



PUBLIC NOTICE

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DA 17-1190

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WIRELESS TELECOMMUNICATIONS BUREAU SEEKS COMMENT ON ECHODYNE CORPORATION REQUEST FOR WAIVER TO PERMIT LICENSING AND USE OF GROUND-BASED 24.45-24.65 GHz RADAR

WT Docket No. 17-352

Comment Date: January 10, 2018

Reply Date: January 25, 2018

By this *Public Notice*, we seek comment on a request for waiver filed by Echodyne Corporation (Echodyne) to permit ground-based radiolocation use of its Metamaterial Electronically Scanning Array (MESA), a low-power, low-cost, small radar that operates in the 24.45-24.65 GHz band.¹

Echodyne states that it originally developed the MESA for airborne use in unmanned aircraft systems (UAS) to detect and avoid (DAA) obstacles, but users have expressed interest in using it as a ground-based security and surveillance radar (SSR). In response, Echodyne developed a model that is optimized for ground-based use, called the MESA-SSR.² Potential uses of the MESA-SSR include UAS Traffic Management; UAS detection at airports, prisons, and other sensitive sites; and ground perimeter surveillance.

The 24.45-24.65 GHz band is allocated to the radionavigation and inter-satellite services on a primary basis for Federal and non-Federal use,³ and part 87 of the Commission's rules authorizes airborne and ground-based use of the band for aeronautical radionavigation, including obstruction warning.⁴ Use of the band for ground-based SSR (including UAS detection), however, constitutes radiolocation as opposed to radionavigation,⁵ and is not authorized by the Commission's rules. Echodyne therefore

¹ See Request by Echodyne Corp. for Waiver of Section 2.106 and Sections 87.471 and 87.475 of the Commission's Rules (filed Oct. 27, 2017).

² The MESA-SSR operates with higher power (26 dBW effective isotropic radiated power [EIRP] versus 24 dBW EIRP) and with a shorter chirp duration in its waveform than the MESA-DAA. In addition, the MESA-DAA sweeps up in frequency, while the MESA-SSR sweeps down in frequency.

³ See 47 CFR § 2.106.

⁴ See 47 CFR §§ 87.5, 87.173(b), 87.187(x), 87.475(b)(14).

⁵ Radiodetermination is the determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of radio waves. Radionavigation is radiodetermination for the purposes of navigation, including obstruction warning. Radiolocation

requests a waiver of section 2.106 and part 87 to permit ground-based use of the MESA-SSR for radiolocation applications.

To alleviate concerns about long-term operation under a waiver, Echodyne proposes that licenses granted pursuant to the waiver be authorized on a secondary basis. While it would prefer that licenses be granted a full 10-year license term,⁶ Echodyne proposes in the alternative a five-year term that could be renewed if there are no unresolved instances of harmful interference caused by the MESA-SSR. Echodyne also proposes a limitation of 20,000 units during the first five years of the waiver.

We seek comment on the waiver request. In particular, we ask commenters to address the potential effect on aeronautical radionavigation, and whether there is any equipment with comparable benefits that operates on spectrum where radiolocation already is authorized.⁷

Procedural Matters

Interested parties may file comments and reply comments in response to the waiver request on or before the dates listed on the first page of this *Public Notice*. All pleadings must reference the docket number appearing on the first page of this *Public Notice*. Parties may file comments using (1) the Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies.⁸

- **Electronic Filers:** File comments electronically using the Internet by accessing the ECFS: <http://www.fcc.gov/cgb/ecfs/> or the Federal eRulemaking Portal: <http://www.regulations.gov>. Filers should follow the instructions provided on the website for submitting comments.
- In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.
- **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.

Send filings by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. Address filings to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- Deliver hand-delivered or messenger-delivered paper filings to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554 between 8:00 AM and 7:00 PM. Use rubber bands or fasteners to hold deliveries together. Dispose of all envelopes before entering the building.

is radiodetermination used for purposes other than those of radionavigation. *See* 47 CFR §§ 2.1, 87.5.

⁶ *See* 47 CFR §§ 87.27, 90.149(a).

⁷ We further note that the Commission is considering issues regarding compatibility with potential 5G systems in neighboring bands through its ongoing Spectrum Frontiers proceeding. *See, e.g., Use of Spectrum Bands Above 24 GHz for Mobile Radio Services et al.*, GN Docket No. 14-177 et al., Second Report and Order, Second Further Notice of Proposed Rulemaking, Order of Reconsideration, and Memorandum Opinion and Order, FCC 17-152 (Nov. 22, 2017).

⁸ *See Electronic Filing of Documents in Rulemaking Proceedings*, Report and Order, 13 FCC Rcd 11322 (1998).

- Send commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) to 9050 Junction Drive, Annapolis Junction, MD 20701.
- Send U.S. Postal Service first-class, Express, and Priority mail to 445 12th St., SW, Washington DC 20554.

The request, and comments and reply comments filed in response to this *Public Notice* are available for viewing via the Commission's Electronic Comment Filing System (ECFS) by entering the docket number appearing on the first page of this *Public Notice*. The documents also will be available for public inspection and copying during business hours in the FCC Reference Information Center, Portals II, 445 12th Street S.W., Room CY-A257, Washington, D.C. 20554. Reference Information Center business hours are available at <https://www.fcc.gov/general/fcc-reference-information-center>.

Alternate formats of this *Public Notice* (computer diskette, large print, audio recording, and Braille) are available to persons with disabilities by contacting the Consumer & Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY), or send an e-mail to fcc504@fcc.gov.

This proceeding has been designated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.⁹ Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (*e.g.*, .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

For further information, contact Mr. Tim Maguire of the Wireless Telecommunications Bureau, Mobility Division, at (202) 418-2155, tim.maguire@fcc.gov.

Action by the Deputy Chief, Mobility Division, Wireless Telecommunications Bureau.

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⁹ See 47 CFR §§ 1.1200(a), 1.1206.