

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

In the Matter of)	
)	GN Docket No. 17-258
Promoting Investment in the)	
3550-3700 MHz Band)	

REPLY COMMENTS OF VIVINT WIRELESS, INC.

Vivint Wireless, Inc. (“Vivint”) hereby submits these reply comments to the Federal Communications Commission (“FCC” or “Commission”) Notice of Proposed Rulemaking (“NPRM”), released October 24, 2017, seeking comment on proposed changes to the rules governing Priority Access Licenses (“PALs”) utilizing the Citizens Broadband Radio Service (“CBRS”) in the 3550-3700 band (3.5 GHz Band).¹

I. THE RECORD REFLECTS STRONG SUPPORT FOR RETENTION OF CENSUS TRACT-BASED GEOGRAPHIC LICENSES

Vivint reaffirms its support for retaining census tract-based PALs as the best option for the Commission to stimulate investment, promote innovation and encourage efficient spectrum use in the 3.5 GHz band. Vivint agrees with the position taken by an overwhelming majority of commenters that a PEA-based approach to PALs would inhibit a wide variety of applicants from participating in the auctions, particularly small and rural providers.²

¹ *In the Matter of Promoting Investment in the 3550-3750 MHz Band*, Further Notice of Proposed Rulemaking and Order Terminating Petitions, Docket No. GN 17-258, FCC 17-134 (rel. Oct. 24, 2017) (“2017 NPRM”).

² *See* Comments of Comcast Corporation, GN Docket No. 17-258 at 12 (filed Dec. 28, 2017); Comments of Google LLC, GN Docket No. 17-258 at 5 (filed Dec. 28, 2017) (“Google Comments”) (noting that PEAs exceed the geographic footprint of most potential PAL bidders); Comments of Utilities Technology Council (“UTC”), GN Docket No. 17-258 at 4 (filed Dec. 28, 2017) (“UTC Comments”); Comments of Vantage Point Solutions, GN Docket No. 17-258 at 2 (filed Dec. 28, 2017).

Commenters largely agree that a PEA-based PALs licensing scheme will create an artificial barrier to participation in any forthcoming auction by forcing new competitors seeking to build networks in primarily unserved or underserved rural and/or suburban communities to raise large amounts of capital to compete with commercial providers and pursue licenses that encompass sweeping tracts of urban, suburban and rural land that are outside of their intended service area.³

For example:

- Link Technologies Inc. and TowerCoverage explain that smaller providers will not have the funding to even attempt to pursue PALs with such large license areas.⁴
- Junction Internet, LLC states that it would have to purchase PALs in four separate PEAs in order to obtain appropriate coverage for its proposed service area and this would likely price Junction out of the PALs auction.⁵
- Microsoft explains that smaller entities seeking to serve exurban and rural areas, or alternatively self-contained venues like college campuses or manufacturing facilities, would be unable to compete with large national mobile carriers at an eventual PALs auction based on PEAs.⁶
- According to GigaBeam Networks, increasing PAL sizes to PEA boundaries will make investment in PALs “impossible.”⁷

Simply put, smaller carriers and other entities with interest in PALs cannot justify a business plan that requires acquisition of more spectrum than needed with only the hope that they might be able

³ See Comments of American Petroleum Institute and the Energy Telecommunications and Electrical Association (“API and ENTELEC”), GN Docket No. 17-258 at 3 (filed Dec. 28, 2017) (“API and ENTELEC Comments”); Comments of Colorado Valley Communications Inc., *et al.*, GN Docket No. 17-258 at 4 (filed Dec. 28, 2017) (noting that Colorado Valley would be priced out of the auction if it were required to bid on a PEA-basis); Comments of Sacred Wind Communications, GN Docket No. 17-258 at 5 (filed Dec. 28, 2017) (“Sacred Wind Comments”) (stating that increasing the license areas will raise the prices at auction and move licenses “into the hands of larger entities capable of absorbing the cost”).

⁴ See Comments of Link Technologies, Inc. and TowerCoverage.Com, GN Docket No. 17-258 at 3 (filed Dec. 28, 2017).

⁵ Comments of Junction Internet, LLC, GN Docket No. 17-258 at 1-2 (filed Dec. 24, 2017) (“Junction Comments”).

