



# AMTA

Australian Mobile  
Telecommunications  
Association

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Senate Environment & Communications  
Legislation Committee

## AMTA submission on Universal Outdoor Mobile Obligation (UOMO) Bill 2025



## AMTA – UOMO Bill 2025 Submission

The Australian Mobile Telecommunications Association (AMTA) is the peak industry body of Australia's mobile telecommunications industry. Our purpose is to be the trusted voice of industry, promoting the adoption, monetisation and sustainability of mobile telecommunications technology for the benefit of all Australians.

AMTA members include the mobile network service providers, handset manufacturers, network equipment suppliers, retail outlets and other suppliers to the industry.

AMTA welcomes the opportunity to provide this submission to the Senate Environment and Communications Legislation Committee's inquiry into the Universal Outdoor Mobile Obligation (UOMO) Bill 2025.

If you have any queries or comments in relation to the content of our submission, please contact Chris Coughlan, Head of Spectrum and Network Infrastructure on 0401 988 322 or by email [chris.coughlan@amta.org.au](mailto:chris.coughlan@amta.org.au).



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## 1. Executive Summary

There are over 30 million mobile devices active in Australia today that help to meet the daily connectivity needs of Australian citizens and businesses. Mobile connectivity is central to the way consumers and businesses connect with each other, access services, interact with government and participate in the economy. Regional communities especially rely on access to mobile services to achieve better outcomes in terms of equity, inclusion and economic productivity. The sector is critical to the proper functioning of a modern Australian society and economy that are highly dependent upon digital mobile communications.

This has been made possible by significant investment by Mobile Network Operators (MNOs) in infrastructure, technology and people across this vast continent over many decades. Regulation of such an essential service has an important role to play in addressing areas of market failure, providing important safeguards for consumers as well as promoting public safety, security and resilience. Regulation should also facilitate continued investment and competition as the best means of ensuring the mobile sector can continue to meet the needs of Australian consumers and businesses.

AMTA, therefore, supports the Government's commitment to modernise the universal service framework. Such reform opens the prospect of realising a productivity and social dividend by removing costly legacy universal service arrangements that are not fit for purpose and which have acted as a dead weight on regional investment for so long.

However, AMTA notes that the UOMO Bill (the Bill) is not designed to do the heavy lifting of reform. Rather it seeks to expand the existing universal service framework to cover mobile services and to mandate a significant expansion of mobile coverage through the establishment of the UOMO. In doing so it overturns four decades of regulatory precedence, where regulation has focused on areas of market failure, to apply regulation where no market currently exists.

Whilst the Explanatory Memorandum (EM) to the Bill indicates that the decision to establish the UOMO is the result of extensive public consultation on options to modernise the universal service, the reality is that there has been limited if any consideration of the specific implications of UOMO. The policy essentially adopts concepts and obligations designed for fixed line services and applies these to mobile and newly emerging satellite technologies in the hope that they will work. It is assumed for example, that UOMO can co-exist with existing triple zero obligations, without any evidence to support this nor any consideration of the capabilities and potential limitations of the emerging Low Earth Orbit Satellite (LEOsat) technologies. Further, most people will need new devices to fully benefit from UOMO. AMTA submits that there is a real risk that UOMO will over promise and under deliver as key assumptions have not been appropriately tested and issues remain to be resolved.

The Bill raises significant risks to a sector that is subject to intense cost pressure and is responding to several new and significant regulatory requirements. It is critical for these risks to be addressed or mitigated to ensure UOMO is set up for long-term success and delivers its anticipated public benefits. Failure to do so risks UOMO simply becoming an extension of the outdated legacy universal policy arrangements.

AMTA highlights the following key points for the Senate Committee to consider.

