



Date: April 9, 2021

FILED VIA IBFS

Merissa Velez
Chief, Policy Branch
International Bureau
Federal Communications Commission
45 L Street, NE
Washington, DC 20554

Subject: Response to FCC questions
Astro Digital US, Inc.
SAT-MOD-20210319-00036

Dear Merissa:

By this letter, Astro Digital US, Inc. (“Astro Digital”) responds to your questions regarding the above-referenced satellite modification application.¹ For your convenience, the questions are reproduced below in italics:

1) Please provide additional specificity concerning planned maneuvers, including typical planned tests, whether altitude will be raised or lowered while testing, and whether the planned maneuver trajectory will be screened for collision avoidance purposes.

The planned orbital maneuvers for the Demo8 mission are to demonstrate rendezvous and proximity operations capability by imaging an in-orbit object from a safe standoff distance (>1 km) and by picking a location in space, calculating a trajectory to reach that location and then conducting the associated maneuvers to reach that location. (As stated in the application, we are aware of and will obtain NOAA approval for any imaging.) We will conduct the demonstrations such that maneuvers will not result in an increase to the apogee of the satellite at its deployment orbit, which is expected to be, at worse, 550 km, as stated in the Orbital Debris Assessment Report (“ODAR”) submitted in the application. All planned, propulsive maneuvers will be coordinated with the USSF 18th SPCS and with NASA CARA (Conjunction Assessment and Risk Analysis) and will be screened for collision avoidance purposes. As stated in the ODAR, a sufficient amount of propellant will be reserved to support an end of mission set of de-orbit maneuvers to accelerate the passive de-orbit of the satellite, as well as for collision avoidance maneuvers.

¹ See Email from Merissa Velez, Chief, Policy Branch, International Bureau, Federal Communications Commission, to Chris Bidy, CEO, Astro Digital US, Inc. (April 6, 2021).



Demo9 has no propulsion system, and accordingly, there are no planned, propulsive maneuvers for that spacecraft.

2) In the Demo9 orbital debris showing, Astro Digital reports that “DAS v2.1.1” was used (as opposed to DAS v3.1.1, which appears throughout the rest of the document) to determine that zero components are expected to survive reentry (Demo9 ODAR p. 16). Please confirm the version of the software used for the analysis.

Astro Digital confirms that it used NASA DAS v3.1.1 for the ODAR analyses for the Demo8 and Demo9 spacecraft. References to DAS v2.1.1. in the application are typographical errors.

Please do not hesitate to contact me if you have any further questions.

Sincerely,

s/ Chris Biddy

Chris Biddy
CEO
Astro Digital US, Inc.

CC: Alyssa Roberts
Sam Karty