⁶ Comments of Microsoft Corp., GN Docket No. 17-258 at 5 (filed Dec. 28, 2017) (“Microsoft Comments”).

⁷ Comments of GigaBeam Networks, LLC, GN Docket No. 17-258 at 2 (filed Dec. 28, 2017).

to sell or lease what they will not use to a third party.⁸ As Motorola plainly states, “it is clear that as the size of the area is increased, the number of interested auction participants will decrease.”⁹

The instant record further demonstrates that increasing the size of the PALs license area will chill investment and innovation in the band, thus undermining the FCC’s longstanding goals and the public interest.¹⁰ Rather than encouraging innovation and efficient use of spectrum, a PEA-based license regime would heavily favor nationwide cellular carriers, who are most likely to use the 3.5 GHz band for discrete gap-filling of existing networks in dense urban areas while potentially leaving suburban and rural areas underserved or completely unserved.¹¹ The instant record evidences the detrimental impact on investment/innovation larger geographic licenses would create. Specifically:

- Dynamic Spectrum Alliance states that PEA-sized PALs will harm rural deployment and runs counter to deployment plans that the CBRS band will require.¹²
- Motorola affirms that extending the size of PALs to PEAs would limit access to interference protected spectrum to all but the largest service providers, reduce the number of auction participants, and negatively impact the diversity of innovative broadband solutions for the CBRS that the Commission intended to promote.”¹³

⁸ See Comments of Enterprise Wireless Alliance (“EWA”), GN Docket No. 17-258 at 5 (filed Dec. 28, 2017) (“EWA Comments”). See also Comments of General Electric Company, GN Docket No. 17-258 at 24 (filed Dec. 28, 2017) (“GE Comments”) (stating that historical evidence demonstrates that the secondary market would not be a viable avenue for access by non-traditional users).

⁹ Comments of Motorola Solutions, Inc., GN Docket No. 17-258 at 5 (filed Dec. 28, 2017) (“Motorola Comments”).

¹⁰ See Microsoft Comments at 5. See also Comments of The Wireless Internet Service Providers Association (“WISPA”), GN Docket No. 17-258 at 24-25 (filed Dec. 28, 2017) (“WISPA Comments”) (noting that the consideration of changes to the licensing rules is already chilling investment and will preclude all use cases except those favored by mobile carriers).

¹¹ See Comments of Union Pacific, GN Docket No. 17-258 at 9 (filed Dec. 28, 2017) (noting the likely result of PEA-based PALs is for large portions of certain PEAs to go unserved).

¹² Comments of Dynamic Spectrum Alliance (“DSA”), GN Docket No. 17-258 at 13 (filed Dec. 28, 2017) (“DSA Comments”).

¹³ Motorola Comments at 4-5.

- The Rural Wireless Association states that “[a]dopting PEAs at this late stage would be tantamount to a bait-and-switch for small and rural providers . . . who have relied for well over two years on the original 2015 rules.”¹⁴

Ultimately, as numerous filers expressed, a PEA-based PALs licensing approach will benefit only a handful of national cellular carriers, ultimately stifling innovation and chilling the already considerable investment made in the 3.5 GHz band.¹⁵

Commenters supporting the expansion of the geographic license area provide no compelling justification that outweighs the likely negative impacts such a change in the CBRS rules would have on investment by smaller providers and other new entrants.¹⁶ Vivint concurs with Google that, unlike a licensing framework using PEAs, the current approach based on census tracts would allow “both large carriers needing additional local capacity *and* new licensees with different business models to acquire the PAL spectrum they need.”¹⁷ As WISPA notes, the current rules will enable bidders with a variety of technologies and use cases to compete on a level playing field while enabling successful bidders to aggregate census tracts to meet their needs.¹⁸ Frontier Communications notes that there are other options for resolving concerns by some entities that census tract license areas are too small, such as package bidding that would allow the aggregation of census tracts for bidders interested in deploying in larger geographic areas.¹⁹ Vivint encourages

¹⁴ Comments of Rural Wireless Association, Inc. (“RWA”), GN Docket No. 17-258 at 3 (filed Dec. 28, 2017) (“RWA Comments”).

