

20 September 2023



The Manager
Wireless Broadband Section
Australian Communications and Media Authority
PO Box 78
Belconnen ACT 2616

Dear sir

RE: ACMA Review of the 1.5 GHz band – Extended mobile satellite service (MSS) L-band options paper

The Communications Alliance's Satellite Service Working Group (SSWG) wishes to thank the Australian Communications and Media Authority (ACMA) for the opportunity to provide feedback on the *Review of the 1.5 GHz band – Extended mobile satellite service (MSS) L-band options paper* (the 'Options Paper').

Introduction and General Comments

The Mobile Satellite Service (MSS) has used the 1525 – 1559 MHz / 1626.5 – 1660.5 MHz bands in Australia for land, maritime and aeronautical operations for a considerable time; which services are also intended to be introduced in the 1518 – 1525 MHz / 1668 – 1675 MHz MSS bands via planned and recently launched, high performance MSS satellites.

The 1.5 GHz frequency band remains an important band for Australian MSS operations and applications are expected to continue increasing in Australia. As a major 1.5 GHz incumbent service, MSS needs to be able to continue operating without harmful interference from future 1.5 GHz International Mobile Telecommunications (IMT) / wireless broadband (WBB) services.

The 1427 – 1518 MHz band was identified for IMT at WRC-15. ITU-R studies have been conducted for the last eight years to identify an agreed way for IMT and MSS to harmoniously use adjacent band spectrum without harmful interference being caused to MSS across the 1518 MHz band edge partition due to the high power of terrestrial base stations operating adjacent to MSS receivers receiving signals from space. The interference mechanisms include out-of-band emissions from IMT / WBB transmitters and receiver overload in the MSS terminals.

Question 1: Comment is sought on the proposed desirable planning outcomes for the review of the extended MSS L-band

The SSWG supports the introduction of MSS in all of the extended MSS L-band in a reasonable time frame, as proposed in the first 'desirable planning outcome' (outcome No. 1), taking into account some SSWG members' MSS satellites are already operational and ready to provide services in this band in Australia. Other SSWG members have L-band MSS satellite filings and planned systems that include coverage of Australia. The extended L-band would provide additional spectrum to improve regional connectivity and enable the growth of the Australian user community as well as Internet of Thing (IoT) applications through satellite communications and other MSS operations.

While we recognise that ongoing use of the extended MSS L-band by incumbent licensees (outcome No. 2) may be considered desirable, this does potentially enshrine some compatibility issues that will need to be addressed as soon as possible.

There is a potential contradiction between outcome No. 1 and No. 2, insofar that ongoing use by incumbent services could prevent the introduction of MSS in the extended MSS L-band. In particular if MSS downlink power in the band 1518 –1525 MHz is limited by the ongoing use by terrestrial incumbents, that will constrain and potentially prevent the provision of MSS.

Regarding outcome No. 3, “*Consider necessary regulatory measures for new MSS use in the extended MSS L band to enable coexistence with incumbent and possible future in-band and adjacent band services (such as WBB)*”, it is obviously not practical now to implement any measures before deciding on the incumbent or new services which may need coexistence measures, understanding that those incumbent services will be addressed at a later date. If required, the SSWG recommends a transparent technical consultation mechanism/Technical Licensing Group (TLG) to address coexistence issues.

The SSWG does not support the consideration of regulatory constraints being applied to MSS operating in the extended L-band that will unduly limit the future use of MSS due to possible future in-band and adjacent band services, including WBB.

As indicated in the Options Paper, the ITU-R Working Party 4C and Working Party 5D have completed studies for the assessment of coexistence between WBB and MSS in the adjacent 1.5 GHz band. The draft new Recommendation ITU-R M.[REC.MSS & IMT L-band COMPATIBILITY] (Doc. 4/78) is expected to be adopted and approved at SG5's 25-26 September 2023 meeting.

Question 2: Comment is sought on the options identified. Do you have any alternative options to propose?

The SSWG opposes Option 1 since that will not enable the introduction of new MSS services in Australia.

Option 3 provides a more complete solution, by addressing the compatibility issues and possible re-location of incumbent services. Recognising that this may take more time to analyse and implement, the SSWG accepts that this is not the preferred option at this time.

