

## **Exhibit**

Applicant seeks a one (1) month Special Temporary Authority (STA) to demonstrate at the RTX 2018 Animation Festival held at Austin Convention Center in Austin Texas, the functionality, features, and capabilities of the fifth generation (“5G”) wireless communication systems using experimental equipment operating in the 28 GHz spectrum band. The STA is needed from July 30, 2018 to August 30, 2018.

The industry standards organization, 3<sup>rd</sup> Generation Partnership Project (“3GPP”), has developed 5G standards that became available in 2018. 5G systems will utilize advanced antenna technologies with beamforming and multiple in multiple out (“MIMO”) technology, as well as more efficient coding and modulation schemes. These technologies are expected to result in higher spectral efficiencies, reduce latency to 1-5 milliseconds, and enable gigabyte per-second (Gbps) mobile and fixed broadband services, significantly faster than today’s average 4G speeds using long term evolution (“LTE”) connections.

Applicant’s 5G demonstrations will involve communications between up to 3 fixed (FX) base stations, and up to 6 user equipment (UE) units placed within 100 meters of the base station antennas. The 5G air link will be used in demonstration of digital technologies requiring very high speeds and low latencies, such as 4K TV, volumetric video, and eSports/mobile gaming. The base station and the UE antennas will be placed indoors at a height of less than 4 meters above the floor inside the Austin Convention Center located at 500 E. Cesar Chavez, Austin, TX 78701. The base station will have connectivity to an internal server providing content over the 5G air interface for this demonstration. The UEs can provide services to various devices through Wi-Fi access points connected to the UEs via Ethernet cable.

The demonstrations using this STA will provide valuable information to users whose feedback could be used to enable product development and system optimization, as well as to improve future system deployments.





