

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Use of the Spectrum Bands Above 24 GHz for Mobile Radio Services)	GN Docket No. 14-177
)	
Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands)	IB Docket No. 15-256
)	
Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band)	RM-11664
)	
Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 To Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services)	WT Docket No. 10-112
)	
Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations)	IB Docket No. 97-95
)	
To: The Commission)	

**REPLY COMMENTS OF
THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

The Wireless Internet Service Providers Association (“WISPA”),¹ pursuant to Sections 1.415 and 1.419 of the Commission’s Rules, hereby submits these Reply Comments in response to certain of the initial Comments filed in the above-captioned proceeding.²

Introduction

WISPA’s interests in this proceeding are two-fold. First, WISPA members hold or lease spectrum in the 27.5-28.35 GHz and 38.6-40 GHz bands for which the Commission proposes to authorize mobile operations and to establish new rules for incumbents. Second, WISPA is a proponent for new spectrum – unlicensed, “license by rule” and licensed – that can help WISPs meet consumer demand for new and innovative services. These twin perspectives suggest a forward-looking spectrum management model that balances these interests.

Discussion

I. THE COMMISSION SHOULD AUTHORIZE MOBILE USE OF THE 28 GHz AND 39 GHz BANDS.

WISPA supports the Commission’s proposal to add mobile authority to the 28 GHz and 39 GHz bands.³ WISPA notes that the two largest holders of spectrum in these bands, Straight Path and FiberTower, both support the Commission’s proposal. As Straight Path states, “the

¹ WISPA is a non-profit association that represents the interests of more than 800 members that provide fixed wireless broadband and, in many cases, VoIP to consumers and businesses across the country. WISPA’s members rely on unlicensed spectrum in the TV white space, 900 MHz, 2.4 GHz and 5 GHz bands, “lightly licensed” spectrum in the 3.65 GHz band and licensed spectrum in the 2.5 GHz band for last-mile access. WISPA’s members also use licensed point-to-point spectrum in the 6 GHz, 11 GHz, 28 and 39 GHz bands for Internet connectivity and backhaul.

² See *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et al.*, Notice of Proposed Rulemaking, 30 FCC Rcd 11878 (2015) (“*NPRM*”). The Commission extended the Reply Comment deadline to February 29, 2016. See *Public Notice*, “Office of Engineering Technology and Wireless Telecommunications Bureau Extent Period to File Reply Comments for Use of Spectrum Bands Above 24 GHz for Mobile Radio Services Notice of Proposed Rulemaking,” GN Docket No. 14-177, *et al.*, DA 16-42 (rel. Feb. 17, 2016).

³ See *NPRM* at ¶¶ 4, 30, 42.

addition of mobile services in these bands will be relatively straightforward” in light of the existing exclusive licensing regime that has been in place for many years.⁴ FiberTower explains that these bands can play an important role in the development of 5G services, observing that flexible use will enable licensees “to respond to developments in technology, industry standards, and business cases for 5G in order that the U.S. wireless industry maintain its leadership role in the global market.”⁵ WISPA believes that adding mobile authority will result in more intensive use of these bands by incumbents.

In authorizing mobility, however, the Commission should not trammel on the rights of those licensees that have held their licenses for many years and satisfied the Commission’s build-out and other requirements. In this respect, WISPA agrees with Straight Path that the Commission should retain its existing licensing scheme.⁶ First, the Commission should reject its proposal to subdivide existing BTA and EA licenses into county-wide licenses.⁷ While subdivision would “create a uniform nationwide license structure” – assuming the Commission also adopts its proposal for future licensing by county – this will increase the regulatory burdens and obligations on incumbents. To expand on the Commission’s example,⁸ if an LMDS license were subdivided into eight separate county-wide licenses, the licensee would need to meet

⁴ Comments of Straight Path Communications Inc., GN Docket No. 14-177, *et al.* (filed Jan. 27, 2016) (“Straight Path Comments”) at 5.

⁵ Comments of FiberTower Spectrum Holdings, LLC, GN Docket No. 14-177, *et al.* (filed Jan. 27, 2016) (“FiberTower Comments”) at 2. *See also* Comments of the Fixed Wireless Communications Coalition, GN Docket No. 14-177, *et al.* (filed Jan. 27, 2016) (“FWCC Comments”) at 4.

⁶ *See* Straight Path Comments at 17-18. *See also* FWCC Comments at 2 (Commission “should rethink its proposal to use counties for license areas”).

⁷ *See NPRM* at ¶ 115.

⁸ *See id.*

regulatory obligations, file renewal applications and pay regulatory fees for each of the eight licenses.⁹ That would simply be unfair to incumbent licensees.