- Further consideration is required on the fuller implications of the UOMO, including the fundamental changes to longstanding policy concepts, the costs and benefits of reform, the



customer value proposition and the risks from the reliance on potentially only one or two global LEOsat providers. The emerging Direct to Device (D2D) LEOsat technology is immature, is not yet available at any scale and there are key unknowns about the technology, handset compatibility, and spectrum suitability. Given the issues raised in this submission, AMTA considers a default start date of 1 December 2027 is unworkable, and further time will be required to ensure UOMO can live up to expectations. AMTA recommends that the legislation should not specify a default commencement date. Rather, the commencement of the UOMO should be determined by the availability of the technology and compatible devices, which is expected to be much later than December 2027.

- Further work is urgently required to support the Bill's assumption that D2D technology can support the full range of obligations under the Emergency Call Service Determination. There should be no ambiguity on customers' ability to access Triple Zero outside the terrestrial mobile networks. This work could be undertaken as part of the current Triple Zero Legislation and Regulatory review.
- Meeting the UOMO will likely require significant new investment in infrastructure, spectrum, technology and operational support systems by the MNOs. To the extent that MNOs are required to price services below cost, for example to meet affordability needs of some customer groups, then government should commit to funding these arrangements without the need for industry funding schemes which are inherently problematic.
- Given the importance of the D2D LEOsat technology in the delivery of universal outdoor mobile coverage, the absence of any pass-through wholesale obligations is a material omission in the Bill. AMTA recommends that the Bill includes a power for the Minister to set wholesale standards, rules and benchmarks to ensure that wholesale services can meet retail expectations. Failure to do so will limit the policy's ability to maximise public interest outcomes, by undermining the viability of the UOMO and creating unacceptable commercial, operational and legal risks for the mobile operators.
- The Bill confers unprecedented powers on the Minister to set retail standards, rules and benchmarks for mobile services. Whilst AMTA does not believe these are likely to be necessary, AMTA recommends that additional checks and balances are required on the exercise of these broad Ministerial powers. AMTA specifically recommends that the Minister should not be given the power to set prices.
- The ACMA should be directed to be actively involved in solving the spectrum issues identified in this submission, particularly related to the limitations associated with the CSIRO radio astronomy and the Square Kilometre Array.
- Government should expedite reform of the legacy universal service obligations (USO), so that the UOMO can take its place within a modern and fit for purpose universal service framework that is sustainable over the long term.



## 2. Insufficient consideration of the implications of UOMO

AMTA notes that the UOMO involves some fundamental changes to longstanding policy concepts around the delivery of universal service that will have wide ranging implications for MNOs, LEOsat providers and consumers. The UOMO policy overturns four decades of regulatory precedence, where regulation has focused on areas of market failure, to apply regulation where no market currently exists.

In the EM to the Bill, it is represented that the decision to establish the UOMO came following extensive public consultation on options to modernise the longstanding Universal Service Obligation, including the consideration of current arrangements through the 2024 Regional Telecommunications Independent Review. The Government has also noted that it consulted widely following the UOMO policy announcement and feedback from a range of stakeholders was considered in drafting the Bill.

Notwithstanding these claims, AMTA submits that to date, consideration of the UOMO has only been at a conceptual level and there is an underlying assumption that the regulatory framework that has applied to fixed line voice services can simply be adopted for mobile and emerging satellite technologies. It should concern legislators that there has been little to no public and transparent analysis or consideration of the specific implications of implementing the UOMO, such as a cost benefit analysis, an assessment of the technical capabilities and limitations of the emerging LEOsat technology, the likely impacts on consumers including pricing and the need to upgrade handsets.

Despite bipartisan support, the implementation date of the Bill risks driving industry to make a range of sub-optimal compromises, such as spectrum use, service capabilities, and device requirements in circumstances where the technology is immature and has not been deployed at scale. As a consequence, AMTA recommends that the legislation should not specify a default commencement date. Rather, the commencement of the UOMO should be determined by the availability of the technology and compatible devices at scale, which is expected to be much later than December 2027. Of further concern is the fact that the UOMO essentially involves the regulation of a service that has very limited commercial application today and is dependent for its delivery on third party global providers with limited history in the Australian market. This raises several important issues for further consideration.

