



PUBLIC NOTICE

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WIRELESS TELECOMMUNICATIONS BUREAU AND OFFICE OF ENGINEERING AND TECHNOLOGY APPROVE FOUR SPECTRUM ACCESS SYSTEM ADMINISTRATORS FOR FULL SCALE COMMERCIAL DEPLOYMENT IN THE 3.5 GHZ BAND AND EMPHASIZE LICENSEE COMPLIANCE OBLIGATIONS IN THE 3650-3700 MHZ BAND UNDER PART 96

GN Docket No. 15-319

I. INTRODUCTION

1. With this *Public Notice*, the Wireless Telecommunications Bureau (WTB) and the Office of Engineering and Technology (OET) (collectively, WTB/OET) of the Federal Communications Commission (Commission or FCC) certify CommScope, Federated Wireless, Inc. (Federated), Google and Sony, Inc. (Sony) as Spectrum Access System (SAS) Administrators in the 3.55-3.7 GHz band (3.5 GHz band) (collectively, SAS Administrators). WTB/OET, in consultation with the Department of Defense (DoD) and the National Telecommunications and Information Administration (NTIA), have reviewed each SAS Administrator's Initial Commercial Deployment (ICD) report, and they each have certified that each SAS Administrator has met the requirements in Part 96 of our rules and is authorized to make their SAS available for commercial use for a five-year term.¹

II. BACKGROUND

2. In the *2015 Report and Order*, the Commission directed WTB/OET, in consultation with the DoD and NTIA, to oversee the review, certification, and approval of SASs in the 3.5 GHz band.² The *2015 Report and Order* required all prospective SAS Administrators to complete a two-stage review process prior to final certification.³ In the first stage, a prospective SAS Administrator must submit a proposal describing how its system will comply with all Commission rules governing the construction, operation, and approval of SASs and perform all core functions described in the *2015 Report and Order*.⁴

¹ See 47 C.F.R. 96.63(e).

² See generally *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, GN Docket No. 12-354, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959, 4067, paras. 369-373 (2015) (*2015 Report and Order* and *2015 FNPRM*, respectively); see also 47 CFR §§ 0.241(j), 0.331(f).

³ See *Wireless Telecommunications Bureau and Office of Engineering and Technology Establish Procedure and Deadline for Filing Spectrum Access System (SAS) Administrators(s) and Environmental Sensing Capability (ESC) Operator(s) Applications*, GN Docket No. 15-319, Public Notice, 30 FCC Rcd 14170, 14174-77 (WTB/OET 2015) (*First Wave Proposal Public Notice*).

⁴ See *2015 Report and Order*, 30 FCC Rcd at 4054-55, para. 320 (listing SAS core functions); see also *First Wave Proposal Public Notice*, 30 FCC Rcd 14170; *Wireless Telecommunications Bureau and Office of Engineering and*

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The second stage involves SAS testing both in a controlled lab environment and in a real-world setting.⁵ On December 21, 2016, WTB/OET conditionally approved the first wave of SAS Administrators, thus concluding the first stage of the review process.⁶

3. As part of the second stage testing process, Amdocs, CommScope, Federated, Google, and Sony elected to collaborate with the Institute for Telecommunication Sciences (ITS), NTIA's research and development arm, to complete the laboratory testing requirement.⁷ ITS completed its laboratory testing on May 3, 2019, and it subsequently provided the respective SAS Administrators with SAS laboratory test reports, which Amdocs, CommScope, Federated, Google, and Sony submitted for the Commission's review in July 2019.⁸

4. In order to comply with the field-testing requirement, each SAS Administrator also timely filed an ICD proposal with the Commission, which described its proposed short-term, limited geographic commercial deployment, and each later supplemented its proposal.⁹ On September 16, 2019, WTB/OET found that each SAS Administrator had satisfied the Commission's SAS laboratory testing requirements, and they approved each SAS Administrator to begin ICD as described in their ICD proposals.¹⁰ In accordance with the *ICD Approvals PN*, each SAS Administrator notified the Commission of commencement of its ICD.¹¹ After the requisite 30-day ICD period and consistent with the *ICD Proposals Public Notice*, each SAS Administrator filed its ICD report with the Commission in GN Docket 15-319, and each requested confidential treatment.¹² WTB/OET, in coordination with NTIA and DoD, reviewed the ICD reports in detail.

