ECHOSTAR
Global Australia

April 16, 2020

Via Email

1710-2300 MHz Discussion document
Radio Spectrum Management Policy and Planning Ministry
of Business, Innovation and Employment (RSMPPM)
PO Box 2847
WELLINGTON 6140
New Zealand
Radio.Spectrum@mbie.govt.nz

Re: EchoStar Global Pty Comments in Response to Replanning Options
For Frequency Bands within 1710-2300 MHz

Dear Sir or Madam:

EchoStar Global Australia Pty Ltd ("EchoStar Global"), is an Australian company that has rights through the International Telecommunications Union ("ITU") in the 1980-2010 MHz and 2170-2200 MHz bands ("S band") for a non-geostationary orbit ("NGSO") mobile satellite service (MSS) system and is developing this system. As discussed herein, in response to question 12 in the above mentioned rulemaking: *What is the best value use for the Paired 2100 MHz band expansion?*[1], EchoStar supports the Ministry of Business, Innovation & Employment ("Ministry") licensing two operators in the S band for an MSS network with a terrestrial component that would also allow flexibility for the terrestrial spectrum use (whether that is to support aeronautical or other terrestrial uses). By enabling the use of the S band spectrum for both MSS and a terrestrial mobile component the most intensive use of the spectrum will be made possible. In addition, the Ministry should allow the most flexible use of the spectrum, and not limit the spectrum by identifying it for one service, such as aeronautical use. This will ensure that market demand and forces drive the spectrum to be used most efficiently. Further, as other countries have found, it is technically impossible for independent MSS and terrestrial mobile uses of the spectrum be made; a single licensee enables one entity to coordinate between two potentially interfering services. Accordingly, RSMPPM should license user(s) of this band for both services in the same spectrum (i.e., a single license for both MSS and terrestrial mobile service).[2] Such licensing will enable the most efficient use of the band including coordination with services in adjacent bands.

[1] Ministry of Business, Innovation & Employment, *Re-planning options for frequency bands within 1710-2300 MHz*, Discussion document, at 12 (rel. March 2020).

[2] *See* Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, *Report and Order and Notice of Proposed Rulemaking*, 18 FCC Rcd 1962, 1998-1999(stating that "…the potential for interference between MSS and terrestrial mobile services is, in fact, so great we believe only a single type of operator…would possess both the ability and incentive to coordinate operations in a manner that avoids interference…sharing between MSS and terrestrial mobile services is neither advisable, nor practical"); *see also* European Union Commission, *the harmonised use of radio spectrum in the 2 GHz frequency*

EchoStar Global is particularly well-suited for successfully developing an NGSO MSS network in the S band for MSS as well as an ancillary terrestrial use in New Zealand because of the experience of its affiliates. One affiliate, EchoStar Mobile Limited ("EchoStar Mobile"), is a European Union-wide (plus the United Kingdom) licensee for an S band MSS system with a complimentary ground component. EchoStar Mobile today has deployed a geostationary orbit satellite and is offering a pan-European narrowband data service, and is developing its ground component.[3] Similarly, another affiliate, HNS de Mexico ("Hughes") has been licensed for S band MSS with a terrestrial component in Mexico.[4] Hughes is in the process of deploying this network in Mexico today. Finally, DISH Networks LLC ("DISH"), a sister company to EchoStar Global and Hughes' parent company EchoStar Corporation, is licensed in the United States for an MSS network with an ancillary terrestrial network.[5] DISH has already deployed its satellite network in the S band and is actively deploying its terrestrial network on a nationwide basis. Accordingly, EchoStar Global is well positioned to leverage these resources in developing it NGSO MSS S band network in New Zealand.

In each of the countries mentioned above, where EchoStar Global affiliates and partners are licensed, the deployed MSS spectrum assigned to the operator can also be used for a ground component. The regulators in these countries have appropriately declined to dictate the use of the terrestrial spectrum; leaving that decision to the market place. This has resulted in several different planned or actual deployments based on particular markets. For example, in the United States, DISH has chosen to deploy a broadband mobile system in the S band as part of its MSS/terrestrial network. In Europe, one of the two MSS S band licensees is focused on an aeronautical service, while the other, EchoStar Mobile, is more focused on narrowband data services. We urge New Zealand to follow the lead of these other countries to enable the licensees to determine which use of the S band spectrum would be most appropriate.

In support of this, EchoStar Global and its affiliates have successfully worked through 3GPP to ensure that S band is part of the 3GPP standard for both satellite and terrestrial services. Accordingly, these standards enable licensees to bring 5G services to New Zealanders in the most efficient manner and consistent with New Zealand's plans for 5G.[6]

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bands for the implementation of systems providing mobile satellite services, Decision, 2007/98/EC (Feb. 14, 2007) (concluding "that the coexistence of systems capable of providing MSS and systems providing terrestrial-only mobile services in the same spectrum in the 2 GHz bands without harmful interference is not feasible").

[3] *See* EchoStar Mobile, Satellite Services, available at: http://echostarmobile.com/Services/SatelliteServices.aspx

[4] *See* IFT Resolution No. P/IFT/021019/476, Dec. 5, 2019. (Granting HNS de Mexico MSS S band rights with an ancillary terrestrial component).

[5] *See New DBSD Satellite Service G.P and TerreStar Licensee Inc. Request for Rule Waivers and Modified Ancillary Terrestrial Component Authority*, Order, 27 FCC Rcd 2250 (rel. March 2, 2012).

[6] *See* Preparing for 5G in New Zealand, available at https://www.rsm.govt.nz/projects-and-auctions/current-projects/preparing-for-5g-in-new-zealand/#bookmark1; *see also* 5G Information pack, rel. 2018, available at https://www.mbie.govt.nz/dmsdocument/7483-5g-media-information-pack-pdf; Office of the Minister of Broadcasting, Communications and Digital Media, Allocation of Radio Spectrum for 5G Mobile, Cabinet Document, (issued Feb. 27, 2019) available at https://www.mbie.govt.nz/dmsdocument/4610-allocation-of-radio-spectrum-for-5g-mobile.

With regard to a licensing band plan, EchoStar Global urges the Ministry to consider the very real economics of providing both an MSS and terrestrial mobile service today. To be most technically and economically efficient, New Zealand should select a single licensee for the 30x30 MHz band of spectrum as this would enable the licensee to develop the most fulsome, high capacity system to meet the demands of New Zealanders for narrowband and broadband data services. If, however, New Zealand find it appropriate to license multiple licensees, EchoStar Global urges that there be no more than two licensees, as any yes would make it difficult technically to support the 5G and beyond services that these licensees can bring, as well as economically to build out a robust network. license two operators to provide both MSS and a terrestrial component.[7] In order to determine the sharing between these two operators, EchoStar Global urges that it be done through a coordination process among the two operators. Only as a fallback after a reasonable period of time, such as six months, if a coordination agreement cannot be reached should RSMPPM utilize band segmentation to enable sharing of the spectrum.

Accordingly, EchoStar Global urges RSMPPM to adopt a regulatory regime for MSS with a terrestrial component to most efficiently utilize the S band.

We look forward to answering any questions you may have or providing any additional information.

Respectfully submitted,

Jennifer A. Manner

Senior Vice President, Regulatory Affairs

EchoStar Global Australia Pty Ltd

jennifer.manner@echostar.com

+1-301-775-1449

[7] In the case of two licensees being chosen, RSMPPM should also allow infrastructure sharing, which will allow the two licensees to operate in the most efficient manner to bring advanced 5G cost-effective services to New Zealanders.