### 2.1 Emergency service obligations

The EM makes it clear that the Bill does not explicitly reference access to Triple Zero services as the obligation to supply these are established in the Emergency Call Service Determination (ECSD). The EM indicates that the ECSD will apply to services supplied in compliance with the UOMO, regardless of technology.

In effect the policy assumes that the full range of obligations under Triple Zero can be fully supported by the LEOsat D2D technology. It is not clear on what basis this assumption can be made, since to AMTA's knowledge the ability of D2D services to meet the ECSD requirements has not been tested. As indicated earlier in this submission it is likely that most, if not all current devices, will not support voice calls over D2D technology, which means they will not, therefore, be capable of



accessing Triple Zero outside the terrestrial mobile networks, even if D2D technology demonstrates the ability to meet the ECSD requirements.

Further, it is unclear whether the “camp-on” arrangements, that enable calls to be connect to Triple Zero through an alternate network if the host network is unavailable, can be supported by D2D technology. Similarly, the potential implications on the ECSD requirements if there is only one LEOsat provider offering commercial services has not been considered.

AMTA submits that further work is required to properly assess the ability for MNOs to meet the ECSD requirements using D2D technology, including the new Triple Zero information obligations that may now rely in part on third party supply arrangements. This work should be undertaken as a priority and could usefully be included in the current Triple Zero Legislative and Regulatory Review, recently announced by the government<sup>1</sup>.

Given these concerns and the service limitations of the D2D service, such as requiring line of sight, the absence of inbuilding coverage and likely handset requirements, AMTA also recommends that information should be made available to the public to set appropriate expectations on how UOMO will operate in an emergency.

## 2.2 Costs and pricing

The EM to the Bill notes that there are “no financial implications” from this Bill. AMTA does not agree with this statement.

The obligations to expand mobile coverage Australia wide, including to the very remote areas of the continent and across difficult terrains, and any requirement to uplift standards from the best-efforts approach that applies today will likely require significant new investment in infrastructure, spectrum, technology and operational support systems. It is specifically acknowledged in the overview section of the EM that the UOMO will likely require MNOs to go beyond what is commercially viable:

*“While Australian MNOs had announced plans to commercially deploy D2D services in partnership with LEOsat operators, this may not have delivered baseline mobile coverage to all areas of Australia. The Bill will embed in law, clear expectations that this significant technology should be as widely available as possible, as quickly as possible and provide safeguard mechanisms to ensure equitable and quality services are provided”<sup>2</sup>.*

The implication of this is that the UOMO may involve the provision of services that are uneconomic. This risk is heightened by the fact that, as will be explained further below, MNOs are likely to be price takers with limited bargaining power over the multi-national LEOsat providers.

Despite the statement in the EM, no cost benefit analysis has been undertaken to assess the financial implications to MNOs of meeting the obligations. Absent such an analysis it will be important for the legislation to include some clear principles around cost recovery to ensure the UOMO is sustainable and able to meet community expectations. Whilst it is always preferable to recover costs through charges on end users, to the extent that MNOs are required to price services below cost or undertake additional upfront investments to meet Government policy objectives, then

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<sup>1</sup> [Triple Zero Legislative and Regulatory Review | Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts](#)

<sup>2</sup> Explanatory Memorandum, page 3



government should commit to funding, preferably without the need for industry funding schemes which are inherently problematic.

## 2.3 Devices

A key issue which has received little consideration to date is the availability of handsets that are compatible with D2D services.

Whilst current D2D text-based services can operate on some current smartphones, full voice support will likely be restricted to newer handsets equipped for satellite communications. AMTA understands that voice services will be provided as a Non-Terrestrial Network (NTN) 5G service, which will be dependent on Release 19 of the 3GPP standard. The release 19 specification was finalised at the end of 2025. However, there is a significant delay in productising a release, both in terms of network infrastructure and devices. Based on typical timeframes the first compatible devices for widespread public sale are unlikely to be available until well into 2028 at the earliest and may be later in the decade.

