



Astro Digital US, Inc.
3171 Jay St, Santa Clara CA 95054

10 June, 2021

VIA EMAIL TO Radio.Spectrum@mbie.govt.nz

24 – 30 GHz use in New Zealand

Radio Spectrum Management Policy and Planning

Ministry of Business, Innovation and Employment

PO Box 2847

WELLINGTON 6140

RE: Comments on 24 – 30 GHz use in New Zealand

Dear Radio Spectrum Management:

Astro Digital US, Inc. (“Astro Digital”) files this letter with respect to the request for comments by Radio Spectrum Management (“RSM”) regarding the use of the 24 – 30 GHz frequency band in New Zealand (“Discussion Document”).¹ Astro Digital supports the filing made by Planet Labs Inc. (“Planet”)² and requests that RSM allow Earth-Exploration Satellite Service (“EESS”) operators to share use of the 25.5 – 27.0 GHz band (space-to-Earth) and the 28.5 – 30 GHz band (Earth-to-space) (the “Proposed EESS Ka-band Frequencies”) with terrestrial operators. Shared use of these bands between EESS and terrestrial operators is feasible and would allow the growing EESS industry to continue to thrive.

Astro Digital is a US-based company that designs, builds, and operates small satellite systems, including the company’s Landmapper Earth-imaging system.³ Astro Digital currently operates three EESS satellites, with two additional satellites to be launched on the SpaceX-Transporter-2 mission at the end of June. Three of these satellites use Ka-band frequencies, which allow for high data-rate transmissions of images.⁴ Astro Digital currently communicates with one ground station in Svalbard, Norway using the Ka-band frequencies, specifically the 25.5 – 27.0 GHz (space-to-Earth) band for data downlink and 29.9 – 30.0 GHz (Earth-to-space) band for data flow control. As Astro Digital’s constellation grows and the demand for high data-rate transmissions increase, it anticipates adding ground stations, including in New Zealand.

¹ Radio Spectrum Management, Ministry of Business, Innovation & Employment, *24 – 30 GHz use in New Zealand Discussion Document* (dated Apr. 2021), available at <https://www.rsm.govt.nz/assets/Uploads/documents/consultations/2021-24-30-ghz-use-in-new-zealand/2021-discussion-document-consultation-24-30-ghz-use-in-new-zealand.pdf>.

² Planet Labs Inc., *24 – 30 GHz use in New Zealand Submission* (dated 9 June 2021).

³ See <https://astrodigital.com/home> and <https://blog.astrodigital.com/about> for further information.

⁴ Astro Digital satellites also operate in the UHF and S-band frequencies.



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Astro Digital also works with Rocket Lab, a New Zealand space company. Specifically, in 2019, as part of the company's mission-as-a-service business, Astro Digital's Palisade satellite launched on an Electron rocket from New Zealand.⁵

Astro Digital agrees with and supports the proposal filed by Planet in response to the Discussion Document. The EESS market is a critical and important part of the space industry, and RSM should allow the shared use of the the Proposed EESS Ka-band Frequencies. Moreover, as Planet has explained, use of the Proposed EESS Ka-band Frequencies is compatible with mobile terrestrial use because EESS spectrum use is both limited in scope and duration, and EESS operators are likely to operate only a limited number of ground stations in remote areas.

Thank you for your consideration of these comments.

Respectfully submitted,

Chris Biddy

Chris Biddy
Chief Executive Officer

⁵ Jonathan O'Callaghan, *Rocket Lab Takes Another Step Towards Reusability with its Ninth Launch*, Forbes (17 Oct. 2019), available at <https://www.forbes.com/sites/jonathanocallaghan/2019/10/17/rocket-lab-takes-another-step-towards-reusability-with-its-ninth-launch/#7f8d7b0094f8> (last visited 9 June, 2021).