Exhibit 1

Supplemental Information Regarding Earth Stations

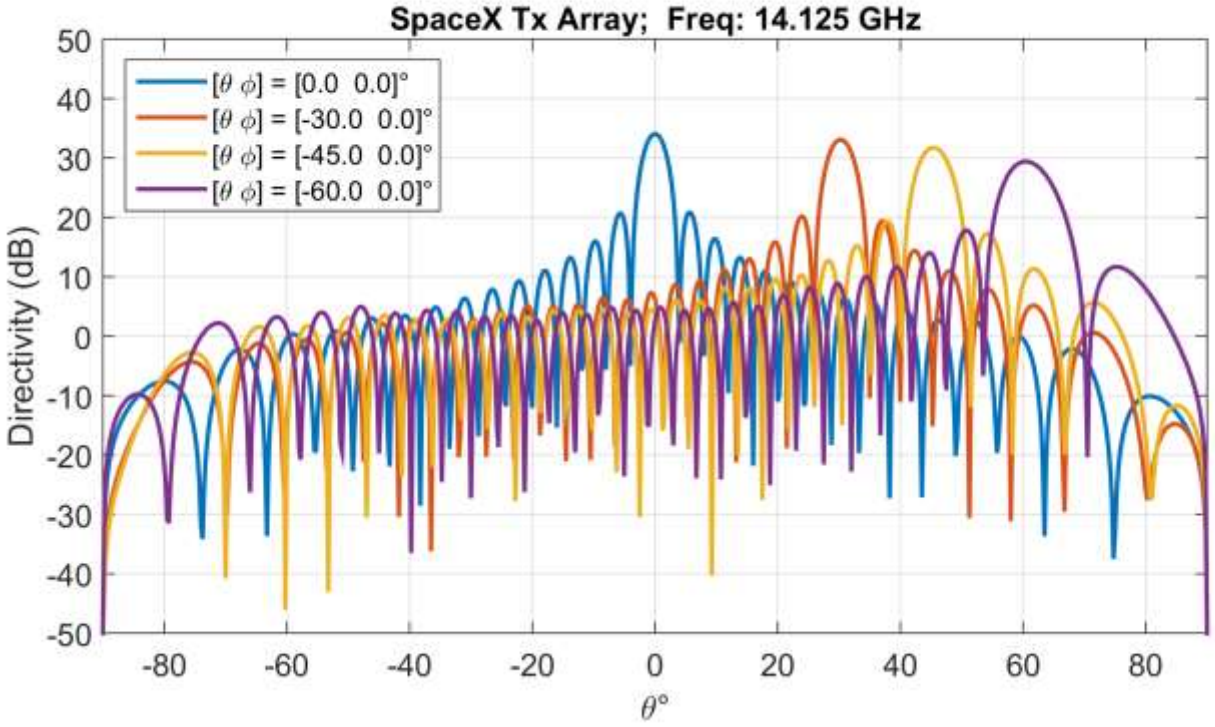
Applicant: **Space Exploration Technologies Corp.**