This means that the UOMO cannot be expected to be delivered until after December 2028, because handsets that can support both SMS and voice calls using D2D technology will not be available in market before this date. But even after this date, whilst D2D services are available, customers' ability to access the services will be dependent on them having access to a compatible device. Most, if not all, customers will need to acquire a new handset to benefit fully from the UOMO voice and text services.

This is likely to be seen as a significant limitation to the new arrangements, that will require careful consideration. In particular, the commencement date for the UOMO should align to a point when there is a sufficient scale of D2D compatible handsets in market. Consideration should be given as to how government can work with handsets manufacturers to achieve such scale and ensure there are affordable devices in the market.

## 2.4 Flexibility required to future proof UOMO

As discussed above, this Bill is frontrunning regulation in circumstances where the D2D service to be regulated is immature and not commercially available at any scale. An implication of this is that the Bill should not be prescriptive in terms of key aspects of the emerging D2D service. Flexibility should be retained to ensure that the obligations are both proportionate and can be future proofed as the technology develops.





### 3. Alignment of retail obligations with wholesale inputs

The UOMO operates as a retail obligation on the three MNOs to provide baseline mobile voice and SMS services across Australia. The Bill also gives the Minister ability to make legislative instruments to set standards, rules and benchmarks that MNOs must comply with in meeting the UOMO. As will be discussed further, these are broad powers that would enable the Minister to define the essential commercial and technical characteristics of the mobile voice and SMS services that are expected to be delivered under the UOMO.

A material concern for the MNOs is that whilst they have sufficient control over the design of services carried over their networks, they have less ability to do so for the wholesale D2D services they will need to acquire from third party LEOsat providers. Acquisition of these D2D services will be necessary to enable the MNOs to meet the UOMO outside their existing terrestrial networks.

Whilst the EM to the Bill acknowledges that wholesale services of these LEOsat providers will be fundamental to the MNO's ability to meet the UOMO, the provisions of the Bill do not extend to either the LEOsat providers or the D2D technology.

The regulatory obligations fall solely on the MNOs to provide expanded coverage and potentially meet new service standards in reliance on services provided by third party LEOsat providers. This creates significant bargaining asymmetries in favour of third-party global LEOsat providers to dictate commercial terms.

LEOsat providers have no legal obligation to provide a service that meets the expectations of the UOMO or to even provide a service at all. This is compounded by the fact that the UOMO Bill gives the Minister the power to set retail standards and is time bound, which is likely to further weaken the negotiating position of the MNOs relative to the LEOsat providers. AMTA's concern is that the MNOs may have little if any ability to negotiate acceptable terms and will essentially be price takers at the behest of the large global LEOsat providers. This cannot be in the public interest.

This is a significant gap in the operation of the legislation and risks undermining the success of the policy. A key issue AMTA raised in its submission to the Department of Communication's consultation of the draft bill, was the need for back-to-back wholesale standards to reflect any retail standards set by the Minister. This has not been addressed.

AMTA notes that the EM includes commentary to the effect that the Bill does not need to deal with wholesale matters since the Australian Competition and Consumer Commission (ACCC) already has powers under Part XIC of the Competition and Consumer Act 2010 to intervene in wholesale access markets to enable greater competition. It further notes that under Part XIC, telecommunications service providers can be required to provide access to declared wholesale services to their competitors, including on default price and non-price terms determined by the ACCC.

The success of the UOMO in meeting customer needs and expectations will require close alignment between the retail obligations and the underlying wholesale inputs. AMTA does not consider that reliance on the ACCC's Part XIC powers alone is sufficient to ensure that wholesale services supplied to MNOs will enable them to meet the mandatory retail obligations, at least without express direction to the ACCC to declare a wholesale service that fully aligned with retail service standards as set by the Minister.



While ACCC oversight is preferable, the processes under Part XIC are cumbersome, lengthy and there is no guarantee that the competition thresholds will be met to enable the ACCC to intervene and set standards, let alone prior to the service being available at scale, and even if they are, that the standards set will appropriately address the same grounds as the retail service standards.

