



# PUBLIC NOTICE

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## WIRELESS TELECOMMUNICATIONS BUREAU AND OFFICE OF ENGINEERING AND TECHNOLOGY APPROVE SPECTRUM ACCESS SYSTEM ADMINISTRATOR KEY BRIDGE WIRELESS FOR FULL SCALE COMMERCIAL DEPLOYMENT IN THE 3.5 GHZ BAND

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 Key Bridge Wireless LLC (Key Bridge) as a Spectrum Access System (SAS) Administrator in the 3.55-3.7 GHz band (3.5 GHz band). WTB/OET, in consultation with the Department of Defense (DoD) and the National Telecommunications and Information Administration (NTIA), have reviewed Key Bridge's Initial Commercial Deployment (ICD) report, and each has attested that Key Bridge has met the requirements in Part 96 of the Commission's rules and is authorized to make its SAS available for commercial use for a five-year term.<sup>1</sup>

### 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 SAS Administrators in the 3.5 GHz band.<sup>2</sup> The *2015 Report and Order* required all prospective SAS Administrators to complete a two-stage review process prior to final certification.<sup>3</sup> 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 will perform all core functions described in the *2015 Report and Order*.<sup>4</sup> The second stage involves SAS testing both in a controlled lab environment and in a

<sup>1</sup> See 47 C.F.R. 96.63(e).

<sup>2</sup> 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).

<sup>3</sup> See *Wireless Telecommunications Bureau and Office of Engineering and Technology Establish Procedure and Deadline for Filing Spectrum Access System (SAS) Administrator(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*).

<sup>4</sup> 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 Technology Conditionally Approve Seven Spectrum Access System Administrators for the 3.5 GHz Band*, GN Docket No. 15-319, Public Notice, 31 FCC Rcd 13355 (WTB/OET 2016) (*SAS Conditional Approval Public Notice*).

real-world setting.<sup>5</sup> On December 21, 2016, WTB/OET conditionally approved the first wave of SAS Administrators, thus concluding the first stage of the review process.<sup>6</sup>

3. As part of the second stage testing process, Key Bridge and other conditionally approved SAS Administrators elected to collaborate with the Institute for Telecommunication Sciences (ITS), NTIA's research and development arm, to complete the laboratory testing requirement.<sup>7</sup> ITS completed its laboratory testing of Key Bridge's SAS on May 15, 2020. ITS subsequently provided Key Bridge with a SAS laboratory test report, which Key Bridge submitted for the Commission's review in June 2020.<sup>8</sup>

4. In order to comply with the field-testing requirement, Key Bridge filed an ICD proposal with the Commission, which described its proposed short-term, limited geographic commercial deployment, and later supplemented its proposal.<sup>9</sup> On July 31, 2020, WTB/OET found that Key Bridge had satisfied the Commission's SAS laboratory testing requirements, and they approved Key Bridge to begin ICD as described in their ICD proposals.<sup>10</sup> In accordance with the *Key Bridge ICD Approval PN*, Key Bridge notified the Commission of commencement of its ICD.<sup>11</sup> After the requisite 30-day ICD period and consistent with the *ICD Proposals Public Notice*, Key Bridge filed its ICD report with the

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<sup>5</sup> 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 Initial Commercial Deployment (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*). The ICD requirement 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.

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

<sup>7</sup> 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.

<sup>8</sup> 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. Key Bridge chose to file its laboratory testing report with the Commission and requested confidential treatment. See Letter from Timothy L. Bransford, Counsel for Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed June 24, 2020).

<sup>9</sup> *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. Key Bridge requested confidential treatment for its ICD filings. See Letter from Jesse Caulfield, CEO of Key Bridge Wireless LLC., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Sept. 10, 2018) (ICD proposal); Letter from Tim Bransford, Counsel for Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Feb. 28, 2020) (Supplement).

<sup>10</sup> *Wireless Telecommunications Bureau and Office of Engineering and Technology Approve Spectrum Access System Administrator Key Bridge to Begin Initial Commercial Deployments in the 3.5 GHz Band*, GN Docket 15-319, Public Notice, 35 FCC Rcd 8123 (2020 WTB/OET) (*Key Bridge ICD Approval PN*).

<sup>11</sup> Letter from Jesse Caulfield, CEO of Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Aug. 13, 2020) (notifying Commission of ICD commencement date of September 1, 2020). As permitted in the *Key Bridge ICD Approval PN*, 35 FCC Rcd at 8127, para. 10, Key Bridge filed a notification to expand its ICD. See also Letter from Jesse Caulfield, CEO of Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Oct. 23, 2020) (notifying Commission of ICD expansion).

Commission in GN Docket 15-319 and requested confidential treatment.<sup>12</sup> WTB/OET, in coordination with NTIA and DoD, reviewed the ICD report in detail.

