

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of )  
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Amendment of the Commission’s Rules with ) GN Docket No. 12-354  
Regard to Commercial Operations in the 3550- )  
3650 MHz Band )  
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**COMMENTS OF AT&T**

AT&T Services Inc., on behalf of the subsidiaries and affiliates of AT&T Inc. (collectively “AT&T”) hereby submits the following comments in response to the Commission’s Second Further Notice of Proposed Rulemaking (“*Second FNPRM*”) in the above-captioned proceeding.<sup>1</sup> In the *Second FNPRM*, the Commission seeks comment on a “few focused issues” in establishing the Citizens Broadband Radio Service (“CBRS”).<sup>2</sup> AT&T believes the CBRS, which principally contemplates the deployment of small cell technologies in the 3.5 GHz band, has the potential to play an important role in addressing the ever-increasing demand for mobile services. Accordingly, AT&T’s comments are directed at actions the Commission can and should take to promote an effective CBRS environment. *First*, the Commission should define “use” of Priority Access licenses (“PALs”) in a manner that ensures interference prevention and simplifies administration of the Commission’s “use-it-or-share-it” rule. *Second*, the Commission should adopt secondary market policies that provide maximum flexibility to PALs and do not stifle a nascent market for spectrum access in this band. *Third*, and finally, the Commission

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<sup>1</sup> *Amendment of the Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959 (Apr. 21, 2015) (“*Second FNPRM*”).

<sup>2</sup> *Second FNPRM* at ¶ 418.

should minimize its involvement in the development of coexistence mechanisms in the 3.5 GHz band, and instead permit industry multi-stakeholder groups to formulate best practices and standards for this band.

**I. THE COMMISSION’S DEFINITION OF “USE” OF PAL FREQUENCIES SHOULD PRIORITIZE SIMPLICITY, CERTAINTY, AND INTERFERENCE PREVENTION.**

As the Commission notes in the *Second FNPRM*, PAL frequency “use” must be carefully defined in connection with the Commission’s “use-it-or-share-it” rule. Under the regime adopted by the Commission, the Spectrum Access System (“SAS”) will automatically make 3.5 GHz spectrum available for lower-priority general authorized access (“GAA”) use in areas where the spectrum has not been licensed or it has been licensed but it is not “in use.”<sup>3</sup> The Commission has proposed a variety of approaches to defining “use” in this context. As explained further below, AT&T believes the Commission should adopt a rule that, once the PAL begins to offer service in a Census Tract, their licensed spectrum is deemed to be “in use” in that Census Tract and the SAS should therefore preclude GAA use in that Census Tract for the licensed frequencies. This approach best balances the needs of GAA and PAL users, and will promote efficient, interference-free operation in the 3.5 GHz band.

The Commission has proposed three ways to define “use” in the context of its “use-it-or-share-it-rule” – an engineering definition, an economic definition, and a hybrid definition.<sup>4</sup> The engineering definition generally involves the SAS’ use of Priority Access devices’ locations and technical characters to establish a boundary within which no GAA use is permitted.<sup>5</sup> The

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<sup>3</sup> *Id.* at ¶ 419.

<sup>4</sup> *Id.* at ¶¶ 420-430.

<sup>5</sup> *Id.* at ¶ 420.

economic definition of “use,” meanwhile, is premised on the notion that PAL licensee would acquire the right to exclude GAA users and would obtain this right upon payment of a certain percentage of the license price.<sup>6</sup> The Commission also suggests the possibility of a hybrid definition that would combine the engineering and economic approaches.<sup>7</sup> As the Commission notes, all three approaches have several associated challenges, which include implementation difficulties, enforceability, and potential for abuse.<sup>8</sup>

AT&T believes that the Commission will best achieve its objectives by adopting a bright line rule providing that, once a PAL begins to offer service in a Census Tract, the SAS will block GAA use in that Census Tract for the licensed frequencies.<sup>9</sup> AT&T’s proposed rule ensures that potentially interfering GAA devices do not operate in close proximity to active PAL services. By using defined geographic areas to determine “use,” this approach will be easy to implement and enforce. As an added benefit, tying the “use-it-or-share-it” requirement to actual use by PAL licensees on a Census Tract basis will encourage PAL licensees to build and exploit the licenses they have purchased. Thus, the Commission will achieve multiple public interest objectives through adoption of this requirement.

## **II. AT&T SUPPORTS FLEXIBLE SECONDARY MARKET POLICIES FOR PAL SPECTRUM.**

By encouraging a robust secondary market in the 3.5 GHz band, the Commission will promote the public interest by ensuring that spectrum is put to its most efficient use.

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<sup>6</sup> *Id.* at ¶ 425.

<sup>7</sup> *Id.* at ¶ 430.