AMTA notes that this dependency on the availability (and quality) of wholesale services is already acknowledged in the Bill (for example at s8BB(3)(b)(ii)). However, to address its concerns, AMTA recommends that the Bill goes further and includes the power for the Minister to determine standards, rules, and benchmarks that are to be met for any wholesale D2D services that are supplied in Australia in connection with the UOMO. The specific matters to be covered by such standards, rules and benchmarks should replicate the relevant provisions of parts 12Q through to 12T in the Bill.

Inclusion of such powers would help to ensure that D2D services are designed to support the MNO's meeting their UOMO obligations and that those services align with community expectations and are consistent with any relevant retail standard set by the Minister.

AMTA notes that there is already precedence in telecommunications regulations for such powers to set wholesale standards. The Statutory Infrastructure Provider (SIP) regime that applies to the provision of fixed broadband services confers powers on the Minister to set standards, rules and benchmarks to be complied with by statutory infrastructure providers. Part 5 Division 3 of the Telecommunications (Consumer Protection and Service Standards) Act 1999 also includes powers for the Minister to set wholesale performance standards and benchmarks.



## 4. Ministerial powers

The EM to the Bill acknowledges that there are differing capabilities between terrestrial based mobile services and D2D services delivered over the emerging LEOsat technology. Accordingly, the Bill provides extensive powers for the Minister to determine future matters relating to the delivery of the UOMO. This includes the ability to:

- Amend the expected start date;
- Add services to the UOMO as the LEOsat technology develops;
- Designate additional Primary Universal Outdoor Mobile Providers (PUOMPs);
- Set standards, rules and benchmarks for the supply of the service.

Given that LEOsat technology is only now emerging, it is understandable that many matters cannot be defined today, and that the establishment of a power is required to enable these matters to be settled in the future.

The Bill also includes a new Part 2 to schedule 1, that was not included in the exposure draft of the Bill that was shared with industry, which confers similar powers on the Minister to make standards, rules and benchmarks ahead of the UOMO commencement date in relation to mobile services.

Whilst AMTA acknowledges the aim of these may be to set minimum standards for the delivery of baseline universal services, it is concerned with the broad nature of the discretion the Bill gives to the Minister, with limited checks and balances on the exercise of those powers. This creates significant risk and uncertainty for the sector that is not conducive to a pro-investment environment.

AMTA recommends that where a power is conferred on the Minister to make future determinations it should be subject to reasonable checks and balances, such as the requirement for industry consultation, ensuring there is alignment to internationally recognised mobile standards, that costs to the sector are minimised. This should help to ensure that the exercise of Ministerial power is reasonable, consistent with the public interest and promotes investment into the sector.

AMTA considers that the following Ministerial powers create a greater level of risk and, therefore, warrant a different approach.

### ***Commencement date***

The Bill allows the Minister to bring forward the commencement date for the UOMO from the default date of 1 December 2027 under section 12M. AMTA has a number of concerns with this provision.

As noted, since the D2D technology is only emerging, has limited commercial take-up, voice services are not yet available, and key technical considerations are still to be resolved. It is not clear why this power is required, especially given that the specified default date of 1 December 2027 is likely to be unachievable.

AMTA also notes that, contrary to industry advice through consultation on the exposure draft, the default date has been brought forward by 12 months from that proposed in the exposure draft to the Bill.

AMTA recommends that the Ministerial power to bring forward the commencement date is removed. AMTA also recommends that given the issues that need to be clarified in respect of the



UOMO, the Bill does not specify a default date. Rather the commencement of the Uomo should be determined by the availability of the technology and compatible devices, which is expected to be much later than December 2027. This will allow industry to make considered, long term investment decisions based on technical and commercial sustainability, rather than making short-term and potentially inefficient decisions to meet an unrealistic commencement date.

### ***Power to set prices***

Section 12Q(1)(a) gives the Minister the ability to set the terms and conditions of supply of a designated service, including price or the method of ascertaining price. Given that the designated service includes basic mobile voice and text messages, this effectively gives the Minister broad discretion over the future pricing for the delivery of commercial mobile services. Such a power is unprecedented and unwarranted. Prices for mobile voice and text services are set commercially by mobile operators that are subject to strong competition.

