

## **Exhibit**

Applicant seeks a Special Temporary Authorization (STA) of six (6) months to demonstrate the functionality and capabilities of fifth generation wireless communication (“5G”) systems using experimental equipment operating in the 3.5 GHz spectrum band.

The industry standards organization, 3<sup>rd</sup> Generation Partnership Project (“3GPP”), is developing 5G standards, which are expected for release beginning 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.

The applicant’s 5G systems demonstrations will involve communications between fixed base stations placed inside a building at 601 New Jersey Ave., NW Washington DC 20001. The building has concrete walls and windows with coated glass as shown below. The 5G systems wireless link will be established between the base station and mobile user equipment (“UE”) located in the same room or area as the base station, at a distance of within approximately 12 meters of the base station. The base station and UE will be operated within approximately 3 meters above floor level in the building. The base station will connect to an Internet service provider, which will provide Internet access for the purposes of 5G systems demonstrations using various applications and web servers. The UEs can provide services to various devices through Wi-Fi access points connected to the UE through Ethernet cable.

The demonstrations using this STA will provide valuable information to potential users whose feedback on the perceived performance of services provided through these 5G systems will also enable future standards and system optimizations.



