

EXHIBIT A

DESCRIPTION

Company:	Kepler Communications Inc.
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Pursuant to Section 5.61 of the Rules and Regulations of the Federal Communications Commission (“FCC” or “Commission”), Kepler Communications Inc. (“Kepler”) hereby requests a Special Temporary Authorization (“STA”) for operation of experimental radio services for a period of five months (beginning June 1, 2021 and continuing 150 days thereafter). Kepler currently provides fixed-satellite service (“FSS”) to terrestrial stations in the United States with its non-geostationary orbit (“NGSO”) satellite constellation per the conditions of Kepler’s market access authorization granted by the Commission.¹ The Commission recently granted Kepler an STA authorizing Kepler to communicate with an Earth Station on Vessel (“ESV”) operating along the Alaskan coastline.² In the current request, Kepler seeks an analogous temporary authorization for communications with an additional vessel carrying an identical earth station terminal to that authorized in Kepler’s First ESV STA. This additional STA is necessary to enable Kepler to

¹ See Kepler Communications Inc., *Petition for Declaratory Ruling to Grant Access to the U.S. Market for Kepler’s NGSO FSS System*, Order and Declaratory Ruling, FCC 18-162 (Nov. 19, 2018) (“Kepler Grant” or “Market Access Grant”).

² See Kepler Communications Inc., *Experimental Special Temporary Authorization*, File No. 0438-EX-ST-2021 (granted Apr. 16, 2021) (“Kepler First ESV STA”).

conduct proof-of-concept demonstrations of communications between Kepler's satellites and the Research Vessel Falkor ("RV Falkor", IMO: 7928677). Building upon the operations authorized by Kepler's First ESV STA, experimental communications with the RV Falkor will provide a greater geographical diversity of earth station locations (while the prior authorization concerned vessel operations in the Arctic, the RV Falkor will operate closer to the equator). This will enable Kepler to further develop its ability to communicate with ships in motion ahead of a deployment of satellite services for maritime assets in the United States.

1 DESCRIPTION OF TESTING AND EQUIPMENT

The RV Falkor is a research vessel owned and operated by the Schmidt Ocean Institute ("SOI"), a U.S. not-for-profit organization which undertakes oceanographic scientific expeditions throughout the world. For its current expedition, the RV Falkor will be conducting science cruises in the open-water regions surrounding Honolulu, HI. Subsequently, towards the end of July 2021, the vessel will transit across the Pacific Ocean to conduct further science cruises in the region of San Diego, CA.

Table 1 – RV Falkor Locations at Port

Approximate Date of Arrival	Port Location	Coordinates
2021.06.01	Honolulu, HI, USA	21°18'31.6"N 157°52'17.5"W
2021.08.01	San Diego, CA, USA	32°41'27.7"N 117°13'56.0"W

Upon grant of the requested STA, Kepler will support the RV Falkor's mission at sea in both regions indicated above by conducting proof-of-concept communications demonstrations with the ship in motion. Kepler's support will substantially increase the value which can be extracted from the expedition by enabling the researchers aboard the RV Falkor to consistently

offload large amounts of scientific data to their home institutions for data processing and receive the results of data analyses throughout the entirety of the expedition.

Communications will be operated within the 11.7-12.2 GHz and 14.0-14.4 GHz bands for downlink and uplink respectively, respecting the terms Kepler's Market Access Grant.³ The technical characteristics of the radio-frequency links and the antenna aboard the RV Falkor are identical to that authorized in Kepler's previous ESV STA.⁴ The earth station characteristics are provided in *Exhibit B* to this application.

2 REGULATORY COMPLIANCE

Kepler is aware of its obligations to protect incumbent GSO space systems. As such, all transmissions in the aforementioned bands will conform to the applicable power flux density and equivalent power flux density levels specified by Article 21, Article 22, and Resolution 76 of the ITU Radio Regulations. The Commission has found that NGSO systems that comply with EPFD limits will be deemed to not cause unacceptable interference to any GSO network.⁵ A detailed discussion of this compliance is provided in *Exhibit C* to this application. Furthermore, Kepler will conduct its communications with RV Falkor on a non-interference basis, and will cease operations upon notification of harmful interference from another U.S.-licensed operator.

³ See Kepler Grant at 25.

⁴ See Kepler First ESV STA.

⁵ See, e.g., *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, 16 FCC Rcd. 4096, para 77 (2000); and 47 C.F.R. 25.289.

In accordance with 47 C.F.R. § 17.7, a notification to the FAA is *not* required for the purposes of this STA application. Kepler hereby certifies that antenna structures aboard the RV Falkor will not be constructed or altered for the purposes of testing under this STA.

3 PUBLIC INTEREST STATEMENT

Kepler is currently under contract with the SOI to assist with building further communications capabilities for the SOI. Part of this contract includes testing and demonstration of Kepler's current capabilities in conjunction with SOI-owned assets. We believe the testing enabled by this STA serves the public interest in the furtherance of U.S. scientific research objectives. Furthermore, this testing allows Kepler to refine the maturity of its network and further develop its capabilities in communicating with maritime terminals, thereby increasing the breadth of potential critical services which could be provided to the U.S. public in the future.

Respectfully submitted,

/S/ Nickolas G. Spina

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Director of Regulatory Affairs