

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

In the Matter of)	
)	
Promoting Investment in the 3550-3700)	GN Docket No. 17-258
MHz Band)	
)	RM-11788 (Terminated)
Petitions for Rulemaking Regarding the)	RM-11789 (Terminated)
Citizens Broadband Radio Service)	

Comments of Rajant Corporation

I. Introduction

Rajant Corporation (“Rajant”) writes to comment on the Federal Communication Commission’s proposal in the above-captioned proceeding on *Promoting Investment in the 3550-3700 MHz Band*. The Commission seeks comment on proposals to revise the existing Part 96 rules governing Priority Access Licenses (PALS) in the Citizens Band Radio Service in the 3550-3700 MHz band, including longer license terms of 10 years, a presumption of renewability, larger geographic license areas, and auction methodology.¹ Rajant will focus its comments on the proposal to revise the existing rules from licenses for census tracts to licenses covering

¹ See *Promoting Investment in the 3550-3700 MHz Band and Petitions for Rulemaking Regarding the Citizens Broadband Radio Service*, Notice of Proposed Rulemaking and Order Terminating Petitions, FCC 17-134, 32 FCC Rcd. 8071, 8072 ¶ 1(2017) (“NPRM”).

Partial Economic Areas, the importance of grandfathering existing broadband deployments, and partitioning and disaggregation of licenses in secondary market transactions.²

Rajant holds a license in the 3650-3700 MHz band and has used that license to deploy a private wireless broadband network for a major national entertainer. Rajant designs and operates mobile network infrastructure that supports ever-growing mobility demands, with the goal of providing its customers with the most adaptable, scalable, and readily deployed private mobile broadband networks on the market today.³ Rajant networks are used across a broad array of industries, including military, industrial, transportation, utilities, telecommunications, and all levels of government for public safety and other mission critical applications.

Rajant supports the current geographic license area of census tracts for the band. The original goal of this proceeding was to promote innovation in the band using “small cells,” or access points smaller than a traditional macro cellular base station. Rajant took the Commission at its word and, using its existing license in the 3.6 GHz band, developed and deployed for a major U.S. entertainer in large public venues broadband equipment for the band capable of working with the Spectrum Access System and Environmental Sensing Capability, once those are approved and operational. Rajant’s broadband system has provided multimedia communications in approximately three-dozen large public venues across the country. But for the relatively cost-free access to the shared band of 3650-3700 MHz, Rajant would not have developed this innovative broadband application. Affordable access to shared spectrum through the 3650-3700 MHz licensing process under Part 90 was a critical component of this innovation,

² See *id.* at 8080 ¶ 23. Under the existing Commission rules, a census tract is defined as “Statistical subdivisions of a county or equivalent entity that are updated prior to each decennial census as part of the Census Bureau’s Participant Statistical Areas Program.” 47 C.F.R. § 96.3.

³ See *About*, Rajant Corporation, www.rajant.com/about (last visited Dec. 18, 2017).

and adoption of Part 96 with its census tract license sizes appeared to promise a viable future. Rajant’s targeted, local venue deployments around the country align with the census tract geographic licenses included in Part 96. Rajant believes allowing census tract licenses, at least in portions of the band, such as 3650-3700 MHz, would preserve the innovation goal of the original proceeding, as well as meet the objectives of the Communications Act of 1934.

The Commission seeks comments on proposals to change the geographic scope of 3.6 GHz licenses from census tracts to Partial Economic Areas (PEAs), to be more consistent with service rules and license assignment models that helped foster the development of 4G and LTE in the U.S.⁴ The Commission stated that to maintain U.S. leadership in the global race for 5G, “we must ensure that the service rules governing bands that are critical for 5G...including the 3.6 GHz band—keep up with technological developments, create incentives for investment, encourage efficient spectrum use, support a variety of different use cases, and promote robust deployments in both urban and rural communities.”⁵ As the Commission is aware, 5G is not a single use case of enhanced Mobile Broadband. 5G includes the use case of massive Machine-Type Communications, more commonly referred to as Internet of Things and Ultra-Reliable Low Latency Communications, like remote surgery or driverless cars.⁶ While enhanced consumer broadband offered to the general public by mobile operators might be better suited to PEA licenses, Machine-Type Communications or low-latency critical communications might flourish better in census-tract licenses, for targeted, local uses like hospitals, factories, and stadiums.

⁴ See NPRM at 8072 ¶ 1.

⁵ *Id.* at 8072 ¶ 2.

