

Mr Rod Sims
Chair
Australian Competition and Consumer Commission
GPO Box 3131
Canberra ACT 2601

ACMA2021/369-1

Dear Mr Sims ^{Rod}

Request for advice on allocation limits: 3.4–4.0 GHz in remote areas

I am seeking formal advice from the Australian Competition and Consumer Commission (ACCC) on whether allocation limits should be imposed by the ACMA on the administrative issue of apparatus licences in the 3.4–4.0 GHz band in remote Australia and, if so, what these should be. Background information to this request is attached.

In summary, while a significant amount of spectrum is to be made available in remote areas, in general, there are limited alternative apparatus-licensed spectrum options available in other mid-band spectrum that have been harmonised for 4G and 5G services. As a result, there may be localised areas where demand for spectrum may exceed the available supply in the near term.

This planned allocation is part of a broader process which will also see spectrum and apparatus licences be made available in regional and metropolitan areas in the 3.4–4.0 GHz band which may be relevant to the ACCC's consideration and also subject to further requests for advice. Further information on the broader process is also attached.

I have asked my staff to discuss with ACCC staff the best mechanisms to ensure that you have visibility of ACMA's timeframes so that our decisions can be fully informed by ACCC expertise and advice.

As the ACMA progresses preparations for allocation of this mid band spectrum, our decisions will be guided by the recently reformed Object of the [Radiocommunications Act 1992](#) (the Act), which is to promote the long-term public interest derived from the use of the spectrum.

To facilitate the ACMA's timeframes to support a remote allocation in Q1 2022, I would appreciate the ACCC's advice on allocation limits on the allocation of apparatus licences in the 3.4–4.0 GHz band in remote areas by 29 October 2021. The contact officer for this matter is [REDACTED]

Yours sincerely



Nerida O'Loughlin PSM
6 August 2021

Attachments

- A Background information
- B *Replanning the 3700 – 4200 MHz band – Outcomes paper*
- C Geographical area definitions

Attachment A – Background information

Overview of planning and licensing arrangements for the 3400–3575 MHz and 3.4–4.2 GHz bands

In January 2021, the ACMA released its planning outcomes paper for the 3.7–4.2 GHz band (**Attachment B**), indicating the following spectrum will be made available under different licensing frameworks:

- > 600 MHz of spectrum available between 3.4–4.0 GHz in remote areas for apparatus licensing; and
- > 200 MHz of spectrum available in the 3.8–4.0 GHz band for apparatus licensing;
- > 100 MHz of spectrum available in the 3.7–3.8 GHz frequency range for spectrum licensing in metropolitan and regional areas;
- > 200 MHz in 4.0–4.2 GHz will continue to be available under existing apparatus licensing arrangements which provide for shared, coordinated, ‘first-in-time’ use by fixed satellite and point to point services on an Australia-wide basis.
- > Definitions of the relevant geographical areas are available at **Attachment C**.

The ACMA will also make additional spectrum available 3.4 GHz band (3400–3575 MHz) at the conclusion of a restack and defragmentation process:

- > 75 MHz available in some urban areas in 3.4 GHz, resulting from resumption of spectrum within NBN Co’s licences, that will be made available at the end of the defragmentation process of that band;
- > between 35 MHz and 67.5 MHz of spectrum available in 3.4 GHz for apparatus licensing in regional areas;

There is considerable commercial interest in this mid band spectrum due to its potential use in providing wireless broadband services leveraging 4G, 5G and other proprietary technologies.

Decision making frameworks and desirable planning outcomes

As the ACMA progresses preparations for allocation of this mid band spectrum, our decisions will be guided by the recently reformed Object of the [Radiocommunications Act 1992](#) (the Act), which is to promote the long-term public interest derived from the use of the spectrum by providing for the management of the spectrum in a manner that:

- (a) facilitates the efficient planning, allocation and use of the spectrum; and
- (b) facilitates the use of the spectrum for:
 - (i) commercial purposes; and
 - (ii) defence purposes, national security purposes and other non-commercial purposes (including public safety and community purposes); and
- (c) supports the communications policy objectives of the Commonwealth Government.

