

# **3.4/3.7 GHz bands allocation process, October 2023**

## Auction guide

JULY 2023

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# Disclaimer

The material contained in the applicant information package (AIP), including the auction guide, is accurate at the time of publication. The auction guide is not a comprehensive source of information about the allocation process. In the event of any difference between the provisions of the legislative instruments contained in the AIP, and information made available (including this auction guide), the legislative instruments prevail.

Please note that the Australian Communications and Media Authority (ACMA) may vary or revoke a legislative instrument at any time, as permitted by law.

Nothing in this auction guide is binding on the ACMA to take any course of action. The auction guide and its contents do not constitute or form part of any contract or other legal obligation.

The ACMA has not authorised any person to make any statements or representations on its behalf that are not expressly contained in the AIP.

## Responsibilities of potential applicants

Interested parties should not rely solely on any statement, opinion or information set out in the auction guide, including any statements about the policies that may be followed by other authorities or about the effect of any legislation. Further information may be required should parties be interested in participating in the allocation process.

### Seek independent advice

The AIP should not be used as a substitute for independent advice on participating in the allocation process and the rights or regulatory responsibilities that attach to any spectrum licences that may be obtained from the allocation process. The AIP is not intended to form any part of the basis of any investment decision by any person and should not be considered as a recommendation by the ACMA to participate in the allocation process.

It is the responsibility of parties considering participation in the allocation process to make their own independent investigation, review and assessment of:

- > the proposed allocation of spectrum licences and the allocation process
- > the rights and responsibilities under spectrum licences issued as a result of the allocation process
- > the potential cost and value of a licence, including the treatment of spectrum licences and other investments under Australian and foreign taxation and investment laws
- > technical or specialist issues concerning the regulation and operation of radiocommunications devices and services
- > whether to participate in the allocation process or other allocation processes
- > any other matters relevant to the proposed spectrum licence allocation process.

Interested parties are also urged to familiarise themselves with legislation which governs the operation of radiocommunications devices in Australia, including but not limited to the [Radiocommunications Act 1992](#), the [Broadcasting Services Act 1992](#), the [Telecommunications Act 1997](#), the [Competition and Consumer Act 2010](#) and the [Telecommunications \(Consumer Protection and Service Standards\) Act 1999](#) (the TCPSS Act).

### **Monitor for developments**

In the lead-up to the allocation process, the ACMA will provide updates about developments and events using the methods outlined in section 7.1 of this auction guide. It is the responsibility of prospective applicants, applicants and registered bidders to ensure that they review these sources to receive all updated information and allocation-related developments and events.

## **The ACMA's rights and responsibilities**

The accountable authority of the ACMA is required under the [Public Governance, Performance and Accountability Act 2013](#) to govern the ACMA in a way that promotes the efficient, effective, economical and ethical use of public resources, and must act in accordance with any rules and guidelines made under that Act. The ACMA must also perform its spectrum allocation and management functions in accordance with relevant legislation – in particular, the Act.

Australia is a signatory to the International Telecommunication Union Constitution and Convention, and to other international instruments relating to communications. The administration of communications by the ACMA is undertaken having regard to these instruments.

### **Direction from the minister**

The ACMA is a statutory authority established under the [Australian Communications and Media Authority Act 2005](#) (the ACMA Act) to administer the Radiocommunications Act, among other things. The ACMA is also required by subsection 14(4) of the ACMA Act to perform its functions in a manner consistent with any directions given to the ACMA under that section by the minister administering that Act (currently the Minister for Communications). The minister may have other powers that affect the allocation process or spectrum licences. The policies of the government may change from time to time.

### **Changes to policies and processes**

The ACMA may in certain circumstances, under the Radiocommunications Act and the allocation instruments, vary the processes that apply to the allocation procedures, including the processes that apply to the allocation process, or terminate the allocation of spectrum licences. The ACMA reserves the right, in its sole and absolute discretion, to add to, vary, amend, update or supplement the information set out in the AIP and correct any inaccuracies.

In exercising its powers and functions, including those conferred on the ACMA by the Radiocommunications Act, the Broadcasting Services Act, the Telecommunications Act, and the TCPSS Act, the ACMA may also consider its own policies, which may change from time to time.

## **Applicants and bidders in the allocation process**

Each applicant's and bidder's participation in any stage of the allocation process is at their sole risk and expense. The ACMA makes no representations regarding the utility of the spectrum for any applicant or bidder.

### **Use and disclosure of information by the ACMA**

All application documents submitted in connection with the allocation process may be used and disclosed by the ACMA for the purposes of the [Radiocommunications \(Spectrum Licence Allocation – 3.4/3.7 GHz Bands\) Determination 2023](#) (the allocation determination) and may be used in relation to the issue of spectrum licences.

Documents may be retained by the ACMA for as long as necessary for the performance of its functions and exercise of its powers under the allocation determination or the Radiocommunications Act.

Subject to applicable laws and processes, the ACMA reserves the right, at any stage of the allocation process, to:

- > require additional information from any applicant or bidder
- > change any element of the allocation process as permitted from time to time.

Information and documents obtained by the ACMA in the performance of its functions under the allocation determination may be released under the [Freedom of Information Act 1982](#) (unless an exemption applies) or disclosed to other parties under Part 7A of the ACMA Act. The ACMA may also release information and documents for other reasons, including for the purpose of parliamentary processes or where otherwise required or authorised by law (for example, under a court subpoena). While the ACMA seeks to consult submitters of confidential information before that information is provided to another party, the ACMA cannot guarantee that confidential information will not be released through these or other legal means.

### **Confidential information**

Applicants and their officers, employees, agents and advisers must not take steps to obtain or use confidential information of the ACMA relating to its spectrum allocation functions or confidential information of applicants or bidders in relation to the allocation process, other than in accordance with the confidentiality requirements of the allocation determination and the Deed of Confidentiality to be executed by applicants, related persons and contractors.

### **Return of information to the ACMA**

Applicants must, in accordance with the Deed of Acknowledgment to be executed by them, at their sole expense, upon request by the ACMA in its absolute discretion, return to us any items or written information provided to the applicant (and copies of the information) at any stage.

### **Collusive bidding**

Applicants and their officers, employees, agents and advisers should ensure that their conduct in respect of this allocation process is compliant with all applicable legislation including, but not limited to, the Competition and Consumer Act. In particular, they must not engage in any collusive bidding, anti-competitive conduct, or any other similarly illegal conduct with any other registered applicants or any other person at any time before, during, or after the allocation process. Individuals and businesses that collude with their competitors risk heavy criminal and civil penalties – including criminal conviction and jail time.

The Australian Competition and Consumer Commission (ACCC) is responsible for administering and enforcing the CCA. The ACMA works closely with the ACCC to help the ACCC deter, detect, and take action against any anti-competitive behaviour in respect of the allocation process. The ACMA is empowered under s59D of the ACMA Act to disclose information to the ACCC that will enable or assist it to exercise its powers or functions.

## **Application of laws**

The laws of the Commonwealth of Australia and, where relevant, the Australian Capital Territory apply in relation to the allocation process pursuant to the Deed of Acknowledgment to be executed by applicants.

# Key dates

Event	Date
<p><b>Applications open</b></p> <p>The ACMA advertises the allocation process, publishes the applicant information package, and applications open.</p>	5 July 2023
<p><b>Application deadline</b></p> <p>By this date and time, any person wishing to be an applicant will need to:</p> <ul style="list-style-type: none"> <li>&gt; give a completed application form (Form 1 or via webform)</li> <li>&gt; give a completed Deed of Acknowledgement (Form 2)</li> <li>&gt; give a completed Deed of Confidentiality (Form 3)</li> <li>&gt; give a completed associates form (Form 4 or Form 5)</li> <li>&gt; pay the application fee to the ACMA, acting on behalf of the Commonwealth.</li> </ul>	2 pm, 31 July 2023
<p><b>Affiliations</b></p> <p>The ACMA gives each applicant details about the identity of all other applicants and their associates. Applicants are asked to make a statutory declaration about whether they are affiliated with another applicant.</p>	After the application deadline, at least 10 working days from request
<p><b>Eligibility deadline</b></p> <p>By the eligibility deadline, applicants will need to:</p> <ul style="list-style-type: none"> <li>&gt; give a completed eligibility nomination form (Form 9), including application to be directly allocated one or more leftover lots.</li> <li>&gt; give a Deed of Financial Security (Form 8) or make an eligibility payment, to the ACMA, acting on behalf of the Commonwealth, or a combination of both.</li> </ul> <p>Applicants are registered as bidders after the eligibility deadline. Any leftover lots applied for by an eligible recipient are allocated to that applicant immediately after the eligibility deadline.</p>	2 pm, 12 September 2023
<p><b>Bidder registration</b></p> <p>The ACMA tells registered bidders that they have been registered and may participate in the allocation process, and gives them information to enable their participation (e.g., information about how to access the online auction system). The ACMA notifies bidders about the direct allocation of leftover lots.</p>	After the eligibility deadline
<p><b>Training and mock auctions</b></p> <p>Training and mock auctions held to familiarise registered bidders with the auction system.</p>	Late September to mid October 2023
<p><b>3.7 GHz auction start dates and start times notifications<sup>1</sup></b></p> <p>The ACMA notifies registered bidders of the start date, time, and duration of the pre-bidding round of the primary stage and the start date and time of the first clock round of the primary stage of the 3.7 GHz auction.</p>	At least 10 working days before the pre-bidding round of the primary stage of the 3.7 GHz auction

<sup>1</sup> If the allocation process continues to run into the Christmas/New Year period, the auction manager may declare recess days under section 97 and section 118 of the allocation determination. It is anticipated that the dates for any such recess would likely to be from close of business Friday 15 December 2023 to Monday 15 January 2024, re-commencing on Tuesday 16 January 2024. However, a longer recess may be appropriate, depending on what stage the allocation process is up to at the start of the recess period. The auction manager will consult bidders on recess days in accordance with the allocation determination.

Event	Date
<b>Estimated 3.7 GHz auction commencement</b>	Late October 2023
<b>3.4 GHz auction start dates and start times</b> The auction manager notifies each registered bidder of the start date, time, and duration of the pre-bidding round and the start date and time of the first clock round of the primary stage of the 3.4 GHz auction.	At least 5 working days before the first clock round of the primary stage of the 3.4 GHz auction
<b>3.4 GHz auction pre-bidding round of the primary stage commences</b>	Within the 48 hours before the first clock round of the primary stage of the 3.4 GHz auction
<b>3.4 GHz auction first clock round of the primary stage commences</b>	At least 5 working days after the completion of the assignment stage of the 3.7 GHz auction

*Please note that this timetable is subject to change.*

# About the auction guide

The ACMA strongly encourages prospective applicants to read and understand all the materials contained in the AIP, including this auction guide. Prospective applicants should also check for updates to the [allocation process](#) on the ACMA website, or as detailed in section 7.1 of this auction guide.

This auction guide summarises information about the allocation process:

- > **Chapter 1: Background to the allocation process**  
Information about the regulatory and legislative framework for the allocation process.
- > **Chapter 2: Spectrum on offer**  
Information about what frequency ranges of spectrum are available, how the spectrum is configured as auction lots, starting prices for lots and lot ratings, prices for leftover lots, and key issues that will affect how winning bidders can use the spectrum.
- > **Chapter 3: Applications and pre-auction procedures**  
Information about what potential bidders may consider before registering to participate in the allocation process, how to apply to participate in the allocation process, how to apply to be directly allocated a leftover lot, and general pre-auction information and procedures.
- > **Chapter 4: Step-by-step guide to the 3.7 GHz auction and the 3.4 GHz auction**  
A practical step-by-step guide to participating in an auction, from commencement of the pre-bidding round through to the close of the final assignment round.
- > **Chapter 5: Post-auction procedures**  
Information for winning and unsuccessful bidders, including arrangements for payments, refunds and the treatment of any unsold auction lots.
- > **Chapter 6: Spectrum licences**  
Information about spectrum licences and their use. Information about the spectrum licensing and technical frameworks applicable to the spectrum on offer.
- > **Chapter 7: Communicating with the ACMA**  
Information about how the ACMA will keep stakeholders informed about developments leading up to the allocation process, and how bidders and other stakeholders can submit queries, give documents and make payments to the ACMA.
- > **Glossary:** This may assist readers to understand particular terms used throughout the guide.

Other materials in the AIP include:

- > **Legislative framework.** These are the instruments and documents that provide the legal basis for the allocation process.
- > **Forms.** These are the documents that interested parties are required to complete to be registered as bidders in the allocation process. The application form may be completed by webform on the ACMA [auction application portal](#).

These documents are listed at appendices A and B to this auction guide.

# 1. Background to the allocation process

**Chapter 1** outlines information about the policy and legislative framework for the allocation process.

## 1.1 Re-allocation of the 3.4/3.7 GHz bands

The 3.4/3.7 GHz bands are intended to support the continued deployment of wide-area wireless broadband (WA WBB) services, such as mobile and fixed wireless networks.

The ACMA has been working with stakeholders on issues associated with the allocation of this spectrum during the development of the allocation and technical instruments. A summary of various stakeholder consultations undertaken in preparation for the allocation process, including links to relevant information and documents, is available on the ACMA website.

The ACMA made the [Radiocommunications \(Spectrum Re-allocation – 3.4 GHz and 3.7 GHz Bands\) Declaration 2022](#) (the spectrum re-allocation declaration) on 14 July 2022. The terms of the spectrum re-allocation declaration are shown in Table 1.