AMTA anticipates that government's objective in respect of this power might be a concern to ensure the affordability and equity of pricing, particularly those delivered over D2D technology (for which the cost is unknown today). AMTA notes that the EM indicates that the proposed section could be used to support equity outcomes by ensuring that the PUOMPs support vulnerable groups by offering products targeted to low-income groups.

If a concern should arise regarding affordability of services for particular groups, there are better and more targeted ways for this to be addressed, as they are now through hardship and vulnerability measures. It does not require the Minister to set prices, and this power should be removed from the Bill.



## 5. Spectrum

AMTA notes that the Bill makes no specific reference to the provision of spectrum aspects of the UOMO and that the Minister has asked ACMA to consider these separately when it uses its powers under the Radiocommunications Act.

AMTA notes that there are emerging spectrum issues that will impact the successful implementation of the UOMO. This includes continued access to expiring spectrum licences by the PUOMPs, the availability of additional low band spectrum, and access to mobile satellite service (MSS) spectrum band. These technical issues are discussed in greater detail in appendix A to this submission. AMTA recommends that government formally direct the ACMA to be actively involved in resolving the spectrum issues, particularly related to the limitations associated with the CSIRO radio astronomy and the Square Kilometre Array.



## 6. Reform of the legacy universal service arrangements should be expedited

The legacy telecommunications USO has been subject to several detailed reviews over the decades. Whilst consumers value the concept of universal connectivity, in practice few now rely on the service, and many criticise it for what it doesn't offer. It is seen as archaic, delivering little for the people and businesses which require broadband and mobile communications. Reflecting these criticisms, successive governments have developed programs to augment the USO and address modern needs. This has resulted in the overall costs of universal service delivery exceeding \$1 Billion annually<sup>3</sup>, an expense ultimately worn by taxpayers and consumers.

Industry has long voiced concerns that the USO distorts competition and acts as brake on regional investment. Put simply, notwithstanding its significant cost the legacy universal service delivers little value for consumers, industry and taxpayers.

The need to overhaul the legacy universal service is not in dispute. After an extensive review, in 2017 the Productivity Commission concluded that it was not only “not fit for purpose” but was no longer needed since the vast majority (more than 99 per cent) of premises have access to superior services over the NBN or mobile networks. More recently, in March 2024, Minister Rowland noted the need for reform: *“As far back as 2015, I said the USO needs to respond to changes brought on by the roll out of the NBN. While the USO is here to stay, our Government wants to ensure it is fit-for-purpose and encompasses new and emerging technologies like quality fibre connections and satellite services”*. Similarly, the most recent Regional Telecommunications Review recommended that government “expedite modernising the USO”.

In announcing that it would establish the UOMO, the Government noted that this would be the first step towards modernising the universal service framework. This was reiterated in the Government's response to the Regional Telecommunications Review in September 2025, noting that the UOMO is not a “silver bullet” and that Government is *“considering potential approaches to improve delivery and funding of baseline fixed services provided to homes and businesses”*.

These public commitments to reform by the government are welcome since the legacy universal service is costly and acts as an unproductive tax on the sector with limited public benefit.

Ideally a reform of the legacy universal service arrangements would precede the introduction of the UOMO, since it would address the most urgent issue of delivering better solutions for the relatively small number of customers in remote locations that continue to rely on Telstra's copper continuity obligation. It would also remove the significant unproductive cost burden on industry of these legacy arrangements, thereby assisting mobile operators in meeting the UOMO and future investment requirements, including for the AI productivity revolution that is ultimately dependant on capacity in telecommunications networks.

AMTA respectfully calls on the Senate Committee to ensure that the government prioritises reform of the legacy universal service arrangements, which should be implemented ahead of the commencement of the UOMO obligation. Failure to do so will mean the productive benefits of such reforms are not realised and the UOMO will simply add to the cost burden of the sector.