In the planning decisions to date for the 3.7–4.2 GHz band, the ACMA has also identified a set of desirable planning outcomes. These included enabling increased access to spectrum for wide area wireless broadband (WA WBB) and local area wireless broadband (LA WBB) while supporting a range of continuing uses in the band including fixed satellite services, point to point, radiodetermination services operated by the Department of Defence and earth station protection zones, as well as class licence arrangements.

WA WBB use cases are intended to facilitate wide-area networks typically deployed by mobile network operators (MNOs). LA WBB arrangements are intended to facilitate deployments by wireless internet service providers (WISPs) as well as campus-style and private network deployments by industry vertical and enterprise users.

Planned process for allocating relevant parts of the spectrum

As outlined in the draft [Five-year spectrum outlook 2021–26](#) (FYSO), the ACMA is currently proposing to proceed with a staged approach to allocating spectrum across the 3.4–4.0 GHz frequency range, beginning first with the allocation of apparatus licences in 3.4–4.0 GHz in remote areas.

There is ongoing consideration of when and how to appropriately allocate spectrum across regional and metropolitan areas, both within the 3.4 GHz band, and the 3.7–4.0 GHz band, and are currently working towards undertaking such allocations in 2023. Due to less available spectrum and higher expected demand from both LA WBB and WA WBB use cases, there are additional complexities, compared to the remote allocation, in considering the most appropriate allocation arrangements.

As there are fewer barriers to allocating 3.4–4.0 GHz in remote areas, the ACMA is expecting to make available spectrum between 3.4 and 4.0 GHz (i.e. 600 MHz) in remote Australia from Q1 2022, and signal the ongoing consideration of the other allocations.

Where apparatus licensing is to be made available in remote areas, the ACMA is proposing to use a licence type referred to as an ‘area-wide apparatus licence’ (AWL) which was previously used in the allocation of parts of the 26 GHz and 28 GHz bands. AWLs share some characteristics of spectrum licences in that they authorise the operation of multiple transmitters in a specified geographic area and frequency range, subject to the technical framework applicable to the licence.

A ‘first-in-time’ administrative allocation of the remote apparatus licences is currently being considered. This generally means that spectrum is allocated to the first valid applicant. This is due to the large quanta of spectrum available, coupled with the typically lower demand for access to spectrum in remote areas.

Ability to impose statutory allocation limits on administrative allocation of apparatus licences

As a result of changes made to the Act by the [Radiocommunications Legislation Amendment \(Modernisation and Reform\) Act 2020](#), the ACMA is now able to impose statutory allocation limits with respect to transmitter licences (i.e. apparatus licences) issued via an administrative process (i.e. not by a price-based allocation process), in addition to those issued by a price-based process.

Specifically, the new section 102G of the Act enables the ACMA to make limits with respect to the aggregate parts of the spectrum that, taking into consideration existing holdings under transmitter or spectrum licences, may be used by any one person, a specified person, or in total by members of a specified group, as resulting from an allocation of transmitter licences.

While the ACMA may make these limits without direction from the Minister for Communications, Urban Infrastructure, Cities and the Arts (the Minister), the ACMA is required to consult with the ACCC about whether to impose limits and, if so, the nature of those limits.¹

¹ The Minister may, by notifiable instrument, give written directions to the ACMA in relation to the exercise of the power conferred by section 102G.

Regional and metropolitan 3.4–4.0 GHz and remote 1800 MHz allocations

In addition to the allocation in remote areas, the ACMA also expects to allocate spectrum in the 3.4 GHz and 3.7–4.0 GHz bands, across both regional and metropolitan areas, over the course of the next two years. This spectrum is likely to be allocated by issuing both spectrum licences and apparatus licences. It should be noted that spectrum licensed areas are yet to be formally re-allocated under section 153B of the Act.