**Table 1: Terms of the spectrum re-allocation declaration**

Term	Description
<b>Licence type</b>	Spectrum licences
<b>Parts of the spectrum</b>	3400 MHz to 3425 MHz with respect to the following named areas: <ul style="list-style-type: none"> <li>&gt; Albury</li> <li>&gt; Cairns</li> <li>&gt; Hobart</li> <li>&gt; Launceston</li> <li>&gt; Quirindi west</li> <li>&gt; Rockhampton</li> <li>&gt; Rural Australia</li> <li>&gt; Townsville.</li> </ul>
	3425 MHz to 3442.5 MHz with respect to the following named areas: <ul style="list-style-type: none"> <li>&gt; Quirindi west</li> <li>&gt; Rural Australia.</li> </ul>
	3475 MHz to 3492.5 MHz with respect to the following named areas: <ul style="list-style-type: none"> <li>&gt; Quirindi east</li> <li>&gt; Quirindi west</li> <li>&gt; Regional New South Wales north</li> <li>&gt; Regional New South Wales south</li> <li>&gt; Regional Queensland</li> <li>&gt; Regional South Australia</li> </ul>

Term	Description
	<ul style="list-style-type: none"> <li>&gt; Regional Victoria</li> <li>&gt; Regional Western Australia central</li> <li>&gt; Regional Western Australia south</li> <li>&gt; Rural Australia.</li> </ul>
	<p>3492.5 MHz to 3510 MHz with respect to the following named areas:</p> <ul style="list-style-type: none"> <li>&gt; Albury</li> <li>&gt; Cairns</li> <li>&gt; Hobart</li> <li>&gt; Launceston</li> <li>&gt; Quirindi east</li> <li>&gt; Quirindi west</li> <li>&gt; Regional New South Wales north</li> <li>&gt; Regional New South Wales south</li> <li>&gt; Regional Queensland</li> <li>&gt; Regional South Australia</li> <li>&gt; Regional Victoria</li> <li>&gt; Regional Western Australia central</li> <li>&gt; Regional Western Australia south</li> <li>&gt; Rockhampton</li> <li>&gt; Rural Australia</li> <li>&gt; Townsville.</li> </ul>
	<p>3510 MHz to 3542.5 MHz with respect to the following named areas:</p> <ul style="list-style-type: none"> <li>&gt; Albury</li> <li>&gt; Cairns</li> <li>&gt; Hobart</li> <li>&gt; Launceston</li> <li>&gt; Quirindi west</li> <li>&gt; Regional Western Australia central</li> <li>&gt; Rockhampton</li> <li>&gt; Rural Australia</li> <li>&gt; Townsville.</li> </ul>
	<p>3542.5 MHz to 3575 MHz with respect to the Regional Western Australia central named area.</p>
	<p>3700 MHz to 3750 MHz with respect to the following named areas:</p> <ul style="list-style-type: none"> <li>&gt; Adelaide</li> <li>&gt; Albury</li> <li>&gt; Ballarat and Bendigo</li> <li>&gt; Brisbane</li> <li>&gt; Cairns</li> <li>&gt; Canberra</li> <li>&gt; Hobart</li> </ul>

Term	Description
	<ul style="list-style-type: none"> <li>&gt; Launceston</li> <li>&gt; Melbourne</li> <li>&gt; Perth</li> <li>&gt; Regional New South Wales north</li> <li>&gt; Regional New South Wales south</li> <li>&gt; Regional Queensland</li> <li>&gt; Regional South Australia</li> <li>&gt; Regional Victoria</li> <li>&gt; Regional Western Australia central</li> <li>&gt; Regional Western Australia south</li> <li>&gt; Rockhampton</li> <li>&gt; Rural Australia</li> <li>&gt; Sydney</li> <li>&gt; Toowoomba</li> <li>&gt; Townsville.</li> </ul> <hr/> <p>3750 MHz to 3800 MHz with respect to the following named areas:</p> <ul style="list-style-type: none"> <li>&gt; Adelaide</li> <li>&gt; Ballarat and Bendigo</li> <li>&gt; Brisbane</li> <li>&gt; Canberra</li> <li>&gt; Hobart</li> <li>&gt; Melbourne</li> <li>&gt; Perth</li> <li>&gt; Regional New South Wales south (3750 MHz to 3800 MHz)</li> <li>&gt; Regional Queensland</li> <li>&gt; Regional South Australia (3750 MHz to 3800 MHz)</li> <li>&gt; Regional Victoria (3750 MHz to 3800 MHz)</li> <li>&gt; Regional Western Australia central</li> <li>&gt; Regional Western Australia south</li> <li>&gt; Sydney</li> <li>&gt; Toowoomba.</li> </ul>
<b>Re-allocation period</b>	17 July 2022 to 16 July 2027
<b>Re-allocation deadline</b>	16 July 2027

Parts of the spectrum subject to the spectrum re-allocation declaration are referred to collectively as the 3.4/3.7 GHz bands. The 3.4/3.7 GHz bands consists of:

- > the 3.4 GHz band (frequency ranges 3400 MHz to 3575 MHz)
- > the 3.7 GHz band (frequency ranges 3700 MHz to 3800 MHz).

As a result of the spectrum re-allocation declaration, the ACMA will start the allocation process in late October 2023, in accordance with the legislative framework set out in the Radiocommunications Act for allocating spectrum licences.

The allocation process consists of:

- > the direct allocation of leftover lots in the 3.4 GHz band to eligible recipients (the adjacent licensee)<sup>2</sup>
- > the 3.7 GHz auction
- > the 3.4 GHz auction (including the allocation of any leftover lots not directly allocated to an eligible recipient).

The 3.7 GHz auction will be conducted first, followed by the 3.4 GHz auction.

## 1.2 The applicant information package (AIP)

The AIP comprises this auction guide, legislative instruments, other materials provided as attachments to the auction guide, and the auction forms booklet. The ACMA has prepared the AIP for the information of parties interested in applying to participate in the allocation process.

Rules and procedures made by the ACMA which govern the allocation process are set out in the following legislative instruments, referred to as the allocation instruments:

- > [Radiocommunications Spectrum Marketing Plan \(3.4/3.7 GHz Bands\) 2023](#) (the marketing plan)
- > [Radiocommunications \(Spectrum Licence Allocation – 3.4/3.7 GHz Bands\) Determination 2023](#).

## 1.3 Marketing plan

Section 39A of the Radiocommunications Act requires the ACMA to prepare a marketing plan for issuing spectrum licences within a part of the spectrum where a spectrum re-allocation declaration has been made.

All spectrum products available in this allocation process are defined in the marketing plan.

The marketing plan also outlines some of the rights and responsibilities that attach to spectrum licences issued under the Act.

## 1.4 Allocation determination

Section 60 of the Radiocommunications Act requires the ACMA to determine, in writing, procedures to be applied in allocating spectrum licences either by auction, by tender, by allocation for a pre-determined or negotiated price, by direct allocation, or by a combination of any of these. Such a determination is a legislative instrument but is not disallowable under the [Legislation Act 2003](#).

Section 294 of the Radiocommunications Act allows the ACMA, by written instrument, to make determinations fixing the spectrum access charges payable by licensees for issuing spectrum licences and specifying the times when the charges are payable. Such a determination is disallowable for the purposes of the Legislation Act.

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<sup>2</sup> Leftover lots are 2.5 MHz parcels of frequency-specific spectrum which are available in some geographic areas in the 3.4 GHz band.

The allocation determination has been made under both sections 60 and 294 of the Radiocommunications Act, setting out the allocation rules for allocation by auction, and for a pre-determined price for the leftover lots. These rules include procedures for determining the spectrum access charges payable, based on the winning bids made in an auction, or for a pre-determined price for the leftover lots.

The AIP is prepared in accordance with section 27 of the allocation determination. All allocation rules outlined in this auction guide are specified in the allocation determination.

## 1.5 Technical instruments

An explanation of the technical framework underpinning spectrum licensing in the 3.4/3.7 GHz bands and more detailed information on the development of the technical framework for the band can be found on the ACMA website, and in section 6.4 of this auction guide.

The technical framework for spectrum licences consists of several interlocking regulatory elements:

- > conditions on the licence (including core licence conditions), included in the spectrum licence issued as a result of the allocation process
- > a determination of unacceptable levels of interference, for device registration purposes, made under subsection 145(4) of the Radiocommunications Act
- > radiocommunications advisory guidelines, made under section 262 of the Radiocommunications Act.

## 1.6 Policy objectives for the 3.4/3.7 GHz bands

The ACMA's decisions are guided by the object of the Radiocommunications Act 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
- b) facilitates the use of the spectrum for:
  - i. commercial purposes
  - ii. defence purposes, national security purposes and other non-commercial purposes (including public safety and community purposes)
- c) supports the communications policy objectives of the Australian Government.

The [Radiocommunications \(Ministerial Policy Statement - 3.4–4.0 GHz\) Instrument 2022](#) (MPS) sets out the following objectives for the allocation of spectrum in the 3.4– 4.0 GHz band:

- > supporting the deployment of new and innovative technology, including 5G
- > supporting a range of use-cases and users
- > supporting digital connectivity and investment in regional Australia
- > promoting competitive markets.

Under section 28C of the Radiocommunications Act, the ACMA must have regard to the MPS in exercising its powers and performing its functions under the Act.

As part of the government's October 2022 Budget announcements, the Minister for Communications, the Hon Michelle Rowland MP, [restated](#) the government's commitment to deliver better connectivity to Australians, including to increase

connectivity for rural, regional, remote and First Nations communities and to enable the ACMA to continue to allocate high value spectrum.

In her [speech to the Radcomms conference in November 2022](#), the minister noted that the allocation of spectrum in the 3.4–4.0 GHz band will support digital connectivity and investment in regional Australia, as well as its importance for the deployment of new and innovative technology including 5G services.

In its [statement of expectations for the ACMA \(SoE\)](#), the government articulated its expectation that the ACMA take a proactive regulatory approach. Of particular relevance for the ACMA's spectrum management functions, the SoE outlined the government's expectation that the ACMA support the government's communications and media objectives, including:

- > promoting investment, innovation and the adoption of new and emerging technologies while continuing to safeguard the interests of consumers and small businesses
- > supporting government policies related to regional, rural and remote Australia, including by having regard to relevant ministerial policy statements in the planning and allocation of spectrum to support innovation and competition in these areas
- > promoting the long-term public interest derived from spectrum, including the benefits of technological developments that improve spectrum utilisation and efficiency.

The ACMA seeks to advance the above objectives through the allocation process.

## 2. Spectrum on offer

**Chapter 2** outlines information about:

- > how spectrum in the 3.4/3.7 GHz bands will be divided into lots for allocation
- > starting prices and lot ratings for products to be auctioned
- > the set price of leftover lots.

### 2.1 Available spectrum

To allocate the spectrum in the 3.4/3.7 GHz bands efficiently, the ACMA has configured the spectrum that will be available at auction into products. In doing so, the ACMA considered a range of factors, including the sources of demand for, and the technical characteristics of, the spectrum.

Each product has a defined geographic area and consists of several frequency-adjacent lots. There are 2 dimensions to lot configuration – bandwidth and geography.

Generic 5 MHz lots of each product will be auctioned in the primary and (if required) secondary stages of the 3.4 GHz auction and the 3.7 GHz auction. Frequency ranges are assigned to generic lots in the assignment stage of the relevant auction. Further information about the auction stages is at section 4.2 of this auction guide.

Leftover lots are 2.5 MHz parcels of frequency-specific spectrum, which are available in some geographic areas in the 3.4 GHz band. However, leftover lots are not lots of a product, and will not be available for bidding in the primary or secondary stage. Leftover lots may be allocated to an eligible recipient, being the adjacent licensee identified in Schedule 3 to the marketing plan, or a related body corporate of the adjacent licensee. Leftover lots that are not allocated to an adjacent licensee will be allocated in the assignment stage to the winner of spectrum in the adjacent product of the leftover lot. That is, the leftover lot will be allocated, and the adjacent 5 MHz frequencies will be assigned, together, effectively as a 7.5 MHz lot.

#### 2.1.1 Generic lots in the 3.4/3.7 GHz bands

5 MHz lots of the relevant products will be available for bidding on a frequency generic basis in the primary stage and secondary stage (if required) of each auction. Please note that the area groupings used in this section are only used to explain the lot configuration at auction. For a detailed list of products (to which these lots belong) and leftover lots, please consult Schedules 1, 2 and 3 to the marketing plan.

The following Tables 2 and 3 shows the 5 MHz lots in the 3.7 GHz band, as defined in the marketing plan. The areas in Tables 2 and 3 are defined as follows:

- > 'Southern/Eastern Metro' refers to the following areas as defined in Schedule 4 to the marketing plan: Adelaide, Brisbane, Canberra, Melbourne, Perth and Sydney.
- > The 'Hobart' and 'Rural Tas 3700–3750' areas are as defined in Schedule 4 to the marketing plan.
- > The 'Rural 3700–3750' areas are the following areas as defined in Schedule 4 to the marketing plan: Rural Central QLD 3700–3750, Rural North NSW/South QLD 3700–3750, Rural North QLD 3700–3750, Rural SA 3700–3750, Rural South/West NSW 3700–3750, Rural Vic 3700–3750, and Rural WA 3700–3750.
- > The 'Regional 3750–3800' areas are the following areas as defined in Schedule 4 to the marketing plan: Regional NSW 3750–3800, Regional QLD 3750–3800, Regional SA 3750–3800, Regional VIC 3750–3800, and Regional WA. These are shown in Table 3 as 'Regional 3750–3800'.

