



PUBLIC NOTICE

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445 12th St., S.W.
Washington, D.C. 20554

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OFFICE OF ENGINEERING AND TECHNOLOGY SEEKS COMMENT ON HYDROID INC.'S REQUEST FOR WAIVER OF SECTION 15.407(a)(3) OF THE RULES FOR UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE DEVICES THAT EMIT STEERABLE DIRECTIONAL BEAMS

ET Docket No. 19-240

Comment Date: September 16, 2019
Reply Comment Date: October 1, 2019

On July 2, 2019, Hydroid, Inc. (Hydroid) filed a request for a waiver of Section 15.407(a)(3) of the Commission's rules to allow the operation of Unlicensed National Information Infrastructure (U-NII) devices in the 5.725-5.850 GHz band that emit steerable directional beams at power levels that exceed the limits in that section.¹ The Commission's Office of Engineering and Technology (OET) seeks comment on this request.

Hydroid states that it has developed a system that operates in the 5.725-5.850 GHz band that is used for broadband communications between maritime vessels, and between maritime vessels and shore.² Each communication is between two points, with no simultaneous point-to-multipoint applications.³ Hydroid states that its system employs high-gain antennas having directional properties similar to those used for fixed point-to-point land communications, but the design is different in that the radios use phased-array antennas (transmit and receive) that are kept closely aligned with each other as the vessels on which they operate move around.⁴ It claims that grant of the waiver could substantially increase the range for reliable communications over water, where reflections from the water surface can cause multipath fading that sharply limits the transmission range of its system when operating in accordance with the existing rules.⁵

Section 15.407(a)(3) of the Commission's rules permits U-NII devices to operate in the 5.725-5.850 GHz band with a maximum conducted power output of one watt.⁶ If an antenna with a maximum

¹ Hydroid, Inc. Request for Waiver of Section 15.407(a)(3) of the Commission's Rules for Maritime Broadband Communications, ET Docket No. 19-240 (filed July 2, 2019), [https://ecfsapi.fcc.gov/file/1070245131169/2019-07-02%20Hydroid%20Request%20for%20Waiver%20AS%20FILED%20\(01329765xB3D1E\).PDF](https://ecfsapi.fcc.gov/file/1070245131169/2019-07-02%20Hydroid%20Request%20for%20Waiver%20AS%20FILED%20(01329765xB3D1E).PDF) (Hydroid Waiver Request).

² *Id.* at 2.

³ *Id.* at 5.

⁴ *Id.* at 1-2.

⁵ *Id.* at 6.

⁶ 47 CFR § 15.407(a)(3).

directional gain of greater than 6 dBi is used, the conducted power output must be reduced below one watt by the amount in dB that the antenna gain exceeds 6 dBi.⁷ However, antennas with a gain greater than 6 dBi may be used without a corresponding reduction in conducted power output if operation is limited to fixed point-to-point applications.⁸ Hydroid is seeking a waiver of this section to permit the operation of its non-fixed system with one watt maximum conducted power and an antenna gain that exceeds 6 dBi, i.e., under the provisions applicable to fixed point-to-point systems.⁹ It also proposes that the waiver impose specific conditions on the sale, installation, and use of the equipment so that it will be deployed in a manner that ensures necessary interference protection.¹⁰

OET seeks comment on the waiver request. OET has concluded that, in order to develop a complete record on the issues presented by this request, this proceeding will be treated, for *ex parte* purposes, as "permit-but-disclose" in accordance with Section 1.1200(a) of the Commission's rules, subject to the requirements under Section 1.1206(b).

Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

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⁷ *Id.*

⁸ *Id.*

⁹ Hydroid Waiver Request at 6.

¹⁰ *Id.* at 10.

Parties should also send a copy of their filings to Hugh L. Van Tuyl, Office of Engineering and Technology, Federal Communications Commission, Room 7-A162, 445 12th Street, S.W., Washington, D.C. 20554, or by e-mail to Hugh.VanTuyl@fcc.gov.

Documents are available for public inspection and copying during business hours at the FCC Reference Information Center, Portals II, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554.

Office of Engineering and Technology contact: Hugh L. Van Tuyl at 202-418-7506.

By the Chief, Office of Engineering and Technology

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