It may be timely for the ACCC to also begin general consideration of the planned allocations across the 3.4 GHz and 3.7–4.0 GHz bands given the interrelated nature of these processes.

Separately, the ACMA is also reviewing apparatus licence arrangements for the 1800 MHz band in remote areas, and have identified that allocation limits may be useful in addressing potential competition issues within the band. Similar to the 3.4–4.0 GHz band, the 1800 MHz band has been internationally harmonised for use by 4G and 5G services, is currently administratively allocated, and is used in part by a similar userbase in remote areas.

Noting the comparability of the allocations in 3.4–4.0 GHz and 1800 MHz, the ACMA wished to bring attention to this review and potential future requests for advice on allocation limits as it may affect consideration of potential limits in 3.4–4.0 GHz.

Pending outcomes of the review, the ACMA may formally seek advice from the ACCC on the 1800 MHz band matter in the future.

Competition concerns in 3.4 – 4.0 GHz in remote areas

The ACMA is particularly interested in the ACCC's advice as to whether allocation limits might be appropriate to mitigate risks to competition at a local level posed in two core scenarios:

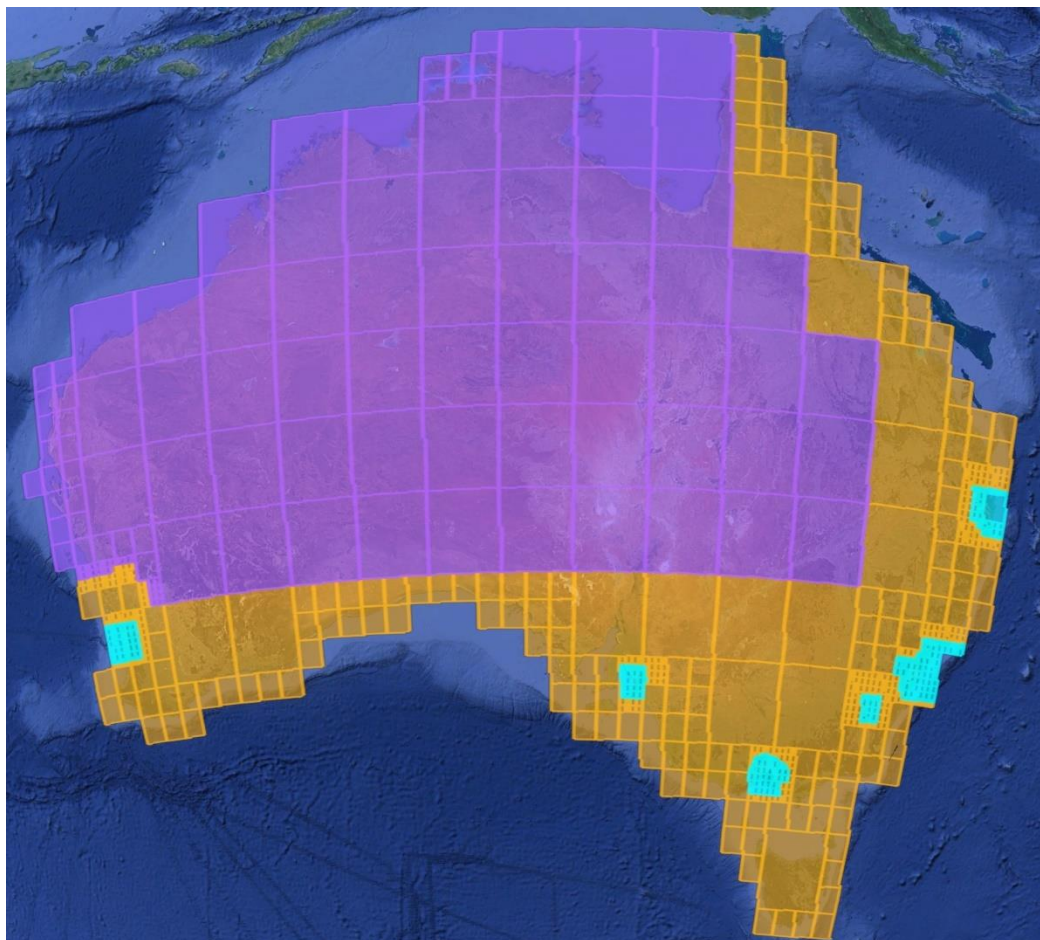
- > if a party were to seek to acquire the entire 600 MHz (or a significant proportion thereof) of available spectrum in a given area or location to withhold from competitors, and for the purposes of obtaining greater revenues in the downstream market.
- > localised areas where competing demand for the spectrum may exceed the available supply, for example, at mine sites, transport corridors and hubs, and potentially some towns.