**Table 2: Lot configuration in the ‘lower’ 3.7 GHz band (3.7–3.75 GHz)**

Area	3.7 GHz									
<b>Southern/Eastern Metro</b>	5	5	5	5	5	5	5	5	5	5
<b>Rural Tas 3700-3750 (inc. Hobart)</b>	5	5	5	5	5	5	5	5	5	5
<b>Rural 3700-3750</b>	5	5	5	5	5	5	5	5	5	5

*Note: Table 2 is a representation of lots available in the auction made by reference to frequency range and geographic area. The lot configuration shown in Table 2 may apply to several products available in the 3.7 GHz auction. A list of the products available at that auction is below at Table 6 and at Schedule 1 to the marketing plan.*

**Table 3: Lot configuration in the ‘upper’ 3.7 GHz band (3.75–3.8 GHz)**

Area	3.75 GHz									
<b>Southern/Eastern Metro</b>	5	5	5	5	5	5	5	5	5	5
<b>Hobart</b>	5	5	5	5	5	5	5	5	5	5
<b>Regional 3750-3800</b>	5	5	5	5	5	5	5	5	5	5

*Note: Table 3 is a representation of lots available in the auction made by reference to frequency range and geographic area. The lot configuration shown in Table 3 may apply to several products available in the 3.7 GHz auction. A list of the products available at that auction is below at Table 6 and at Schedule 1 to the marketing plan.*

The following Tables 4 and 5 show the 5 MHz lots that are available in the 3.4 GHz band. The areas are defined as follows:

- > The ‘Hobart’ and ‘Regional WA Central’ areas are as defined in Schedule 4 to the marketing plan.
- > The ‘major regional centres’ area refers to Albury, Cairns, Launceston, Rockhampton, and Townsville, as defined in Schedule 4 to the marketing plan.
- > The ‘regional’ area refers to Regional NSW, Regional QLD, Regional SA, Regional Vic and Regional WA, as defined in Schedule 4 to the marketing plan.
- > The ‘rural’ area refers to Rural Central QLD, Rural North NSW/South QLD, Rural North QLD, Rural SA, Rural South/West NSW, Rural TAS, Rural Vic, and Rural WA, as defined in Schedule 4 to the marketing plan.

Tables 4 and 5 also show the 2.5 MHz leftover lots in each region.

Table 4 shows the 5 MHz lots available in the ‘lower’ portion of the 3.4 GHz band (3.4–3.4425 GHz frequency range).

**Table 4: Lot configuration in the ‘lower’ 3.4 GHz band (3.4–3.4425 GHz)**

Area	3.4 GHz					3.425 GHz					3.4425 GHz									
Hobart	5	5	5	5	5															
Major regional centres	5	5	5	5	5															
Regional																				
Rural	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Regional WA Central																				

Note: Table 4 is a representation of lots available in the 3.4 GHz band made by reference to frequency range and geographic area. The lot configuration shown in Table 4 may apply to several products available in the 3.4 GHz auction. A list of the products available at that auction is below at Table 7 and at Schedule 2 to the marketing plan.

Table 5 shows the 5 MHz lots available in the ‘middle’ portion of the 3.4 GHz band (3.475–3.575 GHz frequency range).

**Table 5: Lot configuration in the ‘middle’ 3.4 GHz band (3.475–3.575 GHz)**

Area	3.475 GHz					3.4925 GHz					3.51 GHz					3.5425 GHz					3.575 GHz									
Hobart																					2.5									
Major regional centres																					2.5									
Regional	5	5	5	5	5	5	5	5	5	5																				
Rural	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Regional WA Central	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Note: Table 5 is a representation of lots available in the 3.4 GHz band made by reference to frequency range and geographic area. The lot configuration shown in Table 5 may apply to several products available in the 3.4 GHz auction. A list of the products available at that auction is below at Table 7 and at Schedule 2 to the marketing plan.

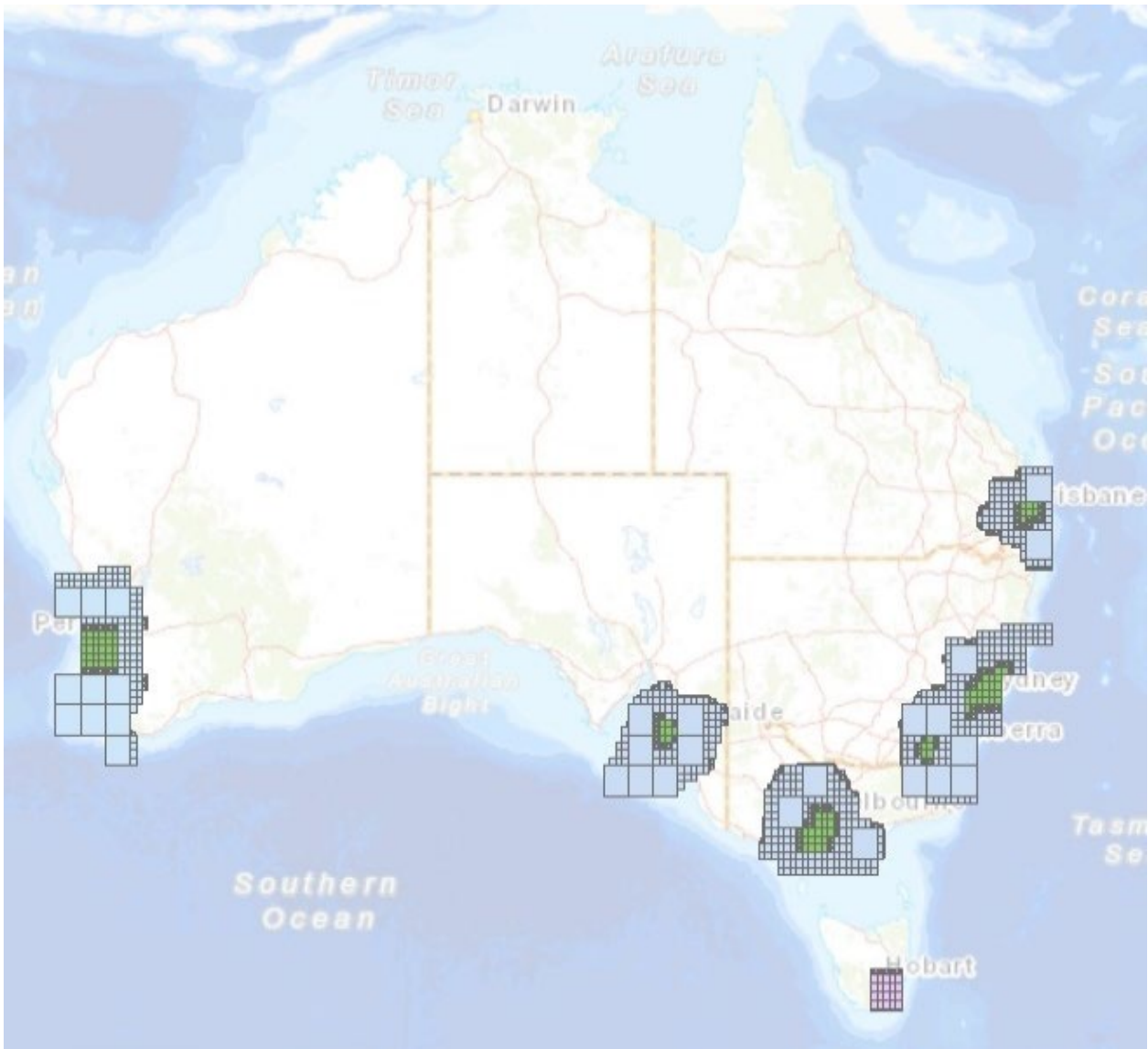
### 2.1.2 Geographic areas and maps

The areas identified in section 2.1.1 are defined in Schedule 4 to the marketing plan by reference to a list of hierarchical cell identification scheme (HCIS) identifiers. The HCIS is a naming convention developed by the ACMA that applies unique labels to each square cell in the [Australian Spectrum Map Grid](#), derived from the cell’s position in a hierarchically-arranged group of cells. Precise geographic boundaries may be viewed in Google Earth by using the [HCIS converter tool](#) on the ACMA website. To use this tool, copy and paste the HCIS identifiers for an area from the marketing plan into the convertor tool section labelled ‘HCIS description (primary)’.

The following maps are an indicative representation of the geographic regions in which lots of spectrum (in Tables 2 to 5) in the 3.4/3.7 GHz bands will be allocated. These maps may also be found at clause 2 of Schedule 4 to the marketing plan.

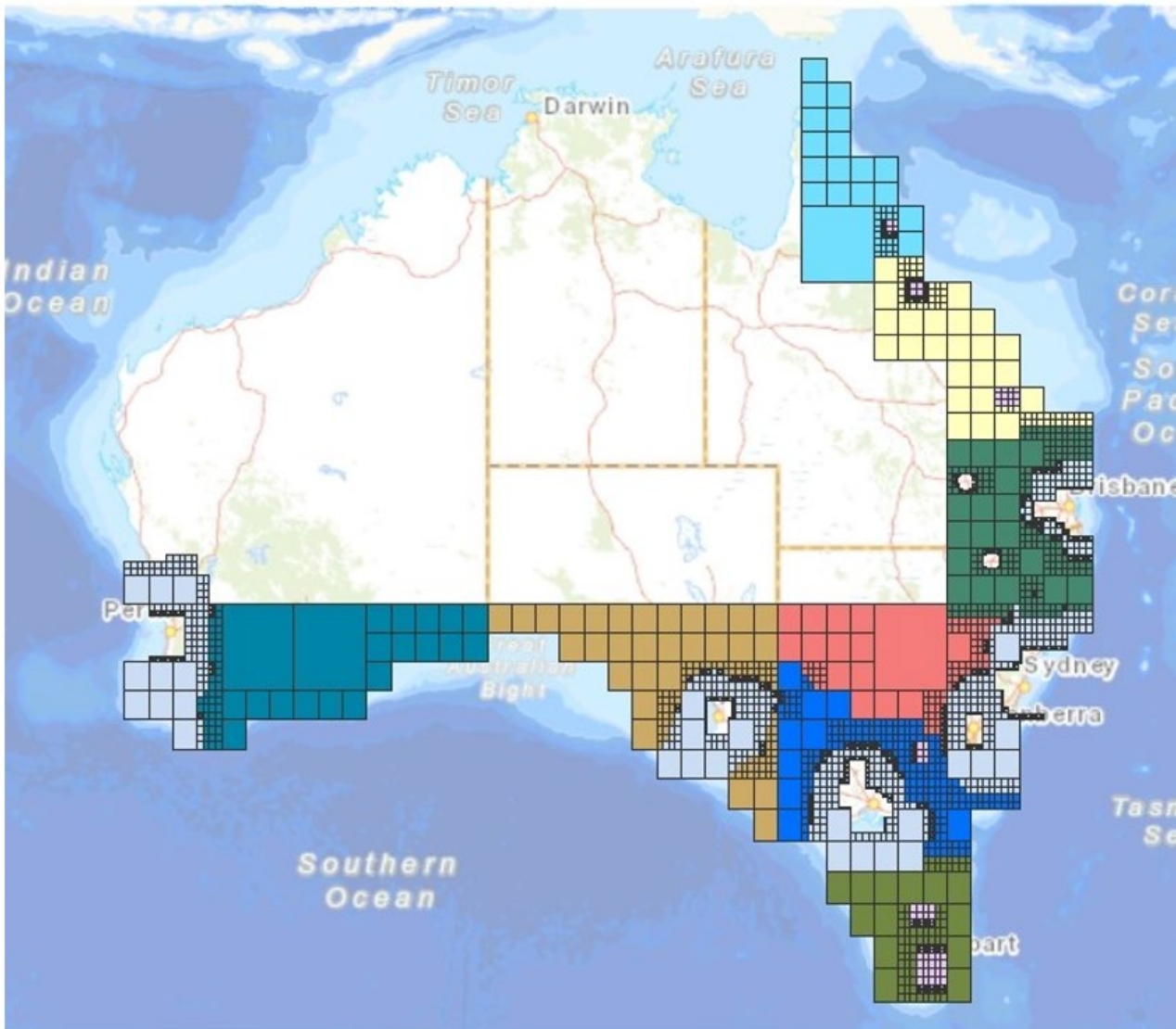


Figure 2: Geographic regions in the upper 3.7 GHz band



Note: Figure 2 is an indication of the geographic areas available for the lots described in Table 3.

Figure 3: Geographic regions for lots in the 3.4 GHz band



Note: Figure 3 is an indication of the geographic areas for the lots described in Tables 4 and 5. Leftover lots are available in all regions except for the Regional WA, Regional Victoria, Regional Queensland, Regional NSW, Regional WA and Regional WA central areas (in pale blue).

## 2.2 Starting prices, lot ratings, set price of leftover lots

### 2.2.1 Starting prices and lot ratings

Starting prices are the opening prices used in the first clock round of the primary stage (and for the first round of the secondary stage, if there is a secondary stage) of each auction. The auction system will not accept bids below the starting price for a lot of a product.

Lot ratings are an important part of the efficiency of the primary stage of an auction because they facilitate switching demand between different products and reduce the opportunity for strategic bidding. Leftover lots do not have lot ratings as they are not available for bidding in the primary or secondary stages of the 3.4 GHz auction.

To participate in the allocation process, an applicant must secure eligibility points. To calculate the number of eligibility points required by an applicant to bid for a particular combination of lots, the applicant multiplies the number of lots of each product the

bidder seeks to acquire by the specified lot rating for each product. The sum of these equals the eligibility points a bidder needs to secure those lots in the allocation process. Eligibility points can be used flexibly across the 3.7 GHz auction and the 3.4 GHz auction.

At the end of the 3.7 GHz auction, a bidder will be taken to have ‘used’ eligibility points equal to the lot ratings of all the lots allocated to the bidder during the primary or secondary stage of the 3.7 GHz auction. A bidder’s ‘unused’ eligibility points from the 3.7 GHz auction may be used in the 3.4 GHz auction. The eligibility points represent the maximum number of lots a participant would like to bid on.

A person who wants to be directly allocated a leftover lot may also need to secure that leftover lot to participate in the allocation process.

More information about how to fill out an eligibility nomination form is at section 3.1.2 of this auction guide. More information about start demands and eligibility points is at section 4.2.1 of this auction guide.

The ACMA may vary starting prices and lot ratings up until 5 working days before the eligibility deadline, in accordance with paragraph 25(1)(a) and paragraph 25(1)(b) of the allocation determination. The ACMA’s power to do so is discussed in more detail at section 3.4 of this auction guide.

The ACMA has set starting prices and lot ratings for products available in the 3.7 GHz auction (Table 6) and in the 3.4 GHz auction (Table 7).

