

MEMORANDUM FOR Office of Engineering and Technology
Federal Communications Commission
445 12th St SW, Washington, DC 20554

FROM: Air Force Research Laboratory, Information Directorate
525 Brooks Rd, Rome, NY 13441

SUBJECT: FCC Authorization for Field Testing

1. The University at Buffalo (UB), FRN 0027068717, has a long-established collaborative relation with the AFRL for over 4 years in the topic of ultra-high-speed wireless communications in the Terahertz band (0.1-10 THz). The AFRL Information Directorate has an active mission to pursue innovative technologies for agile, spectrally efficient, and robust communications capabilities. To that end, AFRL has released a Request for Information (RFI) for Terahertz (THz) Communications (solicitation number: RFI-RIK-16-02) to identify existing technologies and the near to long-term development potential for terahertz (THz) communication (100 GHz to 10 THz) networks. We believe the work that UB research team has been doing is a highly innovative technology that will have a big impact in the area of spectrum-agile network communications.
2. UB is applying to your branch for a Special Temporary Authorization for short-term, low-power radio transmissions over the 224-256 GHz and the 1,040-1,072 GHz bands in the East Amherst/Buffalo, New York area. They plan to conduct fixed testing for up to ten (10) weeks during a time period covering April 2018 to September 2018. This application is STA File Number 1781-EX-ST-2017.
3. UB's selection of these two frequency bands for the initial experiments are based upon RF component availability. The objective of the 224-256 GHz band experiment is to demonstrate the feasibility of long-range (1 km) high data-rate (100 Gigabits-per-second) wireless communication links at this frequency for the first time. The objective of the 1,040-1,072 GHz experiment is to demonstrate the feasibility of wireless communication at frequency beyond 1 THz with data-rates approaching 1 Terabit-per-second.
4. I certify this work is of very relevant to the ongoing efforts on THz communications at AFRL and UB and request your timely consideration. For further information, please contact Ms. Ngwe Thawdar at (315) 330 2951 or email at Ngwe.Thawdar@us.af.mil.

NGWE THAWDAR,

Electronics Engineer
AFRL, Information Directorate