



The Manager Spectrum Licensing Policy
Australian Communications and Media Authority
PO Box 13112
Law Courts Melbourne VIC 8010

C/o: spectrumworkprogram@acma.gov.au

5 May 2022

Dear Sir/Madam,

Re: Consultation on five-year spectrum outlook 2022–27 and 2022–23 work program

EchoStar Global Australia Pty Ltd (EchoStar Global Australia) welcomes the opportunity to make a submission to the Australian Communications and Media Authority's (ACMA) consultation paper on the five-year spectrum outlook 2022–27 and 2022–23 work program.

EchoStar Global Australia is a satellite broadband service provider and operator with plans to provide global connectivity and 5G services through a network of global satellites.

EchoStar Global Australia currently holds International Telecommunications Union (ITU) spectrum rights through its Australian Sirion-1 ITU filing that have been brought into use for a non-geostationary orbit Mobile Satellite Service (MSS) S Band Satellite Network in the 2 GHz (1980-2010 MHz and 2170-2200 MHz) Band.

The Network, when constructed, will provide connectivity and next generation 3GPP NTN-NR services to Australia and the rest of the world through a network of global low earth orbit (LEO) satellites.

As discussed below, EchoStar Global Australia urges the ACMA to:

- Ensure that the fixed satellite service is protected in the 6 GHz Band under Agenda Item 1.2 of the World Radiocommunications Conference 2023 (WRC-2023).
- Ensure that appropriate protections against speculation are incorporated into the auction rules for the 2 GHz Band.
- Not create a separate 5x5 MHz Band of spectrum in the 2 GHz Band to avoid an inefficient use of the spectrum resource.

The 6 GHz Band and the need to protect MSS feeder links

EchoStar Global Australia is concerned about any use by IMT that limits the use of the 6 GHz Band (currently under study for the WRC-2023 - Agenda Item 1.2) for Fixed Satellite Service (FSS) for MSS feeder links.

The 6 GHz Band is critical to support the operation of the EchoStar Global Australia LEO Network and other satellite systems. For example, EchoStar Global Australia is today using the 6 GHz Band to support the testing of its networks through several LEO satellites.



Despite several years of study, the IMT community has failed to demonstrate that it is able to share and protect the satellite uplinks.

Instead of identifying the 6 GHz Band for IMT, EchoStar Global Australia supports allocating the entire 1200 MHz to Radio Local Area Networks (RLANs) as soon as practical with four caveats:

- A mechanism is found to ensure that RLAN will not cause interference to any (current or future) MSS feeder receivers.
- That RLAN (Wi-Fi) systems are not granted any protection from satellite earth station transmitters.
- That a method to ensure space station receivers are fully protected from aggregate impact of RLAN is adopted.
- RLAN use is limited to “low power indoor” and “very low power” applications, with power limits no higher than those in the lower 6 GHz Band.

By allowing use of the 6 GHz Band with these criteria for RLANs, the Band can be used most efficiently by allowing sharing with MSS feeder links.

ACMA should ensure the most efficient use of the 2 GHz Band

EchoStar Global Australia is generally supportive of the planning process outcome with the 2 GHz Band but, continues to have concerns about potentially wasted spectrum opportunities this and associated ITU processes.

While EchoStar Global Australia is supportive of a price-based assignment of licenses, it urges the ACMA to take steps to ensure only viable MSS operators are qualified to bid. This would limit spectrum speculation and the inefficient use of the spectrum resource.

Accordingly, one prerequisite for bidding should include the bidder having an existing ITU-R satellite network filing for this band.

This condition will help ensure that Australian consumers and businesses, particularly those in rural and remote areas, enjoy the economic and social benefits of early access to new services.

In relation to adding a terrestrial network, while EchoStar Global Australia is supportive, this should only be allowed if the licensee has an operating MSS system.

Coexistence is also not possible between two independent operators- one operating the terrestrial component and the other operating the MSS component.

3GPP NTN-NR will require a minimum of 5MHz and therefore to meet the large scale of user the MSS system will require the utilisation of $(y) \times 5$ MHz on a satellite, with a frequency reuse factor of 6, which will increase the efficiency of the spectrum utilisation of the satellite network infrastructure.



EchoStar Global Australia continues to have serious concerns with the 2005-2010 MHz and 2195-2200 MHz band being made available for IOT and similar narrow band services.

This allocation is being made to an application as opposed to a radio service with no basis for the need of such action.

MSS systems today offer IOT, and other similar services, and it is almost certain that the licensees for the 2 GHz licensees will also offer IOT and similar services.

This action would create an orphan 5 MHz of spectrum for an Australian system. No other country has made such an allocation which means it is highly unlikely that a system will be able to obtain financing to serve only a single, or possibly in the future, a handful of countries.

EchoStar Global Australia notes there may also be some concerns regarding the protection of TVOB from MSS. We do not believe these concerns are warranted due to the low PFD in the downlink and the statistical nature of the services in the uplink.

This issue is further complicated by the work under WRC-23 Agenda Item 1.18, where a similar allocation is being considered regionally in the 1.6 GHz, 2 GHz and 3.5 GHz bands.

This type of allocation would create an allocation to an application and, because of similar spectrum efficiency concerns outlined above, is being opposed by several countries.

At WRC 2027, EchoStar Global Australia believe the ACMA should be looking to support a traditional MSS allocation in the band 2025-2030 MHz in Region 3 to support MSS requirements globally.

EchoStar Global Australia appreciates the ACMA's continue work to make the most efficient use of the spectrum resource. As discussed above, this can be best accomplished by:

- Ensuring MSS feeder links can operate in the 6 GHz Band on a protected basis.
- Ensuring that any award of spectrum in the 2 GHz Band for MSS is assigned in a manner to reduce speculation.

Should the ACMA have any questions regarding this submission we would be more than happy to discuss.

Sincerely,

Josh Williams
Director
EchoStar Global Australia

Jennifer Manner
Senior Vice President Regulatory Affairs
EchoStar Global