

Adeunis-NA, Inc. Exhibit for File No. 0532-EX-CR-2019

Adeunis-NA, Inc. ("Adeunis") is the United States subsidiary of Adeunis RF ("ARF"), a French corporation engaged in the design, manufacture and marketing of wireless communications systems. Adeunis is headquartered at 25 Main Street, Third Floor, Tuckahoe, NY 10707. ARF headquarters is located at 283 rue Louis Néel Crolles, Rhône-Alpes, 38920, France. Adeunis seeks to renew WJ2XUH for a period of 15 months. This exhibit provides an update to the application and exhibit filed last year with File No. 0604-EX-CN-2018. Adeunis is also filing the exhibit from 0604-EX-CN-2018 with this new application.

As the Commission is aware, Adeunis radios marketed under the VOKKERO® radio system (FCC Identifier U3ZARF7822) brand in the United States and around the world. Adeunis' radios are used by many college and university football conferences for game-time communications among referees. These radios operate on the same unlicensed frequencies (902-928 MHz) as those of a competitor, CoachComm, which sells similar radios for the coaching squads. As explained in File No. 0604-EX-CN-2018, differences between the FCC's and the European Union's standards for these radios,¹ which affect both the manufacture and operation of the two companies' radios, has resulted in Adeunis' radios receiving interference from CoachComm's radios. To avoid this interference, while Adeunis worked on technical solutions and attempted to negotiate a band-sharing agreement with CoachComm, Adeunis requested and received an experimental license in 2018 to operate on 902-928 MHz. The application was granted (WJ2XUH). With this application, Adeunis seeks a 15-month renewal of WJ2XUH.

Technical Efforts Since 2018

Beginning in 2018, year, Adeunis engineers have spent considerable time and resources to improve the resilience of the current VOKKERO® system against interference in the 902-928MHz band from other sources, most particularly those generated by Coachcomm X® system operating in the same football stadium during game-time environments. Specifically, the RF data rate of the VOKKERO® system has been increased to allow more protocol flexibility. Because of this higher data rate, a repetition mechanism to limit collisions with CoachComm system has been implemented by Adeunis. A DTS modulation has been added to the frequency hopping layer to create a Hybrid system and to able to choose the frequency space where CoachComm systems are not often found.

Today and after one year of work, we have engineering samples ready for field tests. However, Adeunis is not yet certain whether new technology will bring sufficient improvements to allow good audio communications for referees. Also, we are performing laboratory tests at Adeunis facilities to determine compliance with all FCC requirements. To finish field tests, the certification process and the industrialization phase, Adeunis need one additional football season (i.e., through and including January 2021) to operate under the experimental license to allow our customers to continue to operate with VOKKERO® systems.

Business Negotiations

In March 2019, Adeunis launched an effort to begin negotiations of a band-sharing plan for the 902-928 MHz spectrum. Preliminary negotiations through counsel were successful; and the

¹ Adeunis manufactures its radios to the EU standard, which prohibits the transmission of energy as the radios engage in frequency hopping ("ramp-down/ramp-up"). Conversely, CoachComm manufactures its radios to the FCC standards, which permits transmission of energy during frequency hopping.

parties agreed to negotiate a technical solution among engineers. Adeunis has requested these negotiations begin. However, CoachComm has not responded to the invitation (as of October 17, 2019).

Informal Request for Commission Action

It is clear that the existing Part 15 rules (specifically 47 C.F.R. § 15.247), which allow transmission of energy when covered radios are engaged in frequency hopping, often results in interference between systems operating in the same small location at the same time. This, in turn, results in inefficient use of radio spectrum and the need to seek regulatory intervention. Therefore, pursuant to 47 C.F.R. § 1.143, Adeunis respectfully requests that the FCC investigate the possibility of amending its rules to require the use of a “ramp-down-ramp-up” protocol for wireless microphones operating in the 902-928 MHz band, including an appropriate grandfathering period for non-compliant radios.

Moreover, to facilitate efficient spectrum sharing, the Commission should consider an additional rule change to prohibit the synchronization of Hopping Systems (as described in FCC section 15.247 (h)) by hybrid systems, which also use a frequency hopping spread spectrum technology.

Section 15.247(h) reads:

The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.