Attachment C – Geographical area definitions

The ACMA has defined geographical areas² to assist in the analysis of, use of, and potential future use scenarios for, the 3.7–4.2 GHz band (and 3.4–4.0 GHz in remote). A brief description of each follows:

- > Metropolitan – covers all capital cities (except Darwin and Hobart). It mirrors the metropolitan areas defined in the [Radiocommunications \(Spectrum Re-allocation—3.6 GHz Band for Adelaide and Eastern Metropolitan Australia\) Declaration 2018](#) and the [Radiocommunications \(Spectrum Re-allocation—3.6 GHz Band for Perth\) Declaration 2018](#).
- > Regional – mirrors the regional areas subject to spectrum licensing in the 3.6 GHz band as defined in the [Radiocommunications \(Spectrum Re-allocation—3.6 GHz Band for Regional Areas\) Declaration 2018](#).
- > Remote – includes those areas of Australia not covered by metropolitan and regional areas.
- > Australia-wide – covers all of Australia but excludes Australian external territories.

Figure 1: Map of geographical areas for 3.7–4.2 GHz and 3.4–4.0 GHz (remote areas are purple, regional areas are orange, metropolitan areas are blue)



The Australian Spectrum Map Grid (ASMG) is used to define geographical areas over which spectrum and area-wide licences are issued. The Hierarchical Cell Identification Scheme (HCIS) is a naming convention developed by the ACMA that

² These definitions do not include any areas of appropriate exclusion from licensing such as the Earth station protection zones or the mid west radio quiet zone ([RQZ](#)), among others.

applies unique 'names' to each of the cells that make up the ASMG. The ASMG and HCIS are described in detail in the [Australian spectrum map grid](#).

The HCIS coordinates in HCIS description of the area below can be converted into a Placemark file (viewable in Google Earth) through a facility on the [ACMA website](#).

Table 1: HCIS for remote areas

Area	HCIS
Remote	BR, BS, BT, CR, CS, CT, CU, DQ, DR, DS, DT, DU, EP, EQ, ER, ES, ET, EU, FP, FQ, FR, FS, FT, FU, GP, GQ, GR, GS, GT, GU, HO, HP, HQ, HR, HS, HT, HU, IO, IP, IQ, IR, IS, IT, IU, JO, JP, JQ, JR, JS, JT, JU, KR, KS, KT, KU, LS, LT, LU, AR8, AR9, AS2, AS3, AS5, AS6, AS8, AS9, AT1, AT2, AT3, AT5, AT6, AT8, AT9, AU2, AU3, BU1, BU2, BU3, BU6, GO3, GO4, GO5, GO6, GO7, GO8, GO9, AU6A, AU6B, AU6C, AU6D, AU6E, AU6F, AU6G, AU6H, BU4A, BU4B, BU4C, BU4D, BU4E, BU4F, BU4G, BU5A, BU5B, BU5C, BU5D, BU9C, BU9D, BU9G, BU9H, BU9K, BU9L, BU9O, BU9P