**Table 6: Starting prices and lot ratings of products available in the 3.7 GHz auction**

Product	Product name	Lot bandwidth (MHz)	No. of lots	Frequency range (MHz)	Est. pop (September 2023)*	Starting price \$/MHz/pop	Starting price per lot	Lot rating (points/lot)
ADEL03	Adelaide Upper	5 MHz	20	3700 MHz to 3800 MHz	1,436,591	\$0.16	\$1,149,300	3,000
BRIS03	Brisbane Upper	5 MHz	20	3700 MHz to 3800 MHz	2,459,895	\$0.16	\$1,967,900	5,500
CANB03	Canberra Upper	5 MHz	20	3700 MHz to 3800 MHz	525,684	\$0.16	\$420,500	1,000
MELB03	Melbourne Upper	5 MHz	20	3700 MHz to 3800 MHz	5,198,753	\$0.16	\$4,159,000	11,000
PERT03	Perth Upper	5 MHz	20	3700 MHz to 3800 MHz	2,209,894	\$0.16	\$1,767,900	4,500
SYDN03	Sydney Upper	5 MHz	20	3700 MHz to 3800 MHz	5,881,181	\$0.16	\$4,704,900	12,500
HOBA03	Hobart Upper	5 MHz	10	3750 MHz to 3800 MHz	293,744	\$0.16	\$235,000	1,000
CQLD03	Rural Central QLD Upper	5 MHz	10	3700 MHz to 3750 MHz	661,666	\$0.16	\$529,300	1,500
NNSQ03	Rural North NSW /	5 MHz	10	3700 MHz to 3750 MHz	2,508,772	\$0.16	\$2,007,000	4,750

Product	Product name	Lot bandwidth (MHz)	No. of lots	Frequency range (MHz)	Est. pop (September 2023)*	Starting price \$/MHz/pop	Starting price per lot	Lot rating (points/lot)
	South QLD Upper							
NQLD03	Rural North QLD Upper	5 MHz	10	3700 MHz to 3750 MHz	282,402	\$0.16	\$225,900	600
SOAU03	Rural SA Upper	5 MHz	10	3700 MHz to 3750 MHz	398,525	\$0.16	\$318,800	650
SWNS03	Rural South / West NSW Upper	5 MHz	10	3700 MHz to 3750 MHz	1,612,851	\$0.16	\$1,290,300	3,000
TASM03	Rural TAS Upper	5 MHz	10	3700 MHz to 3750 MHz	576,830	\$0.16	\$461,500	1,000
VICT03	Rural VIC Upper	5 MHz	10	3700 MHz to 3750 MHz	1,662,685	\$0.16	\$1,330,100	3,000
WEAU03	Rural WA Upper	5 MHz	10	3700 MHz to 3750 MHz	344,193	\$0.16	\$275,400	650
RNSW03	Regional NSW Upper	5 MHz	10	3750 MHz to 3800 MHz	1,243,434	\$0.16	\$994,700	3,000
RQLD03	Regional QLD Upper	5 MHz	10	3750 MHz to 3800 MHz	1,835,447	\$0.16	\$1,468,400	4,750
RSAU03	Regional SA Upper	5 MHz	10	3750 MHz to 3800 MHz	225,986	\$0.16	\$180,800	650
RVIC03	Regional VIC Upper	5 MHz	10	3750 MHz to 3800 MHz	1,150,170	\$0.16	\$920,100	3,000
RWAU03	Regional WA Upper	5 MHz	10	3750 MHz to 3800 MHz	250,410	\$0.16	\$200,300	650

\* The estimated population for each product is based on 2021 Census population data for each HCIS cell within the product, which is then increased by a 'national population escalator' according to ABS population growth data and federal budget population projections up to the September 2023 quarter. The population figures used for determining starting prices are therefore different to the population figures used for determining whether to disregard existing authorisations from allocation limits, which do not include projections.

**Table 7: Starting prices and lot ratings of products available in the 3.4 GHz auction**

Product	Product name	Lot bandwidth (MHz)	No. of lots	Frequency range (MHz)	Est. pop (September 2023)*	Starting price \$/MHz/pop	Starting price per lot	Lot rating (points/lot)
ALBU01	Albury Lower	5 MHz	5	3400 MHz to 3425 MHz	128,705	\$0.06	\$38,600	100
CAIR01	Cairns Lower	5 MHz	5	3400 MHz to 3425 MHz	196,954	\$0.06	\$59,100	150
HOBA01	Hobart Lower	5 MHz	5	3400 MHz to 3425 MHz	293,744	\$0.06	\$88,100	250
LAUN01	Launceston Lower	5 MHz	5	3400 MHz to 3425 MHz	144,229	\$0.06	\$43,300	100
ROCK01	Rockhampton Lower	5 MHz	5	3400 MHz to 3425 MHz	124,440	\$0.06	\$37,300	100
TOWN01	Townsville Lower	5 MHz	5	3400 MHz to 3425 MHz	200,284	\$0.06	\$60,100	150
ALBU02	Albury Middle	5 MHz	9	3495 MHz to 3540 MHz	128,705	\$0.06	\$38,600	100
CAIR02	Cairns Middle	5 MHz	9	3495 MHz to 3540 MHz	196,954	\$0.06	\$59,100	150
HOBA02	Hobart Middle	5 MHz	9	3495 MHz to 3540 MHz	293,744	\$0.06	\$88,100	250
LAUN02	Launceston Middle	5 MHz	9	3495 MHz to 3540 MHz	144,229	\$0.06	\$43,300	100
ROCK02	Rockhampton Middle	5 MHz	9	3495 MHz to 3540 MHz	124,440	\$0.06	\$37,300	100
TOWN02	Townsville Middle	5 MHz	9	3495 MHz to 3540 MHz	200,284	\$0.06	\$60,100	150
CQLD01	Rural Central QLD Lower	5 MHz	8	3400 MHz to 3440 MHz	336,942	\$0.06	\$101,100	250
NNSQ01	Rural North NSW / South QLD Lower	5 MHz	8	3400 MHz to 3440 MHz	636,962	\$0.06	\$191,100	500
NQLD01	Rural North QLD Lower	5 MHz	8	3400 MHz to 3440 MHz	85,448	\$0.06	\$25,600	75
SOAU01	Rural SA Lower	5 MHz	8	3400 MHz to 3440 MHz	172,540	\$0.06	\$51,800	150
SWNS01	Rural South / West NSW Lower	5 MHz	8	3400 MHz to 3440 MHz	369,417	\$0.06	\$110,800	300
TASM01	Rural TAS Lower	5 MHz	8	3400 MHz to 3440 MHz	137,402	\$0.06	\$41,200	100
VICT01	Rural VIC Lower	5 MHz	8	3400 MHz to 3440 MHz	382,835	\$0.06	\$114,900	300

Product	Product name	Lot bandwidth (MHz)	No. of lots	Frequency range (MHz)	Est. pop (September 2023)*	Starting price \$/MHz/pop	Starting price per lot	Lot rating (points/lot)
WEAU01	Rural WA Lower	5 MHz	8	3400 MHz to 3440 MHz	93,782	\$0.06	\$28,100	75
CQLD02	Rural Central QLD Middle	5 MHz	13	3475 MHz to 3540 MHz	336,942	\$0.06	\$101,100	250
NNSQ02	Rural North NSW / South QLD Middle	5 MHz	13	3475 MHz to 3540 MHz	636,962	\$0.06	\$191,100	500
NQLD02	Rural North QLD Middle	5 MHz	13	3475 MHz to 3540 MHz	85,448	\$0.06	\$25,600	75
SOAU02	Rural SA Middle	5 MHz	13	3475 MHz to 3540 MHz	172,540	\$0.06	\$51,800	150
SWNS02	Rural South / West NSW Middle	5 MHz	13	3475 MHz to 3540 MHz	369,417	\$0.06	\$110,800	300
TASM02	Rural TAS Middle	5 MHz	13	3475 MHz to 3540 MHz	137,402	\$0.06	\$41,200	100
VICT02	Rural VIC Middle	5 MHz	13	3475 MHz to 3540 MHz	382,835	\$0.06	\$114,900	300
WEAU02	Rural WA Middle	5 MHz	13	3475 MHz to 3540 MHz	93,782	\$0.06	\$28,100	75
RNSW02	Regional NSW Middle	5 MHz	7	3475 MHz to 3510 MHz	679,617	\$0.06	\$203,900	550
RQLD02	Regional QLD Middle	5 MHz	7	3475 MHz to 3510 MHz	689,470	\$0.06	\$206,800	550
RSAU02	Regional SA Middle	5 MHz	7	3475 MHz to 3510 MHz	164,009	\$0.06	\$49,200	150
RVIC02	Regional VIC Middle	5 MHz	7	3475 MHz to 3510 MHz	587,962	\$0.06	\$176,400	450
RWAU02	Regional WA Middle	5 MHz	7	3475 MHz to 3510 MHz	250,410	\$0.06	\$75,100	200
RWAC02	Regional WA Central Middle	5 MHz	13	3510 MHz to 3575 MHz	12,667	\$0.06	\$3,800	10

\* The estimated population for each product is based on 2021 Census population data for each HCIS cell within the product, which is then increased by a 'national population escalator' according to ABS population growth data and federal budget population projections up to the September 2023 quarter. The population figures used for determining starting prices are therefore different to the population figures used for determining whether to disregard existing authorisations from allocation limits, which do not include projections.

### 2.2.2 Set price of leftover lots

The ACMA may directly allocate leftover lots to eligible recipients for a set price. An eligible recipient is defined as the existing spectrum licensee adjacent to the leftover lot, or a related body corporate of that adjacent licensee. The ACMA has determined the set price of each leftover lot in accordance with paragraph 22(c) of the allocation determination. The set price is based on a \$0.03/MHz/pop calculation.

There are 3 adjacent licensees, each of which holds an existing licence that authorises a part of the spectrum that is adjacent to a leftover lot, in a geographic area that is the same as that leftover lot: AKAL Pty Ltd, NBN Co Limited and Telstra Limited.

Eligible applicants (the adjacent licensee, or a related body corporate of them) may apply to be directly allocated one or more leftover lots for the set price in accordance with paragraph 34(1)(c) of the allocation determination. The application is contained within the eligibility nomination form (Form 9) and must be made before the eligibility deadline. Once an application to be directly allocated one or more leftover lots has been submitted, and the eligibility deadline has passed, it cannot be amended.<sup>3</sup>

Any leftover lots that are not directly allocated for the set price may be allocated in the assignment stage of the 3.4 GHz auction to the winner of the spectrum adjacent to the leftover lot. If a bidder wishes to acquire a leftover lot in the assignment stage, they may express their interest in the lot by bidding in the assignment stage for the frequency range option that includes the leftover lot. The set price of the leftover lot will not apply to leftover lots allocated in the assignment stage of the 3.4 GHz auction.

**Table 8: Leftover lots and set prices for direct allocation**

Lot name	Lot bandwidth (MHz)	No. of lots	Frequency range (MHz)	Est. pop (September 2023)*	Set price \$/MHz/pop	Set price	Adjacent licensee
Albury 1	2.5 MHz	1	3492.5 MHz to 3495 MHz	128,705	\$0.03	\$9,700	NBN Co Limited ACN 136 533 741 <b>(NBN Co)</b>
Albury 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	128,705	\$0.03	\$9,700	Telstra Limited ACN 086 174 781 <b>(Telstra)</b>
Cairns 1	2.5 MHz	1	3492.5 MHz to 3495 MHz	196,954	\$0.03	\$14,800	NBN Co
Cairns 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	196,954	\$0.03	\$14,800	Telstra
Hobart 1	2.5 MHz	1	3492.5 MHz to 3495 MHz	293,744	\$0.03	\$22,000	NBN Co
Hobart 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	293,744	\$0.03	\$22,000	Telstra
Launceston 1	2.5 MHz	1	3492.5 MHz to 3495 MHz	144,229	\$0.03	\$10,800	NBN Co
Launceston 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	144,229	\$0.03	\$10,800	Telstra
Rockhampton 1	2.5 MHz	1	3492.5 MHz to 3495 MHz	124,440	\$0.03	\$9,300	NBN Co
Rockhampton 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	124,440	\$0.03	\$9,300	Telstra
Townsville 1	2.5 MHz	1	3492.5 MHz to 3495 MHz	200,284	\$0.03	\$15,000	NBN Co

<sup>3</sup> Eligible applicants may only amend their elections if the ACMA varies starting prices or the set price of leftover lots in accordance with subsection 25(1) of the allocation determination.

Lot name	Lot bandwidth (MHz)	No. of lots	Frequency range (MHz)	Est. pop (September 2023)*	Set price \$/MHz/pop	Set price	Adjacent licensee
Townsville 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	200,284	\$0.03	\$15,000	Telstra
Rural Central QLD 1	2.5 MHz	1	3440 MHz to 3442.5 MHz	336,942	\$0.03	\$25,300	NBN Co
Rural Central QLD 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	336,942	\$0.03	\$25,300	NBN Co
Rural North NSW / South QLD 1	2.5 MHz	1	3440 MHz to 3442.5 MHz	636,962	\$0.03	\$47,800	NBN Co
Rural North NSW / South QLD 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	636,962	\$0.03	\$47,800	NBN Co
Rural North QLD 1	2.5 MHz	1	3440 MHz to 3442.5 MHz	85,448	\$0.03	\$6,400	NBN Co
Rural North QLD 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	85,448	\$0.03	\$6,400	NBN Co
Rural SA 1	2.5 MHz	1	3440 MHz to 3442.5 MHz	172,540	\$0.03	\$12,900	NBN Co
Rural SA 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	172,540	\$0.03	\$12,900	NBN Co
Rural South / West NSW 1	2.5 MHz	1	3440 MHz to 3442.5 MHz	369,417	\$0.03	\$27,700	NBN Co
Rural South / West NSW 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	369,417	\$0.03	\$27,700	NBN Co
Rural TAS 1	2.5 MHz	1	3440 MHz to 3442.5 MHz	137,402	\$0.03	\$10,300	NBN Co
Rural TAS 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	137,402	\$0.03	\$10,300	NBN Co
Rural VIC 1	2.5 MHz	1	3440 MHz to 3442.5 MHz	382,835	\$0.03	\$28,700	NBN Co
Rural VIC 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	382,835	\$0.03	\$28,700	NBN Co
Rural WA 1	2.5 MHz	1	3440 MHz to 3442.5 MHz	93,782	\$0.03	\$7,000	AKAL Pty Ltd ACN 094 107 794 (AKAL)
Rural WA 2	2.5 MHz	1	3540 MHz to 3542.5 MHz	93,782	\$0.03	\$7,000	AKAL

\* The estimated population for each leftover lot is based on 2021 Census population data for each HCIS cell within the leftover lot, which is then increased by a 'national population escalator' according to ABS population growth data and federal budget population projections up to the September 2023 quarter.

