Response of the Mobile Satellite Services Association

To the Australian Communications and Media Authority, ACMA

CONSULTATION:

"Allocation design and technical matters for the 2 GHz MSS band"

The Mobile Satellite Services Association (MSSA) is a non-profit industry association, founded in 2024, that seeks to promote and advance the emerging direct-to-device (D2D) ecosystem and support the efforts of D2D solutions providers, including terrestrial mobile and satellite operators, original equipment manufacturers, infrastructure providers, chip vendors, and others. MSSA is focused on facilitating a global ecosystem utilizing spectrum already allocated and licensed for mobile satellite service (MSS) applications and well-suited for integration into a broad range of mobile devices. More specifically, MSSA seeks to facilitate global mobile connectivity via satellite through open, standards-based solutions.

MSSA welcomes the opportunity to provide its views in response to the consultation on "Allocation design and technical matters for the 2 GHz MSS band." MSSA is confident that the insights provided will support ACMA in developing a robust regulatory framework that maximizes the benefits of the 2 GHz MSS band, which is well-suited to deliver innovative services.

In the following sections, MSSA responds to the questions set forth in the consultation document.

5000 Executive Parkway, Suite 302
San Ramon, CA 94583 USA
t: +1.925.275.6661
e: help@mss-association.org

1. **Licensing approach.**

Our preference is to support MSS by issuing space licences for the downlink and space receive licences for the uplink, with class licensing to authorise the earth stations and earth receive stations in the network. We invite comments on this proposed licensing approach for MSS and whether it is suitable for the provision of MSS.

The MSSA supports the ACMA's proposed licensing framework for MSS, which would use space licences for downlink, space receive licences for uplink, and class licensing for earth stations and earth receive stations. This structure offers a solid and efficient regulatory basis for the effective deployment of advanced MSS in Australia. It is essential, however, that these licences be issued unshared basis within clearly defined channel blocks in the 2 GHz spectrum.

Issuing unshared space and space receive licences would provide clear spectrum separation between operators, avoid harmful interference, and safeguard the quality and reliability required to deliver widespread MSS services to mass-market devices.

2. **Licence term, commencement and renewals.**

Our preference for a licence term of 5 or 10 years, with licences commencing as soon as possible after they are allocated and issued. Our preliminary view is not to include a renewal statement on licences. We are seeking views on the proposed licence term, commencement and renewal arrangements for 2 GHz MSS space and space receive licences. We seek information about likely deployment timeframes, where possible. If licence terms of greater than 10 years are preferred, please include reasons supporting the extended licence term.

Modern satellite constellations are designed to operate well beyond five years, potentially up to 20 years or more. In particular, for NGSO systems, planning for replacement and upgrades begins as soon as the initial constellation is launched, therefore, extending the overall operational lifespan. Given the substantial capital investment, lengthy development timelines, and the need for regulatory certainty, an extended licence term is essential for sustainable service delivery.

For MSS, a term of at least 15 years is considered appropriate to support investment recovery and operational continuity, while minimising the risk of spectrum reassignment that could arise from shorter terms of five or ten years. These networks and systems are highly capital-intensive.

Shorter terms create uncertainty, deter long-term investment, and undermine business planning, whereas a licence term of 15 years or longer mitigates these risks, promotes investor confidence, and aligns with the operational realities of modern satellite networks.

Additionally, MSSA suggests that ACMA incorporate a renewal clause into MSS licenses. Introducing renewal would reduce regulatory and administrative burdens for both the regulator and the licensees. In the absence of a defined renewal process, MSS providers would face avoidable uncertainty and could experience disruptions of their ability to deliver vital services. Conversely, a well-defined renewal process would promote continuity, uphold operational stability, and facilitate long-term planning and investment.

3. Lot configuration.

The ACMA's preference is to allocate spectrum in a 2 x 15 MHz and 2 x 10 MHz configuration in fixed frequency ranges. We invite comments from stakeholders on this preliminary view, and whether fixed frequency ranges for the configuration is suitable. In relation to 2 x 5 MHz lots, we seek feedback on the level of interest in single 2 x 5 MHz lots and the intended use-case for a single 2 x 5 MHz lot.

MSSA supports ACMA's preference for allocating the 2 GHz MSS band in a 2 × 15 MHz and 2 × 10 MHz configuration ("Option 1") within fixed frequency ranges. Larger contiguous spectrum blocks are essential to allow space-based services to deliver performance comparable to those provided over terrestrial networks and enable users to access the full range of voice, video, and data services they expect. Wider bandwidths help overcome link budget challenges that may arise in the context of satellite communications (e.g., as the result of long transmission distances, significant path losses, atmospheric attenuation, and limited onboard power).

The preferred configuration is particularly well-suited to direct-to-device applications based on the 3GPP NTN standard (band n256) and its supporting ecosystem, where contiguous channels of more than 5 MHz in width are necessary to allow for higher throughput and more meaningful connectivity.

By contrast, a 2 × 5 MHz framework results in inefficient fragmentation, limits spectrum availability for committed service providers, and potentially requires internal guard bands\, thereby reducing overall efficiency.