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<sup>3</sup> Telecommunications Universal Service Obligation Productivity Commission Inquiry Report April 2017, page 6 and 111



## Appendix A

### Spectrum

#### National Spectrum Licences

The interference management framework for spectrum licences is predicated on the deployment of terrestrial mobile networks and how these interact with adjacent spectrum users. As there is no consideration of space-based emissions, AMTA members agree with the ACMA's guidance that "the operation of an IMT satellite direct-to-mobile service would likely only be practical under an Australia-wide spectrum licence."<sup>4</sup>

The Australian Spectrum framework currently provides national licences in the low band, 700 MHz, 850 MHz and 900 MHz Bands, and in the midband 2.5 GHz band. Only Telstra and Optus hold 2.5 GHz band licences.

#### Radio Astronomy

The CSIRO have submitted papers to the ACMA via the Satellite direct-to-mobile services: regulatory issues consultation<sup>5</sup> and the Expiring spectrum licences (stage 3) – preliminary views<sup>6</sup> outlining the impacts of D2D services to their ability to operate and host radio astronomy. AMTA members agree with the technical assertions in these papers. AMTA has summarised the CSIRO views per IMT band as:

- Low band (700 MHz, 850 MHz and 900 MHz Bands): These bands are currently used by the CSIRO's ASKAP (Australian Square Kilometre Array Pathfinder) Telescope in the Radio Quiet Zone and any use of D2D in these bands would demonstrably reduce the ability of the ASKAP to service the scientific community.
- Midband 2.5 GHz Band: This band is currently in operation via the Telstra/ SpaceX commercial deal and collaborative mitigation work has been undertaken by CSIRO, Telstra and SpaceX. The CSIRO's view is that whilst the mitigation efforts are somewhat effective in the lower portion of the band, the upper portion remains problematic.
- 1800 MHz and 2 GHz: The 1800 MHz band currently presents limited radio astronomy utility due to existing terrestrial mobile service deployments. CSIRO supports national licence conversion with the aim of moving IMT D2D into these bands.

The 2 GHz MSS Band offers an alternative to the IMT bands. The 2 GHz MSS Band was identified in the European Union's Decision ECC/DEC/(06)09 in 2006 to prepare the band for future use of satellite communication services. As this is a native 3GPP NTN solution, it does not pose the same risks to radio astronomy as the other IMT bands.

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<sup>4</sup> <https://www.acma.gov.au/publications/2024-09/guide/regulatory-guide-operation-imt-satellite-direct-mobile-service> p4

<sup>5</sup> <https://www.acma.gov.au/consultations/2023-11/satellite-direct-mobile-services-regulatory-issues>

<sup>6</sup> <https://www.acma.gov.au/consultations/2025-04/expiring-spectrum-licences-stage-3-preliminary-views> CSIRO input to review of expiring spectrum licences (Stage 3)



## Vendor Support and Timeframes

AMTA notes that of the small number of LEOsat vendors currently operating, band support and timing vary. These present their own constraints and challenges in the delivery of the UOMO as envisaged in the proposed Bill.

By way of example, AST currently supports only low band solutions and SpaceX currently supports midband solutions.

## MNO Issues

To enable the provision of IMT D2D services, MNOs must remove IMT spectrum from their terrestrial networks. This will have the effect of negatively impacting customer experience for terrestrially delivered services as the available spectrum is reduced to support the UOMO. It is also noteworthy that as more capability is required on the UOMO, the more spectrum will need to be removed from the terrestrial networks, further eroding customer experience for terrestrially delivered services.

The technical solutions to deliver D2D are complex and the timeframes uncertain, therefore it is important that multiple options remain viable so that Australians can continue to benefit from the long-term advantages of both terrestrial and non-terrestrial services.

AMTA's view is that the D2D solution will need to evolve as global standards, vendor, device and regulatory frameworks change.

The ACMA will need to progress work associated with spectrum management aspects of implementing the UOMO, including allocation of the 2 GHz Band and examining how the provision of D2D services that may support the UOMO could be authorised in Australia's external territories. AMTA suggests these matters are resolved prior to commencement of the UOMO.