Second, the Commission should not issue overlay licenses in the 28 GHz and 39 GHz bands because, as Straight Path makes clear, there are significant technological and coordination challenges presented by “[t]he addition of a second licensee operating on the same channel in the same area.”¹⁰ In addition, the Commission’s experience in overlay rights in other bands is not applicable to the 28 GHz or the 39 GHz bands. Straight Path explains that the Commission “did not issue true ‘overlay licenses,’” for the PCS, AWS-1 and AWS-3 bands, but “provided for the relocation of the incumbent point-to-point licensees from the bands.”¹¹ This same process cannot be replicated in the 28 GHz or 39GHz bands because “the incumbent licensees hold geographic area licenses and have developed technologies and business models based on those area licenses.”¹² Thus, the issuance of overlay licenses in the 28 GHz and the 39 GHz bands could unfairly disrupt incumbent licensees and could ultimately create future spectrum usage and 5G deployment challenges.¹³

⁹ See Straight Path Comments at 18.

¹⁰ *Id.* at 15.

¹¹ *Id.* at 16.

¹² *Id.*

¹³ See also Comments of Qualcomm Incorporated, GN Docket No. 14-177 (filed Jan. 27, 2016) (“Qualcomm Comments”) at 7 (Commission “should not license a separate overlay of mobile rights on top of existing LMDS and 39 GHz licenses because that will create deployment challenges and insurmountable interference issues and deter investment in these bands”) (citations omitted); Comments of Nokia, GN Docket No. 14-177 (filed Jan. 27, 2016) (“Nokia Comments”) at 15-16 (“An overlay auction could result in interference issues among existing and new licenses using the same spectrum block in a given location. Dealing with such interference issues could needlessly delay the deployment of 5G as more complex use cases emerge that will require 5G deployment sooner rather than later”).

Third, OTI/PK’s proposal to separate the access rights for indoor use from outdoor use should be considered only for *future* licensees, and should not be adopted in a way that would encumber or limit the rights of incumbents.¹⁴ If at all, any separate licensing or registration rights for indoor use should apply to licenses issued in the future.

II. THE COMMISSION SHOULD AUTHORIZE SPECTRUM IN THE 37 GHz BAND BASED ON RULES IT ADOPTED FOR THE CITIZENS BROADBAND RADIO SERVICE.

As an ardent advocate for spectrum sharing in the Citizens Broadband Radio Service (“CBRS”),¹⁵ WISPA supports the adoption of a three-tier spectrum management system in the 37 GHz band that protects Federal users, enables exclusive licensing in a portion of the band and “license by rule” access on other portions, and opportunistic use when and where licensed operations are not ongoing. There is broad-based support for this approach. As one example, Facebook supports the Commission’s efforts to “strike an appropriate balance between providing licenses with operational flexibility and ensuring that spectrum does not lie fallow.”¹⁶

¹⁴ See Comments of the Open Technology Institute at New America and Public Knowledge, GN Docket No. 14-177, *et al.* (filed Jan. 28, 2016) (“OTI/PK Comments”) at 24-25. OTI/PK proposes: “If testing confirms that the walls of ordinary structures will shield LMDS and future ‘mobile’ (outside or wide area) deployments from harmful interference, then the Commission should separately authorize indoor-only use of the entire 28 and 37 GHz mmW bands either for unlicensed use or for General Authorized Access on a license-by-rule basis under [Section 307(e) of the Communications Act].” *Id.* at 25.

¹⁵ See, e.g., Comments of WISPA, GN Docket No. 12-354 (filed Feb. 20, 2013); Reply Comments of WISPA, GN Docket No. 12-354 (Apr. 5, 2013); Letter from L. Elizabeth Bowles, WISPA President, to Marlene H. Dortch, FCC Secretary, GN Docket No. 12-354, *Ex Parte* Letter (filed May 13, 2013); Letter from Matt Larsen, FCC Committee Chair, to Marlene H. Dortch, FCC Secretary, GN Docket No. 12-354, *Ex Parte* (filed July 11, 2013); Letter from L. Elizabeth Bowles, WISPA President, to Marlene H. Dortch, FCC Secretary, GN Docket No. 12-354, *Ex Parte* Letter (filed May 13, 2013); Letter from Stephen E. Coran, Counsel to WISPA, to Marlene H. Dortch, FCC Secretary, GN Docket No. 12-354, *Ex Parte* Letter (filed Sept. 19, 2013); Comments of WISPA, GN Docket No. 12-354 (filed Dec. 5, 2013); Reply Comments of WISPA, GN Docket No. 12-354 (Dec. 20, 2013); See Unger, Jack, “Desired Technical Aspects of the SAS System,” GN Docket No. 12-354 (Jan. 3, 2014); Comments of WISPA, GN Docket No. 12-354 (July 14, 2014); Reply Comments of WISPA, GN Docket No. 12-354 (filed Aug. 15, 2014); Comments of WISPA, GN Docket No. 12-354 (filed July 15, 2015).

