**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, DC 20554**

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| In the Matter of | ) | |
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| Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band | ) ) ) | GN Docket No. 12-354 |

## COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

CTIA – The Wireless Association® ("CTIA") submits these comments in response to the *Second Further Notice of Proposed Rulemaking* in this proceeding, which seeks to optimize the rules for the new Citizens Broadband Radio Service ("CBRS") in the 3.5 GHz band.[1] As the Commission explores how to allow General Authorized Access ("GAA") users "some degree of opportunistic access to 'unused' Priority Access channels,"[2] it should adhere to its conclusion in the *Report & Order* that "Priority Access Licensees will always have the right to use the full 10 megahertz channel bandwidth within their license areas during their license terms."[3] With this commitment in mind, the Commission should adopt a definition of "use" that leaves no doubt as to the rights of Priority Access Licensees and the obligations of GAA users. In particular, the Commission should:

- Ensure that Priority Access Licensees have the right to gain exclusive access to their licensed spectrum upon notification of their intent to "use" the spectrum, including engaging in pre-deployment testing;

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1 *Amendment of the Commission's 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, ¶ 418 (2015) ("*R&O and Second FNPRM*").

2 *Id*. ¶ 72.

3 *Id*. ¶ 74.

- Administer this clear-cut set of rights by tying the definition of "use" to the Priority Access Licensee's initial transmission on the spectrum; and

- Enable secondary market opportunities for Priority Access License ("PAL") spectrum, leaving to the marketplace decisions regarding assignment, transfer, or lease of PAL spectrum.

Throughout this proceeding, CTIA has demonstrated its firm support for the 3.5 GHz band as an important opportunity for "small cell" deployments that can help address the expanding demand for mobile broadband.[4] To achieve this, the FCC needs to carefully balance policies that will foster investment with the introduction of a novel sharing regime. While the Commission has been clear that "interested applicants may apply for PALs to ensure access to exclusive usage rights,"[5] its definition of "use" should provide certainty with respect to those rights and avoid putting this opportunity at risk. CTIA is eager to work with the Commission to ensure that new rules give the 3.5 GHz band and the CBRS the best opportunity for success.

## I. THE RULES SHOULD ENSURE THAT PRIORITY ACCESS LICENSEES HAVE FULL RIGHTS TO USE THEIR SPECTRUM, BEGINNING WITH INITIAL TRANSMISSIONS, TO DELIVER ON THEIR INVESTMENT.

CBRS, with its three-tiered sharing framework and its reliance on a database-driven, Spectrum Access System ("SAS"), is sufficiently complex that the Commission should set clear-cut rules for a Priority Access Licensee's exercise of its usage rights as a license holder. In contrast to traditional spectrum rights associated with auctioned licenses, the CBRS rules allow third-party GAA users to operate on a Priority Access Licensee's spectrum until the spectrum is in "use" by the Priority Access Licensee.[6] This "share-it-until-you-use-it" framework will

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[4] *See, e.g.*, Letter to Marlene H. Dortch, Secretary, FCC, from Scott K. Bergmann, Vice President, CTIA, GN Docket No. 12-354 (dated Apr. 2, 2015); Comments of CTIA, GN Docket No. 12-354 (filed Feb. 2, 2013).

[5] *R&O and Second FNPRM* ¶ 138.

[6] *Id*. ¶¶ 72-74.

enable GAA operations across an expanded 3.5 GHz band. Once the Priority Access Licensee chooses to put its spectrum to "use," however, the spectrum must immediately be cleared of GAA use. Priority Access Licensees make an investment at auction, and opportunistic access to that spectrum *after* the licensee registers use would infringe on the rights of the Priority Access Licensee to exclusive use and an interference-free environment.