<sup>8</sup> *Second FNPRM* at ¶¶ 420-429.

<sup>9</sup> AT&T would also support an emerging industry proposal allowing licensees to self-define service areas for purposes of the “in use” requirement, provided that these areas are defined solely by the licensee and can include up to the whole licensed Census Tract.

Specifically, the Commission should permit partitioning and disaggregation of PAL licenses, as this will enable licensees to most effectively meet their and others' spectrum needs. Second, AT&T supports the development of spectrum exchanges that will facilitate a robust secondary market for PAL rights. Finally, AT&T believes that the Commission should not stifle secondary markets by adopting premature and unnecessary spectrum attribution and aggregation rules for this band. Instead, the Commission should support the development of a secondary market characterized by low-cost, minimally burdensome transactions.

To best promote efficient spectrum use, the Commission should grant PAL licensees the flexibility to sell or lease their spectrum rights on the secondary market, including via partitioning and/or disaggregation. AT&T supports the Commission's view that "application of our secondary market rules will increase liquidity of the spectrum as well as reduce costs and increase flexibility of use."<sup>10</sup> However, AT&T believes that the Commission can and should best achieve these goals through permitting the voluntary partitioning and disaggregation of licenses. While the Commission states its belief that "our initial view is to prohibit . . . further segmentation of PALs given their relatively small size (Census Tracts) and limited duration (three years)," AT&T notes that there are numerous scenarios in which permitting such partitioning would yield public interest benefits justifying any potential regulatory complexities. In fact, the use of smaller license areas raises the potential for facilities that a licensee might desire to serve incrementally to be split among multiple license regions; a process for allowing rationalization of license boundaries, therefore, would be in the public interest. In addition, a PAL may wish to make its spectrum available to an area comprising a very discrete portion of the license area—say a hospital or a university – requiring the partitioning of a license. Indeed,

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<sup>10</sup> *Second FNPRM* at ¶ 434.

in other bands there have been numerous spectrum leases covering extremely small areas that have yielded considerable benefits. Specifically, wireless carriers are leasing their spectrum to correctional facilities so that they may employ managed access systems that detect contraband cell phones.<sup>11</sup> Because there are cognizable benefits to license partitioning and disaggregation – even in very small areas – and because such arrangements can be readily administered (and have been administered in other bands), there is no reason for the Commission to prohibit them.

AT&T also believes that voluntary spectrum exchanges could “facilitate a vibrant and deep market for PAL rights.”<sup>12</sup> In particular, a well-designed spectrum exchange could provide universal, current information regarding 3.5 GHz spectrum usage and opportunities for spectrum access via the secondary market. This, in turn, will facilitate spectral efficiency and will help ensure that spectrum flows to its highest and best use. Such processes would work best, moreover, if the FCC can find a way to reduce transaction costs between lessors and lessees and create a mechanism for regulatory approvals of such transactions that is very rapid (or even instant). Functionally, there is no reason why the SAS and a spectrum exchange need be the same entity, and AT&T submits that SAS and exchange functions should be capable of disaggregation from each other.<sup>13</sup> To that end, the Commission should not adopt any rule requiring that the same entity serve as both the SAS and a spectrum exchange for secondary market transactions or create any artificial barriers to competitive exchanges.

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<sup>11</sup> See, e.g., Reply Comments of AT&T, GN Docket No. 13-111, at 2 (Aug. 23, 2013). See also, e.g., FCC Lease ID L000007704 (lease of AT&T Broadband PCS call sign KNLF256 to Tecore Government Services covering an area wholly located within the Mississippi State Penitentiary at Parchman, Mississippi).

<sup>12</sup> *Second FNPRM* at ¶ 433.

<sup>13</sup> Parties in this proceeding have suggested that the SAS could act as a spectrum exchange to facilitate secondary market transactions. *Id.* at ¶ 433. As explained herein, AT&T believes these functions should be capable of separation.

The Commission also seeks comment on the application of its spectrum aggregation limits and spectrum attribution standards to the 3.5 GHz band.<sup>14</sup> AT&T believes that the imposition of these rules on the 3.5 GHz band is premature and, most likely, unnecessary. With respect to spectrum aggregation there is no basis to judge what, if any, aggregation limits should apply to PAL licenses. The 3.5 GHz spectrum ecosystem is nascent, and no competitive issues have arisen that would suggest a need for regulation in this area. For similar reasons, the attribution standard applied in the existing rules to transactions involving wireless licenses should not apply to PALs. The Commission can best promote the growth of 3.5 GHz band services by maintaining flexible policies, including a robust secondary market. As there is no need for spectrum aggregation limits at this time and such rules have the potential to stifle the development of the 3.5 GHz ecosystem, AT&T opposes their application to the 3.5 GHz band.

