

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

In the Matter of	)	
	)	
Expanding Flexible Use in Mid-Band	)	GN Docket No. 17-183
Spectrum Between 3.7 and 24 GHz	)	

To: The Commission

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

The Wireless Internet Service Providers Association (“WISPA”), pursuant to Sections 1.415 and 1.419 of the Commission’s Rules,<sup>1</sup> hereby replies to certain of the initial comments submitted in response to the Notice of Inquiry (“*NOI*”) in the above-captioned proceeding.<sup>2</sup> In particular, WISPA addresses several discrete issues with respect to future use of the Lower and Upper 6 GHz bands (5925-6425 MHz and 6425-7125 MHz). These issues are: (1) the need to make 6 GHz spectrum available for unlicensed use, (2) the feasibility of sharing spectrum in the 6 GHz bands among existing licensed and future unlicensed fixed uses pursuant to appropriate standards, (3) the unsuitability of an auction mechanism to assign spectrum in these bands, and (4) the inherent unsuitability of introducing mobile operations into the diverse and varied 6 GHz spectrum use environment.<sup>3</sup>

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<sup>1</sup> See 47 C.F.R. §§ 1.415, 1.419.

<sup>2</sup> See *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, GN Docket No. 17-183, FCC 17-104 (rel. Aug. 3, 2017).

<sup>3</sup> As a member of the Broadband Access Coalition, WISPA has participated in and endorses the separate BAC Reply Comments with respect to the 3700-4200 MHz band.

## Discussion

### I. THE RECORD STRONGLY SUPPORTS MAKING THE 6 GHz SPECTRUM AVAILABLE FOR UNLICENSED USE

There is strong support in the record from a broad range of commenters for introducing unlicensed fixed wireless use into the 6 GHz spectrum bands, consistent with the need to protect licensed uses.<sup>4</sup> The Mid-Band Spectrum Coalition, for example, comments that the lower 6 GHz spectrum “appears to be a strong candidate for global harmonization, and the band would be valuable to support next generation unlicensed use with wide channels and high throughput, including as part of the 5G ecosystem.”<sup>5</sup> Hewlett Packard similarly calls for “amending the Part 15 rules already applicable to the 6 GHz band to enable the higher-power unlicensed operation that broadband services require.”<sup>6</sup> And the All Points Group, which includes WISPA, enumerates a range of important technologies that would be facilitated by making 6 GHz spectrum available for unlicensed use, including “fixed broadband operations that enable millions of American consumers to connect to the internet; Bluetooth, itself a ubiquitous

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<sup>4</sup> See, e.g., Comments of All Points Broadband, *et al.*, GN Docket No. 17-183 (filed Oct. 2, 2017) (“All Points Group Comments”), at 5 *et seq.*; Comments of Broadcom, Ltd., GN Docket No. 17-183 (filed Oct. 2, 2017) (“Broadcom Comments”), at 9-11; Comments of Cisco Systems, Inc., GN Docket No. 17-183 (filed Oct. 2, 2017), at 2; Comments of the Dynamic Spectrum Alliance, GN Docket No. 17-183 (filed Oct. 2, 2017) (“DSA Comments”), at 10-13; Comments of Google, GN Docket No. 17-183 (filed Oct. 2, 2017), at 12-13; Comments of Hewlett Packard Enterprise Company, GN Docket No. 17-183 (filed Oct. 2, 2017) (“Hewlett Packard Comments”), at 8-11; Comments of the Information Technology Industry Council, GN Docket No. 17-183 (filed Oct. 2, 2017), at 3; Comments of Intel Corporation, GN Docket No. 17-183 (filed Oct. 2, 2017), at 5-6; Comments of the Mid-Band Spectrum Coalition (“Mid-Band Coalition Comments”), GN Docket No. 17-183 (filed Oct. 2, 2017), at 4 & 14; Comments of Microsoft, GN Docket No. 17-183 (filed Oct. 2, 2017) (“Microsoft Comments”), at 9-12; Comments of Qualcomm Incorporated, GN Docket No. 17-183 (filed Oct. 2, 2017) (“Qualcomm Comments”), at 6 *et seq.*; Comments of Vivint Wireless, Inc., GN Docket No. 17-183 (filed Oct. 2, 2017), at 4.

<sup>5</sup> Mid-Band Coalition Comments at 14. See also Broadcom Comments at 9 (“6 GHz band’s close proximity to the 5 GHz U-NII bands, which are globally harmonized for unlicensed use, makes it ideal for meeting users’ wireless data demand”).

<sup>6</sup> Hewlett Packard Comments at 10.

technology for short-range wireless connections; and IEEE 802.15.4, an industry standard protocol for narrowband transmissions supporting the [Internet of Things].”<sup>7</sup>

While a few commenters assert that the 6 GHz band is not suitable for new unlicensed use, these objections are both few and equivocal. AT&T, for example, specifically discounts the feasibility of using 6 GHz spectrum for terrestrial mobile use, but is actually silent as to the potential for unlicensed fixed use on a shared basis.<sup>8</sup> Even some mobile carriers, entities that have historically pressed for licensing spectrum largely through competitive bidding, do not discount the possibility of introducing new unlicensed use. For example, Verizon “conditionally supports unlicensed use in the 5.925-6.425 GHz band, so long as the Commission adopts rules that provide adequate protections to incumbent and future microwave deployments in the band.”<sup>9</sup> And CTIA avers that it is “open to investigating whether unlicensed operations can protect incumbent operations – in particular, fixed point-to-point microwave operations.”<sup>10</sup> Given the strong support for unlicensed use at 6 GHz and the nearly complete absence of serious opposition, the Commission should proceed quickly to adopt a Notice of Proposed Rule Making to make the necessary spectrum allocation changes.

