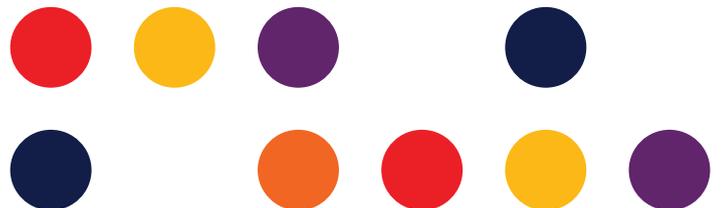


1800 MHz and 2 GHz outside of spectrum licensed areas

TPG Telecom response to ACMA

September 2024
Public submission



Introduction

TPG Telecom welcomes the opportunity to provide feedback on the ACMA's consultation in relation to the future of the 1800 MHz and 2 GHz bands in remote Australia.

TPG Telecom endorses the submission lodged by the Australian Mobile Telecommunications Association (**AMTA**).

The outcome of the ACMA's decision will have long lasting ramifications for connectivity in rural and remote Australia. This review comes at a time of significant change in the Australian telecommunication landscape, with the approval of the regional Multi-Operator Core Network (**MOCN**) agreement between TPG Telecom and Optus on 5 September 2024, and Low Earth Orbit (**LEO**) satellite operators announcing Direct-to-Device (**D2D**) wholesale agreements locally and globally.

TPG Telecom urges the ACMA to give due consideration to these developments in reviewing PTS arrangements, as these developments will maximise the utility of the 1800 MHz and 2 GHz bands from a public benefit perspective.

TPG Telecom's preferred option

TPG Telecom does not support the ACMA's proposed replanning options, for reasons outlined in the AMTA submission.

Notably, TPG Telecom strongly supports consolidation of MNO spectrum holdings into the 1800 MHz band in remote areas, with the long-term objective of converting these to Spectrum Licences. The ideal band structure is nationally consistent holdings by MNO licensees, rather than regionalised parcels of spectrum with different licensees across boundaries.

Clearance and consolidation of 1800 MHz band in remote Australia

We understand 1800 MHz point-to-point (**PTP**) links are used to support Telstra's USO service in remote areas.¹ Therefore, clearance or consolidation of PTP links is on the critical path for maximising 1800 MHz utility for PTS.

The most optimal means to expedite this would be for Government to transition away from existing Telstra contractual arrangements and adopt a technology neutral approach to the USO.² This would remove the need for Telstra to use PTP links and pave the way for the ACMA to develop a more efficient and economical approach to the 1800 MHz band than the status quo.

¹ <https://www.infrastructure.gov.au/sites/default/files/ACCC%20-%201800%20MHz%20competition%20limits%20advice%20-%20Redacted.pdf>

² See TPG Telecom's submission to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts consultation on *Better delivery of universal services: Discussion Paper (March 2024)*.

Additionally, the 1800 MHz PTP frequency plan can be tightened by vacating the bottom three channels in the 1800 MHz PTP raster, i.e. move all remote 1800MHz PTP services to channels 4-6 of the 14 MHz Main and Interleaved rasters (see Figure 1). This would free up the bottom 2x30 MHz for MNO use, with the remaining 45 MHz to be cleared, subject to reform of the USO arrangements.

