Pursuant to Section 5.61(c) of the FCC's rules, Mavenir Systems, Inc. (Mavenir) requests an extension of its STA in order to continue its limited over-the-air testing of a Massive Multiple Inputs Multiple Outputs ("Massive MIMO") radio in the 3.7 to 3.8 GHz band at its Richardson, Texas laboratory. While Mavenir has conducted extensive testing of its radio "on the bench" (directly coupling the radio to test phones at its facilities), outdoor over-the-air testing is necessary for Mavenir to ensure that the radio performs in a setup that will represent how it will be deployed by its customers. Specifically, Mavenir seeks to continue testing the mechanics of deploying Open RAN software to target directional signals to individual mobile phones and clusters of mobile phones to overcome propagation losses at the higher frequencies it will be operating at. Mavenir also seeks to continue testing the effects of foliage and buildings on the signal strength at various frequencies.

The operating parameters of the proposed testing should continue to minimize the risk of interference to licensed users operating in the 3.7 to 3.8 GHz band. Signal coverage will extend a maximum distance of 1 kilometer from Mavenir's testing facility which will limit coverage and testing will continue to be conducted in low power mode (44 dBm). The closest airport to Mavenir's test location is Addison Airport, which is 7.3 miles away.

Mavenir will continue to use the minimum power level necessary to establish communications links to minimize potential interference to licensed users. Although the application specifies an output power and ERP of 48 dBm and 582.31255 W, respectively, this is based on operation of the antenna in high-power mode, which Mavenir intends to utilize infrequently, if at all, during the course of the experiment. Mavenir intends to continue to operate predominantly in low-power mode. Low- power mode utilizes an output power of 23.4 dBm and 19.2847 W, respectively. Operation in low-power mode will further reduce the strength of signal and greatly reduce the risk of harmful interference to incumbent licensees. Mavenir would only consider operation in high-power mode if it finds while conducting drive testing in the area immediately in front of the antenna that the signal is too attenuated by buildings and trees.

Mavenir is aware that it must avoid causing interference to the existing Fixed Service operatiors and FSS earth stations in the band. Mavenir has taken and will take steps to avoid causing interference to incumbent users in the band. Mavenir is aware of the location of Satellite Ground stations operating in the area of its test facility and has commissioned a study to determine the orientation of its radio that will have the least impact on these stations. Mavenir has also conducted a 360º radio sweep with a Spectrum Analyzer at the proposed transmit height to verify the location and signal strength of these authorized users. Mavenir will continue to coordinate its testing with these operators prior to operation and cease testing if harmful interference is caused.

Mavenir is aware that other stations may be licensed on these frequencies and if any interference occurs, it will be subject to immediate shut down. In lieu of frequency tolerance, the occupied bandwidth of the emission will not extend beyond the band limits set forth in the application for special temporary authority. Mavenir is aware that FSS earth stations are licensed above 3700 MHz and if any interference occurs, it will be subject to immediate shut down.