

May 2, 2018

Dr Kit Ming Tommy Chee
Principal Planner
Radio Spectrum Management
Ministry of Business Innovation and Employment
15 Stout Street
Wellington 6140
New Zealand

Re: “Preparing for 5G in New Zealand” Discussion Document Issued by Radio Spectrum Management Unit

Dear Dr. Chee,

Space Exploration Technologies Corp. (SpaceX) welcomes the opportunity to provide inputs to the pending “Preparing for 5G in New Zealand” discussion document issued by the Radio Spectrum Management (RSM) unit of the Ministry of Business, Innovation and Employment of the New Zealand Government.

SpaceX has plans to build and operate a constellation of non-geostationary orbit (NGSO) satellites for the provision of global broadband services. In March 2018, the U.S. Federal Communications Commission (FCC) granted operating authority for the constellation, and we have made the corresponding regulatory filings at the International Telecommunications Union (ITU). For the RSM’s reference, we have enclosed the Technical Annex of our FCC application describing in more detail our satellite system plans.

The proposed SpaceX NGSO constellation will utilize Ku-band frequencies to communicate between satellites and end-users, and Ka-band between the satellites and our gateways. As such, SpaceX believes that preserving sensible satellite access to the 28 GHz band for Fixed Satellite Services (FSS) is a crucial policy decision in the path toward creating access to broadband for all New Zealanders. With innovative on-orbit and ground technology, SpaceX has concluded that the deployment of our NGSO satellite constellations is compatible with envisioned 5G systems in Ka-band. By employing phased array antenna technology and directional separation, we have concluded that our NGSO system can operate even on the same building as planned 5G small cell systems, whose antennas point largely toward the ground and along the horizon while the NGSO

gateway antenna looks skyward. For RSM's reference, we have also attached analysis on 28 GHz compatibility between NGSO and 5G that we had submitted as public comments in the U.S. FCC in their Spectrum Frontiers proceeding.

We look forward to contributing to the RSM's decision-making and the prospect of delivering high-speed broadband to New Zealand's citizens.

With best regards,



Patricia Cooper
Vice President of Satellite Government Affairs