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

In the Matter of	)	
	)	
Unlicensed Use of the 6 GHz Band	)	ET Docket No. 18-295
	)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz	)	GN Docket No. 17-183
	)	

To: The Commission

REPLY COMMENTS
OF THE
ENTERPRISE WIRELESS ALLIANCE

The Enterprise Wireless Alliance ("EWA" or "Alliance"), in accordance with Section 1.415 of the Federal Communications Commission ("FCC" or "Commission") rules, is pleased to submit Reply Comments in response to the Notice of Proposed Rulemaking in this proceeding.[1] The FCC is considering rules that would allow unlicensed devices to share the use of what all parties agree is a heavily encumbered 6 GHz band that supports a wide variety of essential public safety, critical infrastructure, business enterprise, and commercial microwave links, as well as other services. These unlicensed devices would be authorized on a secondary, non-interfering basis with standard-power, outdoor device usage managed through an automated frequency coordination ("AFC") system and low-power indoor access point devices operating independent of the AFC mechanism.

EWA generally supports the Commission's efforts to employ creative band-sharing opportunities. As the demand for wireless capacity continues to escalate at a ferocious pace, the

[1] Unlicensed Use of the 6 GHz Band; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, *Notice of Proposed Rulemaking*, ET Docket No. 18-295; GN Docket No. 17-183, FCC 18-147 (rel Oct. 24, 2018) ("NPRM").

FCC must revisit the spectrum it manages and assess whether it can be put to more intensive, often more advanced use, subject to appropriate technical parameters and interference protections. Implementing sharing arrangements becomes even more challenging when, as in this case, the new application is for unlicensed, often nomadic usage, with devices operated by consumers that many parties believe will not be subject to appropriate control mechanisms. Individuals that purchase consumer wireless devices typically have little or no knowledge of any FCC limitations on their use of the equipment. Protective measures, and the means for enforcing them, need to be baked into the regulatory process, including provisions for both rapid intervention if interference occurs and accountability for any problems that do arise.

EWA recognizes the FCC's desire to "populate this [6 GHz] band with unlicensed uses"[2] and thereby provide more broadband spectrum for consumer-focused Wi-Fi devices. The Commission is obligated to address the Congressional mandate in the MOBILE NOW Act under Title VI of RAY BAUM'S Act[3] that the FCC identify more spectrum for wireless broadband use. The Alliance does not oppose sharing IF it can be demonstrated that there are appropriate measures in place, not simply to address interference should it occur, but to prevent it at the outset.

The record to date does not provide that assurance. For this reason, EWA must repeat the position it took on this issue in GN Docket No. 17-183.[4] It stated then and reiterates now that "…theoretical sharing solutions must prove out in the real world before they are unleashed in bands such as 6 GHz that are heavily populated by systems with very limited interference tolerance."[5] The Alliance does not doubt the Commission's intention to protect microwave and

[2] NPRM at ¶ 2
[3] *See* Consolidated Appropriations Act, 2018, P.L., 115-141, Division P, the Repack Airwaves Yielding Better Access for Users of Modern Services (RAY BAUM'S) Act.
[4] EWA *ex parte* letter dated June 1, 2018, GN Docket No. 17-183.
[5] *Id*. at 1.

other incumbent 6 GHz operations from interference. However, the Alliance does not believe there is sufficient "empirical evidence that unlicensed U-NII-type usage can be controlled sufficiently to avoid causing destructive interference."[6] It stands ready to work with the FCC and others in an effort to develop that level of assurance, but more must be done before sharing rules are adopted, and certainly before sharing is permitted.

EWA is far from alone in expressing these concerns. Although the NPRM states that the FCC "envision[s] the AFC system to be a simple database that is easy to implement,"[7] a number of commenters do not share that confidence. This hesitancy is rooted, in part, by the extensive and as yet less than fully successful efforts in bringing similar sharing arrangements to completion for devices operating in the TV White Space and Citizens Broadband Radio Service.

For example, AT&T Services, Inc. ("AT&T") stated in its Comments:

> …before adopting any rule allowing unlicensed use in the 6 GHz band, the Commission must insist that the record contain comprehensive and expertly crafted analyses detailing whether and what robust and near-perfect protections for preexisting licensed operations could be implemented to protect incumbent users. The Commission's proposed AFC system must be just the beginning of an ongoing dialog among stakeholders.[8]

APCO International ("APCO") offered several criteria that it believes must be met before an AFC system could be deemed reliable for interference-protection purposes.[9] The National Public Safety Telecommunications Council ("NPSTC") raised similar issues,[10] as did the Association of American Railroads.[11] Among other matters, all emphasized the need for a centralized, highly accurate and routinely updated AFC, for AFC authorization for both standard-power and low-

[6] *Id*.
[7] NPRM at ¶ 25.
[8] AT&T Comments at 5.
[9] APCO Comments at 3.
[10] NPSTC Comments at 10-11
[11] AAR Comments at 2.

