Exhibit

By this application, T-Mobile License, LLC seeks special temporary authorization ("STA") so that its affiliate, T-Mobile, USA, Inc. ("T-Mobile"), may experiment by operating 600 MHz stations for which it is licensed outside the parameters described in Section 27.1310 of the rules and Bulletin No. 74 issued by the Commission's Office of Engineering and Technology for a period of six months from the date of grant.

As the Commission is aware, T-Mobile was the successful bidder for many 600 MHz licenses in broadcast incentive auction.[1/] It has announced that it has already deployed its 600 MHz spectrum in many markets and plans to continue to do so in support of the introduction of Fifth Generation ("5G") wireless services.[2/] In order to provide the best wireless services available to consumers, T-Mobile constantly evaluates emerging technologies and the use of new equipment. This STA will allow it to do that inside one of its facilities at its headquarters location in Bellevue, WA, testing LTE and 5G New Radio devices.

Section 27.1310 of the rules states that licensees operating in the 600 MHz band must not cause harmful interference to reception of full power and Class A broadcast stations transmitting co-channel or adjacent channel. In an abundance of caution, in order to implement that protection requirement, the rules and OET Bulletin No. 74 impose a 5 megahertz adjacent channel separation requirement when a 600 MHz LTE device – handset or base station – operates within the protected service contour of a full power or Class A television station.

T-Mobile holds the licenses for the 600 MHz C Block (627-632, 673-678 MHz) and D Block (632-637, 678-683 MHz) in the Seattle area.[3/] Multiple television stations in the Seattle area are authorized to operate adjacent and co-channel to these frequencies. Therefore, using the parameters contained in OET Bulletin No. 74, T-Mobile would not be permitted to use its C and D Blocks under Section 27.1310 of the rules because of these television station operations. Consequently, T-Mobile requires experimental authorization for a limited period of time to operate outside the rule parameters.

There are no ISIX Case 3 (*i.e.*, interference from a wireless base station to a television receiver) co-channel stations at the testing location. There are two ISIX Case 3 adjacent channel stations at the testing location: KIRO, which operates at 620-626 MHz (Ch. 39) and KWDK, which operates at 638-644 MHz (Ch. 42). For ISIX Case 4 (*i.e.*, interference from a mobile wireless device to a television receiver), there is a single co-channel station, KING, which operates at

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1/ *See Incentive Auction Closing and Channel Reassignment Public Notice*, Public Notice, DA 17-314, 32 FCC Rcd 278, Appendix B (2017).

2/ *See* T-Mobile, "T-Mobile 600 MHz Extended Range LTE Now Live in More Than 1,250 Cities & Towns, Laying the Foundation for 5G", Sept. 10, 2018 (available at https://www.t-mobile.com/news/600-mhz-update-puerto-rico).

3/ *See* FCC call signs WQZL458 (C Block) and WQZL459 (D Block).

674-680 MHz (Ch. 48) and a single adjacent channel station KUNS, which operates at 686-692 MHz (Ch. 50).

For ISIX Case 3, interference will be prevented through the combination of base station signal attenuation and frequency separation. The base station signals will be attenuated into dummy loads (*i.e.,* into a non-radiative "antenna") for radiofrequency safety and interference prevention. While the base stations are capable of transmitting at 80 watts output power, based on the dummy load attention, they will generate only 100 milliwatts ERP. Additionally, both of the affected television stations (KIRO and KWDK) will have at least 1 megahertz of spectrum separation from the LTE and 5G New Radio operations, providing additional redundant interference mitigation.

For ISIX Case 4, interference will likewise be prevented by physical containment of the radiofrequency signal through power control on the devices. Mobile handsets typically have a maximum power level of 24 dBm but often transmit at much lower power levels. For purposes of testing under the experimental authorization, the devices will be programed to operate at 10 milliwatts -- low enough to ensure that signals will not escape the testing facility.

Grant of this application is appropriate to permit T-Mobile to test the base stations and handset devices in advance of introducing them in its network. The protections of broadcast stations contemplated by Section 27.1310 of the rules and OET Bulletin No. 74 are not required in this instance because of the very low power at which the target devices will operate. As the attached application shows, base stations will operate at 100 milliwatts ERP and handheld units at 10 milliwatts ERP or less. None of the devices will leave the inside of T-Mobile's facilities and none will be used in support of the provision of service to customers. While the devices will not be operated inside a Faraday cage or similar enclosure, the rooms and building in which they will operate, as well as the human presence in those rooms, will cause significant radiofrequency transmission losses and any radiofrequency energy outside the buildings will not be perceptible, including to transmission or reception of the affected television stations. In all circumstances, should T-Mobile, a broadcaster, or a television viewer detect harmful interference to licensed television operations the testing shall cease.

The associated form requesting STA notes a contact person with T-Mobile. That person will be available to immediately cease operations on T-Mobile's channels that are adjacent to the affected television stations in the unlikely event that T-Mobile's experiment causes harmful interference to broadcast station viewers.