31 January 2024

AMTA
Australian Mobile Telecommunications Association

Submission to the ACMA

Satellite direct-to-mobile services: regulatory issues

Mr Michael Brealey
General Manager, Communications Infrastructure
Australian Communications and Media Authority
Red Building, Benjamin Offices, Chan St, Belconnen ACT 2617

Via: ACMA web-portal

31 January 2024

Dear Mr Brealey

The Australian Mobile Telecommunications Association (AMTA) welcomes the opportunity to provide this submission in response to the ACMA's consultation on *Satellite direct-to-mobile services: regulatory issues*.

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, [redacted].

About AMTA

The 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. Our response to the ACMA's consultation focuses on IMT satellite direct-to-mobile (DTM) services.

Responses to ACMA questions

1. Is the current spectrum management framework fit-for-purpose to manage these new satellite services? This includes spectrum-licensed bands and other bands covered by the LIPD class licence.

In its recent FYSO, the ACMA has expressed the view that the combination of the current radiocommunications regulatory regime for space objects and the technology flexible nature of Australia's spectrum licensing regime enable the supply of IMT satellite DTM services.[1]

AMTA agrees that the current spectrum management framework is indeed fit-for-purpose to manage these new Satellite DTM services. There is nothing in any existing spectrum licence technical frameworks (SLTFs)—including in any spectrum licence itself—preventing the wireless broadband (WBB) user equipment (UEs) from acting in the role of the earth station transmitters (for the uplink) and receivers (for the downlink), under the spectrum licence.[2]

The inherent flexibility to operate any type of radiocommunications device afforded by the spectrum licence is coupled with the need to ensure compliance with the technical framework and applicable

[1] FYSO 2023-28, p.22

[2] While Telstra fully supports this view, namely, there is nothing in the existing framework that prevents the immediate introduction of LEO-based direct-to-device communication, Telstra considers there are improvements that could be made to strengthen the licensing framework for Satellite DTM, and Telstra will make its views in its own submission.

regulations.[3] While IMT satellite DTM services may appear to raise somewhat novel co-existence issues, these should be capable of being managed effectively within the existing spectrum licence technical framework and well-established coordination practices among licensees. To this end, we would support formal confirmation from the ACMA that an agreement or partnership—between a satellite operator and an MNO who holds spectrum licence(s) in an IMT band—is a pre-requisite to the supply of a satellite DTM service in a spectrum-licensed IMT band.

Given the rapid development of Satellite DTM services and the increasing number of service providers, along with the urgent need to provide connectivity—albeit low data-rate even for emergency communications—to regional and remote areas, we urge the ACMA to formalise their support for these services as soon as is practicable. In this regard, we appreciate the proactive steps taken by the ACMA with the Tune Up and this follow-up consultation.

Further to the point above regarding the need to expedite these arrangements, we urge the ACMA not to heed any calls to delay introduction of Satellite DTM into Australia. Specifically, calls to delay its introduction until the appropriate mobile-satellite service (MSS) allocations (specifically intended to support Satellite DTM) are added to the ITU Radio Regulations (RR). This potential change to the RR is actually the subject of Agenda item 1.13 at the World Radiocommunication Conference 2027 (WRC-27), i.e. *"Studies on possible new allocations to the mobile-satellite service for direct connectivity between space stations and International Mobile Telecommunications (IMT) user equipment to complement terrestrial IMT network coverage"*. We understand that it is important to have these allocations in place to support Satellite DTM in the long-term, such that the Satellite DTM operations are fully compliant with the Radio Regulations.

However, right now, Satellite DTM services operating in bands not allocated to the MSS may do so under Article No. 4.4 of the RR. As the ACMA states in the FYSO, this is effectively in derogation of the Table of Allocations (ToA), which means that the station is authorised on the express condition that it will not cause harmful interference to, nor claim protection from, other stations operating in accordance with the RR.

The Report of the Radio Regulations Board (RRB) to WRC-23 on Resolution 80 (Rev. WRC-07)[4] states that a typical use of No. 4.4 is where *"frequency band that is not allocated to a space service but is under consideration at the upcoming WRC for a new space allocation that would provide international recognition to the frequency assignment"*. In this way, immediate operation under Reg 4.4 is entirely consistent with the commencement of studies contemplated by WRC Agenda item 1.13. Furthermore, Australia, as a geographically isolated island, with no land borders, presents a unique opportunity for the early deployment of IMT satellite DTM services.

The benefits of allowing Satellite DTM services to operate over the next four years—as explained in the response to Question 3 below—*far outweigh* any downsides associated with Satellite DTM operating under No. 4.4, especially noting that when they do so, it is on a "no interference, no protection" basis. As such, we strongly disagree with any suggestions that IMT satellite DTM needs to wait until after WRC-27.

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[3] ACMA, Expiring Spectrum Licences – finalised framework and response to submissions; December 2023, p.3

[4] Note by the Secretary-General - Report by the Radio Regulations Board to WRC-23 on Resolution 80 (Rev.WRC-07), available here: https://www.itu.int/md/R23-WRC23-C-0050/en

2. If not considered fit-for-purpose: What are your concerns? What is your proposed solution? What next steps should be taken?

