



# Exhibit 1

## Supplemental Information Regarding Earth Stations

Applicant: **Space Exploration Technologies Corp.**

Confidential Treatment: **This Exhibit is subject to Applicant's Request for Confidential Treatment pursuant to Sections 0.457(d) and 0.459 of the Commission's rules.**



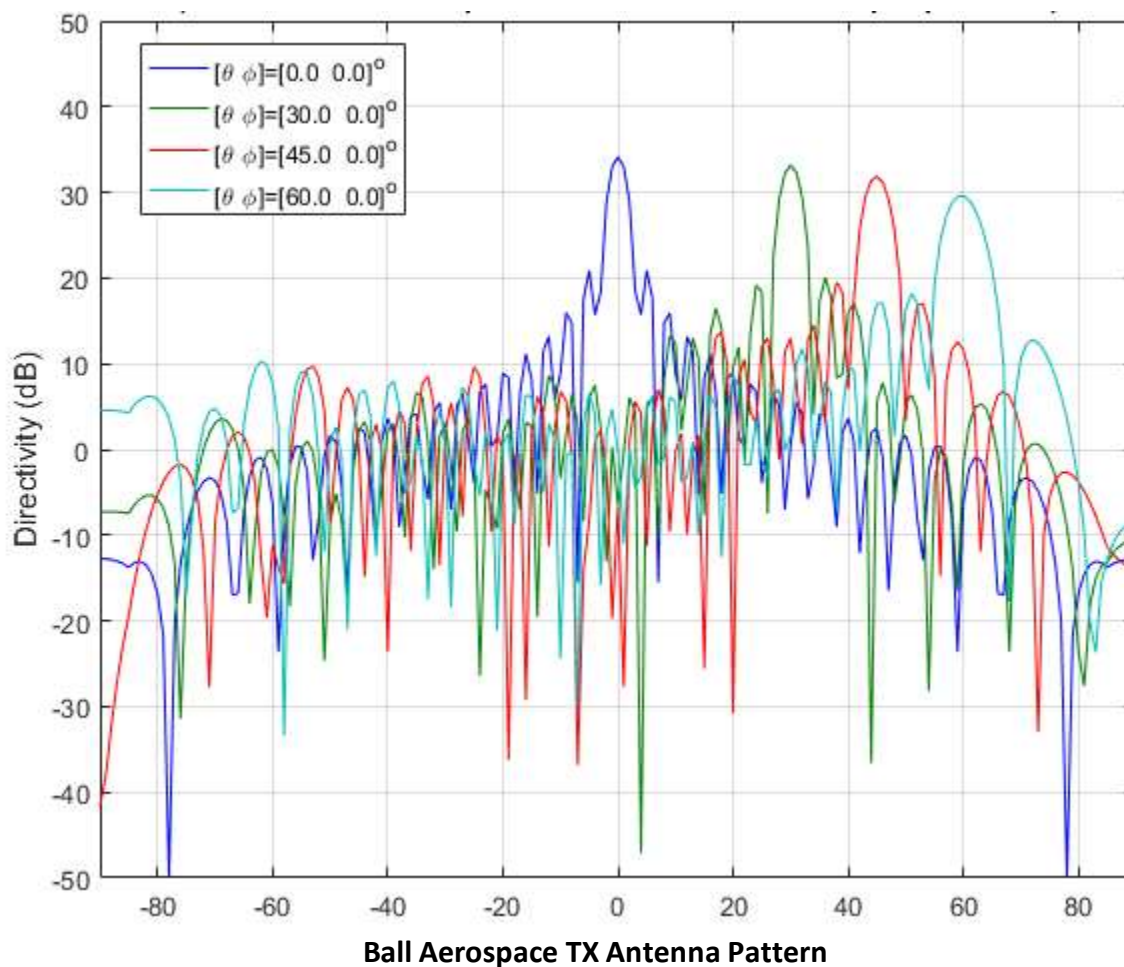
In this application, SpaceX seeks experimental authority to allow testing of an antenna with SpaceX's non-geostationary orbit satellite system. The antenna first will be tested on the ground and then operated from a moving aircraft. This license would have the same parameters authorized in SpaceX's existing experimental license,<sup>1</sup> including the RF output power, frequencies used, emission bandwidth, and the locations in which the experiment will be conducted. Information on the characteristics of the antenna is set forth below.

