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Sean Conway  
Deputy Chief Counsel  
National Telecommunications and Information Administration (NTIA)  
1401 Constitution Avenue, NW  
Washington, D.C. 20230

Re: National Spectrum Strategy (NSS) Implementation Plan Public Notice Submission

As the leading manufacturer of professional wireless audio products in the United States, Shure Incorporated (“Shure”) appreciates the opportunity to comment on the National Telecommunications and Information Administration’s (NTIA) implementation of the National Spectrum Strategy (NSS). As with many other industries, secure and reliable access to radio frequency spectrum is vital to the operation of wireless audio systems for Program Making and Special Events (PMSE) that include wireless microphones, In-Ear monitors, etc. Shure has been working closely with the Federal Communications Commission (FCC) and NTIA in the past on issues related to making shared spectrum bands available for use by PMSE and governing operation in those bands. It is important to note that PMSE equipment serves a wide range of purposes and supports many different industries in the public and private sectors, such as public education, government meetings, news gathering and reporting, religious institutions, sports, and entertainment. *The lives of every American are enhanced by professional wireless audio systems on a daily basis. These systems also support the vibrant and multi-billion dollar content production industry in the U.S.*

With respect to Pillar One of the NSS, “Spectrum Pipeline”, Shure supports the objective to identify spectrum resources to support private sector innovation now and for the future. Shure is continuously developing new technologies to advance the state of the art in the professional wireless audio industry. Despite its critical role supporting multiple industries, PMSE has no dedicated spectrum and has always operated in shared spectrum, notably the television broadcast band. As a result of various reallocations and subsequent auctions, there is now very little TV spectrum left to share. This is a problem in large cities and major markets where the demand for PMSE operation is high and growing. The three lowest bands, i.e., the



lower 3 GHz Band from 3.1-3.45 GHz, the 5030-5091 MHz Band, and the 7125-8400 MHz Band would be the most suitable for PMSE use. There are other potential spectrum bands in the 1-3 GHz range that could also be used by PMSE on a shared basis with incumbent Federal systems. Shure is already active in Dynamic Spectrum Sharing studies to enable such sharing (see below).

With respect to Pillar Two of the NSS, “Collaborative Long-Term Planning to Support the Nation’s Evolving Spectrum Needs”, Shure supports the objective to define requirements and implement capabilities to capture essential data and information on spectrum use. A problem for PMSE has been that it is difficult to accurately capture spectrum use and needs, because PMSE spectrum needs vary depending on the size of the events (e.g., from 40 MHz for a routine sports event to more than 150 MHz for the Olympic games) and is widely spread in terms of location and time of use. At the same time, operational integrity is critical at those times and places. Shure looks forward to providing inputs on these issues as they affect our industry.

With respect to Pillar Three of the NSS, “Unprecedented Spectrum Innovation, Access, and Management Through Technology Development”, Shure supports the objective to improve spectrum efficiency and bolster coexistence. Shure has invested continuously in the development of new spectrally efficient transmission systems to support audio PMSE. For instance, Shure is leading a collaborative work in [ETSI](#) and the [WInnForum](#), two standardization bodies known for developing innovative utilization of spectrum and wireless communications systems, to study sharing frameworks to allow temporary and flexible access for wireless audio systems. A joint [white paper](#) was published in June 2023 based on ETSI Technical Report [ETSI TR 103 885](#) and WInnForum Technical Report [WINNF TR-2011 V1.0.0](#).

Shure also supports coordinated, focused, and sophisticated research and development to optimize spectrum utilization and drive technological advancements. Shure has done considerable work on spectrum coexistence modeling and has expertise in this area as it applies to PMSE systems. Shure is also interested in collaborating on dynamic spectrum sharing studies utilizing the national spectrum testbed. Shure further supports the objective focusing on flexible spectrum use that can accommodate new and innovative



technologies. Historically, a great deal of shareable spectrum has been lost as a result of reallocations and auctions, making it unavailable for other uses. Such spectrum management policies worked well when the demand for spectrum was much lower and when there was plenty of greenfield spectrum, but that is no longer the case.

Finally, with respect to Pillar Four of the NSS, “Expanded Spectrum Expertise and Elevated National Awareness”, Shure has made a corporate commitment to build an in-house global spectrum team with expertise in spectrum technology and spectrum policy. This new team will work to help improve policymakers’ understanding of spectrum considerations for our industry and to collaborate with other industry researchers. Additionally, it will support the objective to help improve the public’s understanding of radio frequency spectrum and raise awareness of its role in everyday life. Shure’s spectrum team is already active within the United States, at the regional level in groups like CITEL and on a global level in ITU, including at the World Radiocommunication Conference that took place in Dubai recently.

Shure looks forward to continuing to work with NTIA as it implements the NSS. Please do not hesitate to contact the undersigned if you have any questions or comments.

Respectfully submitted,

/s/ Prakash Moorut

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Global Head of Spectrum & Regulatory Affairs

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