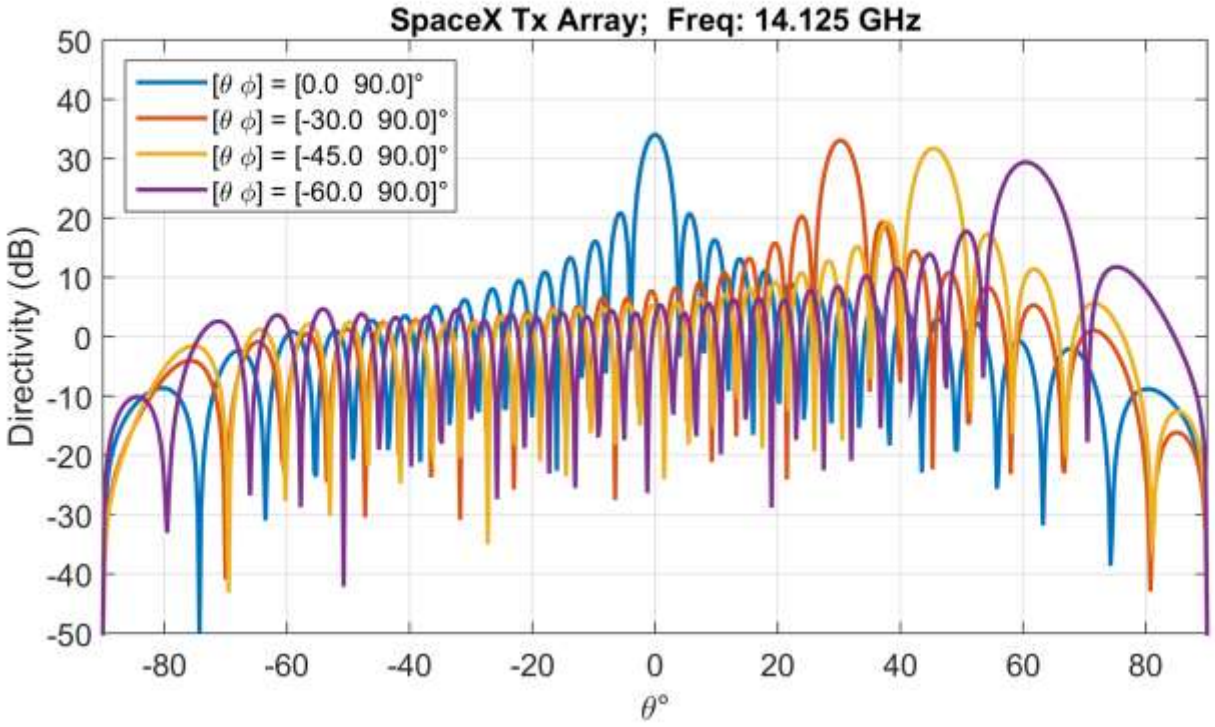
In this application, SpaceX seeks experimental authority to allow testing of an antenna with SpaceX's licensed non-geostationary orbit satellite system pursuant to a government contract. The antenna will be tested on the ground and then operated from a moving aircraft. Information on the characteristics of the antenna is set forth below.