¹⁵ See Comments of Peoples Telephone Cooperative, Inc., GN Docket No. 17-258 at 2 (filed Dec. 28, 2017) (“Peoples Telephone Comments”); Comments of Public Knowledge and Open Technology Institute, GN Docket No. 17-258 at 4 (filed Dec. 28, 2017) (“Public Interest Organizations Comments”) (opposing a framework for CBRS licensing “that refashions PALs to tightly fit the business model of national carriers, thereby foreclosing potential competitors”).

¹⁶ See Comments of Ruckus Networks, GN Docket No. 17-258 at 12-13 (filed Dec. 28, 2017) (“Ruckus Comments”) (citing lack of evidence and rationale to explain how PEA-sized licenses are necessary for deployment success in the 3.5 GHz CBRS band).

¹⁷ Google Comments at 11 (emphasis in original).

¹⁸ WISPA Comments at v.

¹⁹ Comments of Frontier Communications Corp., *et al*, GN Docket No. 17-258 at 7 (filed Dec. 28, 2017).

the Commission to further explore such options, including appropriate limits on the number of PALs that could be awarded via bids on packages or “blocks” of census tracts, the number of census tracts that could be aggregated in a package bid, and appropriate metrics for evaluating packaged and standalone bids.

Finally, the record evidences no credible support for the argument that a PALs auction awarding census tract-based licenses presents logistical complications for the Spectrum Access System (“SAS”) administrators. As Google explains, the first wave of SAS administrators have already begun finalizing and testing interference resolution and other features under the current rules.²⁰ Another SAS administrator, Federated Wireless, explains that it has a meaningful number of Citizens Broadband Service Devices (“CBSDs”) connected to the beta version of its SAS for stress testing the system’s ability to process spectrum grants en masse.²¹ That this progress has occurred under the existing CBRS rules negates the notion that census tract-sized licenses will cause an insurmountable problem for SAS administrator management of the 3.5 GHz band. Accordingly, Vivint reaffirms its opposition to expanding the geographic license area for PALs from census tract to larger PEA-based licenses and urges the Commission to stay the course preserving the census tract license sizes.

II. THE RECORD DEMONSTRATES THAT TEN YEAR LICENSE TERMS WITH AN EXPECTATION OF RENEWAL WOULD HARM PAL INVESTMENT AND INNOVATION

Similar to the effects of expanding the geographic license area, extending the license term to ten years with the expectation of renewal in perpetuity as proposed in the NPRM²² will solely favor the interests of national cellular carriers and hinder investment and innovation in 3.5 GHz

²⁰ Google Comments at 24.

²¹ Comments of Federated Wireless, GN Docket No. 17-258 at 3 (filed Dec. 28, 2017).

²² 2017 NPRM, ¶ 13.

spectrum for years to come.²³ The most likely result of a conventional ten-year license term that is perpetually renewable would be a lack of investment and participation in the PALs auction (in particular by small, rural and new entrants) given the perception that PALs licenses may be unaffordable and unobtainable.²⁴ Because an initial ten-year license term with the expectation of perpetual renewals will increase the perceived value of the licenses, many smaller potential bidders may opt out of participation in the auction altogether.²⁵ The public interest warrants ensuring a high level of interest and participation in the auction by a variety of diverse parties as well as ensuring that limited spectral resources are put into the hands of entities seeking to use innovative technologies and deploy interference protected spectrum throughout the licensed area. Shorter license terms will support both goals, particularly given the volume of diverse entities expressing support for license terms shorter than the proposed ten-year term with the expectation of renewal in perpetuity.²⁶ Accordingly, Vivint agrees that providing an initial license term of ten years with the expectation of renewal does not strike the right balance between providing certainty for PAL licensees and fostering innovation in the 3.5 GHz band. These concerns are particularly

²³ See Junction Comments at 2 (expressing concern that ten-year PAL terms with renewal expectancy will allow large carriers to have exclusive access to the spectrum for an indefinite amount of time).