While we believe that the existing spectrum management framework can support Satellite DTM services without any change to existing legislation, we believe that the fact that foreign filed satellites operating in IMT bands may operate outside of the Act for the purposes of radiocommunications licensing purposes means that there is a slight risk of misinterpretation that this position amounts to "not requiring a licence". Such an interpretation runs the risk of harmful interference to IMT services and/or the supply of unlicensed services. To avoid this, we would urge the ACMA to develop spectrum management policy-level requirements or guidance materials clearly stating that—for a Satellite DTM operator to communicate with UEs within spectrum-licensed space—the Satellite DTM operator **must obtain written agreement** from the holder of the spectrum licence covering that particular spectrum space.

In this context, we note the ACMA's statement in pg. 22 of the 2023 Five Year Spectrum Outlook (FYSO), that *"A key feature of IMT satellite direct-to-mobile services is the need for an agreement or partnership between satellite operators offering a satellite direct-to-mobile service and MNOs who hold spectrum licences".* We strongly agree with this view, and ask that this be enshrined in ACMA policy and clearly expressed in the ACMA's public communications (e.g. the ACMA website).

Furthermore, since the UEs are exempt from registration and, based on the ACMA's views in the FYSO, the satellite stations may similarly not be registered, there may be no record in the ACMA's Register of Radiocommunications Licences (RRL)—or in any Class Licence—of the presence of any satellite DTM services operating in the relevant IMT spectrum band. To promote transparency about he presence of such systems, we would support the publication of **basic** details about the IMT satellite DTM service on the ACMA website, namely: spectrum licensee, satellite operator partner, frequency ranges and geographical extent.

Separately; in the 2023 FYSO, pg 22 *"Given the broad coverage provided by satellite services, our view is that operation of an IMT satellite direct-to-mobile service in Australia would likely only be practical under an 'Australia-wide' spectrum licence, as a single licensee is responsible for managing its own coordination issues within the licensed band across Australia (and hence no geographic boundary issues to manage)."*

While it is true that national spectrum licences may be simpler to manage and/or present less potential interference scenarios for the ACMA to consider—because there is no need to consider co-channel cross-border interference issues—this does not mean that the cross-border issues are inherently insurmountable. While we understand that arrangements for nationwide licences may be able to be fast-tracked by the ACMA, we ask that the ACMA also acknowledge the potential operation of a Satellite DTM service in the following scenarios (or at least does not outright discard these scenarios) :

a) spectrum licences that do not cover the entire country, in bands that are spectrum-licensed nationwide[5]; and
b) bands that are not spectrum-licensed across Australia (e.g. 1800 MHz and 2 GHz).

Lastly, the protection of radio astronomy service (RAS) facilities, such as the Australian Radio Quiet Zone Western Australia (ARQZWA) and others operated by the CSIRO, will need to be addressed as Satellite DTM services are introduced in Australia. This is an important issue, and we are ready and willing to engage with CSIRO to ensure that their operations are not unduly impacted and that Satellite DTM services can be introduced for the largest possible coverage of Australia.

We note that individual AMTA members will set out more detailed responses on these matters in their respective submissions.

[5] For example, spectrum licences in the 2 x 5 MHz channel pair in 875-880 MHz / 830-835 MHz. Here, TPG Telecom is licensed in the metro areas and Telstra is licensed in the remaining regional & remote areas.

3. Are there any other commercial, regulatory or public-benefit implications we should take into account?

The advent of low-earth orbit (LEO) satellites providing DTM services in Australia holds potentially significant benefits for both business and social spheres. For agricultural, transport, and mining sectors, improved access to data will enhance efficiency, productivity, and decision-making processes. For residents living in remote and First Nations communities, being connected to other local residents, coupled with easier and more convenient access to government, medical and community services will help reduce the digital divide. For visitors and travellers in remote areas, staying connected to family and friends will similarly become more feasible and easier.

Furthermore, the satellite DTM services of the near future will offer a lifeline in emergencies, ultimately contributing to increased safety and well-being in remote regions and potentially as a fall back in times of disaster when terrestrial networks may be down. For this reason, we urge the ACMA to formalise their support for these services as soon as practicable. AMTA also recognise the importance of ensuring that any future voice services via the DTM service is of sufficient reliability and performance to deliver the emergency call service.

In this and many other ways, satellite DTM services may become an increasingly important complement to terrestrial mobile networks, offering the potential to help bridge the digital divide, delivering connectivity to previously underserved or unserved areas of Australia. Importantly, these benefits can start to be realised now and in the near future via IMT satellite DTM services. Mobile handsets are nearly ubiquitous, which means the time to (mass) market for IMT DTM services is shorter than alternative MSS based options that do not have an established device ecosystem.

Finally, we also consider services provided by satellite DTM handsets and other devices, where provided to the public (i.e., not as part of a private network) constitute a carriage service under the definition in the Telecommunications Act. As such, we consider providers of these services must obtain a Carrier Licence from the ACMA (or a Nominated Carrier Declaration) and fulfil the obligations of a Carrier, including provision and carriage of emergency calls, lawful interception, mandatory data retention, and so on.

Kind regards,

Chris Coughlan
Head of Spectrum and Network Infrastructure

Australian Mobile
Telecommunications
Association