Response to FCC Additional Information Request Reference number: 56252 File No. 0539-EX-CN-2020 July 24, 2020

- 1. Describe the need for 61 equipment? Can this experiment be conducted by less number of equipment?
- **R.** We included in the application 20 mobile user terminals ("UTs") as we plan to test the capabilities of the system in different locations simultaneously. This will provide the minimum information required to make a valid assessment of the performance of the non-geostationary orbit ("NGSO") mobile satellite service ("MSS") system and the terminals themselves. Performance measurements need to be according to the dynamic characteristics of the beams on a NGSO MSS system, whose satellites describe diverse/non-uniform trajectories within the view of the UTs.

With regards to the 40 temporary-fixed UT antennas, four of these directional antennas (mounted at 90° spacing) will be employed at each site. Accordingly, the maximum number of temporary-fixed sites available for testing at any given time will be limited to 10, all within a 5 km radius area in Englewood, Colorado (as specified in the accompanying FCC Form 442).

- 2. Describe the need for nationwide request? Can this experiment be conducted in a specific geographic location? Nationwide requests are done via STA for short duration and to demo equipment.
- **R.** The performance of a NGSO MSS system when serving fully mobile UTs, as the case here, may be fully evaluated when testing is performed across a considerable area within the system coverage. Our NGSO MSS system is designed to provide global coverage, and although we are not seeking U.S. market access, the nationwide request (limited to testing of mobile UTs only) will provide a sufficiently wide area to evaluate the satellite system performance.
- 3. What is the point of communication (name, call sign, and orbital location of the satellite)?
- **R.** The proposed UTs will communicate with the EchoStar Global system, an Australian-licensed NGSO MSS system under the ITU filing SIRION-1. The satellite system is not U.S.-licensed and thus not assigned with an FCC call sign.

The EchoStar Global system is non-geostationary and therefore has no assigned orbital location, but additional technical parameters of the orbital configuration from the SIRION-1 filing are provided below.

Orbit configuration summary

Parameter	Value
Orbital planes	Seven
Satellites per plane	Four
Altitude	650 km
Inclination	96°
Orbital period	1 hour 38 minutes

Orbit configuration detail

Orbit	No. of	Right Asc. Angle	Inclination	Period				Derigee (km)
Urbit	Satellites	(°)	Angle (°)	Days	Hours	Minutes	Apogee (km)	Pengee (km)
1	4	0	96	0	1	38	650	650
2	4	51.4	96	0	1	38	650	650
3	4	102.9	96	0	1	38	650	650
4	4	154.3	96	0	1	38	650	650
5	4	205.7	96	0	1	38	650	650
6	4	257.1	96	0	1	38	650	650
7	4	304.6	96	0	1	38	650	650

- 4. Geographic Area in the Exhibit says Continental US while in the application says Continental US and territorial waters.
- **R.** The proposed geographic area for the mobile UTs is the Continental US and its territorial coastal waters.