As discussed below, a licensee's "use" must be readily understood by all stakeholders, be easily administrable, and ensure that Priority Access Licensees may gain exclusive access to their licensed spectrum when they give notice that they intend to initiate use of it. The Commission, therefore, should adopt a "use" standard that allows a Priority Access Licensee the full flexibility to determine and declare via notice its intent to initiate transmissions on a particular license. This notification, in turn, must require GAA users to vacate the spectrum associated with that particular PAL.[7]

### A. Once a Priority Access Licensee Provides Notification that It Will Initiate Transmission on its PAL Frequencies, GAA Operations Should Be Excluded.

#### 1. The Unique Nature of the 3.5 GHz CBRS Service Underscores the Importance of Exclusive-Use PALs.

Deployment of 3.5 GHz spectrum offers much promise for small cell deployment – and much complexity as well. Mobile broadband providers have viewed the band as an opportunity to introduce new spectrum capacity into wide-area mobile networks striving to keep up with skyrocketing mobile traffic demand. But doing so involves novel deployment of heterogeneous networks ("HetNets") using the highest frequency band many mobile broadband providers will

[7] Any such notification of use would be for the sole purpose of terminating GAA operations, as a Priority Access Licensee should have the immediate right to operate from issuance of the PAL.

have deployed in their networks, with new small cell size areas, and with more complex deployments. Interference-free testing in localized environments will thus be essential.

A provider that chooses to acquire a PAL, rather than operate as a GAA user, will most likely be doing so "[i]n areas where genuine local scarcity exists," and in such circumstances, the Commission correctly recognized that operators may acquire PALs "to ensure access to exclusive usage rights."[8] Accordingly, the Commission must remain focused on ensuring a stable regulatory environment for PALs in the 3.5 GHz band.

### 2. A Priority Access Licensee's Initial Transmission, Including Pre-Deployment Testing, Should Be Deemed "Use" of the Spectrum.

Effective pre-deployment network testing requires an interference-free environment. This is true both as a general matter and in light of the unique and highly complex spectrum sharing environment contemplated for the 3.5 GHz band. To avoid the potential for interference to PAL operations due to opportunistic use by GAA users, the Commission should adopt a definition of "use" that requires GAA operations to cease on the relevant PAL spectrum when a Priority Access Licensee provides notice that it intends to transmit on its licensed spectrum.

In particular, the Commission can facilitate network deployment in the 3.5 GHz band by defining "use" to mean when a Priority Access Licensee provides notification that it intends to transmit on its PAL spectrum, including for pre-deployment testing. Prior to launching commercial operations, carriers must be able to collect measurement data to calibrate their propagation models and to test network configurations, including in response to impairment from Incumbent Access stations. This testing will need to be channel-specific and thus GAA users must be cleared by this time.

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[8] *R&O and Second FNPRM* ¶ 138.

### B. The Commission Should Refrain from Pursuing Proposals That Would Subject PAL Licensees to Unworkable Uncertainty.

The notification regime described above will provide the Commission, SAS, and stakeholders with a clear-cut rule for defining "use." The *Second FNPRM*, however, proposes several options that would lead to confusion and undermine the Commission's objectives for the 3.5 GHz band and PALs licensing.

*Engineering Definitions.* The Commission correctly concluded that, "PALs should be available for applications that require greater certainty as to interference protection because they would suffer in a congested use environment."[9] By contrast, a definition of use defined by real-time opportunistic access based in engineering concepts undermines the certainty and transparency necessary for providers to participate at auction, invest in PALs, and deploy their networks. In order for parties to invest in PALs, certainty and transparency are crucial. PAL rights should not be subject to operational uncertainty by engineering solutions that will undermine those rights and the benefits that the 3.5 GHz band has to offer.

For example, Federated Wireless has proposed that a SAS use "spectrum sensing data" to determine regions where no PAL device is "actively using the spectrum," and that those regions be made available for GAA use.[10] If sensing data changes "or if a PAL device reports interference," then the SAS would reassign the GAA devices to other frequencies – but only until no PAL spectrum usage is detected (in which case GAA use would again be permitted).[11] This proposal undermines the "exclusive usage rights" that are the hallmark of PALs.[12] First, it

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9 *R&O and Second FNPRM* ¶ 133.

