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Exhibit Documenting Eligibility for a Program Experimental License in Accordance with 47C.F.R.§5.302 and 47 U.S.C. § 157.

This experimental license application is for requesting eligibility to conduct research at University of Southern California – main campus in the low THz band ranging for frequencies between 155 ± 15 GHz, 185 ± 15 GHz, 210 ± 15 GHz, 340 ± 15 , 400 ± 15 GHz, 485 ± 15 GHz frequency and transmit power less than 10 Watts.

Channel sounding experiments will be conducted by members of University of Southern California – Wireless Devices and Systems Group (USC-WiDeS) led by Professor Andreas Molisch. University of Southern California is an academic institution accredited by the Accreditation Board for Engineering and Technology. USC Electrical Engineering department, which will oversee this experiment, has been accredited since 1942 to present, with next review year scheduled in 2021-2022. This may be verified on ABET Website:

<http://main.abet.org/aps/AccreditedProgramsDetails.aspx?OrganizationID=165&ProgramIDs=1234>

Research on communication in the THz band is a very new topic and as yet there are no established channel models. Such channel models, that may be facilitated by this license, will ensure that the United States remains a world leader in the field of communications and is on the frontiers of future high-speed communication technologies.

USC-WiDeS group has been actively pursuing research in wireless channel measurements and modeling. Professor Andreas Molisch is the Principal Investigator, and Postdoctoral Scholar Dr Naveed A. Abbasi, will conduct experiments under his guidance. Professor Andreas Molisch and USC-WiDeS group's expertise on radio frequency experimentation and ability to manage wide variety of research projects are shown through published papers from earlier experiments [1]-[5].

This experiment will require to operate between on frequencies between 140 to 220 GHz for research reasons as well as hardware requirements. The experiments will be conducted responsibly within University of Southern California's main campus, located on (153.061886, -26.718614), with campus size of 1.24643 km² (figure 1).

The applicant certifies that:

- The radio frequency experimentation will be conducted in a defined geographic area under the applicant's control; and
- The applicant has institutional process to monitor and effectively manage a wide variety of research projects; and
- The applicant has demonstrated expertise in radio spectrum management or partner with another entity that has such expertise.

The applicant further certifies that:

- All the statements in the application and exhibits are true, complete and correct to the best of the applicant's knowledge; and
- The applicant is willing to finance and conduct the experimental program with full knowledge and understanding of the limitations; and
- The applicant waives any claim to the use of any frequency or of the electromagnetic spectrum as against the regulatory power of the USA.

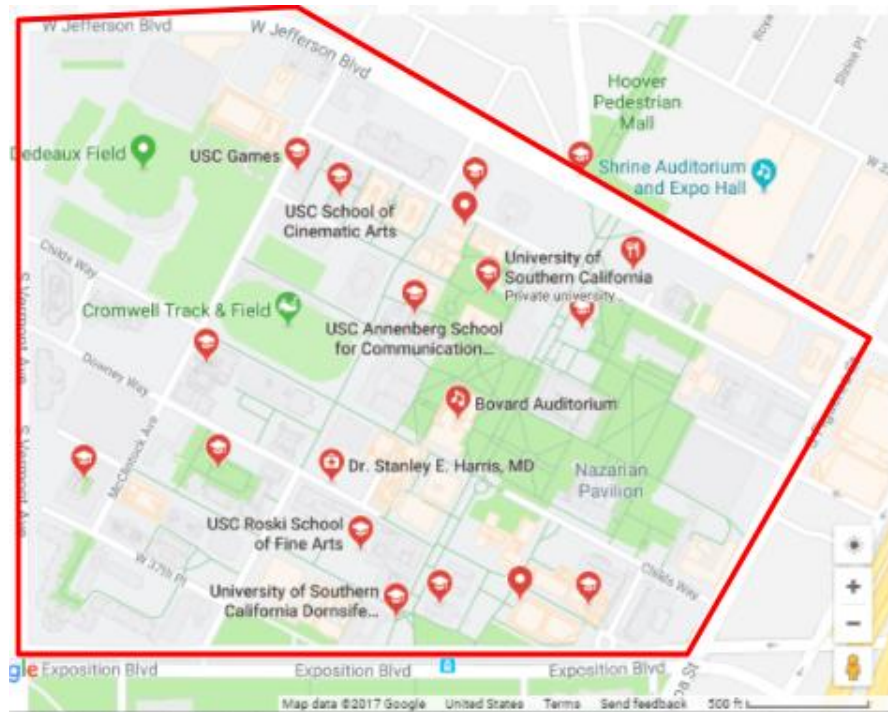


Figure 1: University of Southern California Main Campus.

References:

- [1] R. Wang, O. Renaudin, C. U. Bas, S. Sangodoyin and A. F. Molisch, "High-Resolution Parameter Estimation for Time-Varying Double Directional V2V Channel," in *IEEE Transactions on Wireless Communications*, vol. 16, no. 11, pp. 7264-7275, Nov. 2017.
- [2] R. Wang, C. U. Bas, O. Renaudin, S. Sangodoyin, U. T. Virk and A. F. Molisch, "A real-time MIMO channel sounder for vehicle-to-vehicle propagation channel at 5.9 GHz," *2017 IEEE International Conference on Communications (ICC)*, Paris, 2017, pp. 1-6.
- [3] C. U. Bas and S. C. Ergen, "Ultra-wideband Channel Model for Intra-vehicular Wireless Sensor Networks Beneath the Chassis: From Statistical Model to Simulations," in *IEEE Transactions on Vehicular Technology*, vol. 62, no. 1, pp. 14-25, Jan. 2013.
- [4] D. Cassioli, M. Z. Win and A. F. Molisch, "The ultra-wide bandwidth indoor channel: from statistical model to simulations," in *IEEE Journal on Selected Areas in Communications*, vol. 20, no. 6, pp. 1247-1257, Aug 2002.
- [5] A. F. Molisch, J. R. Foerster and M. Pendergrass, "Channel models for ultrawideband personal area networks," in *IEEE Wireless Communications*, vol. 10, no. 6, pp. 14-21, Dec. 2003.