## **II. SPECTRUM SHARING IN THE 6 GHz BANDS IS FEASIBLE AND SHOULD BE FURTHER EXPLORED**

A handful of commenters have argued against the fundamental feasibility of additional spectrum sharing in the 6 GHz bands. For example, while ACA acknowledges the potential for

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<sup>7</sup> All Points Group Comments at 14-15.

<sup>8</sup> Comments of AT&T Services, Inc., GN Docket No. 17-183 (filed Oct. 2, 2017) (“AT&T Comments”), at 4.

<sup>9</sup> Comments of Verizon, GN Docket No. 17-183 (filed Oct. 2, 2017), at 21.

<sup>10</sup> Comments of CTIA, GN Docket No. 17-183 (filed Oct. 2, 2017) (“CTIA Comments”), at 15. *See also* Comments of Ericsson, GN Docket No. 17-183 (filed Oct. 2, 2017) (“Ericsson Comments”), at 9.

more intensive use of the 5925-6425 MHz band, it is generally negative on the prospects for successful sharing of this band between existing satellite transmission uses and new terrestrial service, arguing that the Commission’s paramount objective should be to “preserve a regulatory framework free from interference and regulatory burdens” for the incumbent users.<sup>11</sup> Similarly, the Utilities Technology Council and Edison Electric Institute also “do not believe that it would be technically feasible or effective in the long-term to implement the interference mitigation approaches identified by the FCC.”<sup>12</sup> The National Association of Broadcasters (“NAB”), whose members make extensive use of these bands for a variety of purposes, notes simply that “[a]ny consideration of expanded operations in these bands must prioritize protection of existing users.”<sup>13</sup>

WISPA agrees that existing users must be protected, but as a trade association with many members that currently are themselves licensed to operate transmitting facilities in the 6 GHz band, WISPA has the benefit of the significant operational experience that these licensees possess, which provides insight into the likely success of introducing additional transmitters into this band. WISPA believes that such spectrum sharing among licensed and unlicensed users is inherently feasible provided that the Commission establishes effective sharing standards, consistent with legitimate concerns expressed by incumbent licensees. As NCTA notes, “[s]pectrum sharing technologies are rapidly improving and arrangements that would have been unthinkable a decade ago—the three-tier access system envisioned at 3.5 GHz, for example—are

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<sup>11</sup> Comments of the American Cable Association, GN Docket No. 17-183 (filed Oct. 2, 2017) (“ACA Comments”), at 21.

<sup>12</sup> Comments of The Utilities Technology Council and The Edison Electric Institute, GN Docket No. 17-183 (filed Oct. 2, 2017), at 12.

<sup>13</sup> Comments of the National Association of Broadcasters, GN Docket No. 17-183 (filed Oct. 2, 2017) (“NAB Comments”), at 11.

now close to implementation.”<sup>14</sup> The Commission should address appropriate sharing mechanisms with more detailed inquiries in its forthcoming rulemaking notice.

### **III. COMPETITIVE BIDDING IS NOT APPROPRIATE FOR THE 6 GHz SPECTRUM**

To the extent that CTIA generally advocates “market-oriented solutions,” including spectrum assignment via competitive bidding,<sup>15</sup> such approaches are inapplicable to spectrum use in the 6 GHz bands where, as detailed above, there is overwhelming support for unlicensed use. Indeed, there is no clear support from any quarter for assigning 6 GHz spectrum via auction.

Spectrum auctions are inherently problematic for spectrum bands where varied uses are contemplated in an environment that requires sharing with incumbent users. Multiple parties note that the incentive auction model, for example, is fundamentally ill-suited to bands with a variety of users, each with specific communications needs that could not be easily satisfied via alternative means.<sup>16</sup> As Hewlett Packard observes, “clearing any part of the band of incumbents and auctioning the spectrum, or auctioning geographic ‘underlay’ licenses, would be more complex, less efficient, and take far more time when industry can least afford delay.”<sup>17</sup> Because premising changes in spectrum use on repurposing, removal and reuse is exceedingly time-

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<sup>14</sup> Comments of NCTA – The Internet & Television Association, GN Docket No. 17-183 (filed Oct. 2, 2017), at 1. *Id.* at 2 (“Provided that incumbent operations can be fully protected, NCTA supports designating the 5.925-7.125 GHz (6 GHz) band for unlicensed use. Growing consumer demand, plus increasing use of wide-bandwidth gigabit Wi-Fi channels, deployment of LTE technologies in unlicensed spectrum, and the advent of 5G networking will all contribute to taxing existing unlicensed bands beyond the load they reasonably can bear”).

