

QUESTION 6: STATEMENT OF RESEARCH PROJECT

- a. A description of the nature of the research project being conducted.
The research involves light of sight communication using a millimeter-wave E-band radio. In particular orbital angular momentum modes are generated for this frequency band.
- b. A showing that the communications facilities requested are necessary for the research project.
In order to test the hypothesis of this research we are required to complete experimental tests in this band using commercially available radio systems.
- c. A showing that existing communications facilities are inadequate.
The current facilities and frequency band at which we can operate do not permit use without authority from FCC. No one in our facility currently holds a license for this type of research work, so this application will afford us the opportunity to complete our testing.

QUESTION 12: STATEMENT OF APPLICANT CLASSIFICATION

Other – The applicant is a university in the state of Texas.