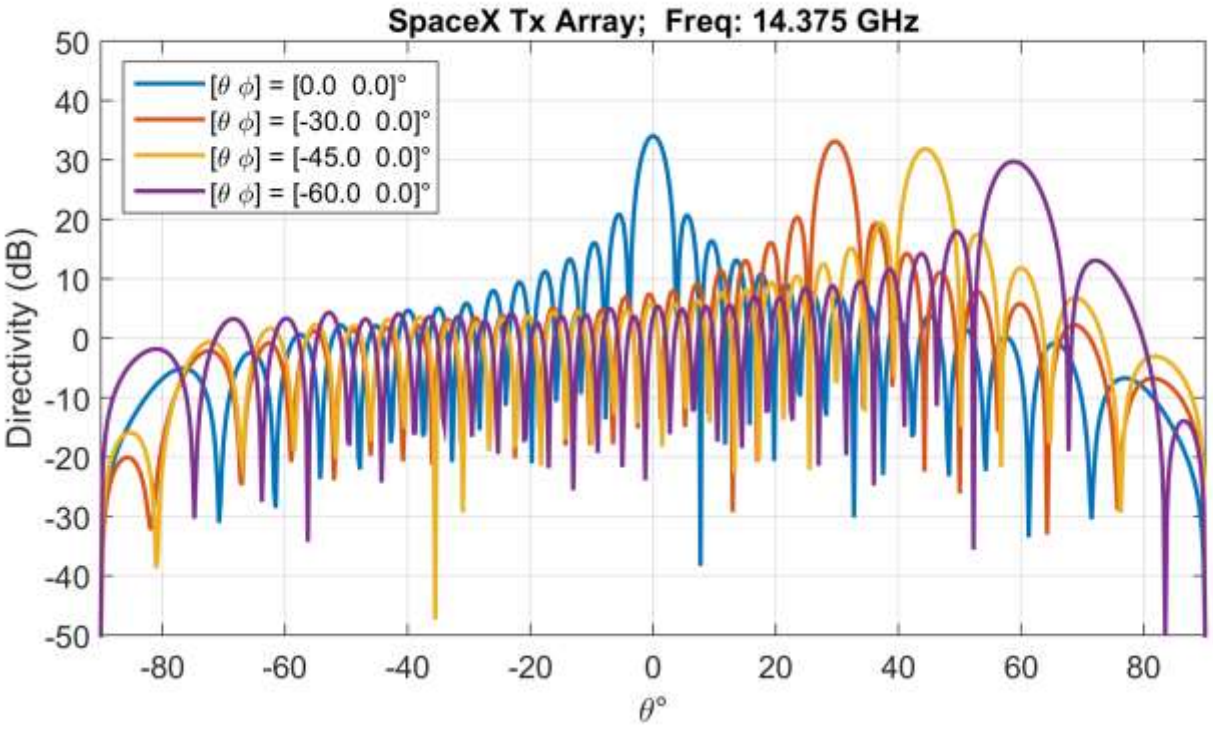
	Operational Config.	**Min Subarray Config.***
Manufacturer	Ball Aerospace	
TX Antenna	Assembly: 2567567-500	
Diameter (m)*	N/A	
TX Antenna Gain (dBi)	34.1, 34.2	28.1, 28.2
TX Antenna Full Beamwidth (deg)	3.5, 3.4 (HPBW)	7.0, 6.8 (HPBW)
TX Power (W)	3.2	0.8
TX ERP (kW)	5.1	0.3
TX EIRP (dBW)	39.1	27.1
RX Antenna	Assembly: 2567566-500	
Diameter (m)*	N/A	
RX Antenna Gain (dBi)	36.1, 36.7	28.3, 28.9
RX Antenna Full Beamwidth (deg)	3.5, 3.3 (HPBW)	7.0, 6.6 (HPBW)
RX Figure of Merit (dB/K)	11.1	3.3

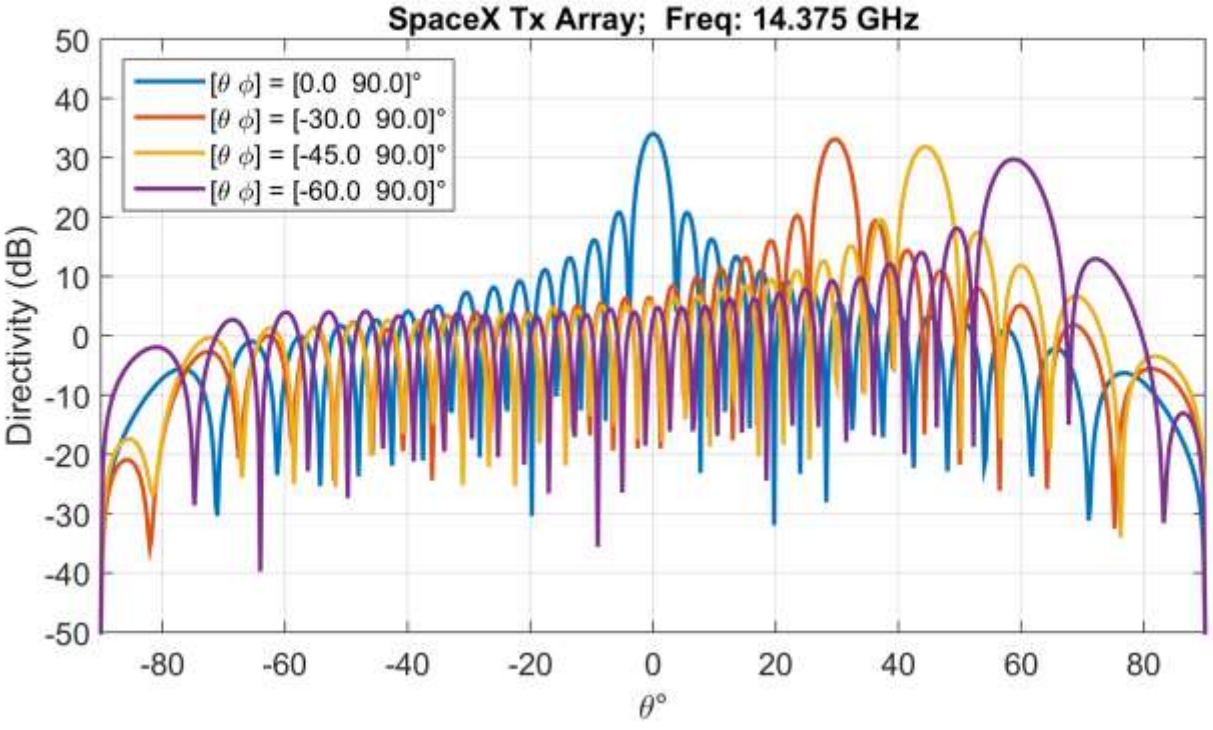
***** SpaceX will test the full range of configurations, from one transmit and one receive subarray up to the nominal operational configuration of four transmit and six receive subarrays to characterize the link performance at each stage.

