSU and the later-registered RSU (anywhere within the earlier-registered RSU's communication zone) is 18 dB or less (co-channel). Later-registered RSUs causing objectionable interference must correct the interference immediately unless written consent is obtained from the licensee of the earlier-registered RSU.

[71 FR 52749, Sept. 7, 2006, as amended at 72 FR 35199, June 27, 2007]

§90.379 ASTM E2213–03 DSRC Standard (ASTM-DSRC Standard).

Roadside Units operating in the 5850–5925 MHz band shall comply with the following technical standard, which is incorporated by reference: American Society for Testing and Materials (ASTM) E2213–03, ''Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems—5 GHz Band Dedicated Short Range Communications (DSRC) Medium Access Control (MAC) and Physical Layer (PHY) Specifications'' published September 2003 (ASTM E2213–03 DSRC Standard). The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be inspected at the Federal Communications Commission, 445 12th Street, SW., Washington, DC 20554 or National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. Copies of the ASTM E2213–03 DSRC Standard can be obtained from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428–2959. Copies