

To: Jacob Ketcham
E-Mail: jketch@umich.edu
From: Behnam Ghaffari
Date: July 27, 2016

Subject: FCC File No. 1115-EX-ST-2016

Message:

Please submit the following items:

1. A detailed exhibit that describes your operation;
2. NOAA approval letter for the imaging operations;
3. Orbital Debris Assessment (ODAR);
4. SpaceCap (you will need to email the file directly to me (behnam.ghaffari@fcc.gov) since ELS can only handle pdf files. You will need to change the .mdb extension to .txt or .pdf so it is not blocked by our email filter. We then change it back.);
5. Cost recovery letter;
6. IARU consent/coordination letter to use amateur frequencies 437.485 MHz and 436.39 MHz;

7. Provide the information notes below for the purposed Cubesat. Submit your response as .pdf to your application:

- a) THE TYPE OF SATELLITE, GEOSTATIONARY OR NONGEOSTATIONARY
- B.) IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM,
- b) THE SATELLITE TRANSMITTER ANTENNA GAIN AND BEAMWIDTH,
- c) THE SATELLITE TRANSMITTER ANTENNA AZIMUT: NARROWBEAM (NB), EARTH COVERAGE (EC),
- d) THE EARTH STATION RECEIVER ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS AND THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS,
- e) THE EARTH STATION RECEIVER ANTENNA AZIMUTH, THE MINIMUM ANGLE OF ELEVATION (V00 TO V90),
- f) THE TRANSMITTER ANTENNA ORIENTATION (XAP), EXAMPLE XAP01 J , AND THE RECEIVER ANTENNA ORIENTATION (RAP), EXAMPLE RAP01 J , WHERE J REPRESENTS LINEAR POLARIZATION. OTHER POLARIZATIONS INCLUDE H FOR HORIZONTAL, V FOR VERTICAL, S FOR HORIZONTAL AND VERTICAL, L FOR LEFT HAND CIRCULAR, R FOR RIGHT HAND CIRCULAR, T FOR RIGHT AND LEFT HAND CIRCULAR, E FOR ELLIPTICAL AND O FOR OBLIQUE ANGLED CROSSED.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of July 27, 2016 may result in application dismissal pursuant to Section 5.67 and forfeiture of the filing fee pursuant to Section 1.1108.

DO NOT Reply to this email by using the 'Reply' button. In order for your response to be processed expeditiously, you must upload your response via the Internet at <https://apps.fcc.gov/oetcf/els/index.cfm> by clicking on the "Reply to Correspondence" hyperlink.

Responses to this correspondence must contain the Reference number : 33255