Representative Ku-band transmit antenna patterns for the operational configuration of this antenna are set forth below.


SpaceX Tx Array; Freq: 14.125 GHz
[θ ϕ] = [0.0 0.0]°
[θ ϕ] = [-30.0 0.0]°
[θ ϕ] = [-45.0 0.0]°
[θ ϕ] = [-60.0 0.0]°
Directivity (dB)
θ°


SpaceX Tx Array; Freq: 14.125 GHz
[θ ϕ] = [0.0 90.0]°
[θ ϕ] = [-30.0 90.0]°
[θ ϕ] = [-45.0 90.0]°
[θ ϕ] = [-60.0 90.0]°
Directivity (dB)
θ°


SpaceX Tx Array; Freq: 14.375 GHz
[θ ϕ] = [0.0 0.0]°
[θ ϕ] = [-30.0 0.0]°
[θ ϕ] = [-45.0 0.0]°
[θ ϕ] = [-60.0 0.0]°
Directivity (dB)
θ°


SpaceX Tx Array; Freq: 14.375 GHz
[θ ϕ] = [0.0 90.0]°
[θ ϕ] = [-30.0 90.0]°
[θ ϕ] = [-45.0 90.0]°
[θ ϕ] = [-60.0 90.0]°
Directivity (dB)
θ°

SpaceX will also use Ka-band gateways at Redmond, WA and Panaca, NV to complete the link. The half power beamwidth for these gateway antennas is 0.5 degrees at 29 GHz. SpaceX will comply with a mask similar to the one in Section 25.209(a)(3) applicable to earth station antennas operating in the 24.75-25.25 GHz and 28.35-30.0 GHz bands with geostationary satellites but will improve that pattern to -3 dBi (rather than 0 dbi) beyond 25 degrees off-axis. The mask can be stated as follows:

$29-25\log_{10}\theta$	dBi	for $2° \leq \theta \leq 7°$.
8	dBi	for $7° < \theta \leq 9.2°$.
$32-25\log_{10}\theta$	dBi	for $9.2° < \theta \leq 25°$.
-3	dBi	for $25° < \theta \leq 180°$.

Consistent with Section 25.209(a)(3), "[t]his envelope may be exceeded by up to 3 dB in 10% of the range of θ angles from ±7-180°, and by up to 6 dB in the region of main reflector spillover energy."[1]

[1] 47 C.F.R. § 25.209(a)(3).