III. DISCUSSION

5. Based on our review of the information contained in each SAS Administrator's ICD report in addition to all previously filed information in this proceeding, we certify that the SASs of

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Technology Conditionally Approve Seven Spectrum Access System Administrators for the 3.5 GHz Band, Public Notice, 31 FCC Rcd 13355 (WTB/OET 2016) (*SAS Conditional Approval Public Notice*).

⁵ See *2015 Report and Order*, 30 FCC Rcd at 4067, para. 372 (noting that the final compliance testing phase can include a public testing period, testing of protections for incumbent systems, and field trials). On July 27, 2018, WTB/OET released a Public Notice that described the procedure and deadline for filing ICD proposals. See *Wireless Telecommunications Bureau and Office of Engineering and Technology Establish Procedure and Deadline for Filing Spectrum Access System Initial Commercial Deployment Proposals*, Public Notice, 33 FCC Rcd 7390 (WTB/OET 2018) (*ICD Proposals Public Notice*). ICD is meant to fulfill the Commission's requirement that applicants conduct a public testing period and field trials prior to final certification. *2015 Report and Order*, 30 FCC Rcd at 4067, para. 372.

⁶ *SAS Conditional Approval Public Notice*, 31 FCC Rcd 13355 (conditionally approving the following seven SAS Administrators: Amdocs, Inc.; CommScope; CTIA; Federated; Google; iPosi; Key Bridge; and Sony). CTIA later withdrew its proposal. See Letter from Paul Anuskiewicz et al., Vice President, Spectrum Planning, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 20, 2017).

⁷ While lab testing of individual SASs is required before final certification, participation in either the process of verifying and validating the test harness or the subsequent lab testing of an individual SAS with ITS is optional and is not a prerequisite to submitting an ICD proposal or to obtaining final certification. *ICD Proposals Public Notice*, 33 FCC Rcd at 7392, para. 4.

⁸ See *ICD Proposals Public Notice*, 33 FCC Rcd at 7390, para. 1. Conditionally approved SAS Administrators were permitted to file their laboratory testing reports in GN Docket No. 15-319. *ICD Proposals Public Notice*, 33 FCC Rcd at 7392, para. 5. Each SAS Administrator chose to file their laboratory testing report with the Commission and each requested confidential treatment. See Letter from Robert A. Silverman, Counsel for Amdocs, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed July 24, 2019); Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed July 22, 2019); Letter from Jennifer M. McCarthy, Vice President, Legal Advocacy, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed July 19, 2019); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed July 19, 2019); Letter from

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CommScope, Federated, Google, and Sony comply with our rules, and we approve each SAS for commercial operation subject to ongoing compliance with the Commission's rules, including the specific compliance obligations set forth below. Specifically, these SASs may operate on a commercial basis subject to the following compliance obligations, which remain consistent with those described in the *SAS Conditional Approval Public Notice* and our rules:¹³

- Each SAS operator must comply with all current and future Commission rules and policies, as well as all instructions issued by WTB, OET, or the Enforcement Bureau (EB), including any processes for interference reporting, consistent with Sections 0.241(j) and 0.331(f) of the Commission's rules¹⁴ and procedures applicable to SASs on an ongoing basis.¹⁵ Each SAS operator must also comply with requests for additional information from the Commission, WTB, OET or EB.
- As commercial deployments expand, each SAS must demonstrate continued compliance with all current and future Commission rules and policies, which may include working with commercial and non-commercial users to demonstrate compliance with protection criteria. For example, an SAS may be required to demonstrate proper interoperation with its associated ESC to demonstrate effective protection of federal incumbents from actual commercial deployments.
- Each SAS must protect current and future federal incumbent operations in and near the 3.5 GHz band, as set forth in the Commission's rules.¹⁶ Each SAS operator must be attentive to changes in protection criteria, such as those NTIA recently identified for Category B CBRS base stations, and to modifications to the list of sites identified by NTIA.¹⁷ Each SAS also must be able to receive and address reports of interference from federal Incumbent Access tier users. In addition, each SAS must work with the FCC, NTIA, and DoD to address expeditiously interference issues and to implement any new reporting processes as they are developed.¹⁸

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James Morgan, Director and Counsel, Sony Electronics, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed July 24, 2019).

