From: Mark Turpin

To: Nimesh Sangani
Date: May 07, 2019

Subject: Additional Information Request

Message:

1) What is the size of the proposed antenna(s)? If there is no call sign and IBFS file no. for the proposed antenna(s), please submit antenna’s pattern performances

Two antennas are used in our testing. One mounted on the projectile (mobile station) and one at the fixed station to receive data from the projectile.

Mobile antenna has a peak gain of 5.4dB and the fixed antenna has a peak gain of 34dB. The patterns are shown in images recently added as amendments to our application

2) Please submit a radiation hazard of the proposed antennas if there is no call sign and IBFS file no.

Radiation hazard calculations were performed using an online “Amateur Radio RF Safety Calculator” (http://hintlink.com/power_density.htm) and shown in figure 5. Only the Fixed Station was analyzed, as the mobile station is very low power and is only active for a very short period of time.

Existing safety zones for this experiment (several thousand meters) are considerably larger than the calculated RF hazard zone.

Results of the hazard analysis calculations are shown in the recently added image amendments.

3) Please provide Point of communication: (i.e. specify an authorized GSO Ku-band or NGSO Ku-band satellites or both, and then provide call sign for each satellite)
No satellite communications are part of this experiment. Communications are exclusively between the fixed and mobile (projectile / bullet) stations described in the experimental license request.

This experiment is testing communications between a bullet in flight (mobile station) and a fixed receiver station.

Communications are only active for the time of flight of the projectile (under 1 second) during each test.

Target area and firing position are at similar elevations. Antenna will be pointed directly at the target position (due west, 270 degrees) with zero incline from horizontal.

4) If the proposed satellite is NGSO satellite, please demonstrate that your proposed operations in the 11.7-11.8 GHz band will meet the power Flux-density limits in Article 21 of the ITU Radio Regulations and the equivalent power Flux-density limits in Article 22 of the ITU Radio Regulations.

No satellite communications are part of this experiment. See response for question number three (3).

5) Please certify that your proposed operations and communication between earth stations and satellites are in compliance with all existing or future coordination agreements between the proposed satellite operators and other administrations, GSO and NGSO satellite operators.

No satellite communications are part of this experiment. See response for question number three (3).