## 2.3 Allocation limits

Allocation limits (also referred to as spectrum caps or competition limits) have the effect of capping the total amount of spectrum that a single bidder can acquire as a result of the allocation of spectrum licences by any allocation process under section 60 of the Radiocommunications Act.

The allocation determination specifies that the allocation of spectrum licences under the allocation determination must not result in a person exceeding the allocation limit for the area of a metropolitan product or regional product. A person exceeds the allocation limit for the area of a metropolitan product or a regional product if:

- > the person is authorised to use a part of the relevant spectrum in the area; and
- > as a result, the person, or the relevant group of persons that includes the person, is authorised to use, in aggregate, more of the relevant spectrum in all or part of the area than the allocation limit for the area.

The allocation limit for the area of a metropolitan product is 140 MHz. The allocation limit for the area of a regional product is 160 MHz of spectrum. Metropolitan and regional products are defined in the marketing plan.

The allocation limit applies in relation to spectrum in the 3.4–3.8 GHz frequency range. Accordingly, existing licences held by persons in that frequency range will be counted, to work out whether issuing licences in the 3.4 GHz band or the 3.7 GHz band (or both) will result in a person exceeding the allocation limit for the area of a metropolitan product or a regional product.

In some cases, however, the spectrum authorised to be used by an existing licence will be disregarded for the purposes of working out whether issuing licences will result in a person exceeding the allocation limit for an area. The following section sets out the circumstances in which spectrum will be disregarded.

### 2.3.1 Exclusions from allocation limits

#### 2.3.1.1 Insignificant holdings

Each spectrum licence already existing in the 3.4–3.8 GHz frequency range authorises the use of one or more parts of the spectrum. For each such part of the spectrum, the licence authorises the use of the spectrum in a particular geographic area. In this section, the combination of a part of the spectrum and the geographic area in which the use of the spectrum is authorised is called an 'authorisation'.

Where a person's marginal existing authorisations cover less than 30% of the population of the whole geographic area of a product, those marginal existing authorisations do not count towards an assessment of whether issuing a licence would exceed the allocation limit.

To work out whether a person's marginal existing authorisations cover less than 30% of the population of the whole geographic area of a product:

- i. Identify each unique geographic area (each *overlap area*) within the product's overall geographic area (the *product area*) that falls within a bidder's existing authorisation (or within multiple authorisations), does not cover the boundary of any of the bidder's spectrum authorisations, and does not overlap with any other identified overlap area.
- ii. For each overlap area, determine the amount of bandwidth in the bidder's existing authorisations, and the population of the overlap area.

- iii. For each overlap area for the product, take the population calculated in the previous step and add the population of any overlap area for the product with an equal or greater amount of bandwidth in existing authorisations.
- iv. The bidder's existing authorisations can be disregarded in all overlap areas where the population determined in the previous step is less than the 'significance threshold' of 30% of the population of the product area.
- v. The bidder's expressible demand (or *unused allocation limit*) for the product is the allocation limit minus their highest amount of bandwidth in existing authorisations in an overlap area that has not had its authorisations disregarded.

For example, assume the product area for Product X has a population of 100 people, and a bidder has a range of authorisations that result in there being 3 identified overlap areas. The calculation method would proceed as follows:

- i. Identify the 3 overlap areas: Area A, Area B and Area C.
- ii. Area A has 100 MHz existing authorisations and a population of 20; Area B has 60 MHz existing authorisations and a population of 50; and Area C has 40 MHz existing authorisations and a population of 30.
- iii. Based on the above figures, the population calculated for Area A is 20 as there are no other overlap areas with equal or greater existing holdings. The population calculated for Area B is 70, as the population of any overlap area with equal or greater existing authorisations (i.e., 20 in Area A, which has 100 MHz) is added to Area B's own population of 50. The population calculated for Area C is 100, as the population of any overlap area with equal or greater existing authorisations (i.e., 20 in Area A and 50 in Area B) is added to the Area C's own population of 30.
- iv. The percentage of the population of the product area is therefore 20% for Area A, 70% for Area B and 100% for Area C. Area A's percentage is less than the significance threshold of 30%, so the existing authorisations in this overlap area can be disregarded. The existing authorisations in Area B and Area C are unable to be disregarded as the calculated percentages exceed 30%.
- v. The bidder's expressible demand (or unused allocation limit) is equal to the allocation limit minus existing authorisations of 60 MHz, which is its highest existing authorisations in an overlap area that has not had its authorisations disregarded. For example, if the allocation limit for Product X is 140 MHz, the unused allocation limit would be 80 MHz (140 MHz minus 60 MHz equals 80 MHz). If the bidder were to acquire any spectrum above 80 MHz for Product X, they would exceed the 140 MHz allocation limit in Area B and therefore would exceed the allocation limit for Product X.

### **2.3.1.2 Leftover lots**

Leftover lots will be excluded from the application of the allocation limits in relation to a bidder. A bidder that is allocated a leftover lot will not have 2.5 MHz deducted from their unused allocation limit in the area of the leftover lot. Leftover lots are identified in Schedule 3 to the Marketing Plan and at section 2.2.2 of this guide.

### **2.3.1.3 Regional WA Central Middle**

Regional WA Central Middle product has been excluded from the application of the allocation limits in relation to a bidder. The allocation of a lot of this product to a bidder does not affect the application of the allocation limits for the other Regional WA products in relation to the bidder. The Regional WA Central Middle product is identified in the Schedule 2 to the marketing plan and at section 2.1 of this guide.

#### **2.3.1.4 Authorisations that are not relevant**

For the purposes of the allocation limits, the following authorisations are not relevant:

- > authorisations under subsection 68(1) of the Radiocommunications Act (about third-party use)
- > authorisation under apparatus licences and class licences.

#### **2.3.2 Application of allocation limits in the secondary stage**

Allocation limits continue to apply in the secondary stage of an auction if there is one. Bidders will not be eligible to bid on a lot in the secondary stage where they have already reached their allocation limit for the product or combination of products (where relevant) in the primary stage of an auction.

#### **2.3.3 Unused allocation limit**

A bidder may have an unused allocation limit for each product:

- > before the start of the 3.7 GHz auction
- > after the end of the 3.7 GHz auction.

##### **2.3.3.1 Unused allocation limit before the 3.7 GHz auction**

The unused allocation limit for a bidder for each metropolitan product or regional product before the start of the 3.7 GHz auction is the allocation limit for an area of the product minus the highest amount of spectrum (expressed in megahertz) of the 'aggregate existing megahertz' for the person for the area, calculated immediately before the start of the pre-bidding round of the primary stage of the auction. In calculating the aggregate existing megahertz for the person for the area, insignificant holdings are disregarded in the manner described above.<sup>4</sup>

##### **2.3.3.2 Unused allocation limit after the end of the 3.7 GHz auction**

To ensure the allocation limit is not exceeded, after the end of the 3.7 GHz auction, the ACMA will recalculate each bidder's unused allocation limit for each metropolitan product and each regional product that will be available in the 3.4 GHz auction. The unused allocation limit will take into account any lots allocated to a bidder in the primary and secondary stages of the 3.7 GHz auction.

The ACMA will notify each bidder of its unused allocation limit for each product available in the 3.4 GHz auction at least 3 working days before the start of the pre-bidding round of the primary stage of the 3.4 GHz auction.

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<sup>4</sup> A bidder may have an unused allocation limit in each of 2 geographically related products that cover an overlapping area (e.g., Rural SA Upper and Regional SA Upper). In these instances, the unused allocation limit represents a bidder's maximum expressible demand for each product, which can be reduced by expressing demand for the geographically related product. The auction system can therefore prevent a bidder from entering demand for a product that does not exceed its product-specific unused allocation limit, as the level of demand may nonetheless cause the bidder to exceed the allocation limit for that product due to the bidder's demand for the geographically related product. Each bid in such a bid combination is not a valid bid under the allocation determination.

# 3. Applications and pre-auction procedures

**Chapter 3** outlines information about procedures to be followed prior to the beginning of the pre-bidding round of primary stage of the 3.7 GHz auction (the first auction). This includes information about:

- > the ACMA's arrangements for the allocation process
- > how to apply to participate in the allocation process, and become a registered bidder
- > the role of the ACMA and the auction manager in the allocation process
- > training and mock auctions for registered bidders
- > how the ACMA will determine affiliations
- > the support available to registered bidders prior to the start of the 3.7 GHz auction.

## 3.1 Applying to participate in the allocation process

Interested parties wishing to participate in the 3.7 GHz auction and/or the 3.4 GHz auction, or eligible persons that would like to acquire a leftover lot, will need to apply to participate in the allocation process, and be registered by the ACMA as bidders. The process occurs in 2 steps.

### 3.1.1 Apply to participate in the allocation process

Before the application deadline at **2 pm (AEST), 31 July 2023**, an interested party must:

- > give the ACMA a completed application form (Form 1 or via webform)
- > give the ACMA a Deed of Acknowledgement executed by the applicant (Form 2)
- > give the ACMA a Deed of Confidentiality executed by the applicant (Form 3)
- > give the ACMA a completed associates form (Form 4 or Form 5)
- > pay the application fee (\$10,000).

At this stage, applicants are asked in the application form to nominate 'authorised persons', who will have access to the auction system.

Where possible, the ACMA will endeavour to resolve cases where an element of the application is missing, incomplete or unclear. Prospective applicants are encouraged to lodge their applications as early as possible. This will enable the ACMA to resolve any issues with applications before the application deadline at **2 pm (AEST), 31 July 2023**.

Following the application deadline, the ACMA will:

- > give each applicant details about the identity of all other applicants and persons identified as the associates of other applicants
- > ask each applicant to provide the ACMA with a statutory declaration regarding its affiliations (if any) with other applicants
- > provide information about using the auction system. Specifically, the ACMA will distribute a user manual for the auction system.

### ***Affiliations and associates information (Forms 4 and 5)***

To ensure the allocation process is conducted in a competitive and fair manner that complies with the allocation limits, applicants that are affiliated will not be permitted to be registered in the allocation process as separate bidding entities. Two parties will be affiliated if one is an 'associate' of the other, within the definition set out in the allocation determination, or if they have an associate in common (for example, a director in common).

If the applicant is a body corporate, they must complete the *Associates form – body corporate* (Form 4); and if the applicant is an individual, they must complete the *Associates form – individuals* (Form 5). The relevant associates form must be given to the ACMA by the application deadline.

When completing the relevant associates form, if there is insufficient space to provide information in a particular category, the applicant can supply the additional information as a list annexed to the required form. The annexure should clearly specify:

- > the applicant's name
- > the name of the form being completed
- > the part of the associates form being addressed by the annexure
- > all the required information for that part of the associates form.

Alternatively, an applicant may provide the information in a different format than specified in the associates form. For example, if its associates' information can be obtained from a database or similar program, they may provide the information according to the database's format. However, applicants should ensure that:

- > all the required information is provided
- > its associates' information is provided in a searchable format – that is, an electronic format rather than a scan of a physical copy.

The ACMA will ask each applicant to make a statutory declaration (Form 6) stating whether the applicant is or is not affiliated with another applicant, and if so, identifying the other applicant and giving details of the affiliation. The deadline for making the statutory declaration will be at least 10 working days from the date of the request (subsection 37(2) of the allocation determination). The applicant's statutory declaration must be given to us by this deadline. If the ACMA does not receive the applicant's statutory declaration by the deadline, then the applicant is taken to have withdrawn its application (subsection 38(1) of the allocation determination).

If the ACMA is satisfied that 2 or more applicants are affiliated, the applicants will be notified in writing about on what basis the ACMA is satisfied the applicants are affiliated. The ACMA will give the affiliated applicants the opportunity to withdraw their application(s) in accordance with subsection 44(1) of the allocation determination, and if each affiliated applicant withdraws its application, will give another entity the opportunity to submit a new application in accordance with section 45 of the allocation determination.

Information about how affiliations will be dealt with during the allocation period is at sections 4.4 to 4.6 of this auction guide.

### 3.1.2 Register as a bidder in the allocation process

Before the eligibility deadline at **2 pm (AEST), 12 September 2023**, an applicant that wishes to become registered as a bidder and participate in the allocation process must:

- > give the ACMA a completed eligibility nomination form (Form 9)
- > pay an eligibility payment and/or give a Deed of Financial Security (Form 8) to the ACMA on behalf of the Commonwealth.

Eligible applicants that would like to be directly allocated one or more leftover lots for the set price must also apply to be directly allocated those lots by completing the relevant sections of the eligibility nomination form.

After the eligibility deadline, subject to application requirements being met, the ACMA will notify applicants of their registration as a bidder in the allocation process. Registered bidders will be provided with relevant materials to enable them to participate in the allocation process in accordance with subsection 54(3) of the allocation determination, including:

- > a copy of the information about the bidder recorded on the register of bidders maintained by the ACMA under section 55 of the allocation determination
- > the ACMA's email address and telephone number available for registered bidders to use (see section 7.2 of this auction guide)
- > information about which bidders have been directly allocated which leftover lots, the URL for accessing the online auction system, and login credentials for each of the authorised persons nominated in the bidder's application form (Form 1)
- > information about the emergency bidding arrangements if the bidder is unable to submit a bid using the auction system.