⁹ *ICD Proposals Public Notice*, 33 FCC Rcd at 7390, para. 1. ICD proposals and any supplements were filed in GN Docket No. 15-319 consistent with the Commission's instructions. *ICD Proposals Public Notice*, 33 FCC Rcd at 7394-95, para. 11. Each SAS Administrator requested confidential treatment for their ICD filings. See Letter from Letter from Caressa D. Bennet, Counsel for Amdocs, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sep. 10, 2018) (ICD proposal); Letter from Letter from Robert Silverman, Counsel for Amdocs, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed September 12, 2019) (Supplement); Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sept. 10, 2018) (ICD proposal); Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Aug. 28, 2019) (Supplement); Letter from Kurt Schaubach, Chief Technology Officer, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sept. 10, 2018) (ICD proposal); Letter from Jennifer M. McCarthy, Vice President, Legal Advocacy, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Mar. 29, 2019) (Supplement); Google LLC Proposal, GN Docket No. 15-319 (filed Sept. 10, 2018) (ICD proposal); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed June 4, 2019) (First Supplement); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed July 24, 2019) (Second Supplement); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Aug. 23, 2019) (Third Supplement); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sept. 10, 2019) (Fourth Supplement); Sony Corporation Proposal, GN Docket No. 15-319 (filed Sept. 10, 2018); Sony Corporation Amendment, GN Docket No. 15-319 (filed Apr. 12, 2019); Sony Corporation Second Amendment, GN Docket No. 15-319 (filed June 13, 2019); Sony Corporation Proposal, GN Docket No. 15-319 (filed Sept. 10, 2018); Sony Corporation Amendment, GN Docket No. 15-319 (filed Apr. 12, 2019); Sony Corporation Second Amendment, GN Docket No. 15-319 (filed June 13, 2019).

- Each SAS that chooses to support PAL leasing must submit a supplemental filing in GN Docket No. 15-319 and demonstrate the functionality of its leasing system before offering PAL leasing services.¹⁹
- Each SAS is certified to operate in the continental United States, Alaska, Hawaii, Puerto Rico, and Guam. If a SAS operator intends to operate in additional U.S. Territories and Possessions, it must submit a filing in GN Docket No. 15-319 detailing the additional territories that it plans to cover. These supplemental filings must include all information necessary for WTB/OET to make a determination regarding the SAS's ability to provide service to each territory, including terrain maps and associated ESC sensor coverage information (where applicable).
- If a SAS operator plans to make substantive changes to its system, for example, to comply with new releases of industry standards, the SAS operator must supplement or amend its filings in GN Docket No. 15-319 to reflect these changes.²⁰ Before WTB/OET approves the use of new or modified SAS features, the SAS operator must demonstrate that the modified SAS will continue to comply with the Commission's rules, and it may be required to submit its systems for additional testing. Upon request, the SAS operator must provide external testing interfaces to enable WTB/OET, in collaboration with NTIA and DoD, to verify that the proposed modifications comply with the relevant rules as specified by the Commission.

6. The above conditions will ensure that each approved SAS will continue to comply with the Commission's rules. A SAS Administrator's certification may be revoked at any time if the SAS Administrator fails to comply with the Commission's rules and guidance on an ongoing basis.

7. We also take this opportunity to remind Grandfathered Wireless Broadband Licensees (as defined in sections 96.3 and 96.21 of our rules)²¹ that the transition period for grandfathered operations will end on April 17, 2020 or at the end of their license term, whichever is later (with one exception that

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¹⁰ *Wireless Telecommunications Bureau and Office of Engineering and Technology Announce Five Spectrum Access System Administrators to Begin Initial Commercial Deployments in the 3.5 GHz Band*, GN Docket 15-319, Public Notice, 34 FCC Rcd 8106 (2019 WTB/OET) (*ICD Approvals PN*).

¹¹ CommScope Notification for CBRS Initial Commercial Deployment, GN Docket 15-319 (filed Sept. 17, 2019) (notifying Commission of ICD commencement date of September 18, 2019); Letter from Jennifer M. McCarthy, Vice President, Legal Advocacy, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sept. 16, 2019) (notifying Commission of ICD commencement date of September 18, 2019); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sept. 16, 2019) (notifying Commission of ICD commencement date of September 16, 2019); Letter from James Morgan, Director and Counsel, Sony Electronics, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sept. 19, 2019) (notifying Commission of ICD commencement date of September 23, 2019).