<sup>15</sup> See CTIA Comments at 3-6; Ericsson Comments at 10.

<sup>16</sup> See All Points Group Comments at 13-14; Comments of Southern Company Services, Inc., GN Docket No. 17-183 (filed Oct. 2, 2017), at 12-13.

<sup>17</sup> Hewlett Packard Comments at 9. See also DSA Comments at 19 (“Clearing incumbents from the band and conducting an auction would be expensive, time consuming, and (thanks to unlicensed sharing solutions) unnecessary”).

consuming, it is especially unwarranted given the current and imminent demand for additional fixed wireless connectivity.<sup>18</sup>

As the Commission does not contemplate completely relocating incumbent licensees in the 6 GHz spectrum, and even prominent CTIA members reject the suitability of such an approach,<sup>19</sup> there is no basis in the record for adopting underlay auctions or selective buyouts as an access mechanism for these frequency bands. As DSA declares “[f]ully protecting FS and other incumbents would so severely limit underlay operations and locations that new licenses would generate little auction revenue or public benefit.”<sup>20</sup>

Finally, having very recently auctioned a large amount of low-band spectrum for exclusive, licensed use, the Commission should be concerned that treading this path once again for another large swath of spectrum would invite deep-pocketed carriers to warehouse frequency resources for distantly-imagined expansion, a result that would stifle near-term intra-modal competition.<sup>21</sup> In adopting new allocations in the mid-band spectrum, the Commission should strive to meet the needs of a range of spectrum users that deploy service in innovative and

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<sup>18</sup> See, e.g., NAB Comments at 8 (“NAB respectfully suggests that, given the tremendous uncertainty facing repacked broadcasters following the close of the broadcast spectrum incentive auction, future incentive auctions may be tenuous at best”); DSA Comments at 3 (“After Congress authorized the Incentive Auction, it took five years to design and complete the auction”).

<sup>19</sup> AT&T Comments at 4 (“AT&T also believes the 6 GHz microwave bands are not suitable candidates for either shared mobile use or for relocation—these bands are densely populated and serve societally beneficial requirements that cannot technically be satisfied using other microwave bands or alternative transmission technologies”).

<sup>20</sup> DSA Comments at 20.

<sup>21</sup> “While these auctions are effective for some spectrum bands, with respect to the midspectrum bands at issue here, such auctions are only suited for those companies with large amounts of capital to spend. Moreover, auctions incentivize bidders to purchase spectrum resources as an asset for future use rather than for immediate use.” Comments of California Internet, L.P. dba Geolinks, GN Docket No. 17-183 (filed Oct. 2, 2017), at 3.

entrepreneurial ways, and not simply assume that companies with the most cash to spend will realize the goal of putting this resource to its “highest and best use.”

#### **IV. THE 6 GHz BANDS ARE NOT APPROPRIATE FOR MOBILE USE**

While prospects for sharing between and among existing licensed fixed transmitting facilities and potential unlicensed fixed users appear very promising, WISPA agrees with the many commenters who observe that the 6 GHz bands are inherently unsuitable for the introduction of new mobile services.<sup>22</sup> Even some entities that are typically supportive of expanded mobile spectrum use join this widely-held view. For example, Qualcomm indicates that “[i]nserting licensed mobile operations in [the 6 GHz] band would be very difficult — if not impossible — due to the high number, importance, and variety of incumbents that already are licensed here on a primary basis.”<sup>23</sup> For its part, “AT&T also believes the 6 GHz microwave bands are not suitable candidates for either shared mobile use or for relocation—these bands are densely populated and serve societally beneficial requirements that cannot technically be satisfied using other microwave bands or alternative transmission technologies.”<sup>24</sup> NAB agrees that “the Commission should not consider mobile operations in these bands, as there is no effective means to protect incumbent users from such operations in these bands.”<sup>25</sup> Accordingly, given the overwhelmingly negative views on the potential for introducing mobile operations at 6 GHz, this notional option does not merit further consideration.

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<sup>22</sup> See, e.g., All Points Group at 13-14; AT&T Comments at 4; DSA Comments at 19-20; NAB Comments at 11; Southern Company Comments at 4-5; Qualcomm Comments at 9.

<sup>23</sup> Qualcomm Comments at 9.

<sup>24</sup> AT&T Comments at 4.

<sup>25</sup> NAB Comments at 11. See also Comments of CenturyLink at 3 (“Prohibiting mobile services in this band has been an effective tool for protecting and preserving quality communications services across these fixed service facilities”).

### **Conclusion**

For all of the foregoing reasons, WISPA strongly urges the Commission to add new spectrum allocations in the 6 GHz bands for unlicensed, fixed use. Spectrum sharing in these bands can be achieved by adopting appropriate sharing, technical and operational standards that take into account existing uses, and must be encouraged to maximize the efficient use of a resource that is in high demand.

Respectfully submitted,

### **WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

By:    /s/ *Chuck Hogg, President*, Chairman of the Board  
       /s/ *Mark Radabaugh*, FCC Committee Chair  
       /s/ *Fred Goldstein*, Technical Consultant

November 15, 2017