4. **Allocation methodology.**

Our preliminary view is to allocate transmitter licences by price-based allocation via auction, or for a pre-determined price where demand does not exceed supply. We invite comments on the proposed allocation methodology.

MSSA opposes the allocation or assignment of space spectrum through price-based auctions, including the 1980–2005 / 2170–2195 MHz band. Such a mechanism is not well-suited to the operational realities of satellite networks or the specialised and technically constrained use of the 2 GHz band for MSS. In this context, exclusive access is essential to avoid interference and preserve service quality. There is no compelling evidence that such a process is necessary—including in light of current demand—particularly as previous 2 GHz assignments, such as the 1 MHz block issued for MSS, were made without this process.

It remains uncertain whether the available supply in the 1980–2010 / 2170–2200 MHz S-band will be sufficient to meet potential demand. ACMA has not yet identified the relevant competitive market segments, and other spectrum bands — such as L-band, portions of the 2.5 GHz S-band, and certain 1.8 / 2 GHz mobile allocations — should be considered either as useful competitive alternatives or as overlapping with that market. In addition, the use of mobile spectrum to support direct-to-device MSS could further expand the range of frequencies capable of meeting demand.

Given these conditions, an auction process could cause delays, increase uncertainty, and limit fair access—especially when credible operators are scarce or demand does not surpass supply. An administrative assignment process better supports quick deployment, safeguards service quality, and meets the long-term operational needs of space-based services.

In addition, an auction would place an economic burden on the licensee that would need to be passed on to the rural Australian consumer, increasing service costs.

5. **Auction format.**

We propose 2 auction format options for a 2 x 15 MHz and 2 x 10 MHz lot configuration with fixed frequency ranges, and one auction format option for 5 generic lots of a 2 x 5 MHz lot configuration. We have no preference for a particular auction format, and seek stakeholder views.

As discussed in response to Question 4, above, MSSA opposes the allocation or assignment of space spectrum through price-based auctions. An administrative assignment process better supports quick deployment, safeguards service quality, and meets the long-term operational needs of space-based services.

6. **CGC/DA2GC.**

We have not formed a preliminary view on licensing arrangements for CGC/DA2GC. We are seeking comments from parties interested in MSS licences on:

1. ***Demand for a licence authorising stations for CGC or DA2GC, and timing for implementation.***
2. ***Intended use cases, including the number of stations to be authorised.***
3. ***Preferred licensing approach, if there is one.***
4. ***Whether the intended use requires an entity other than the 2 GHz MSS licensee to be the licensee for CGC/DA2GC.***

The MSSA takes no position at this time in response to Question 6. The MSSA believes the 2 GHz MSS band is well-suited to deliver direct-to-device (D2D) and other advanced Non-Terrestrial Network Services (NTN), which can be greatly beneficial to Australian consumers. NTN services ensure reliability and broad coverage to reach consumers wherever they are, including in areas where terrestrial network connectivity is not feasible. This benefit is even more pronounced during natural disasters such as wildfires. MSSA believes ACMA should consider these important benefits when deciding how to license the 2 GHz band.

7. **Space regulatory matters.**

1- ***The information proposed to be required to update the ASOD or FSOD, and the ACMA's view that, in order to participate in an allocation process, prospective licensees have access to an ITU satellite filing for the 2 GHz MSS band in relation to Australia that meets certain requirements such as the satellite filing has been brought into use in accordance with ITU requirements (refer section on Space regulatory matters).***

2- ***Proposals for mobile earth station total radiated power levels, requirements for consistency with ITU satellite filings and potential for considering lower total radiated power levels than specified in a filing.***

MSSA supports this proposal and agrees that frequency assignments for satellite systems operating in the 2 GHz MSS band should be published in conformity with the ITU Radio Regulations and should not be authorised under No. 4.4. Recognising the global nature of satellite communications, satellites licensed by other

administrations and covered by ITU network filings should have a regulatory path that allows them to make capacity available for use in Australia. All satellite operators should be treated equally, with no preferential treatment for domestic operators.

MSSA further notes that ACMA is proposing measures to facilitate spectrum being used in a timely manner. Among the measures proposed is a requirement that prospective licensees have access to an ITU satellite filing for the 2 GHz MSS band and demonstrate that their frequency assignments are either confirmed as brought into use as defined by the Radio Regulations or submitted to the ITU in a notification and published 'as received'. MSSA agrees that this requirement will contribute to ensuring timely use of the 2 GHz MSS spectrum.

8. **Technical matters. We seek views on:**

1- Our proposed technical parameters and coordination requirements for 2 GHz MSS, including CGC.

2- Implementing our proposal as set in our November 2023 discussion paper, that for 2 GHz MSS narrowband requirements, the emission limit for earth station transmitters at the 2010 MHz boundary can be changed from -66 to -60 dBW/MHz EIRP.

Concerning the protection of AQRZWA, MSSA notes that RALI 32 does not include space licences (which are not in scope) and only mobile earth stations are considered. Hence, MSSA has no additional views on the applicability of the current RALI 32.
Concerning the relaxation of emission limits at the boundary of 2010 MHz from –66 to –60 dBW/MHz EIRP for earth station transmitters, MSSA is supportive of this proposal.

Respectfully submitted,

Mobile Satellite Services Association (MSSA)