<b>Manufacturer</b>	Ball Aerospace
<b>Antenna</b>	2529519-500
<b>Diameter (m)*</b>	N/A
<b>Antenna Gain (dBi)</b>	34.17
<b>Antenna Full Beamwidth (deg)</b>	3.2 (HPBW)
<b>TX Power (W)</b>	2.88
<b>TX ERP (kW)</b>	4.579
<b>TX EIRP (dBW)</b>	38.76
<b>Antenna Gain (dBi)</b>	36.7
<b>Antenna Full Beamwidth (deg)</b>	3.3 (HPBW)
<b>RX Figure of Merit (dB/K)</b>	11.0

Representative Ku-band transmit antenna patterns for this antenna is set forth below.

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<sup>1</sup> See EBS File No. 0298-EX-CN-2016.

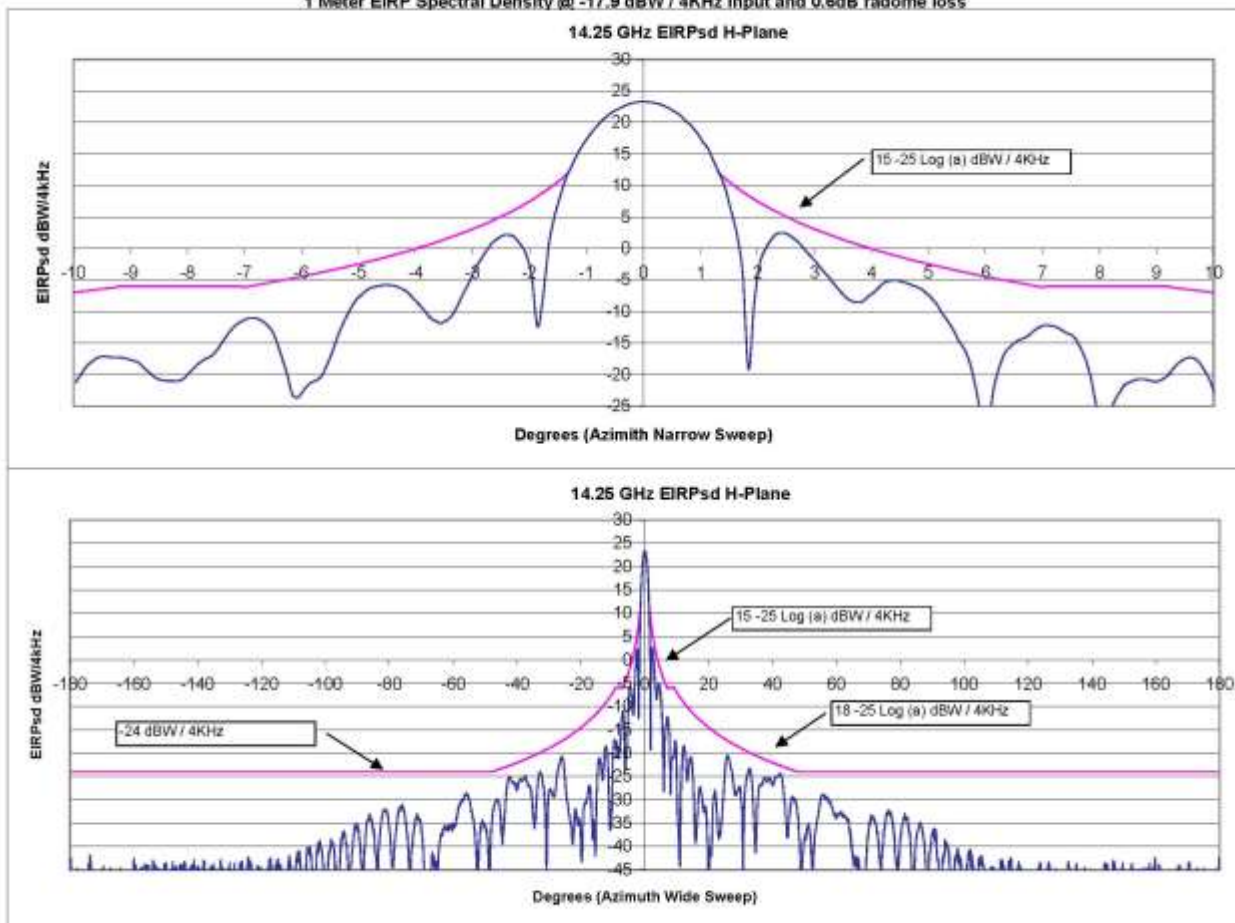


In order to complete the link with its satellites, SpaceX would also use existing gateway earth stations located in Redmond, WA and Greenville, PA,<sup>2</sup> and will set up experimental gateways at Hurlburt Field, Mountain Home Air Force Base, and Cape Canaveral. The half power beamwidth for these gateway antennas is 1.4 degrees at 14.5 GHz. The EIRP mask for these gateways, for both co-polarized and cross-polarized signals, is provided below.

