

Application for Grant of Special Temporary Authority
National Football League
File No. 1330-EX-ST-2020

This application proposes the use of two, 20 megahertz-wide channels at each of the NFL Team Stadiums in the United States for purposes of proof-of-concept and interference testing of a new broadband communications system now under development, to operate ultimately in accordance with the rules adopted for such systems in the Part 96 Citizen's Broadband Service (CBRS). The intention of the applicant is to ultimately operate a general-access CBRS communications system in NFL stadiums which enable coaches to communicate with other coaches during televised NFL games. The Coach-to-Coach communications system involves coaches in the booths overlooking the field and headsets on the coaches in the field. Ultimately, when fully developed and tested, it is anticipated that this communications system would operate in the Part 96 CBRS a General Access use and the application will be expanded to include coach-to-player communications.

Prior testing pursuant to STA similar to this one (See, File No. 0854-EX-ST-2018) was productive. However, recent test deployments pursuant to service provided by a grandfathered WBS licensee, Rajant, revealed serious interference issues. Specifically, interference from another CBRS system inside a stadium to the NFL coach communications system occurred during a playoff game at M&T Bank Stadium in Baltimore on Saturday, January 11. Interference was noted in Miami just prior to the commencement of the Super Bowl, which was resolved cooperatively with the CBRS deployment in that Stadium. When the interference was identified in both cases, the NFL asked the other CBRS user to shut down its CBRS system, which ceased all interference problems. The NFL and the other CBRS user in Baltimore met in February to perform cooperative testing of the respective CBRS systems. The interference consisted of multiple dropouts in communications. Diagnostic testing of the NFL system revealed poor performance in the presence of co-channel or adjacent channel operation due to rapidly increasing packet loss. Testing had to be suspended thereafter, however, due to the COVID-19 pandemic, and the NFL season is about to start, during which further interference testing, interference mitigation testing, and further development of the NFL CBRS system will be taking place in all stadiums. The Wireless Bureau has noted that it consents to the issuance of the requested STA.

An STA for this testing is required: there is no alternative, because CBRS Priority Access licensees have not established operations, there can be no secondary market service provision from the PAL licensees; indeed, the PAL CBRS auction has only just been completed and the successful bidders identified.

The system under development and under test, for the purpose of this STA, will utilize 20 megahertz occupied bandwidth signals fully contained in the band 3650-3700 MHz. The emission would be OFDM (i.e. 20M0D7W) at 250 milliwatts (or less) Effective Radiated Power per transmitter. There are anticipated to be required 40 transmitters per stadium. All transmitters would be operated entirely within the NFL stadiums and therefore they will have the benefit of a high degree of attenuation from the stadium structures. Interference and developmental testing will occur at each test venue during actual games and only during the time of those games.

Testing of this system will begin immediately upon grant of this STA request. Should any authorized user of this spectrum suffer interference, all testing of the system will cease at that stadium and not resume unless and until all such interference has been resolved to the reasonable satisfaction of the complainant(s). The Spectrum Access System (SAS) administrators will be notified of the schedule of testing and testing will be coordinated with them as necessary to prevent interference during test periods.

A stop-buzzer contact for all NFL operations pursuant to this STA will be Mr. John Cave, who can be reached at 917-359-4531. Also, undersigned counsel for the applicant can be used as an additional stop-buzzer contact at 301-351-3795 (mobile).

All other questions should be directed to counsel for the applicant:

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