### **III. THE COMMISSION CAN BEST OPTIMIZE PROTECTION OF FIXED SATELLITE SERVICE BY ENCOURAGING INDUSTRY COLLABORATION AND STANDARDS-SETTING EFFORTS.**

In the *Second FNPRM*, the Commission makes a variety of technical proposals regarding in-band and out-of-band protection of fixed satellite service (“FSS”) earth stations.<sup>15</sup> Industry stakeholder groups are currently hard at work formulating best practices and standardization for this band, with an eye toward ensuring protection of FSS incumbents. As both a licensee of grandfathered earth station facilities and a potential licensee of the 3.5 GHz band, AT&T supports these efforts and asks the Commission to leave it to the industry to formulate best practices and standardization for this band. AT&T does, however, agree with the Commission that each SAS administrator should use an agreed-upon set of propagation modeling models to

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<sup>14</sup> *Id.* at ¶ 435.

<sup>15</sup> *Id.* at ¶¶ 436-445.

ensure consistency across the 3.5 GHz ecosystem with respect to interference prevention. This will also promote spectral efficiency and effective coexistence among CBRS device users.

AT&T believes that the Commission should support the efforts of industry groups that are working to develop standards and best practices for coexistence in the 3.5 GHz band. As the Commission itself notes, “a multi-stakeholder group focused on the complex technical issues raised by this proceeding could provide [the Commission] with a wealth of valuable insight and useful information.”<sup>16</sup> Such efforts are well underway. AT&T supports the work of industry stakeholder groups and urges the Commission to continue relying upon such bodies to provide technical recommendations, as it has done successfully in the past.

One of the coexistence issues highlighted by the Commission in the *Second FNPRM* is the selection of appropriate propagation models for SAS-based protection of FSS incumbents.<sup>17</sup> On this issue, AT&T agrees with the Commission’s proposal that “all SAS Administrators use an agreed upon set of propagation modeling methods, using models that can be tuned with measurements.”<sup>18</sup> By using uniform models and methods, each SAS will produce the same set of results for interference prediction and will therefore enforce the same minimum separation distances to protect incumbents. The provision of a uniform set of propagation models will also simplify SAS administration by reducing the frequency with which SAS need to communicate with each other. This will also prevent discriminatory and unfair sharing of spectrum among users served by different SAS. Each SAS should include a collection of propagation models suitable for the diverse environments and deployment scenarios that will be present in the 3.5

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<sup>16</sup> *Id.* at ¶ 416.

<sup>17</sup> *Second FNPRM* at ¶ 438.

<sup>18</sup> *Id.*

GHz band. These propagation models should be vetted and validated by an expert international body, and should be used for protection of both FSS incumbents and PAL licenses. By tailoring propagation models to specific environments, the SAS will be able to increase spectrum sharing while providing improved protection and reducing the number of interference complaints.

AT&T also strongly urges the Commission to ensure that an appropriate and effective mechanism for elimination of actual interference to FSS facilities exists and can be invoked rapidly by FSS licensees. As the Commission is well aware, there are instances where operation fully consistent with the rules may nonetheless result in the creation of harmful interference to other licensed users. In the event that a PAL or GAA user is causing interference to a grandfathered FSS facility, even if the user is operating in full conformance with the 3.5 GHz rules, the FSS licensee can and should have the ability to interact with the SAS to determine the source of—and impose operating restrictions to eliminate—the harmful interference.<sup>19</sup>

#### **IV. CONCLUSION**

While the Commission’s adoption of rules for the CBRS is a significant achievement, as the Commission notes there are additional matters requiring resolution before services can be deployed in this spectrum. AT&T supports a “use-it-or-share-it” regime that is simple to administer, adequately protects PAL rights, and provides incentive for PALs to make full use of their spectrum. AT&T also supports flexible, light-touch secondary market rules that promote

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<sup>19</sup> Such action is consistent with the Commission’s decision to have the SAS ensure operation at non-interfering power levels, and to permit FSS earth stations to communicate with the FSS to provide updated technical parameters. *Second FNPRM* at ¶¶ 289-290. This is also consistent with the Commission’s determination in other proceedings to establish a “stop buzzer” mechanism for immediate cessation of interfering operations. *Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission’s Rules*, Report and Order, 28 FCC Rcd 00758, ¶ 72 (2013) (“First, we note that commenters ask that we explicitly collect contact information for a ‘stop buzzer’ point of contact who can immediately shut down an experiment if harmful interference occurs to services entitled under our rules to protection. We agree.”).

the efficient use of spectrum. Finally, AT&T asks the Commission to permit stakeholder groups to continue their efforts in developing incumbent protection mechanisms, and to ensure the consistent adoption of propagation models that adequately protect in-band and adjacent-band uses.

Respectfully submitted,

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