<sup>2</sup> Applications to license these two gateway earth stations are currently pending. See IBFS File Nos. SES-LIC-20190402-00426 and -00427, SES-AMD-20190410-00520 and -00521.

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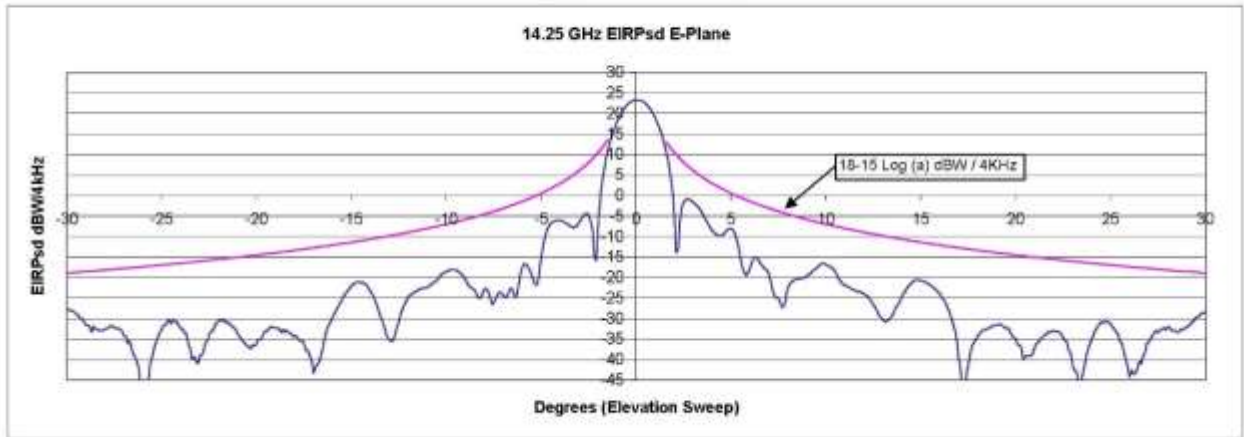
1 Meter EIRP Spectral Density @ -17.9 dBW / 4KHz input and 0.6dB radome loss





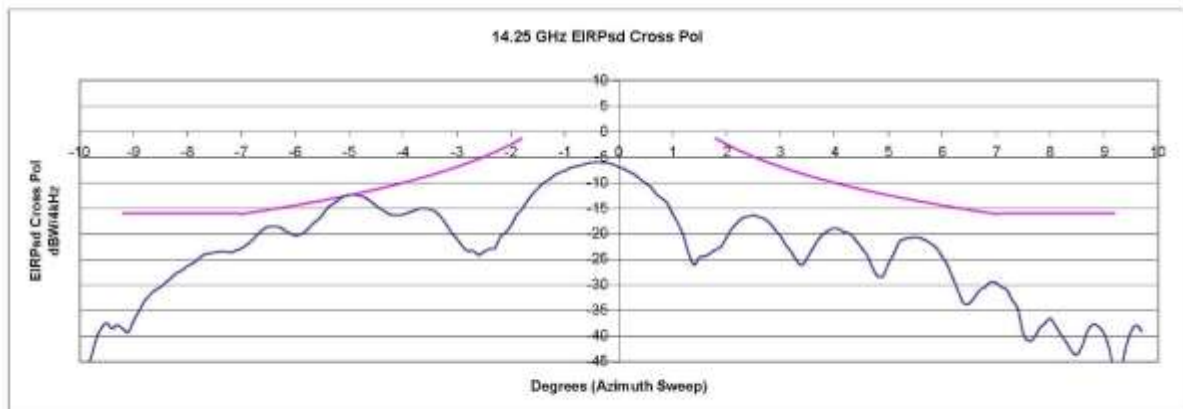
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