#### ***Eligibility nomination (Forms 8 and 9)***

Applicants are required to specify the number of eligibility points they would like to secure in their eligibility nomination form (Form 9). Unlike previous auctions, applicants are not required to specify their start demand for products in the eligibility nomination form.

An applicant secures its eligibility points by making an eligibility payment to the ACMA or giving a Deed of Financial Security (Form 8), *or* a combination of both, for the required amount calculated in the manner described in subsection 41(3) of the allocation determination. If a Deed of Financial Security is given to us by email or uploaded to the ACMA auction application portal, the original deed must be received by the ACMA no later than 3 working days after the eligibility deadline (or if the ACMA agrees to a later time, the agreed time).

The eligibility nomination form, among other things, contains a guide to securing eligibility points, including:

- > Calculating eligibility points. Applicants will secure the number of eligibility points they will need to express demand for the lots they would like to acquire in the 3.7 GHz and/or 3.4 GHz auctions. Any eligibility points left 'unused' after the 3.7 GHz band auction can be used in the 3.4 GHz auction.
- > Calculating the required amount (in dollars) needed to secure the nominated eligibility points and for leftover lots (if applicable). The required amount for eligibility points is based on the number of points required and the value of each eligibility point as set by the ACMA (\$37.60). The required amount for a leftover lot is 10% of the set price of the leftover lot. GST is not payable on the eligibility payment.

The eligibility nomination form also provides a guide to applying to be directly allocated a leftover lot. An application for a leftover lot is a binding commitment that cannot be withdrawn or amended (unless the ACMA varies the set price of a leftover lot, or the starting price for a lot of a product). Failure to make an eligibility payment and/or provide a Deed of Financial Security will not prevent the leftover lot recipient from being allocated its leftover lot. It may, however, affect an applicant's ability to bid in one or both auctions.

If an applicant provides an eligibility payment and/or Deed of Financial Security for an amount less than the amount required to secure their eligibility points and if applicable, leftover lots, subsection 42(3) of the allocation determination provides to the applicant an opportunity to 'top up' its eligibility payment and/or Deed of Financial Security. If the applicant does not take that opportunity, its eligibility points may be reduced, or it may be taken to have withdrawn its application, in accordance with subsections 42(4), 42(5) and 42(6) of the allocation determination.

### **3.1.3 Auction forms**

Procedures for how auction forms should be given to the ACMA are summarised at section 7.3 of this auction guide.

Applicants should seek independent advice about the completion of documents.

#### ***ACMA auction application portal***

The ACMA has introduced an online [auction application portal](#) that can be used to give auction documents to the ACMA.

To use the auction application portal, applicants will be prompted to log in to their [ACMA Assist](#) account, or create an account if the applicant does not have an account.

Applicants applying via the auction application portal will be prompted to complete the webform version of **Form 1 – Application form**. Once completed, the applicant will be able to download, complete and upload the remaining forms via the portal, as well as pay the application fee.

Once the application form is complete, an email will be sent to nominated contacts containing a link to the application. An application can be saved at any time and continued by following the link provided. A saved application can also be continued from 'Your current and previous submissions' section of ACMA Assist.

#### ***Forms that can be electronically executed under section 8 of the allocation determination***

Forms are digitally writeable PDFs, where applicable. The ACMA has introduced, where possible, arrangements that will permit the electronic execution of some documents. Regulations governing the electronic execution of documents may differ across types of documents, and across legal jurisdictions. Applicants are encouraged to seek their own independent advice regarding the completion of auction forms.

In the case of the application form (Form 1) (except where given by webform), the eligibility nomination form (Form 9), the statement about affiliations given before assignment stage of 3.7 GHz auction (Form 7A) and statement about affiliations given before assignment stage of the 3.4 GHz auction (Form 7B), applicants may:

- > sign the form using a digital signature
- > engage a person to witness the signature over audio-visual link.

If signed electronically and witnessed over audio-visual link, these forms must be executed in accordance with section 8 of the allocation determination.

Both the signatory and witness may sign the form electronically by:

- > pasting a copy of their signature into the form
- > signing using a stylus or a finger on a tablet, smartphone or laptop
- > using a cloud-based signature platform.

Where an in-person witness is not available, the signature may be witnessed remotely over audio-visual link.

Both the signatory's and the witness's signatures must be on the same version of the form submitted to the ACMA (but not necessarily the same copy). Some examples of how remote witnessing of a document can occur include:

- > the signatory and witness use a cloud-based platform to sign and witness the form
- > the signatory electronically signs the form, witnessed via audio-visual link by the witness. The signatory emails the form to the witness, who electronically signs the form
- > the signatory electronically signs the form, witnessed via audio-visual link by the witness. The signatory emails the form to the witness, who prints and physically signs the printed form
- > the signatory physically signs the form, witnessed via audio-visual link by the witness. The signatory scans the form and emails it to the witness. The witness prints and physically signs the printed form.

The witness must sign the form as soon as practicable after the signatory has signed the form. The witness must be satisfied that the copy of the form they are signing is either the same document, or an identical copy of the form that the signatory signed.

If using the auction application portal, the webform version of Form 1 can be electronically executed by completing the declaration at the end of the form. This involves entering the details of the person completing the form, and indicating that they have authority to complete the form on behalf of the applicant (or indicating that they have been authorised to complete the form by such a person).

***Forms to which section 8 of the allocation determination does not apply***

Procedures outlined in section 8 of the allocation determination do not apply to the following forms:

- > Deed of Acknowledgment (Form 2)
- > Deed(s) of Confidentiality (Form 3)
- > statutory declaration (Form 6)
- > Deed of Financial Security (Form 8).

Arrangements for the execution of deeds may differ across legal jurisdictions. The making of statutory declarations for the allocation process is governed by the [Statutory Declarations Act 1959](#).

Applicants should obtain their own independent advice on the completion of these forms.

### 3.1.4 Withdrawal from the allocation process

An applicant may only withdraw from the allocation process by written notice given to the ACMA before the eligibility deadline.<sup>5</sup>

In some circumstances, the allocation determination provides that an applicant may be taken to have withdrawn their application.

An applicant that has, or has been taken to have, withdrawn, will not be re-admitted to the allocation process unless the ACMA exercises its power to vary starting prices or the set price of leftover lots.

Applicants that withdraw, or that have been taken to have withdrawn, from the allocation process will remain subject to the confidentiality provisions in the allocation determination until after the end of the allocation period. The ACMA will notify withdrawn applicants that their confidentiality obligation has ended as soon as practicable after the end of the allocation period. As previously outlined, withdrawn applicants will not be refunded their application fee.<sup>6</sup>

## 3.2 Confidentiality

Confidential information is defined in section 28 of the allocation determination. Confidential information includes any information that, if disclosed, could be reasonably expected to affect another applicant's or bidder's behaviour in the allocation process, or the outcome of the allocation process. This includes information about an applicant's or a bidder's proposed or actual start demands, proposed or actual bids, the bidder's eligibility points at any time in the allocation period, bidding strategy or lot valuations and posted demands, and the results of the 3.7 GHz auction before the results are publicly announced.

### 3.2.1 Obligation not to disclose confidential information

Applicants, bidders, and their 'related persons' and contractors who have knowledge of an applicant's or bidder's confidential information will be prohibited from disclosing confidential information about the allocation process to any person, except in specified circumstances. The confidentiality rules are in place to protect the integrity of the allocation process by prohibiting communications that could influence the outcome of the allocation process. The rules are intended to guard against anti-competitive behaviour in the allocation process and to complement the prohibition on cartel conduct contained in the Competition and Consumer Act.

Applicants are required to complete a Deed of Confidentiality (Form 3) as part of the bidder registration process. Each 'related person' of an applicant or bidder who has knowledge of the applicant's or bidder's confidential information is (if they are an employee of the applicant or bidder, or of a related body corporate of the applicant or bidder that provides services to the applicant or bidder) also required to complete a Deed of Confidentiality. A contractor of an applicant or bidder who has knowledge of the applicant's or bidder's confidential information must also give the ACMA a Deed of Confidentiality.

A Deed of Confidentiality is not required from a contractor who is under a contract for the sole purpose of obtaining advice relating to the allocation process in the

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<sup>5</sup> If the ACMA varies starting prices or the set price of one or more leftover lots in accordance with section 25(1) of the allocation determination, the eligibility deadline will be extended.

<sup>6</sup> An application fee may be refundable if the applicant has withdrawn after the ACMA has varied starting prices or the set price of a leftover lot.

contractor's professional capacity, or for the purpose of obtaining finance to make a payment in relation to the allocation process.

By completing the Deed of Confidentiality, applicants, bidders, and their 'related persons' and contractors will be agreeing not to disclose confidential information before their confidentiality obligation has ceased to apply. The precise point at which the rules cease to apply to an applicant, bidder, and their 'related persons' and contractors will depend on whether the applicant or bidder is a winning bidder, is not a winning bidder, or withdraws from the allocation process.

### **3.2.2 Breach of confidentiality**

Applicants, bidders, and their 'related persons' and contractors are required to notify the ACMA in writing about any breach of the confidentiality rules of which they become aware. The notification must be made as soon as possible, and no later than 2 working days after they become aware the perceived breach has occurred. If the auction manager is satisfied that the allocation process has been affected by a breach of the confidentiality rules, they may, among other options, take steps to suspend an auction, or revert to an earlier point in the relevant auction stage or make a correction to a round. Applicants or bidders that breach the confidentiality rules may be subject to the provisions outlined in section 155 of the allocation determination.

### **3.2.3 Exceptions**

The general prohibition on disclosing confidential information does not apply where the disclosure is made:

- > to announce or publish that the bidder is participating in the allocation process
- > to obtain independent advice on the allocation process from a person in their professional capacity
- > to obtain finance to purchase spectrum licences in the allocation process
- > to the ACMA
- > to the applicant or bidder, or a related person of that applicant or bidder
- > as authorised by the allocation determination or otherwise required by law.

Disclosure of confidential information is not prohibited if the information is publicly available and was not made available because of a breach of the confidentiality rules.

The ACCC may request certain information from the ACMA regarding the allocation process, as specified in section 154 of the allocation determination. This includes completed forms, and information about associates of applicants and bidding during an auction. In these circumstances, the ACMA must provide the requested information to the ACCC, if it has that information.

A registered bidder's participation in the allocation process is not, of itself, confidential information. This means that registered bidders may publicly state that they are participating in the allocation process (see also paragraph 29(2)(g) of the allocation determination).

The fact that the bidder applied (or did not apply) to be directly allocated a leftover lot, or whether the bidder was (or was not) directly allocated the leftover lot is not confidential information (see subsection 28(2) of the allocation determination). This means that an applicant or bidder that is eligible to apply for a leftover lot may publicly state that they have applied to be directly allocated a leftover lot, or that they have been directly allocated a leftover lot. An applicant or bidder may not publicly state whether any other bidder has or has not been directly allocated a leftover lot.

If bidders have been notified by the ACMA that they are affiliated under section 71, the affiliated persons are authorised to disclose confidential information to each other for the purpose of deciding how to direct the ACMA to apportion the unused allocation limit (see subsection 73(7)).

### **3.3 Role of the auction manager**

The ACMA has appointed an auction manager for the allocation process in accordance with section 19 of the allocation determination, namely the Manager of the Major Spectrum Allocations section. If the appointed auction manager is unable to perform this role, arrangements are in place to ensure the auction manager functions can be performed by another person with minimal disruption to the allocation process.

The auction manager has several responsibilities for each stage of the allocation process, outlined in the allocation determination, which are summarised below.

#### **3.3.1 Generally**

The auction manager is responsible for:

- > correcting any errors in the register of bidders
- > declaring recess days.

#### **3.3.2 Before each auction**

The auction manager is responsible for:

- > setting, and notifying bidders of, the start date, start time, and duration of the pre-bidding round, and the start date and start time of the first clock round of the primary stage
- > setting, and notifying bidders of, the bid increment percentage that will apply to the lots of each product in the rounds of the primary stage
- > setting, and notifying bidders of, the eligibility requirement percentage to be applied in calculating the activity target during each clock round of the primary stage
- > entering each bidder's eligibility points and unused allocation limits for each product into the auction system
- > opening the auction system for the pre-bidding round to allow bidders to enter their start demands and minimum spectrum requirement (MSR).

#### **3.3.3 During the primary stage**

The auction manager is responsible for:

- > after the end of the pre-bidding round, providing to each bidder:
  - > the bidder's start demands for the lots of each product for the first clock round
  - > for each product, whether the bidder elected to adopt the MSR for the primary stage
  - > the bidder's eligibility points as at the time immediately after the pre-bidding round
  - > for each product, the difference between the sum of the number of lots in the start demand for the first clock round for all bidders and the supply of the product.
- > scheduling and notifying bidders of further rounds of the primary stage
- > providing information to bidders before the start and after the conclusion of each round, as listed in section 99 of the allocation determination (for example, clock prices, eligibility points, posted demands)

- > providing to each primary winner:
  - > the total number of lots of each product allocated to them
  - > the total posted price for the lots of each product allocated to them
  - > the primary price to be paid by the primary winner for all lots (of all products) allocated.
- > providing to all bidders:
  - > the total number of primary winners
  - > the total number of lots of each product allocated to primary winners (for example, '6 lots of a product were allocated, not individual allocations per bidder).
- > announcing the conclusion of the primary stage.