10 *See* Comments of Federated Wireless, Inc., GN Docket No. 12-354, at 20 (filed Jul. 14, 2014).

11 *See id*.

12 *See R&O and Second FNPRM* ¶ 138.

permits third-party operations in PALs that after initial transmission. Second, it condones interference to PAL devices that will not be corrected until *after* "a PAL device reports interference," which is plainly inconsistent with the certainty of protection against interference to which Priority Access Licensees are entitled and for which they will have paid at auction. If GAA devices are permitted to continue to operate in PAL spectrum until after they are detected, Priority Access Licensees may need to over-engineer their systems to guard against interference, which is neither necessary nor appropriate for exclusive-use auctioned licenses.

Similarly, Google has proposed protecting only "Priority Access user protection areas," which would be determined based on a PAL device's location and technical characteristics.[13] Again, an approach like this with real-time opportunistic GAA access to PAL spectrum would permit third-party operations in PALs after initial transmission and would risk interference to PAL devices. PAL holders, however, will purchase rights to use all of the spectrum in their licensed area without impingement, not just in certain protection areas. This approach is therefore rife with uncertainty and is untenable. Instead, by adopting a framework where notice of commencement of operations in any part of a licensed census tract triggers the cessation of GAA operations throughout a census tract – already a small area to begin with – the Commission will ensure an interference-free environment and relieve licensees of burdens and uncertainty that are fundamentally inconsistent with the "exclusive usage" licensed spectrum rights that they will be paying for at auction.

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[13] Letter from Austin C. Schlick, Google, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-354, at 3-4 (filed Jan. 20, 2015); *see also* Comments of Pierre de Vries, GN Docket No. 12-354, at 22 (filed Jul. 14, 2014). WISPA similarly recommends using a device-based approach to determine usage. *See* Comments of the Wireless Internet Service Providers Association, GN Docket No. 12-354, at 17 (filed Jul. 14, 2014) (recommending that "any CBSD that has not received 300 end-user packets within each five-minute interval would be deemed by the SAS to be not 'in use'").

The proposal by Microsoft is equally problematic. Microsoft has recommended that opportunistic GAA use on PAL spectrum be permitted until a Priority Access Licensee requests a channel assignment from a SAS,[14] but as above, this approach would be inconsistent with the exclusive usage rights PAL holders will have paid for at auction and would undermine investment and innovation in the band. Instead, Priority Access Licensees would have to wait to re-acquire their licensed spectrum until after a GAA user is moved off of the PAL channel.[15] Indeed, any such approach would largely eliminate the benefits of paying for a PAL at auction rather than simply awaiting use of a GAA channel.

Also troubling is the speculative assertion that Priority Access Licensees might have the ability to warehouse spectrum.[16] This concern makes little sense on multiple fronts. First, Priority Access Licensees will acquire their licenses at auction, and this investment provides a strong market-based incentive to put the spectrum to use.[17] Second, no entity could successfully restrict access to the 3.5 GHz band given widespread GAA rights to operate in the band. The Commission has dedicated significant 3.5 GHz spectrum for GAA use, and no single entity can hold more than four PAL licenses in any census tract. And finally, limited license terms discourage warehousing. PALs are only issued for three-year, nonrenewable terms, in small census tract license areas, and so the FCC will periodically open application windows for new

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[14] *See, e.g.*, Comments of Microsoft Corp., GN Docket No. 12-354, at 5 (filed Jul. 14, 2014).

[15] Microsoft appears to recognize as much, noting that the process "*should* happen as close to real-time *as possible*." *See id*. (emphasis added).

[16] *See R&O and Second FNPRM* ¶ 423.