### III. DISCUSSION

5. Based on our review of the information contained in Key Bridge's ICD report, in addition to all relevant additional information filed by Key Bridge in this proceeding,<sup>13</sup> we certify that Key Bridge's SAS complies with the Commission's rules, and we approve Key Bridge for commercial operation subject to ongoing compliance with the Commission's rules, including the compliance obligations set forth below. Specifically, Key Bridge may operate as a SAS Administrator on a commercial basis subject to the following compliance obligations, which are consistent with those described in the *SAS Conditional Approval Public Notice*, our rules, and the conditions required of other SAS Administrators approved for full scale commercial deployment:<sup>14</sup>

- Key Bridge 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 rules and procedures<sup>15</sup> applicable to SASs on an ongoing basis.<sup>16</sup> Key Bridge must also comply with requests for additional information from the Commission, WTB, OET or EB.
- As commercial deployments expand, Key Bridge 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, Key Bridge may be required to demonstrate proper interoperation with its associated ESC to demonstrate effective protection of federal incumbents from actual commercial deployments.
- Key Bridge must protect current and future federal incumbent operations in and near the 3.5 GHz band, as set forth in the Commission's rules.<sup>17</sup> Key Bridge must be attentive to changes

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<sup>12</sup> Letter from Timothy Bransford, Counsel for Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Oct. 2, 2020).

<sup>13</sup> See e.g. Letter from Timothy Bransford, Counsel for Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Oct. 26, 2020) (filing ICD report); Letter from Jesse Caulfield, CEO of Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 16, 2020) (supplementing Key Bridge's ICD Report); Letter from Jesse Caulfield, CEO of Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Nov. 17, 2020) (supplementing Key Bridge's ICD Report).

<sup>14</sup> See *SAS Conditional Approval Public Notice*, 31 FCC Rcd at 13356-58, para. 7; *Wireless Telecommunications Bureau and Office of Engineering and Technology Approve Four Spectrum Access 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, Public Notice, 35 FCC Rcd 117, 118-20, para. 5 (WTB/OET 2020); *Wireless Telecommunications Bureau and Office of Engineering and Technology Approve Spectrum Amdocs for Full Scale Commercial Deployment in the 3.5 GHz Band*, GN Docket No. 15-319, Public Notice, 35 FCC Rcd 3687, 3689, para. 5 (WTB/OET 2020).

<sup>15</sup> 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).

<sup>16</sup> See, e.g., 47 CFR §§ 96.53-96.65.

<sup>17</sup> See 47 CFR § 96.15. Key Bridge initially filed a letter notifying the Commission of their intent to operate a proprietary dynamic protection area (DPA) calendar portal to schedule spectrum use in the 3500-3650 MHz range at DoD sites but later filed a letter committing to use the same Google calendar based DPA portal registration solution used by the other Wave-1 SAS administrators. See Letter from Jesse Caulfield, CEO of Key Bridge Wireless LLC, (continued....)

in protection criteria, such as those NTIA identified in January 2020 for Category B base stations, and to modifications to the list of sites identified by NTIA.<sup>18</sup> Key Bridge must be able to receive and address reports of interference from federal Incumbent Access tier users. In addition, Key Bridge must work with the FCC, NTIA, and DoD to address interference issues expeditiously and to implement any new reporting processes as they are developed.<sup>19</sup>

- If Key Bridge chooses to support PAL leasing, it must submit a supplemental filing in GN Docket No. 15-319 and demonstrate the functionality of its leasing system before offering PAL leasing services.<sup>20</sup>
- Key Bridge is certified to operate in the contiguous United States, Alaska, Hawaii, Puerto Rico, and Guam. If Key Bridge 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 Key Bridge's ability to provide service to each territory, including terrain maps and associated ESC sensor coverage information (where applicable).
- If Key Bridge plans to make substantive changes to its system, for example, to comply with new releases of industry standards, Key Bridge must supplement or amend its filings in GN Docket No. 15-319 to reflect these changes.<sup>21</sup> Before WTB/OET approves the use of new or modified SAS features, Key Bridge 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, Key Bridge 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 Key Bridge will continue to comply with the Commission's rules. Key Bridge's certification may be revoked at any time if Key Bridge fails to comply with the Commission's rules and guidance on an ongoing basis.

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

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to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Oct. 30, 2020); Letter from Jesse Caulfield, CEO of Key Bridge Wireless LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 15-319 (filed Jan. 15, 2021).

<sup>18</sup> 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>.

<sup>19</sup> See, e.g., 47 CFR §§ 96.53, 96.55.

<sup>20</sup> See 47 CFR § 96.66.

<sup>21</sup> For example, to the extent that Key Bridge 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.