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Space Exploration Technologies Corp. (SpaceX) appreciates the opportunity to provide input in response to the Australian Communications and Media Authority (ACMA) on their recently issued consultation "28 GHz spectrum planning: discussion paper" (the Discussion Paper).

### Background

SpaceX is developing an NGSO satellite system in the Fixed-Satellite Service (FSS). In March 2018, the United States Federal Communications Commission authorized SpaceX to construct, launch, and operate a constellation of 4,425 non-geostationary orbit ("NGSO") satellites operating close to the earth. That FCC license marked a major step in SpaceX's efforts to design, develop, and deploy an innovative and spectrum-efficient satellite system to deliver broadband service directly to consumers around the world.

Specifically, SpaceX was authorized to employ the following bands, including the frequencies under consideration in the current ACMA consultation:

- 10.7 – 12.7 GHz Downlink
- 14.0 – 14.5 GHz Uplink
- 17.8 – 18.55 GHz Downlink
- 18.8 – 19.3 GHz Downlink
- 27.5 – 29.1 GHz Uplink
- 29.5 – 30.0 GHz Uplink

SpaceX intends to seek ACMA approval to use these bands within Australia as well.

### Fixed satellite service spectrum

As the ACMA notes in the Discussion Paper, the 28 GHz band (27.5-29.5 GHz) is currently used for fixed satellite service (FSS) earth stations, and this use is expected to continue for the foreseeable future. In fact, the band is receiving increasing attention as a new generation of satellite services are being developed and deployed. As noted, SpaceX intends to use the 27.5-29.1 GHz range for uplink from gateways within its ground network to its NGSO constellation to enable broadband access around the world. As such, it is crucial that the ACMA ensure continued access to the 28 GHz band for FSS use.

## Nationwide deployment of satellite services

The wide geographic coverage areas of space-based systems in general make satellites optimal for broadband deployment across Australia, in metropolitan, regional, and rural areas alike. The inherent design of satellite constellations operating closer to the earth offers coverage across continents and the world and, as such, they thrive on nation-wide regulatory approaches for licensing and access to spectrum. License planning or spectrum allocation approaches that artificially limit deployment to specific geographic regions would curtail the benefits that such constellations offer to add next-generation broadband connectivity across all of Australia. Any licensing regime that requires broadband service providers to obtain authorizations on a city-by-city, or even regional, basis adds complexity, time and expense to the licensing process and, by extension, deters satellite-based providers from extending their service offerings everywhere at a reasonable cost to subscribers. As such, SpaceX supports a spectrum plan that would allow nationwide deployment of FSS services in Australia.

SpaceX appreciates the opportunity to provide comments in response to the Discussion Paper. Please do not hesitate to contact me with any questions. We look forward to working with the ACMA as we both strive toward a goal of connecting all of Australia's citizens to high-speed Internet services.

Very best regards,



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