### **3.3.4 During the secondary stage**

If there is a secondary stage, the auction manager is responsible for:

- > before the pre-bidding round, entering in the auction system the residual lots that are available for each eligible bidder for bidding
- > asking a bidder to nominate which product they will bid on in the secondary stage, in the case where bidding for residual lots in multiple products will cause it to exceed its allocation limits
- > scheduling rounds of the secondary stage
- > setting, and notifying relevant bidders of, the bid increment percentage that will apply to the residual lots in the secondary stage
- > providing relevant bidders with information before the start and after the conclusion of each round as listed in section 120 of the allocation determination (for example, starting prices, the total number of bidders)
- > announcing the conclusion of bidding rounds
- > telling each secondary winner:
  - > the lots allocated to the secondary winner
  - > the residual price for each allocated lot
  - > the secondary price to be paid by the winner for the allocated lots
- > providing all bidders:
  - > the total number of secondary winners
  - > which residual lots were allocated
- > providing to each primary winner and secondary winner the sum of their primary price and secondary price for the lots allocated to them
- > announcing the conclusion of the secondary stage.

### **3.3.5 During the assignment stage**

The auction manager is responsible for:

- > announcing the anticipated start time and end time of each assignment round
- > announcing the product or products that will be the subject of each assignment round
- > determining the frequency range options available to winners from the primary and secondary stage, in accordance with the rules outlined in section 135 of the allocation determination, and providing the options to bidders
- > for the 3.4 GHz auction, including leftover lots not directly allocated to a person in the frequency range options available to a bidder

- > telling each assignment bidder in the round its winning assignment bids and assignment prices for each assignment round
- > providing to each winning assignment round bidder:
  - > the frequency ranges assigned to the lots allocated to the bidder
  - > any assignment price for the frequency ranges assigned
  - > for the 3.4 GHz auction, any leftover lots allocated to the assignment winner under section 145 of the allocation determination.

### **3.3.6 After the end of each auction**

The auction manager is responsible for announcing to each winning bidder:

- > the number of lots of each product allocated to the winning bidder, and for the 3.4 GHz auction, any leftover lots allocated to the winning bidder
- > the frequency ranges assigned to the lots allocated to the winning bidder
- > whether the winning bidder was allocated a leftover lot
- > the winning price to be paid by the winning bidder.

### **3.3.7 After the end of the 3.7 GHz auction**

The auction manager is responsible for notifying each bidder of:

- > the names of the winning bidders in the 3.7 GHz auction
- > the number of lots of each product allocated to each winning bidder in the 3.7 GHz auction
- > the frequency ranges assigned to those lots
- > the winning price paid, or to be paid, by each winning bidder in the 3.7 GHz auction
- > the posted price of the lots of each product in the final clock round
- > the residual price of each residual lot in the secondary stage (if any) of each auction.

**The results of the 3.7 GHz auction are confidential information and will not be announced publicly until after the end of the allocation period.**

### **3.3.8 After the end of the 3.4 GHz auction**

The auction manager is responsible for:

- > notifying all bidders in writing of:
  - > the names of all winning bidders and unsuccessful bidders in the auctions
  - > the frequency ranges of all allocated spectrum including leftover lots
  - > the winning price paid, or to be paid, by each winning bidder in relation to each auction
  - > the posted price for the lots of each product in the final clock round of each auction and the residual price of each residual lot in the secondary stage (if any) of each auction.

### 3.3.9 After the end of the allocation period

At the end of the allocation period, the ACMA must announce or publish:

- > the names of winning bidders in each auction and the spectrum allocated to each winning bidder
- > the winning price for each winning bidder
- > the posted price of the lots of each product in the final clock round, and the residual price of each residual lot in the secondary stage (if any) of each auction
- > the names of bidders that did not win any spectrum in either auction.

The auction manager is responsible for notifying each winning bidder in writing that the ACMA will announce or publish this information, and that the winning bidder's confidentiality obligation under the allocation determination will end when the ACMA has announced or published this information.

### 3.3.10 Discretionary powers

The auction manager's discretionary powers under section 61 and section 61 of the allocation determination include:

- > permitting a bidder to make an entry in the pre-bidding round of a primary or secondary stage, or a bid in a primary or secondary stage or in an assignment round by a method other than the auction system, if the auction manager is satisfied that the bidder is unable to make an entry or a bid using the auction system
- > permitting a bidder to make an entry in the pre-bidding round of a primary or secondary stage, or a bid for a round in a primary or secondary stage, or in an assignment round, after the end time of the pre-bidding round or relevant round (but not after information about the outcome of the pre-bidding round or the relevant round has been given to bidders) if the auction manager is satisfied that the bidder could not make an entry during the pre-bidding round or bid during the round because of technical or communication problems
- > taking any of the following actions if the auction manager is satisfied that an auction is affected by exceptional circumstances (for example, a significant technical difficulty with the auction system or a breach of the confidentiality rules):
  - > make corrections to:
    - > entries made in a pre-bidding round
    - > the results of the round of the auction that last ended
    - > information received by a bidder after that round
  - > stop the pre-bidding round, and restart the pre-bidding round, of the primary stage or the secondary stage of an auction
  - > stop the current round of an auction and restart the round (for example, when the exceptional circumstances are resolved)
  - > cancel the results of one or more rounds and restart an auction from the point before those rounds
  - > cancel the results of all rounds of a stage and restart an auction from the first round of that stage
  - > suspend an auction.

The auction manager may delegate any of the auction manager's powers and functions under the allocation determination to another person who is a member of the ACMA, or a member of ACMA staff at Executive Level 1 or above.

### 3.3.11 Communicating with the auction manager

Before the start of the 3.7 GHz auction (the first auction), or between the end of the 3.7 GHz auction and the start of the 3.4 GHz auction, all contact with the auction manager should, in the first instance, occur using the contact details/methods set out in chapter 7 of this auction guide.

During an auction, contact with the auction manager should occur through the electronic messaging facility within the auction system. Alternatively, if this is not appropriate to the query or situation, contact should occur through the email address or telephone number provided to registered bidders. The ACMA considers that the electronic messaging facility within the auction system should be the primary and default form of contact with the auction manager. Other forms should only be used in circumstances where the auction system was unable to be utilised (for example, if there was an internet or power failure).

## 3.4 Variation of starting prices, or of set prices of leftover lots

The allocation determination provides the ACMA with the power to vary the starting prices, or the set price of a leftover lot, up until 5 working days before the eligibility deadline. It is expected that this would only occur in exceptional circumstances, such as where there is a significant change in the market after the ACMA sets the starting prices and the set price of each leftover lot. The ACMA appreciates that this may introduce some uncertainty for potential applicants when deciding whether to participate in the allocation process and developing their bidding strategies. If starting prices are varied, or the set price for a leftover lot is varied, the allocation determination allows for:

- > existing applicants to withdraw their applications and be refunded their application fee, or to update their applications
- > new persons to apply to participate in the allocation process.

If the ACMA varies starting prices, it may also vary lot ratings to reflect any changes to the relative value of lots.

If the ACMA varies the starting prices or the set price for a leftover lot, the following steps will be undertaken as outlined in section 25 of the allocation determination:

- > set a new application deadline that is at least 20 working days after the date of the variation
- > set an extended eligibility deadline that is at least 30 working days after the new application deadline
- > publish on the ACMA's website the varied starting prices (and varied lot ratings if applicable) and set price for each leftover lot, the new application deadline, and the extended eligibility deadline.

For **existing applicants**, the ACMA will give them a copy of the updated eligibility nomination form. Existing applicants must:

- > give the ACMA a completed updated eligibility nomination form before the extended eligibility deadline; applicants that do not provide an updated eligibility nomination form are taken to have withdrawn their application
- > if they increase the eligibility points specified on their updated eligibility nomination form or, for an eligible applicant, wish to secure additional leftover lots, they must make an additional eligibility payment or a new Deed of Financial Security to secure the additional eligibility points or leftover lots.

If the ACMA varies the starting prices or the set price for a leftover lot, it must also publish a notice on our website inviting additional applicants to the allocation process. A person may then apply to become a registered bidder by:

- > giving the ACMA a completed application form, Deed of Acknowledgement, Deed of Confidentiality and associates form, and paying the application fee before the new application deadline
- > giving the ACMA a completed updated eligibility nomination form and paying the necessary eligibility payment or providing a Deed of Financial Security (or a combination of both) before the extended eligibility deadline.

If any additional persons apply, the ACMA will undertake the affiliates check process for the purposes of enforcing the allocation limits.

## **3.5 Bidder support**

In addition to this auction guide and the allocation instruments attached, the ACMA will provide bidders with support for using the auction system as follows.

### **3.5.1 Auction System User Manual**

The ACMA will provide the Auction System User Manual to all applicants after the application deadline. The Auction System User Manual includes instructions about how to use the auction system, place bids, view schedules and results of rounds, download bidder files, and communicate with the auction manager using the auction system.

### **3.5.2 Auction system training and mock auctions**

Following bidder registration, the ACMA's auction system provider will present a single online training session to all registered bidders. This session will provide an overview of the features of the new auction system, including how to login and access an auction. While this training may demonstrate how the system gives effect to various auction rules, the auction rules will not be explained in this session.

The ACMA will provide at least one mock (trial) auction per bidder, from late-September to mid-October 2023. Registered bidders will be required to assemble their own bidding teams. ACMA staff will only participate in mock auctions as the auction manager, not as a bidder or in a bid team.

This will give each bidder the opportunity to practice using the auction system from their own locations, in a simulated live auction environment. Bidders will be able to trial all 3 stages of an auction, including the pre-bidding rounds in the primary and secondary stage.

# 4. Step-by-step guide to the 3.7 GHz auction and the 3.4 GHz auction

**Chapter 4** outlines how each auction will be conducted, from the start of the pre-bidding round through to the close of the auction at the end of the final assignment round.

## 4.1 Auction system

### 4.1.1 Accessing and using the auction system

Instructions for accessing the auction system are contained within the Auction System User Manual, which will be provided to applicants after the application deadline. Bidders will access and use the online auction system from their own computers. The system has been designed to minimise the requirements on bidders' equipment and to make the bid submission process as straightforward as possible.

After the eligibility deadline:

- > each of the 'authorised persons' identified on the bidder's application form as requiring access to the auction system will separately receive a username and instructions about how to set up a password and 2-factor authentication to login to the auction system.
- > the ACMA will provide all registered bidders with instructions about how to use the emergency back-up bidding arrangements if a bidder is unable to submit a bid using the auction system.

Bidders must access and use the auction system in accordance with the applicable rules in the allocation determination. They must not attempt to interfere with the auction system or use it in an unlawful way.

The information provided to registered bidders for accessing the auction system is confidential information within the meaning of the allocation determination. Bidders are also required by section 63 of the allocation determination to keep the items mentioned above secure during the allocation period, and to notify the ACMA immediately of any loss or theft. If the ACMA is satisfied that a bidder has breached these requirements, and that the breach affected or may have affected the outcome of the allocation process, the ACMA may take action under section 155 of the allocation determination.

### 4.1.2 User system requirements

System requirements for accessing the auction system are outlined in detail in the Auction System User Manual.

The auction system will be accessible using a standard, internet-connected computer with an internet browser that has a minimum of Transport Layer Security (TLS) 1.3 security. The supported browsers are recent versions of Google Chrome or Microsoft Edge. The auction system requires that these browsers are configured to accept cookies and JavaScript. The Auction System User Manual will explain how to enable these. Please note that Internet Explorer and Mozilla Firefox are not supported browsers.

The auction system may run on other configurations other than the ones mentioned in the Auction System User Manual. However, it is the bidder's responsibility to check they can use the system on another configuration – preferably by testing the other configuration during the mock auction. It is recommended that bidders use the same configuration for the mock auction as they intend to use for the live auctions. Bidders are encouraged to install the latest updates for their operating system and browser to maximise protection against potential security vulnerabilities.

Bidders are discouraged from using web browsers containing third-party modifications, such as search bars, tool bars or other third-party browser extensions. Third-party browser extensions may cause problems for users of interactive websites – such as the auction system – and, in principle, may render bidders' computers more vulnerable to cyber-attacks. If in doubt, bidders should seek their own expert advice to disable third-party browser extensions or, if necessary, obtain clean installations of a recommended web browser.

Bidders are encouraged to establish a backup means of connecting to the internet during the auctions if their primary internet connection fails. For example, bidders could arrange to have a mobile internet service available for use if their normal fixed internet service is disrupted; or a backup bid team, with its own power and communications services and authorisation to access the auction system.

## 4.2 Auction format

The allocation process will use a two-stage generic lots clock (TSGLC) auction format, which includes an English Open Outcry (EOO) format for the secondary stage (if required).

