

## **DESCRIPTION OF RESEARCH PROJECT**

CCO Fiberlink, LLC (“Charter”), a limited liability company and subsidiary of Charter Communications, Inc., seeks Special Temporary Authority (“STA”) for 180 days, beginning December 1, 2017, to test and evaluate millimeter wave coverage and capacity performance in anticipation of 5G wireless development. As part of its efforts to lead the industry in broadband innovation, Charter intends to conduct fixed wireless experiments in the 28 GHz millimeter wave band. The proposed operations will advance Charter’s understanding of 5G technology and network potential in the millimeter wave bands and will advance the potential deployment of 5G fixed and mobile services.

Charter will conduct the proposed test using antennas at several locations in the Grand Rapids, Michigan area. These experiments will evaluate the 5G frequencies and technologies for their use in point-to-multipoint access network capacity (*e.g.*, rate versus range) and data throughput. The ultimate goal of these tests is to research the techniques and efficacy of fixed wireless broadband solutions in the 5G frequencies. Tests in each location will utilize fixed transmitters with a 1 km or smaller effective radius. Due to limited use of the requested band in the proposed locations, Charter does not anticipate that these experiments will cause harmful interference, and Charter will work closely with the equipment vendor to ensure no interference occurs.