The SSWG supports in principle the ACMA preferred Option 2, related to MSS user terminals operating in the bands 1518 – 1525 MHz and 1668 – 1675 MHz with the amendment to the CSO class licence to include the extended MSS L-band, together with the apparatus licencing regime as is done in the standard L-bands. Class licences by design are issued on a non-interference and non-protection basis. MSS, due to the applications it supports, needs to operate without harmful interference from incumbent and future services in the extended band and adjacent bands including IMT/WBB services. This protection should be ensured through regulatory measures being applied to these other services. Also, the interference environment will be improved when Telstra relocates most of their roughly 870 PTP licences in the 1427 – 1535 MHz frequency range to non-MSS/fixed satellite service (FSS) bands within the next 3 to 5 years.

The ACMA notes that the ITU satellite coordination process is sufficient to resolve any compatibility matters. One of the issues addressed by the ITU coordination process is the potential impact of downlink interference to terrestrial services in the band 1518 – 1525 MHz, for which the provisions of RR No. 9.14 apply. It is important to ensure that SSWG members'

MSS downlinks are not unduly constrained by ongoing use by the incumbents in Australia. We consider that incumbent use of the band 1518 – 1525 MHz should be able to accept to operate with downlink power flux density from MSS downlinks no higher than exist today in the band 1525 – 1559 MHz.

Regarding future services in adjacent bands, for example WBB, the SSWG accepts that this can be addressed later, considering that the demand for WBB in this band remains unjustified. As noted in previous submissions, the SSWG recommends that WBB is limited to the band below 1492 MHz, in line with decisions taken by several other countries, which effectively eliminates the need to consider compatibility measures for WBB or for MSS. It would clearly be premature at this time to implement mandatory requirements for MSS receivers with respect to interference from WBB systems.

Under Option 2, the ACMA proposes a list of constraints on MSS operations to protect incumbent services in the same and adjacent bands, which are generally acceptable in the short-to-medium term, although they will result in constraints on MSS operations in Australia.

Question 3: Comment is sought on the ACMA's assessment of options

The SSWG concurs with the ACMA that Option 1 does not meet the broad objective to enable MSS operations in extended MSS L-band and should not be considered further.

Option 2, while opening the extended MSS L-band to new MSS services, places those MSS services on a secondary basis with respect to numerous incumbent services, some of which may no longer be needed. This does not provide an equal primary allocation to MSS and may result in non-feasible MSS operations in the future. The future systems in the same and adjacent bands should not have a higher priority over MSS. The SSWG believes the burden of sharing a band should be shared and protection for terrestrial mobile systems reviewed via the spectrum licence technical frameworks. This aspect should be examined as part of the broader review of the 1427 – 1535 MHz band, planned for Q3 2024.

Question 4: Comment is sought on the ACMA's preliminary preferred approach, including the proposed draft amendments to the Radiocommunications (Communication with Space Object) Class Licence 2015 and associated licence application and allocation process.

In addition to the amendments to the Radiocommunications (Communication with Space Object) Class Licence 2015 to include the extended MSS L-band frequencies for user terminals, the MSS licensees will require access to complementary space and space receive apparatus licences in the extended L-bands as is done for the standard L-bands for the space stations.

Regarding the proposal to include a note regarding the possible date for implementation (or assumption for interference management purposes) of better performing MSS receivers, it seems premature to implement such a note now, while plans for introduction of WBB in the 1427 – 1518 MHz band remain unclear.

Noting Telstra's intention to relocate most of their roughly 870 PTP licences in the 1427 – 1535 MHz frequency range to other bands within the next 3 to 5 years, the SSWG proposes that the ACMA expand the current Embargo 70, to introduce an embargo on new terrestrial (that is non-satellite) licences in the 1427 – 1535 MHz band in all parts of Australia, in order to ensure that it does not worsen in a way that would impede future use by MSS operators in the 1518 – 1535 MHz band.

The ACMA may wish to implement option 2 in the short term, in parallel with establishing the timetable and criteria to implement option 3.

If you have any questions with respect to this submission, please contact Mike Johns at Communications Alliance on 0414 898 841.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'John Stanton', written in a cursive style.

John Stanton
Chief Executive Officer

Communications Alliance

Communications Alliance is the primary communications industry body in Australia. Its membership is drawn from a wide cross-section of the communications industry, including carriers, carriage and internet service providers, content providers, platform providers, equipment vendors, IT companies, consultants and business groups.

Its vision is to be the most influential association in Australian communications, co-operatively initiating programs that promote sustainable industry development, innovation and growth, while generating positive outcomes for customers and society.

The prime mission of Communications Alliance is to create a co-operative stakeholder environment that allows the industry to take the lead on initiatives which grow the Australian communications industry, enhance the connectivity of all Australians and foster the highest standards of business behaviour.

For more details about Communications Alliance, see <http://www.commsalliance.com.au>.