⁶ ITU-R, *IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond* at 12, Figure 2 (Sep. 2015), https://www.itu.int/dms_pubrec/itu-r/rec/m/R-REC-M.2083-0-201509-I!!PDF-E.pdf.

Any revision of the Commission's rules for the 3.6 GHz band should bear in mind the range of 5G use cases, and not just enhanced consumer broadband.

II. Rajant's Existing Investment

Using its existing license in the 3650-3700 MHz band, Rajant has deployed a broadband application to enable real-time communications between the entertainer's personnel. The broadband application, which may also be deployed at race tracks, facilitates multimedia communications between personnel to enhance the audience experience of the performance. Video from multiple camera angles contribute to the fans' enjoyment. Multiple video feeds also improve accuracy of the performance. Connected to broadband tablets, the multimedia broadband during the public event also provides personnel more video and voice capability, increasing situational awareness and ultimately performer safety.

The Commission asks for comment on whether the proposed rule changes will affect investments already made.⁷ The Commission asks what specific impact will a longer, renewable license have on investments and business plans already underway?⁸ The Commission likewise seeks comment on the impact of revising the geographic scope of a license from a census tract to a PEA, including on existing investments.⁹ Today, and for approximately two years, Rajant has this targeted, innovative multimedia broadband deployment working under its existing 3.6 GHz license. Rajant agrees with commenters that if the band is converted into a large carrier band, with spectrum paid for at auction for PEA-size licenses, affordable access to the band for tract-

⁷ NPRM at 8076 ¶ 14.

⁸ *Id.*

⁹ *Id.* at 8080 ¶ 24.

size areas will cease. Rajant agrees with commenters that modifying the geographic scope of future licenses for the band will “upend planned business models for targeted local uses.”¹⁰ In our case, our targeted, local business is not just planned, but has been deployed for two years, during which Rajant has spent approximately \$7 Million in development and deployment costs. For a small business, that \$7 Million is a substantial undertaking, and could not have been invested if Rajant had to additionally bid on spectrum covering a large economic area. Accordingly, Rajant requests that broadband deployed since the Commission adopted the CBRS rules in 2015 be grandfathered.

Services provided by licensed operators managing costs across an entire PEA are often priced at unattractive rates that foreclose innovative use. The success of Wi-Fi or shared spectrum bands like the 3650-3700 MHz under Part 90, which encouraged innovators to explore new applications like Rajant’s multimedia broadband private network, is due to the low entry cost, which is essentially only the cost of equipment development, certification, and maintenance, and not of spectrum access, beyond modest regulatory fees. When a single carrier holds the license to provide service over the entire PEA, there is little incentive for that carrier to offer a low rate for targeted, local spectrum access. Rajant would be forced to pay much higher rates for spectrum access in its served venues, which could not be easily incorporated into our private network customers’ business models. Rajant most likely will look into unlicensed bands for the next generation of its mobile broadband technology, with increased interference risk and decreased audience and performer benefits, or forego this innovative application, to the detriment of the public.

¹⁰ See *id.* at 8079 ¶ 21.

III. Section 309(j)

Section 309(j) of the Communications Act provides that in designing competitive bidding rules, the Commission should promote the objectives of “the development and rapid deployment of new technologies, products, and services for the benefit of the public,” and “avoiding excessive concentration of licenses...by disseminating licenses among a wide variety of applicants,” as well as the “efficient and intensive use” of spectrum.¹¹ Rajant believes the original Part 96 rules supported many of those goals, most especially avoiding excessive concentration of licenses and promoting new technologies.¹² There is no sound policy, consistent with the Act, that supports only the largest national carriers getting PEA-size licensed access to the band. Given the usefulness of this mid-band spectrum for a variety of mobile broadband and other 5G applications, in a variety of locations across our country, there is no legally-justifiable reason to limit the band to PEA-licensed operations. The Act, while requiring competitive bidding where multiple license applications exist for the same class of spectrum license, nonetheless required diversity of spectrum user and use case – rather than award access only to national carriers prepared to pay for an entire PEA. Indeed, Section 309(j)(6) provides that “Nothing in this subsection, or in the use of competitive bidding, shall...be construed to relieve the Commission of the obligation in the public interest to... avoid mutual exclusivity in

¹¹ 47 U.S.C. §§ 309(j)(3)(A)-(D).