[17] As the Commission has stated, "the auctions process requires licensees to purchase the rights to, and thereby compensate the American taxpayer for, the spectrum that they use. Thus, our auction rules discourage speculation and spectrum warehousing." *See Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, et al.*, Memorandum Opinion and Order on Reconsideration, 12 FCC Rcd 9972, 9997 ¶ 80 (1997).

PALs that take effect upon expiration of previously assigned PALs. As the Commission observed, "[b]y ensuring widespread GAA use of any spectrum for which we have not received mutually exclusive PAL applications, we ensure that the spectrum will be put to a use for which we have identified a clear public interest need."[18]

*Economic Definitions.* CTIA agrees there is merit in defining use from an economic view – namely that "PAL licensees [ ] acquire the right to exclude GAA access."[19] But the Commission's traditional auction scheme does just that, and the proposed two-payment system likely would have unintended consequences that may discourage the efficient and intensive use of spectrum.

When the Commission discontinued the use of installment payments fifteen years ago, it found that requiring licensees to pay for their licenses as a condition of receipt of the license ensures greater financial accountability from applicants.[20] Experience has validated that finding. By contrast, resurrecting an installment payment structure threatens to reproduce the harms that the Commission has previously identified. Moreover, it is unclear whether the installment payment proposal would address the concerns the Commission seeks to avoid. In particular, under the two-payment structure, a winning bidder could acquire licenses by paying one-half of the winning bid. Other, fully motivated competing bidders would thus be prevented from acquiring PALs and putting the spectrum to use, thus delaying service to the public while also depriving taxpayers of a fair portion of the value of the spectrum resource. The two-

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18 *R&O and Second FNPRM* ¶ 138.

19 *See id*. ¶ 425 (quoting William Lehr *FNPRM* Comments at 1).

20 *See Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures*, Third Report and Order and Second Further Notice of Proposed Rulemaking, 13 FCC Rcd 374, 397-400, ¶¶ 38-40 (1998); *see also R&O and Second FNPRM* ¶ 429, n.903.

payment proposal could thus create unintended consequences that the traditional single-payment auction licensing approach avoids.

In the final analysis, the vagaries of the proposed engineering and economic definitions would needlessly inject uncertainty into the PAL marketplace, thereby burdening and delaying efficient use of the 3.5 GHz band. The Commission need not and should not go down either path.

## II. THE RULES SHOULD ALLOW FOR PAL SECONDARY MARKET OPPORTUNITIES, ALTHOUGH SPLINTERED CENSUS TRACT LICENSING MAY MAKE PARTITIONING AND DISAGGREGATION DIFFICULT

CTIA agrees that the Commission should adopt rules that will enable secondary market opportunities for PAL spectrum.[21] Licensed spectrum is a valuable resource and the Commission's rules should allow PAL spectrum to flow to its highest and best use. Thus, the marketplace should determine the extent to which PAL spectrum is assigned, transferred, leased, partitioned or disaggregated.

While the Commission should not restrict the secondary market rules from applying in the 3.5 GHz band, CTIA notes that the Commission's decision to license PALs on a census tract basis – with 74,000 separate market areas – likely will make PALs licensing less efficient and network deployments far more complicated.[22] The already splintered nature of census tract area licensing raises questions about the utility of further partitioning and disaggregation, particularly within the context of a PAL's nonrenewable, three-year term. However, to the extent providers find value in these options, they should be permitted to make partitioning and disaggregation requests.

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21 *R&O and Second FNPRM* ¶¶ 431-35.

22 *See* CTIA Reply Comments to 3.5 GHz PN, GN Docket No. 12-354, at 5-7 (filed Dec. 20, 2013).

## CONCLUSION

For the reasons discussed above, the Commission should adopt a definition of "use" that allows Priority Access Licensees to declare via notice their intent to initiate transmissions on their licenses, and GAA use on that spectrum should be prohibited thereafter. The Commission should also adopt rules that enable secondary market opportunities for PAL spectrum. By taking these steps, the Commission will further promote meaningful investment in and utilization of the 3.5 GHz band.

Respectfully submitted,

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