University at Buffalo
The State University of New York

UPDATED Supplemental Statement of University at Buffalo STA File Number 0753-EX-ST-2018 (New information shown in *italics*)

This application is for radio propagation and broadband modulation experiments at the University at Buffalo campus on the frequencies 220-260 GHz

This effort is part of a collaboration between the Air Force Research Laboratory, Rome NY and University at Buffalo. The attached letter from AFRL certifies this work is "very relevant to the ongoing efforts on THz communications at AFRL and UB and request(s FCC's) timely consideration."

The frequencies being used are the coverage of the transmitter we were able to borrow for this test. Transmitters at this range are not in serial production so research within reasonable budget constraints must focus on frequency ranges that can be tested at reasonable cost. Upon completion of such research showing feasibility of broadband transmissions, equipment development can focus more on practical issues of allocations and service rules.

All experiments will be transmissions from antennas on the top of Clemens Hall, a 3-story building. In all cases there will be a negative elevation angle so the propagation path will be below the horizontal plane. This will prevent any impact to passive satellites that might be using this band as well as any other cochannel users.

There was a slight error in preparing the application - we stated "Clements Hall" and used its location, the actual location is "Clemens Hall".
This is a slight change of initial coordinates:
Corrected coordinates are
43 00 00 N 78 47 04 W

This location is about 10 km from the closest location Canadian territory. The antenna that will be used is highly directional. In order to avoid the need for Canadian coordination, we will not use any azimuth that points to Canadian territory unless there is clear building or terrain blockage on US territory in that azimuth.

These tests will involve a 55 dBi antenna which will be pointed from time to time in various azimuthal angles.

Will expect that all emissions will be contained within the university campus.

We believe that the technology being tested here is "new technology" in the context of 47 U.S.C. 157. Therefore we ask that this application be treated under the provisions of § 7, particularly with respect to the burden test of § 7(a):

> Any person or party (other than the Commission) who opposes a new technology or service proposed to be permitted under this chapter shall have the burden to demonstrate that such proposal is inconsistent with the public interest. (Emphasis added)

The frequencies requested here include the bands with primary or coprimary allocations for Radio Astronomy and Earth Exploration Satellite (passive) and thus are subject to the provisions of § 5.85(a)(2) . In accordance with these provisions we make the following statements:

> 1) University at Buffalo acknowledges that long term or multiple location use of passive bands is not possible under provisions of the present US allocation table
>
> 2) University at Buffalo intends to transition any long-term use to a band with appropriate allocations at that time.

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