

REQUEST FOR SPECIAL TEMPORARY AUTHORITY TO CONDUCT EXPERIMENTAL OPERATIONS

Space Exploration Holdings, LLC (“SpaceX”) requests special temporary authority (“STA”) for 180 days beginning May 1, 2024 to test its non-geostationary orbit (“NGSO”) second generation (“Gen2”) satellites¹ with direct-to-cellular communications payloads with cellular test devices outside of the United States pursuant to its mobile operator partnerships and the authorization from the relevant local administrations. SpaceX shares the Commission’s commitment to international leadership in the global deployment of supplemental coverage from space services, and has entered into partnerships with mobile operators around the world to deliver the benefits of ubiquitous mobile connectivity to millions globally.

SpaceX seeks experimental authority to test its supplemental coverage from space (“SCS”) system in international jurisdictions upon the receipt of all necessary authorizations from the relevant local authority prior to the initiation of communications with earth stations in that country. This experimental authority is necessary as the Commission continues to process SpaceX’s application to enable supplemental coverage from space for consumers on a permanent basis.² Testing will likely continue until SpaceX has received commercial authority to deliver supplemental coverage from space from the Commission and the relevant local administration.

SpaceX notes that, like in the United States, the proposed testing will occur in spectrum bands and geographic areas where its mobile partners are the sole domestic licensee. SpaceX has executed spectrum access arrangements with mobile partners around the world, granting SpaceX permissions to use agreed upon ranges of its mobile partner’s licensed spectrum for SCS operations in their licensed areas in these international jurisdictions. The proposed spectrum ranges for SpaceX’s SCS operations are allocated to the Mobile Service in the each relevant local jurisdiction. SpaceX has included all of these spectrum bands in the range of frequencies in its underlying direct-to-cellular application and the instant request for experimental authority, although specific operations in each country will be limited to the bands that the mobile operator and local regulator have permitted SpaceX to use for in-country testing.

SpaceX will certify to the Commission that SpaceX and its foreign SCS partner have obtained the requisite local authority in that jurisdiction prior to commencing testing. Initial markets for experimental testing likely will include those foreign jurisdictions where SpaceX has an established supplemental coverage partner, including but not limited to Australia, Canada, Japan, and New Zealand, as set forth in Exhibit A. Additional testing markets may include Chile, Peru, and Switzerland—where SpaceX has established supplemental coverage partnerships—and other markets where SpaceX establishes a relationship with a local mobile operator.

SpaceX’s experiments will occur during several phases of satellite deployment, including the launch and early orbit phase (“LEOP”), the orbit raising phase, and when satellites are at operational altitudes. SpaceX will rely on its existing, authorized frequencies for the backhaul and TT&C components of these satellites. Satellite communications will conform with the technical specifications set forth in Exhibit B, which are consistent with the specifications in SpaceX’s pending SCS space station application, as amended, SpaceX’s ITU filings, and the experimental STA granted to SpaceX for SCS testing in the United States. Communications from cellular test devices will comply with local requirements and technical specifications in the foreign jurisdiction for mobile handsets or earth stations in the relevant band, including the terms and conditions of the mobile operator’s spectrum license, the SCS partnership

¹ See *Space Exploration Holdings, LLC*, 37 FCC Rcd. 14882 (2022).

² See Application for Modification of Authorization for the SpaceX Gen2 NGSO Satellite System to Add a Direct-to-Cellular System, ICFS File No. SAT-MOD-20230207-00021 (Feb. 7, 2023).

agreement, and local experimental authorization.

All tests will be conducted on a non-protected, non-interference basis using specific spectrum bands pursuant to the spectrum access arrangement between SpaceX and its mobile partner, and operate consistent with any terms of the authorization(s) granted by the local administration. As testing in a jurisdiction will further be authorized by the local administration, the Commission can confirm the activities under this experimental authority will meet its international obligations regarding the prevention of interference.

SpaceX will observe applicable in-band, out-of-band, and cross-border limits as required by the local authorizing administration or as otherwise required to comply with ITU Radio Regulation Article 4.4. SpaceX certifies that its direct-to-cellular system will operate without causing harmful interference to or requiring protection from any other service duly licensed in its terrestrial partner's band or adjacent bands. In the extremely unlikely event that harmful interference should occur due to transmissions to or from its spacecraft, SpaceX will take all reasonable steps to eliminate the interference. Should an issue arise, SpaceX can be reached at rf_interference@spacex.com, which links to the paggers of appropriate technical personnel 24/7.

The Commission has good cause to approve this request in the public interest. Granting this experimental license will enable SpaceX to begin testing its transformative direct-to-cell technology internationally and prepare for more expedited delivery of the consumer benefits of its direct-to-cell technology once authorized for commercial service, without causing harmful interference to other licensed operators.

Further, this experimental authorization will support American leadership in supplemental coverage from space by enabling testing that will further the delivery of direct-to-cell technologies at home and abroad. This experimental authority will support the rulemaking and licensing efforts of foreign administrations seeking to develop supplemental coverage ecosystems of their own, building upon the pathbreaking work of the Commission over the last year to enable the development of SCS globally.

Accordingly, SpaceX requests that the Commission expeditiously grant the experimental STA for direct-to-cellular satellite communications for 180 days to support those operations beginning on May 1, 2024 while the Commission continues to consider SpaceX's direct-to-cell application. SpaceX understands that Commission grant of the experimental authorization does not prejudice the Commission's further consideration of its direct-to-cell application.

EXHIBIT A
PRELIMINARY SCS JURISDICTIONS OUTSIDE OF THE UNITED STATES

Below SpaceX provides a preliminary list of international jurisdictions and frequency ranges where experimental SCS testing may occur. SpaceX intends to test using a portion of its mobile partner's authorized frequencies pursuant to its commercial spectrum access arrangement with the mobile partner and authorization by the relevant local administration.

SpaceX will further confirm to the Commission the exact frequency ranges of testing in a jurisdiction prior to commencing testing outside of the United States.

Country	SCS Mobile Partner SCS LTE Band	Frequency Ranges
Australia	Optus LTE Band 7	Uplink: 2550-2555 MHz Downlink: 2670-2675 MHz
Canada	Rogers LTE Band 25	Uplink: 1850-1855 MHz Downlink: 1930-1935 MHz
Japan	KDDI LTE Band 1	Uplink: 1920-1925 MHz Downlink: 2110-2115 MHz
New Zealand	One New Zealand LTE Band 3	Uplink: 1780-1785 MHz Downlink: 1875-1880 MHz