power access points, as well as AFC registration of client devices, and for appropriately protective exclusion zones for incumbent systems. Some strongly cautioned against allowing these devices to be used in moving vehicles or aircraft,[12] although it is unclear how such restrictions could be enforced with potentially billions of devices in operation. Southern Company Services, Inc. ("Southern") identified a number of protection-related elements in the NPRM that it believes could be improved at minimal cost, but concluded that even if those elements were strengthened, "Southern does not believe that it is prudent or possible to introduce unlicensed devices in the 6 GHz band without unwarranted risk of interference to the critical licensed systems."[13]

Even if the technical issues in this proceeding could be resolved, proponents of unlicensed use still must acknowledge that instances of interference nonetheless may occur. EWA is particularly concerned that insufficient consideration has been given to what happens in that event. The NPRM devotes only a single paragraph – five sentences – to this critical element.[14] Who is responsible for shutting down the device and for the resulting liability? There are out-of-pocket costs incurred in identifying and resolving interference problems for which someone must be accountable. Since these unlicensed devices have only secondary rights in the band, does the AFC with which they are registered have operational and financial responsibility for the interference they cause? Will the FCC adopt rules regarding how quickly AFCs must respond to interference complaints? Will an AFC be held legally responsible for any negative repercussions that result should they shut down an unlicensed device? Will the FCC share these responsibilities? How will interference from low-power devices be handled if, as proposed, they are not required to

[12] *See, e.g.*, APCO Comments at 18.
[13] Southern Comments at 13.
[14] NPRM at ¶ 90.

register with an AFC? Will an incumbent be able to enforce rights against an AFC that may not be an FCC licensee; and, if so, in what forum: the FCC, state court, elsewhere?

Southern's Comments raise a number of salient points regarding this issue that EWA urges the Commission to consider carefully.[15] The Alliance is in full agreement with Southern's position: "It is unfair to licensed users to put them in the position of enforcing secondary operating rights against consumers, and it is inequitable to expect them to take on this policing activity with no means of being reimbursed for this enforcement function."[16] These issues must be resolved in a way that reflects the primary status of incumbent and future microwave licensees before the Commission can give serious consideration to allowing unlicensed devices into this band.

CTIA, in addition to supporting unlicensed operations in what it calls the lower portion of the 6 GHz band, seemingly the intensively encumbered 5.925-6.425 MHz band now identified by the FCC as U-NII-5, has urged the FCC to propose a wholesale repurposing of what CTIA labels the "upper 6 GHz band," 6.425-7.125 MHz, identified by the FCC as U-NII-6, U-NII-7, and U-NII-8. It recommends that this spectrum be designated for exclusive licensed service with licenses awarded by auction and incumbents subject to mandatory relocation with rights to comparable facilities.[17] As for where the microwave systems in the U-NII-7 portion of the band could be moved, CTIA blithely suggests that the Commission coordinate with NTIA in allocating a portion of the 7.125-8-4 GHz band for non-Federal use.[18]

It is not possible to offer meaningful comment on CTIA's proposal given its lack of critical detail. There would need to be an examination of the technical implications of moving these critical microwave systems to even higher spectrum – once again, as many 6 GHz systems were

[15] Southern Comments at 19-21.
[16] *Id*. at 20.
[17] CTIA Comments at 8-13.
[18] *Id*. at 13-15.

relocated from the 2 GHz microwave band to make room for the Advanced Wireless Service.[19] There is no information about where this Federal spectrum might be available for non-Federal use or how its availability correlates with the systems that would need to be relocated. There is no discussion about where new microwave systems or expansions of existing systems would be licensed during the undoubtedly multi-year period that such an undertaking would require. What is clear is the expectation on the part of the commercial wireless industry that their escalating arms race for licensed and unlicensed spectrum should not be impeded by incumbent licensees, even if those licensees' systems are essential in keeping the nation and its citizens safe and its businesses functioning.

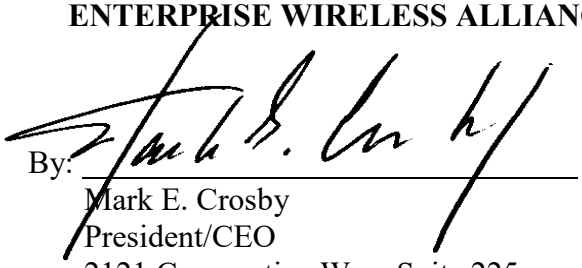
Genies cannot be stuffed back into their bottles if they prove more harmful than beneficent. The same is true of unlicensed devices in the hands of consumers who, as recognized by Southern, ignore warnings about wireless device use as white noise that doesn't permeate their consciousness. Before introducing unlicensed devices into this heavily encumbered spectrum, EWA urges the FCC to require at least the level of testing it has undertaken in other bands where similar sharing arrangements have been adopted.[20] It must assure itself and 6 GHz incumbents that the rules establish reliable, enforceable, prophylactic means for preventing interference and include provisions for addressing and resolving whatever instances of interference nonetheless occur.

[19] *See* 47 C.F.R. § 27.1111.
[20] AT&T Comments at 17.

EWA urges the Commission to adopt rules that are consistent with the recommendations herein.

Respectfully submitted,

ENTERPRISE WIRELESS ALLIANCE



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