²⁴ See Comments of Cal.net Inc., GN Docket No. 17-258 at 5 (filed Dec. 28, 2017) (“Cal.net Comments”); Comments of Cantor Telecom Services, L.P., GN Docket No. 17-258 at 6 (filed Dec. 28, 2017); Comments of City of New York, GN Docket No. 17-258 at 1-2 (filed Dec. 28, 2017) (“NYC Comments”); Google Comments at 14; Microsoft Comments at 3; Comments of Next Century Cities, GN Docket No. 17-258 at 9-10 (filed Dec. 28, 2017) (“Next Century Comments”); Sacred Wind Comments at 7; UTC Comments at 4.

²⁵ See Cal.net Comments at 5; Google Comments at 14 (noting that a ten-year license term with a renewal expectation would significantly increase costs and require prospective licensees to acquire spectrum for longer than they may need); Next Century Comments at 9-10 (noting the dramatic increase in costs associated with a ten-year license term with renewal expectancy will price out smaller bidders); Public Interest Organizations Comments at 30 (noting the increase and frontloaded of costs if license terms are extended to ten years); Comments of Southern Linc, GN Docket No. 17-258 at 11 (filed Dec. 28, 2017) (stating that the possibility of extending the license term will make auction prices more expensive).

²⁶ See e.g., Comments of Baicells Technologies North America, Inc., GN Docket No. 17-258 at 5 (filed Dec. 28, 2017); Comments of Blooston Rural Carriers, GN Docket No. 17-258 at 10 (filed Dec. 28, 2017); NYC Comments at 2; DSA Comments at 4; EWA Comments at 5-6; Microsoft Comments at 3; Ruckus Comments at 4; WISPA Comments at 39-41.

pronounced in the event that the Commission simultaneously enlarges the geographic license area to anything larger than census tracts.²⁷

Several commenters support an initial license term of five years coupled with a *single* renewal period of five years.²⁸ Under such a framework, PAL licensees would effectively have certainty for an initial period of ten years followed by an opportunity to retain their license through a subsequent auction. Although at this juncture Vivint reaffirms its general opposition to abandoning the licensing framework currently in place, Vivint does not oppose further review and evaluation of an initial license term of five years coupled with a single renewal period of five years. Specifically, to the extent that the record ultimately evidences and Vivint concludes that a modest extension of the current license terms does not harm investment and innovation, and similarly does not diminish or suppress participation in the initial PALs auction, Vivint remains open to giving such a compromise further consideration.

Some parties have suggested providing incumbent PAL licensees with incentives in the form of bidding credits or other advantages in an auction that would take place at the end of the first renewal term.²⁹ As Google notes, bidding credits for incumbent licensees could improve the ability for such incumbents to compete in future auctions without restricting the market such that “would-be licensees” (like Vivint and other small providers) could not participate.³⁰ Although

²⁷ See GE Comments, at 39 (opposing a simultaneous shift to longer license terms, PAL renewal and PEA-based licensing); Peoples Telephone Comments at 4-5 (expressing concern for larger license areas combined with longer terms making PALs economically viable only for large carriers); Southern Linc Comments at 13 (expressing support for a modest license term extension but only if the FCC maintains census tracts as the geographic licensing area).

²⁸ See API and ENTELEC Comments at 3-4; EWA Comments at 5-6; Comments of Express Dial Internet, Inc. dba KWISP Internet, GN Docket No. 17-258 at 4 (filed Dec. 28, 2017) (expressing support for a “modestly longer” term of 5 years); Motorola Comments at 6; RWA at 9-10 (supporting a five-year term with a second term permitted); Southern Linc Comments at 13; WISPA Comments at 40.

²⁹ See Letter from Paul Milgrom, Auctionomics, to Marlene H. Dortch, Secretary, FCC, ¶¶ 21-25, GN Docket No. 12-354 (filed Aug. 8, 2017).

³⁰ Google Comments at 18.

Vivint takes no formal position on the specifics of this proposal, Vivint urges the Commission to pursue further consideration of incentives or advantages in subsequent auctions to provide a degree of certainty for PAL licensees.³¹

III. CONCLUSION

Comments filed in the instant proceeding reflect overwhelming support for the current PALs CBRS rules. Vivint concurs and urges the Commission to avoid making unnecessary rules changes harmful to investment and innovation.

Respectfully submitted,

/s/

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³¹ See WISPA Comments at 42 (stating that a “foothold” credit at the end of the license term is worthy of further discussion).