¹² *See also id.* at § 309(j)(4)(C) (“In prescribing regulations pursuant to paragraph (3), the Commission shall...prescribe area designations and bandwidth assignments that promote (i) an equitable distribution of licenses and services among geographic areas, (ii) economic opportunity for a wide variety of applicants, ...and (iii) investment in and rapid deployment of new technologies and services.”)

application and licensing proceedings” or shall “be construed to prohibit the Commission from issuing ...*local* licenses or permits” (emphasis added).¹³

Today, under the existing Part 96 rules, the 3650-3700 MHz band will not be subject to PAL auctions. Rajant supports that approach, since that is the band in which it deployed its multimedia broadband system. The Commission, if it revises the CBRS rules, should maintain the 3650-3700 MHz band, or some other contiguous mid-band 50 MHz, as a sub-band that supports innovation through shared or generally authorized access to spectrum in smaller geographic areas aligned with census tracts.

IV. License Disaggregation or Partitioning

Today, under the Commission’s existing Part 96 rules, the 3650-3700 MHz band, where Rajant has deployed its multimedia mobile broadband, is to be reserved for grandfathered wireless broadband licensees licensed under Part 90, and for General Authorized Access users.¹⁴

Rajant appreciates that census tracts nest into counties, and counties nest into Partial Economic Areas. In this regard, regardless of the geographic scope ultimately adopted by the Commission, Rajant supports the proposal to allow licensees to disaggregate or partition their licenses, or otherwise sub-lease areas of their licenses in secondary market transactions. Such secondary market transactions will facilitate the smaller, venue-size areas in which Rajant has deployed its innovative broadband system to date.¹⁵ In 2015, the Commission adopted an innovative licensing scheme to encourage new entrants and smaller providers to provide broadband through small cells, for entrants who wanted to build wireless networks in local areas

¹³ *Id.* at §§ 309(j)(6)(E)-(F).

¹⁴ *See* 47 C.F.R. § 96.13(b).

¹⁵ *See* NPRM at 8082 ¶ 30.

that require some measure of interference protection yet did not want to outsource those networks to cellular operators.¹⁶ This was applicable to Rajant, since it was interested in deploying multimedia broadband for its customers' private use, to enhance the safety and enjoyment of the performance, and not as a service to resell to the paying public.

V. Grandfathering existing Licenses

As an existing 3650-3700 MHz licensee, Rajant requests the Commission to grandfather existing deployments of mobile broadband in the 3650-3700 MHz band, developed since the 2015 Order energized the industry to explore innovative uses, much as the Commission grandfathered the deployed WISPs in April 2015 when it first adopted Part 96 for the 3550-3700 MHz band. Grandfathering those entities, like Rajant, that relied on the Commission's decision to develop a framework for small cells in the band that would be managed by a Spectrum Access System and protect Navy radar through the Environmental Sensing Capability would be consistent with Commission precedent to ensure regulatory certainty. As the Commission has stated on numerous occasions, regulatory predictability encourages investment.

Grandfathering existing licensees like Rajant would also facilitate keeping a sub-band of 50 MHz available for census-tract size licenses, since the existing WISPs originally deployed in local, targeted geographic areas, as coordinated under the original Part 90 rules. This type of grandfathering would help to foster the innovation in small cell use case originally sought for this "Innovation Band." In contrast, converting the entire band to a large carrier band by not granting existing mobile broadband deployments grandfathered status would diminish innovation for 5G use cases, other than faster consumer broadband. Moreover, grandfathering existing

¹⁶ See, e.g., Statement of Commissioner Clyburn, NPRM at 8108-8109.

deployments of mobile broadband, including for private networks, would further the goals of Section 309(j) of seeking a broader, less concentrated distribution of licenses, including for local deployments.

VI. Conclusion

Rajant urges that any final rules for 3550-3700 MHz support a variety of different use cases, as well as protect existing mobile broadband investments in the band. Rajant's innovative use of the band was enabled by the Commission's rules – rules that did not require an auction, but enabled targeted local uses coordinated with incumbents through traditional mechanisms. Rajant urges the Commission to not threaten this innovation by converting the entire 3.6 GHz band into a large carriers' band for consumer broadband. Likewise, Rajant urges the Commission to grandfather mobile broadband deployments undertaken since the Part 96 rules were first adopted. We will be better positioned as a nation to explore the many use cases that are possible with 5G if any rule changes adopted by the Commission preserve “an equitable distribution of licenses and services among geographic areas” and “economic opportunity for a wide variety of applicants,” as required by the Act.

Respectfully Submitted,

/s/

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