¹⁶ Comments of Facebook, Inc., GN Docket No. 14-177 at 6 (Jan. 26, 2016) (citation omitted).

As was the case in the CBRS proceeding, mobile wireless interests generally oppose a three-tiered approach, and instead recommend “command and control” exclusive licensing in the entire 1600 megahertz in the band.¹⁷ The primary objection to a shared spectrum model is the “experimental” nature of the CBRS band.¹⁸ But as OTI/PK explain, “[e]xclusive licensing on a large geographic area basis is therefore the access framework *least* conducive to serving the public interest in widespread and intensive spectrum re-use, lower market barriers to entry, promoting mobile market competition, and stimulating innovation.”¹⁹ Further, these same mobile interests are active participants in the development of the Spectrum Access System (“SAS”) for the CBRS band and have not denied continuing interest in investing in “small cell” technology under a three-tier model.

¹⁷ See, e.g., Comments of the Telecommunication Industry Association, GN Docket No. 14-177 (filed Jan. 27, 2016) at 18 (“The Commission should not adopt the hybrid licensing scheme proposed in the NPRM for the 37 GHz band, and should instead auction geographic, exclusive licenses.”); Comments of CTIA, GN Docket No. 14-177 (filed Jan. 28, 2016) (“CTIA Comments”) at 3 (“Licensees of millimeter wave spectrum should be provided significant license terms, be granted certainty by a renewal expectancy, and not have license rights purchased in an auction undermined by a ‘use it or share it’ model.”); Comments of Mobile Future, GN Docket No. 14-177 (filed Jan. 27, 2016) (“Mobile Future comments”) at 11 (“Commission should adopt a proven and flexible licensing scheme for the 37 GHz band rather than the hybrid authorization licensing scheme proposed in the NPRM” (citations omitted)); Nokia Comments at 20 (“Licensees who have met the level of service required should not be required to share their spectrum, or risk needing to clear recalcitrant users that continue to operate despite the rightful licensee commencing deployment”); Comments of Verizon, GN Docket No. 14-177 (filed Jan. 28, 2016) (“Verizon Comments”) at 10 (“The Commission should assign licenses that have reasonably long terms and renewal expectancies.”); Comments of AT&T, GN Docket No. 14-177 (filed Jan. 28, 2016) (“AT&T Comments”) at 4 (“with much work left to be done to bring 5G to fruition, long license terms coupled with clear renewal terms are appropriate.”); Qualcomm Comments at 9 (“[L]icensing these bands on an exclusive basis will allow licensees to provide a very high quality of service and outstanding user experience.”).

¹⁸ See CTIA Comments at 33 (“Until the 3.5 GHz SAS experiment develops and can be evaluated, the Commission should not attempt to import it to other spectrum bands”); Verizon Comments at 20 (“Commission is experimenting with the ‘use-it-or-share-it’ framework in the...3.5 GHz band[s], but today it constitutes a regulatory experiment that, until tested and proven to work, would introduce risk that licensees may not be able to use their spectrum when and where they need it.”); AT&T Comments at 21 (“Spectrum sharing concepts are still new and untested” (citations omitted)); Comments of Cisco System, Inc., GN Docket No. 14-177 (filed Jan. 28, 2016) at 9 (“Cisco submits that this proposal is premature and unnecessary. The 3.5 GHz SAS remains under development, and whether it will prove a success remains open to debate.”); Qualcomm Comments at 14 (“Commission should not apply the 3.5 GHz band spectrum management model to these bands until that model is shown to successfully manage spectrum access in that band” (citations omitted)).

¹⁹ OTI/PK Comments at 8 (emphasis in original).

WISPA agrees with OTI/PK that the band should be split 50/50 between licensed and “licensed by rule,” similar to the spectrum distribution in the CBRS band.²⁰ Contrary to the Commission’s proposal, however, areas where spectrum will be available on a “license by rule” basis should not be confined to local areas, but should be extended to geographic areas that correspond to licensed areas.²¹ Local area use can occur opportunistically or within the desired portion of a licensed geographic area. WISPA believes that this framework will lead to more efficient and expeditious use of valuable spectrum because of low barriers to entry associated with “license by rule” deployment, while at the same time affording those that desire exclusive licensed spectrum the opportunity to acquire it. Allowing potential users the flexibility to deploy under either model promotes innovation and investment.

Licenses for the 37 GHz band should be for non-renewable terms of five years or less and licensees should not have build-out requirements. WISPA disagrees with FWCC that licensees should be required to pay a fee every five years to retain exclusive licensing.²² As the Commission determined in adopting the CBRS rules, short duration non-renewable license terms “strike a balance between some commenters’ desire for flexibility with other commenters’ desire for certainty.”²³ A licensing approach that allows opportunistic use of fallow licensed spectrum encourages deployment and discourages spectrum warehousing.

