

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 2 and 25 of the)	IB Docket No. 17-95
Commission's Rules to Facilitate the Use of)	
Earth Stations in Motion Communicating)	
with Geostationary Orbit Space Stations in)	
Frequency Bands Allocated to the Fixed)	
Satellite Service)	

REPLY COMMENTS OF TELESAT CANADA

Telesat Canada ("Telesat") hereby replies to the comments submitted in response to the Notice of Proposed Rulemaking in the above-captioned proceeding (the "NPRM").¹

Telesat is pleased to note that a great majority of parties filing comments support the Commission's proposals to harmonize and consolidate rules for vehicle-mounted earth stations, earth stations on vessels and earth stations aboard aircraft (collectively, earth stations in motion or "ESIMS") and to allow the operation of ESIMs in the Ka-band.² There is also widespread

¹ *In re Amendment of Parts 2 and 25 of the Commission's Rules to Facilitate the Use of Earth Stations in Motion Communicating with Geostationary Orbit Space Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 17-95, Notice of Proposed Rulemaking, 32 FCC Rcd 4239 (2017) ("NPRM").

² *See In re Amendment of Parts 2 and 25 of the Commission's Rules to Facilitate the Use of Earth Stations in Motion Communicating with Geostationary Orbit Space Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 17-95, Comments of ViaSat, Inc. ("Viasat"), Comments of Hughes Network Systems, LLC ("HNS"), Comments of Inmarsat Inc. ("Inmarsat"), Comments of The Boeing Company ("Boeing"), Joint Comments of Kymeta Corporation and Intelsat License LLC (Kymeta/Intelsat"), Comments of SES S.A. and O3b Limited ("SES/O3b"), Comments of AC BidCo LLC ("AC BidCo"). All Comments cited in this footnote were filed July 31, 2017. Telesat's Reply does not address the comments of these or other parties with regard to the Commission's proposal to implement ESIMs in the 29.25-29.3 GHz band, and all discussion herein should be interpreted accordingly. Telesat's initial comments did not address the Commission's ESIM proposal for this band, either.

support for the elimination of rules that pose an unnecessary burden on ESIM operators, including data logging requirements.³

Although the record supports the Commission’s proposals to streamline its rules to eliminate unnecessary technical requirements on ESIM operators, it does not support imposing new restrictions on ESIMs. There is no support, for example, for imposing limits on out of band emission that would be tighter than the longstanding limits that already apply to fixed satellite service (“FSS”) earth stations. Unsupported speculation that “ESIMs could potentially transmit at off-axis transmission levels such that interference into the adjacent channel is plausible”⁴ provides no basis for such additional restrictions. To the contrary, as stated by ViaSat:

“Continued ESIM deployment in the Ka band will not impact other services—including in adjacent bands—any differently than other FSS earth stations that have long been authorized in the conventional Ka band. Earth stations are subject to Section 25.202(f), which requires emissions outside of the authorized bandwidth at issue to be attenuated to certain defined levels. This requirement has been part of the long-established operating environment in the Ka band and in other frequency bands, and operators in adjacent bands need to design their systems to tolerate out-of-band emissions up to these prescribed levels. These limitations on out-of-band emissions apply equally to ESIM operations and would adequately protect any adjacent operations.”⁵

For similar reasons, Telesat opposes the suggestion of The National Academy of Sciences’ Committee on Radio Frequencies (“CORF”) that the Commission restrict ESIM operations in and adjacent to the 18.6-18.8 GHz band.⁶ CORF’s assertion that permitting ESIM

³ See, e.g., Viasat Comments at 7; Hughes Comments at 4; Inmarsat Comments at 3.

⁴ *In re Amendment of Parts 2 and 25 of the Commission’s Rules to Facilitate the Use of Earth Stations in Motion Communicating with Geostationary Orbit Space Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 17-95, Comments of Global Mobile Suppliers, (July 31, 2017), at 2.

⁵ ViaSat Comments at 12 (citations omitted).

⁶ See *In re Amendment of Parts 2 and 25 of the Commission’s Rules to Facilitate the Use of Earth Stations in Motion Communicating with Geostationary Orbit Space Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 17-95, Comments of The National Academy of Sciences’ Committee on Radio Frequencies, pp 6-10 (July 31, 2017).

use of this or adjacent frequencies would create a “potential for increased RFI and contamination of data from the sensitive EESS passive instruments”⁷ that employ the 18.6 to 18.8 GHz band is demonstrably incorrect.

Under the Commission’s band plan, the 18.6-18.8 GHz band and the bands that are adjacent to it on either side (*i.e.*, the 18.3-18.6 and 18.8-19.3 GHz bands) all are downlink bands.⁸ Accordingly, CORF’s claim that “ESIMs transmitting directly from an airborne platform to space [*i.e.*, ESIMs transmitting in the uplink direction] may cause direct interference ... into the sensitive down-looking receivers of EESS instruments” is unfounded.⁹ ESIMs will not be transmitting in that direction in those bands. And on the downlink side, signals transmitted from FSS satellites to ESIMs in the 18.6 to 18.8 GHz band will have the same technical characteristics and be subject to the same technical limits as signals transmitted to stationary FSS earth stations from the same or similar FSS satellites. There is no distinction for purposes of protecting EESS passive instruments, therefore, between the signals in this band that are transmitted in the downlink direction today and those that would be transmitted to ESIMs.

Finally, Telesat agrees with the recommendation of SES/O3b that the Commission, at minimum, “expand this proceeding to specify that ESIMs operating in the 18.8-19.3 GHz (space-to-Earth), and 28.6-29.1 GHz (Earth-to-space) bands where NGSO systems have sole primary status are an application of the FSS and to seek input on appropriate licensing rules for ESIMs using NGSO satellites in these frequencies.”¹⁰ Telesat agrees with SES/O3b that NGSO systems in these bands are well suited to providing expanding requirements for ESIM services both in the

⁷ *Id.* at 9.

⁸ *Id.*

⁹ A compiled chart of the Commission’s current Ka-band plan can be found in Appendix B to the Commission’s currently proposed *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Notice of Proposed Rulemaking, 31 FCC Rcd 13651 (2016).

¹⁰ SES/O3b Comments at 5.

U.S. and worldwide. Alternatively, if the Commission continues to prefer to deal with NGSO ESIM operations in a second proceeding, Telesat continues to urge that such proceeding be initiated at the earliest possible date.

Respectfully submitted,

TELESAT CANADA

/s/ _____
Elisabeth Neasmith
Director, Spectrum Management and Development
1601 Telesat Court
Ottawa, Ontario
Canada, K1B 5P4
(613) 748-0123

August 30, 2017