

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

In the Matter of )  
 )  
Advancing Understanding of ) WT Docket No. 23-232  
Non-Federal Spectrum Usage )

To: The Commission

**COMMENTS  
OF THE  
ENTERPRISE WIRELESS ALLIANCE**

The Enterprise Wireless Alliance (“EWA”) is pleased to file Comments in response to the Federal Communications Commission (“FCC”) Notice of Inquiry into non-Federal spectrum usage.<sup>1</sup> Wireless communications is foundational to American life in the 21<sup>st</sup> century, and wireless service depends on spectrum, whether licensed or unlicensed, shared or exclusive, private or commercial. Because spectrum is a limited resource, the issues raised in the NOI are intended to assist the FCC in identifying “new opportunities to facilitate more efficient spectrum use, including new spectrum sharing techniques and approaches to enable co-existence among users and services.”<sup>2</sup> Its objective is to maximize the efficient use of spectrum.<sup>3</sup>

EWA shares that goal. As discussed below, its members, a broad variety of utilities, transportation, industrial, manufacturing, and other enterprise entities, make intensive use of limited amounts of spectrum to address their internal operating requirements. This spectrum is used in mines, shipyards, airports, forests, factories, farms, refineries, power generation and distribution facilities, and in other industrial activities that support the United States economy.

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<sup>1</sup> Notice of Inquiry, WT Docket No. 23-232, FCC 23-63 (rel. Aug. 4, 2023) (“NOI”).

<sup>2</sup> NOI at ¶ 1.

<sup>3</sup> *Id.* at ¶ 2.

EWA and its members are prepared to assist the FCC in its effort to quantify spectrum utilization and thereby identify opportunities for more intensive use. However, as noted in the NOI, there is no one-size-fits-all in calculating spectrum utilization. The NOI recognizes that the metrics used to assess utilization by public safety organizations and utilities, for example, must be different than those applied to other spectrum users and bands. EWA agrees, but as discussed below, submits that the more fundamental distinction is between licensed spectrum used for private internal systems generally and that used in the provision of commercial service.

Commercial wireless networks meet the communications needs of consumers and certain internal business requirements. Virtually every worker in the nation has a cellphone and likely uses it for some business as well as personal purposes. It may be appropriate to focus on factors such as throughput, servable population, density of end-user devices and/or the capacity of the system to accommodate dense usage when evaluating spectrum utilization on commercial networks.<sup>4</sup> But public safety, utility, and myriad other business enterprise entities also invest in the deployment and maintenance of private, internal systems designed and built to their specifications and operated under their exclusive control. They make these investments for security, reliability, privacy, employee safety, operational effectiveness, competitive goals, and other critical objectives.

The great majority of these systems utilize site- and frequency-specific spectrum licensed under Parts 90 and 101 of the FCC rules.<sup>5</sup> These are narrowband, non-contiguous frequencies with very limited bandwidth. By FCC rule in some instances and in response to

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<sup>4</sup> *Id.* at ¶ 19.

<sup>5</sup> Some spectrum governed under these rule parts are authorized for geographic, rather than site-specific, operations, but that is the exception.

capacity requirements in others, many of these systems have already migrated from analog to more efficient digital technology. This spectrum, by any definition, is intensively used.

FCC-certified Frequency Advisory Committees (“FACs”) such as EWA coordinate these systems based on FCC rules that provide for interference-free, co-channel and adjacent channel operations within a defined area. They effectively act as “spectrum sharing administrators.” Once coordinated applications are granted by the FCC, licensees then must invest in equipment to deploy on each frequency at each licensed location. They must certify that the frequency(s) has been placed into operation within one year and must certify continued operation at each ten-year license renewal.<sup>6</sup> Thus, unlike systems authorized for broad swathes of spectrum over large geographic areas, these private internal systems are held accountable for each frequency and site authorized. Their license data is captured in the Universal Licensing System (“ULS”),<sup>7</sup> which, when functioning, offers as detailed a description of utilization of this spectrum as any alternative system could provide.<sup>8</sup>

Each of these systems represents an internal communications requirement identified by the licensee. In some instances, such as a trucking fleet or school bus operation, spectrum may be in essentially continuous use during working hours, but largely quiet at night. Systems used in industrial facilities such as mines, refineries, and manufacturing plants may be in use 24/7, but typically are designed to direct signals within the facility to overcome intrinsically hostile environments with walls, large machinery, and other obstructions. Monitoring at any distance might suggest that the spectrum was not in use and could be reassigned to another licensee, but

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<sup>6</sup> Public safety licensees are exempt from the ten-year renewal certification obligation.

<sup>7</sup> For site- and frequency-specific systems, ULS is not a static “snapshot-in-time” database. These systems are modified routinely as frequencies and/or sites are added and deleted, as the number of units in the systems changes, and as technical parameters such as transmitter power and antenna height are modified.

<sup>8</sup> Like any database, ULS is only as accurate as the data entered. EWA believes returning to five-year license terms would improve the accuracy of ULS data. It also believes FACs could play a useful supportive role in helping the FCC identify systems where service has been discontinued permanently and those whose license parameters are not fully consistent with their actual operations.

the result would be interference into an already hazardous environment. In all systems, certain frequencies may be designated for emergency use only and remain quiet until such an event, but the need for immediate, unrestricted access to the frequency is critical at that time. Monitoring, if the FCC were to use that metric, on the scale needed to quantify private internal spectrum use is impractical for many reasons given the number and variety of such systems nationwide and not likely to yield reliable data.

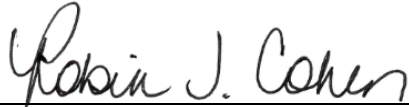
This use of spectrum in a private system is unlike a consumer-oriented commercial network in several ways. As noted above, private system licensees are accountable for each frequency at each site under a licensing regime that allows the FCC or third parties to know where the spectrum is authorized for use. If a frequency is not assigned to a licensee in a particular area, or is only authorized for shared use, it is immediately available for assignment to another applicant through the frequency coordination process. By contrast, commercial networks typically have geographic authorizations and are not required to identify which sites or frequencies are in service in a given area beyond the build-out showings required to satisfy overall population or geographic coverage. Additionally, spectrum used in systems designed for personal and business use by the general consumer population is likely to carry traffic 24/7, though that spectrum is also actively modified for usage patterns and capacity that suits those consumers' needs, such as afterhours when gamers and TikTok watchers are involved. By contrast, frequencies in private systems may have periods of limited activity, but must be available for immediate access when an emergency or operational need arises.

Thus, while geographic, time, and frequency usage analyses would not yield useful measurements of private wireless spectrum utilization for the reasons described above, those metrics may be appropriate for commercial networks that focus on population density to satisfy the FCC's build-out requirements.

Private internal and commercial systems each serve an important but distinct need. Their use of spectrum is not comparable, and there is no single metric that can reasonably be used to quantify both uses. EWA submits that utilization of Parts 90 and 101 spectrum in systems that support public safety and other private enterprise activities is demonstrably intensive and efficient. It will continue to keep pace with emerging technologies within its bandwidth limitations and thereby maximize the efficient use of spectrum by private entities.

Respectfully submitted,

**ENTERPRISE WIRELESS ALLIANCE**

By: 

Robin J. Cohen  
President/CEO  
13221 Woodland Park Road  
Suite 410  
Herndon, Virginia 20171  
(703) 528-5115

Counsel:

Elizabeth R. Sachs  
Lukas, LaFuria, Lantor & Sachs, LLP  
8350 Broad Street  
Suite 1450  
Tysons, VA 22102  
(703) 584-8678

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