²⁰ *See id.* at 5.

²¹ *See NPRM* at ¶ 102.

²² *See FWCC Comments* at 7.

²³ *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, 3995 (2015).

WISPA further believes that licenses should be awarded for defined geographic areas that are relatively small in size.²⁴ Given the propagation characteristics of the band and the potential use of the band for the “Internet of Things,” Wi-Fi off-load in densely populated areas and nomadic uses, licensing larger areas such as counties, BTAs or EAs would enhance the prospects for spectrum warehousing. WISPA agrees that census tracts or census block groups are more appropriate for this band.²⁵

III. THE COMMISSION SHOULD AUTHORIZE UNLICENSED OPERATIONS IN THE 64-71 GHz BAND.

WISPA supports the Commission’s proposal to authorize unlicensed Part 15 operations in the 64-71 GHz band.²⁶ Many commenters support this proposal, which would allow users to access a contiguous block of spectrum that includes the 64-71 GHz band and the adjacent 57-64 GHz band – 14 GHz of contiguous unlicensed spectrum available for next generation broadband technologies.²⁷ WISPA agrees with OTI/PK that “authorizing use of the entire Extended 60GHz

²⁴ See OTI/PK Comments at 21-24.

²⁵ See *id.* at 21.

²⁶ See *NPRM* at ¶ 58.

²⁷ See *e.g.*, FWCC Comments at 9 (“The logical solution is for the Commission instead to adopt its proposal to extend the present unlicensed band at 57-64 GHz to include 64-71 GHz under the same technical rules” (citations omitted)); Comments of Google Inc., GN Docket No. 14-177 (filed Jan. 28, 2016) at 7 (“harmonized rules for the frequencies between 57 and 71 GHz will allow economies of scale and other efficiencies, thereby facilitating rapid deployment of unlicensed services....”); Dynamic Spectrum Alliance, Letter from H. Nwana, Executive Director, to Marlene H. Dortch, FCC Secretary, GN Docket No. 14-177 (filed Jan. 26, 2016) (“The technical rules for this band should generally track the rules established for frequencies between 57 and 64 GHz, creating one contiguous band between 57 and 71 GHz.”); Facebook Comments at 5 (“strongly supports the Commission’s proposal to authorize Part 15 operations in the 64-71 GHz band to allow it to be used in conjunction with the adjacent 57-64 GHz band”); OTI/PK Comments at 27 (“OTI & PK strongly support the Commission’s proposal to extend the Part 15 operations currently permitted in the 57-64 GHz band to the adjacent 64-71 GHz band immediately above” (citations omitted)); Qualcomm Comments at ii (“[t]he FCC should authorize its proposed unlicensed operations in the 64-71 GHz band to extend to the 57-64 GHz unlicensed band and further spur the exciting 802.11as WiGig operations that are currently operating there.”); Comments of Wi-Fi Alliance, GN Docket No. 14-177 (filed Jan. 27, 2016) at 5 (“Extending Part 15 operations to the 64-71 GHz band would therefore greatly enhances the capacity of next generation WiGig technologies.”); Comments of ViaSat, Inc., GN Docket No. 14-177 (filed Jan. 28, 2016) at 21-22

Band under the existing Part 15 Rules would best serve the public interest in open access, very high-capacity spectrum for data transfers.”²⁸

Other commenters suggest that the 64-71 GHz band should be bifurcated by allocating the 64-66 GHz portion to unlicensed spectrum and the remaining 500 megahertz from 66-71 GHz to be licensed spectrum.²⁹ Nokia, among others, supports bifurcation because the 66-71 GHz portion of the band “is among the bands to be studied in ITU towards WRC-19, and has the potential to become a truly globally harmonized licensed band.”³⁰ Because ITU may study a band is an insufficient reason for the Commission to delay making a valuable spectrum resource available for unlicensed use. The realization of 14 GHz of contiguous unlicensed spectrum should outweigh any potential global harmonization in order to best serve the current public interest in providing additional spectrum for unlicensed wireless devices.

(“ViaSat supports the Commission’s proposal to authorize operations in the 64-71 GHz band under Part 15 on an unlicensed basis, consistent with the rules currently applicable to the adjacent 57-64 GHz band”).

²⁸ OTI/PK Comments at 28.

²⁹ See Nokia Comments at 16-17; Mobile Future Comments at 16-17; CTIA Comments at 18-19. These commenters also note support and the importance of unlicensed spectrum allocation. See Mobile Future Comments at 16; Nokia Comments at 17; CTIA Comments at 17.

³⁰ Nokia Comments at 17.

Conclusion

WISPA asks that the Commission adopt its proposals, which will balance the interests of incumbent licensees with those of future users.

Respectfully submitted,

WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION

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