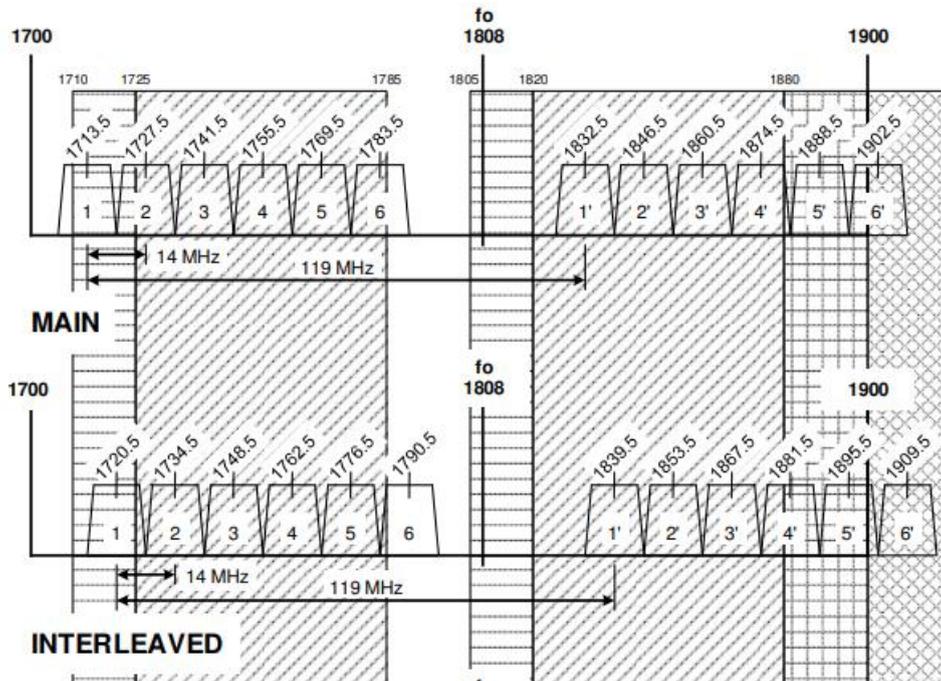


Figure 1 - 1800MHz PTP channel raster

Once the necessary conditions are achieved for PTP clearance from remote 1800MHz, clearance should be prioritised on links which have at least one end located in a major population centre. For example, the 1.8GHz link in Mt Isa would be of very high priority for clearance, where currently Band 3 PTS services are blocked to a community of around 20,000 people.

Future use of 1800 MHz in remote Australia

LEO satellites

The current arrangement for remote 1800 MHz spectrum does not allow for LEO satellite services, given the smattering of PTP links and private networks.

It is envisaged that mid-band spectrum will eventually be supported and required for LEO satellites, given the typically low bandwidth of the spectrum commonly used for LEO now. As LEO service take-up increases in the future, more frequency bands will need to be to cater for

the increased traffic. It is therefore extremely important for regional connectivity that the 1800 MHz band is cleared of private networks and PTP links.

Network sharing

The MOCN agreement between TPG and Optus was approved by the ACCC on 5 September 2024. It is therefore paramount the ACMA supports certainty in spectrum arrangements, which will benefit consumers in regional and remote Australia. The best mechanism for this is by moving from RALI-based assignment priorities to Spectrum Licences.

Efficiency of non-MNO use of spectrum

TPG Telecom specifically calls out the AMTA recommendations for changes to RALI's 33 & 34 beyond the default coordination calculations e.g. a 30km cull radius to allow either or both parties to carry out a detailed radio design for the specific area, spectrum and use cases. In many cases TPG Telecom has been able to manage spectrum coordination by agreement with incumbent users eg. BHP, Inmarsat, Police and others.

Systems in practice can in many cases be operated with no damaging interference to each other much closer than simple default calculations might indicate once we consider high resolution terrain maps, clutter, actual user equipment (UE) height etc. However, there are some spectrum licensees that have dubious uses of spectrum and refuse to cooperate to determine a mutually acceptable alternative unless they are unreasonably compensated. Regulations should not incentivise harmful arbitrages of this nature as it leads to inefficient use of spectrum and is clearly not consistent with the Radiocommunications Act.

These licensees should be obliged to work in good faith with genuine users. This would lead to a lot less spectrum dead-zones in areas with multiple registrations in close proximity. The current default calculations could be retained as a first pass to determine whether an issue exists that merits further consideration, however there needs to be a mechanism for detailed engineering analysis to take precedence. For instance:

- actual UE height should be permitted to be used in detailed calculations, rather than assume equal to the height of the base station antenna. The latter method effectively makes coordination akin to a TDD BTS-BTS collision, leading to unnecessary coordination failures, and
- apparatus licensees should be required to register their equipment characteristics for coordination purpose, rather than be allowed to remain silent on the characteristics and rely on default criteria for protection.