

## **Exhibit**

Applicant seeks Special Temporary Authority (STA) to demonstrate at the AT&T SHAPE Conference 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 May 15, 2018 - June 15, 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 demonstration 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 base station and the UE antennas will be placed indoors at a height of less than 4 meters above the floor in a room or open space inside a building or on the ground in front of a building located within the Warner Brothers Studios perimeters at 3400 W. Riverside Dr., Burbank, CA 91522. The red arrow in the map below indicates the primary location of the base station but one of the adjacent buildings may also house a BS or UE unit or units. 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 (e.g. smartphones) through Wi-Fi access points connected to the UEs via Ethernet cable.

The demonstration using this license will provide valuable information to potential users whose feedback on the perceived performance of services provided through the 5G system could enable future standards and system optimizations.