As permitted in the *ICD Approvals PN*, 34 FCC Rcd at 8111, para. 10, CommScope, Federated, and Google each filed multiple notifications to expand their ICDs. See Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 5, 2019); Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 8, 2019); Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 25, 2019); Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Dec. 5, 2019); Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Jan. 22, 2020); Letter from Jennifer M. McCarthy, Vice President, Legal Advocacy, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 4, 2019); Letter from Jennifer M. McCarthy, Vice President, Legal Advocacy, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 12, 2019); Letter from Jennifer M. McCarthy, Vice President, Legal Advocacy, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 25, 2019); Letter from Jennifer M. McCarthy, Vice President, Legal Advocacy, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Jan. 17, 2019); Letter from Megan Anne Stull,

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the transition period for licenses issued after January 8, 2013 will end on April 17, 2020).²² At the end of its transition period, each Grandfathered Wireless Broadband Licensee must be in compliance with all applicable Part 96 rules.²³

8. In addition, we recognize that there are other wireless operations in the 3650-3700 MHz band that do not have protected incumbent status under our rules, (e.g., licensees that did not register for incumbent protection²⁴ or Grandfathered Wireless Broadband Licensees that expanded beyond their Grandfathered Wireless Protection Zone).²⁵ We remind licensees that such operations are not entitled to

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Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 4, 2019); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 18, 2019); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Dec. 20, 2019);); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Jan. 2, 2020); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Jan. 8, 2020); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Jan. 14, 2020); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Jan. 21, 2020).

¹² Letter from H. Mark Gibson, Director, Regulatory Policy, CommScope, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 4, 2019) (noting an ICD period from September 18 to October 31, 2019); Letter from Jennifer M. McCarthy, Vice President, Legal Advocacy, Federated Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Oct. 29, 2019) (noting an ICD period from September 18 to October 21, 2019); Letter from Megan Anne Stull, Counsel, Google LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sept. 16, 2019) (noting an ICD period from September 16 to October 31, 2019); Letter from James Morgan, Director and Counsel, Sony Electronics, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 30, 2019) (noting an ICD period from October 21 to November 20, 2019).

¹³ See *SAS Conditional Approval Public Notice*, 31 FCC Rcd at 13356-58, para. 7.

¹⁴ See 47 CFR §§ 0.241(j), 0.1331(f) (delegating authority to WTB/OET to oversee the SAS approval process and facilitate the testing and development of multiple SAS operators).

¹⁵ See, e.g., 47 CFR §§ 96.53-96.65.

¹⁶ See 47 CFR § 96.15.

¹⁷ See Letter from Charles Cooper, Assoc. Admin., Office of Spectrum Mgt., NTIA, to Ronald T. Repasi, Chief (Acting) OET, and Donald Stockdale, Jr., Chief, WTB, FCC (Jan. 22, 2020), available at <https://www.ntia.doc.gov/fcc-filing/2015/ntia-letter-fcc-commercial-operations-3550-3650-mhz-band>; <https://www.fcc.gov/ecfs/filing/101220466714222>.

¹⁸ See, e.g., 47 CFR §§ 96.53, 96.55.

¹⁹ See 47 CFR § 96.66.

²⁰ For example, to the extent that the SAS operator later incorporates any future WinnForum standards or any revisions to existing WinnForum standards into its system, such standards and revisions must also be consistent with Commission rules.

²¹ 47 CFR §§ 96.3, 96.21.

²² See 47 CFR §§ 90.1307, 90.1338, 96.21.

²³ See *2015 Report and Order*, 30 FCC Rcd at 4079, para. 409; 47 CFR § 96.21.

²⁴ See 47 CFR § 96.21(a)(2) (requiring, among other things, that Grandfathered Wireless Broadband Licensees must register base or fixed stations in ULS on or before April 17, 2015 in order to be entitled to interference protection).

²⁵ See, e.g., *2015 Report and Order*, 30 FCC Rcd at 4079, para. 409 (noting that Grandfathered Wireless Broadband Licensees may register sites outside of their Grandfathered Wireless Protection Zones, but that these sites will not be entitled to any interference protection from Citizens Broadband Radios Service users).

interference protection from Citizens Broadband Radio Service operations. We encourage these licensees to contact the SAS Administrators to discuss options for integrating their operations into the Citizens Broadband Radio Service.

By the Chief, Wireless Telecommunications Bureau, and the Acting Chief, Office of Engineering and Technology.

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