## Standards

Today, 3GPP standards for New Radio – Non-Terrestrial Networks (NR-NTN) only support MSS spectrum bands rather than IMT terrestrial spectrum bands. The MSS bands currently specified by 3GPP are set out in Table 1 below.

| REL    | WI               | NR band                   | Uplink (UL) operating band<br>Satellite Access Node<br>receive / UE transmit<br>$F_{UL,low} - F_{UL,high}$ | Downlink (DL)<br>operating band<br>Satellite Access Node<br>transmit / UE receive<br>$F_{DL,low} - F_{DL,high}$ | Remarks              |
|--------|------------------|---------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------|
| REL-17 | NR_NTN_solutions | n256                      | 1980 – 2010 MHz                                                                                            | 2170 – 2200 MHz                                                                                                 | FR1, FDD, S-band     |
| REL-17 | NR_NTN_solutions | n255                      | 1626.5 – 1660.5MHz                                                                                         | 1525 – 1559 MHz                                                                                                 | FR1, FDD L-band      |
| REL-18 | NR_NTN_LSband    | n254                      | 1610 – 1626.5MHz                                                                                           | 2483.5 – 2500MHz                                                                                                | FR1, FDD, LS-band    |
| REL-18 | NR_NTN_enh       | n512*,<br>n511*,<br>n510* | 27.5 – 30.0GHz<br>28.35 – 30.0GHz<br>27.5 – 28.35GHz                                                       | 17.3 -20.2GHz<br>17.3 -20.2GHz<br>17.3 -20.2GHz                                                                 | FR2, FDD,<br>Ka-band |

**Table 1:** A list of 3GPP NR NTN bands specified in TS 38.101-5<sup>7</sup>

In Australia, the 2 GHz MSS band is currently the only band that will become available for NR-NTN use, because bands n254 and n255 are already allocated and in use (largely to Inmarsat and

<sup>7</sup> TS 38.101-5, User Equipment (UE) radio transmission and reception; Part 5: Satellite access Radio Frequency (RF) and performance requirements. Ver 18.5.0, May 2024. Available at: [https://www.etsi.org/deliver/etsi\\_ts/138100\\_138199/13810105/18.05.00\\_60/ts\\_13810105v180500p.pdf](https://www.etsi.org/deliver/etsi_ts/138100_138199/13810105/18.05.00_60/ts_13810105v180500p.pdf)





Globalstar for legacy satellite phone services) and bands n510, n511 and n512 are Ka bands intended for fixed satellite services (FSS). This leaves the n256 band as the only lightly encumbered<sup>8</sup> band suitable for future use with NR-NTN.

## Devices

Due to constraints on available spectrum for LEO D2D, it is unlikely to be possible to simultaneously run 4G and 5G satellite networks. It is understood that D2D Voice will most likely only be available on bands that have been standardised for NR-NTN capability, while SMS services are possible under 4G (LTE) operating over LEO satellites.

If a UOMO SMS service is designated before SMS over NR-NTN is available, consumers will no doubt acquire handsets capable of 4G D2D SMS in the expectation that they will have access to the benefits of that Government-mandated service for the lifetime of that handset. However, if the UOMO service providers (PUOMPs) have to withdraw 4G satellite services to free up spectrum to deliver the UOMO Voice, customers with handsets capable of accessing the UOMO SMS service will need to replace (upgrade) their handset to retain access to the UOMO SMS service (because it D2D SMS is delivered over NR-NTN standards).

This is directly analogous to closure of 3G networks in 2024, where consumers who did not have a device capable of accessing 4G had to upgrade their devices.

Commencement (declaration) of a UOMO SMS Service ahead of commencement of a UOMO Voice Service, where the UOMO SMS Service is delivered using 4G capability over LEO Satellite risks a very poor customer experience, akin to 3G closure, that could force consumers to upgrade their phones to retain access to the UOMO SMS Service.

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<sup>8</sup> As of 1 March 2026 onwards when TOB services in the band must cease. Excluding the grandfathered point-to-point links and the 2 x 5 MHz shared narrowband MSS allotment.

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