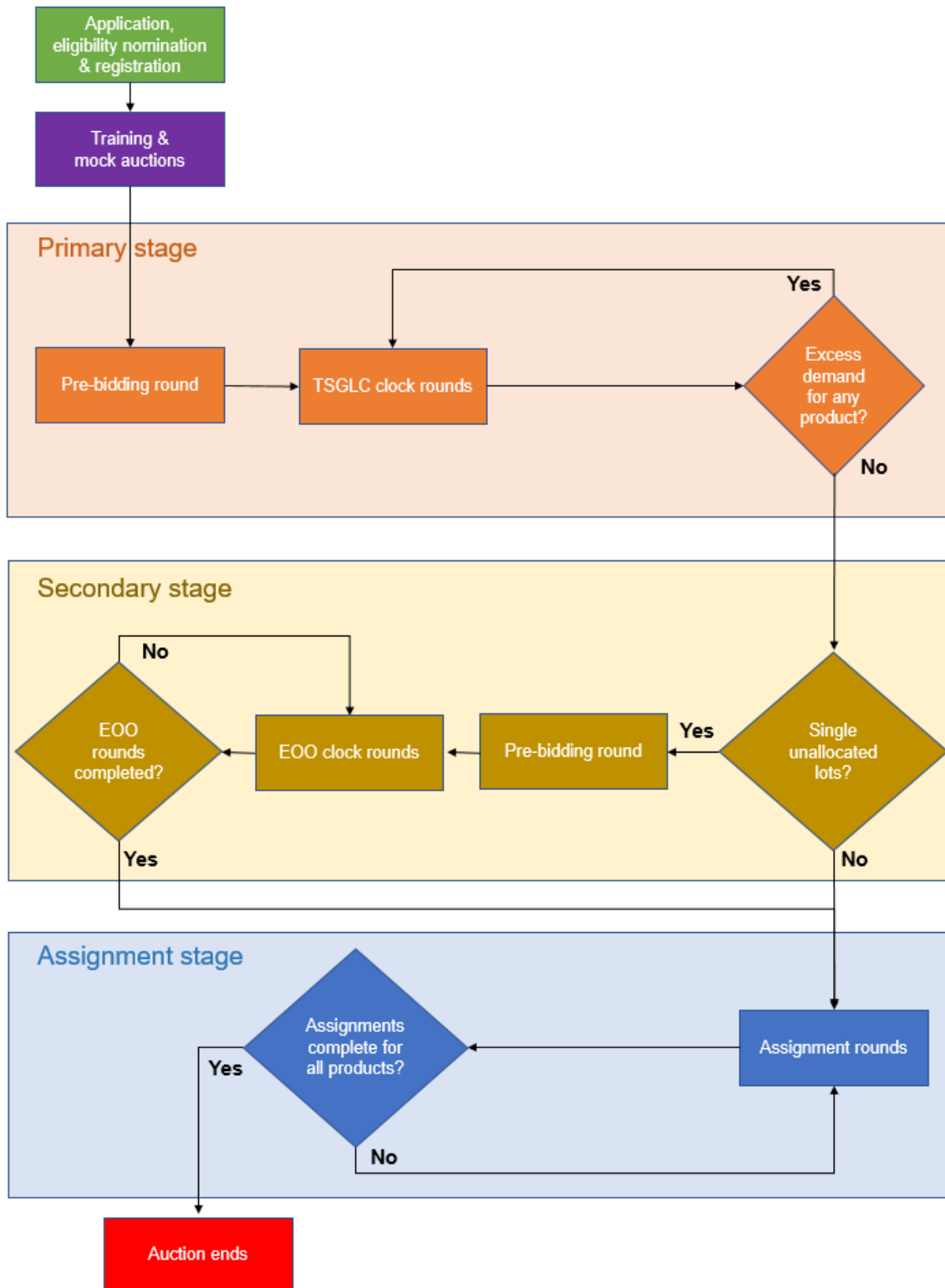
This auction format is similar to the Enhanced Simultaneous Multi-Round Ascending (ESMRA) auction format that the ACMA has used in previous auctions.

The 3 stages are:

1. Primary stage – a clock auction offering frequency-generic lots to determine the quantity of spectrum won by each bidder. The primary stage includes a pre-bidding round where bidders enter their start demands and MSR selections.
2. Secondary stage – if required, will make available for allocation any single unsold lot of any product that was not allocated in the primary stage (residual lot). The secondary stage includes a pre-bidding round for eligible bidders to express demand for a residual lot by entering a valid starting price bid.
3. Assignment stage – for assignment of specific frequencies to lots allocated in the primary and any secondary stages, and, in the 3.4 GHz auction, for the allocation of leftover lots not directly allocated.

Figure 4 below shows an overview of the key elements of the TSGLC auction process. Each stage of the auction is described in detail, with working examples, in this section.

Figure 4: Overview of the TSGLC auction process



## 4.2.1 Primary stage

The primary stage consists of:

- > the pre-bidding round, in which bidders enter their start demands and MSR selections
- > one or more clock rounds to allocate generic lots of spectrum to bidders.

### 4.2.1.1 Bidder consultation

Each day, the auction manager must inform bidders of that day's schedule of clock rounds, at least one hour before the first clock round. The auction manager may change the schedule at any time but must notify bidders of any change as soon as practicable.

During the primary stage, the auction manager may change the eligibility requirement percentage and bid increment percentage. Before any change, the auction manager must consult bidders in the relevant auction that entered a positive start demand for any product of the proposed change, consider their comments and notify them of any change before the clock round when the change will occur.

### 4.2.1.2 Pre-bidding round

The pre-bidding round, known in the auction system as Round 0, enables bidders to enter their start demands and MSR selections for the auction.

The pre-bidding round will be made available to bidders via the primary stage interface in the auction system. Bidders will have access to the auction system to enter their start demands and MSR selections for at least 3 hours, within 48 hours of the start of the first clock round of the auction.

A bidder's start demands are the number of lots of each product entered and submitted by the bidder in the auction system. Start demands may be changed at any time during the pre-bidding round, until its nominated end time.

At the end of the pre-bidding round, a bidder's start demands are considered binding. This means that start demands cannot be withdrawn and can only be reduced during future bidding rounds if there is excess demand for the lots of the relevant product. If the aggregate start demand is less than the total lot supply for a product, and remains so through to the conclusion of the primary stage, then the bidder will be liable to pay the starting price for those lots.

A bidder's eligibility points at the end of the pre-bidding round for an auction are taken to be the initial eligibility points for the first clock round of the primary stage of that auction.

If a bidder does not participate in the pre-bidding round, then its start demands will be zero, its eligibility points are reduced to zero, and the bidder will not be able to place any bids in future clock rounds of the primary stage.

The following rules will apply for the pre-bidding round:

- > For the 3.7 GHz auction, a bidder cannot express start demands beyond the eligibility points specified in its eligibility nomination form, or as secured by their eligibility payment and/or Deed of Financial Security.
- > For the 3.4 GHz auction, a bidder cannot express start demand beyond:
  - > if the bidder was not a winning bidder in the 3.7 GHz auction, the eligibility points specified in its eligibility nomination form, or as secured by their eligibility payment and/or Deed of Financial Security, or

- > if the bidder was a winning bidder in the 3.7 GHz auction, the eligibility points specified in its eligibility nomination form, or as secured by their eligibility payment and/or Deed of Financial Security, minus the total lot ratings for the lots allocated to the winning bidder in the primary and secondary stages of the 3.7 GHz auction.
- > A bidder cannot express start demands for products if the collection of start demands would result in a person exceeding the allocation limit for the area of any product.
- > A bidder cannot express a start demand for a product such that:
  - > the start demand exceeds the bidder's unused allocation limit for the auction for the product
  - > the start demand exceeds the supply (in lots) for the product
  - > if a bidder elects to adopt the minimum spectrum requirement for the product – the start demand is 1.

Registered bidders will have the opportunity to trial the pre-bidding round during their mock auctions. The auction manager will announce the timing and duration of the pre-bidding round, together with the auction schedule, to registered bidders.

#### **4.2.1.3 Bidding in the primary stage**

The primary stage (also known as the clock stage) is a form of Simultaneous Multi-round Ascending (SMRA) auction process.

After the pre-bidding round ends, the first clock round of the primary stage commences. All products are offered simultaneously. Bidding occurs through a series of rounds that progress according to a clock function, with a defined start time, end time and recess period until the next round.

During a round, bidders may bid on the lots of all products available in the auction, subject to the allocation limits (specified in section 2.3 of this guide) and sufficient eligibility. Bids may be changed at any time during the round until the nominated end time of the round.

The TSGLC auctions have no concept of a 'standing high bidder' or of 'holding lots'. The key concept is demand and supply. For a given product, the price for a lot will continue to increase for each round in which demand exceeds supply. At the end of a round, the auction system processes all bids from all bidders. If demand exceeds supply for lots of any product, the primary stage continues to the next round. The primary stage concludes when there is no excess demand for lots across all products.

#### **4.2.1.4 What is a bid?**

In a TSGLC auction, a bid is an expression of demand (in quantity of lots) at a price.

It is neither solely a price (for example, \$100) nor solely an expression of demand (for example, one lot in product X). It is a combination of a demand change and a price. For example:

- > 'I want to increase my demand in product X from 2 lots to 3 lots at \$105'
- > 'I want to decrease my demand in product Y from 4 lots to 2 lots at \$108'.

There are 3 kinds of bids in TSGLC auctions:

1. **Maintain bid** – maintain current demand for lots of a product at the clock price for the clock round.
2. **Increase bid** – increase current demand to  $n$  lots of a product at a price specified by the bidder.
3. **Decrease bid** – decrease current demand to  $n$  lots of a product at a price specified by the bidder.

If a bidder fails to enter a quantity, or does not make a valid bid, for lots of a product before the end of a clock round, the bid quantity of 0 lots at the opening price is taken to have been made by the bidder. This may be a maintain bid (if the bidder had, in the previous round, demand of 0 lots) or a decrease bid (if the bidder had, in the previous round, demand for lots that was greater than zero). If this is a decrease bid, whether this bid is applied in full or in part or rejected will depend on the product's aggregate demand and whether there is excess demand.

#### 4.2.1.5 Prices for lots of a product

Lots have a starting price at the beginning of the auction. Within a clock round in the primary stage, there are 3 defined prices for lots:

1. **Opening price** – price at the start of the clock round.
2. **Clock price** – opening price plus the bid increment percentage applied to the opening price (the bid increment percentage is set by the auction manager, for example at 10%).
3. **Posted price** – calculated at the end of the clock round, as follows:
  - i. if demand > supply, then posted price = clock price (see Figure 5)
  - ii. if demand  $\leq$  supply, then posted price = the highest price among all the bids for the lots of a product for which a decrease bid by any bidder was applied (partially or in full) (see Figure 6)
  - iii. if demand  $\leq$  supply and no decrease bid for lots of a product was applied during the clock round, then posted price = opening price (see Figure 6).

The auction system displays the opening price and clock price to all bidders at the start of a clock round, and the posted price when round results are posted at the end of the clock round. The posted price for a clock round becomes the opening price for the next clock round.

Consider the scenario where:

- > the **opening price** for the clock round is \$100
- > the **bid increment percentage** is 10%
- > **supply** is 4 lots and **aggregate demand** is 7 lots (excess demand is 3 lots)
- > the **clock price** is \$110.

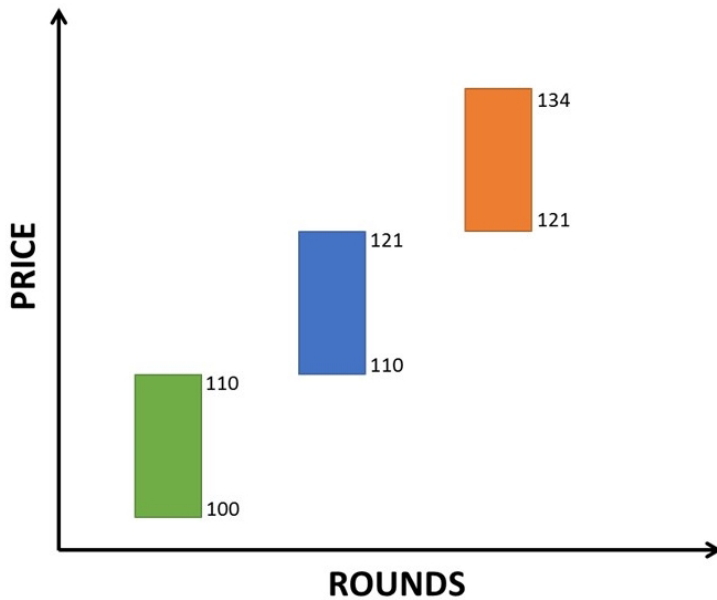
#### *Example 1*

If only maintain bids are applied during the clock round, the end round demand will remain at 7 lots. In this case, the end round demand is greater than the supply of 4 lots. Applying the rule for the posted price above, the posted price is \$110.

Figure 5 below shows what happens when the aggregate demand remains unchanged at 7 lots and only maintain bids are applied during 3 clock rounds. Demand is greater than supply so the posted price = clock price = \$110 in round 1 as indicated in the green block. If aggregate demand continues to be greater than supply in subsequent clock rounds, then the posted price would keep increasing with the clock price by the

10% bid increment percentage. The posted price would be \$121 in round 2 (blue block) and \$134 (rounded up to the nearest whole dollar) in round 3 (orange block).

**Figure 5: Example 1 – TSGLC primary stage clock rounds where demand > supply**



*Note: Round 1 is in green, Round 2 is in blue, and Round 3 is in orange.*

**Example 2**

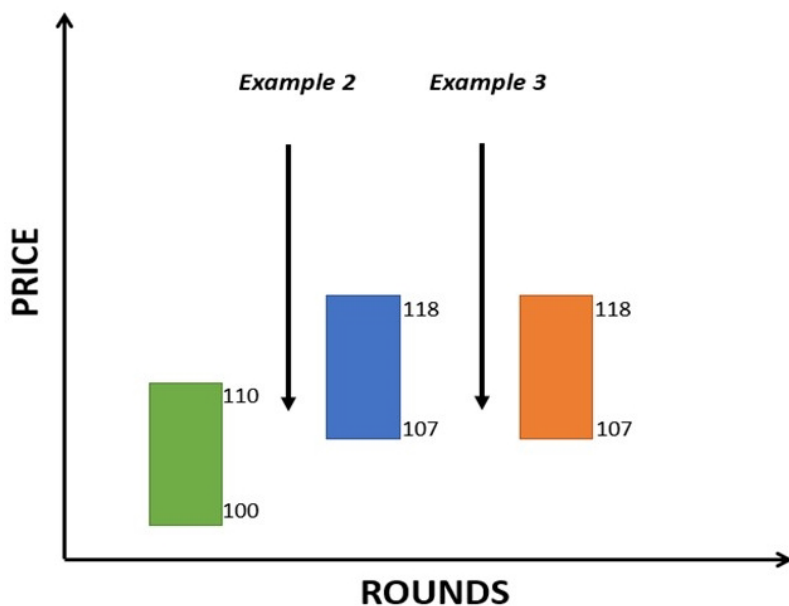
Figure 6 below shows what happens to the bid price when demand for the lots of a product becomes less than or equal to supply.

Following the scenario where supply is 4 lots and aggregate demand is 7 lots, the bidder requests a decrease bid of 3 lots at \$107. This causes aggregate demand to equal supply at \$107 when the bid is processed. Therefore, the posted price = \$107 at the end of round 1. In round 2, the opening price becomes \$107 and the clock price for the next round is  $\$107 + 10\% = \$118$  (rounded up to the nearest whole dollar) as indicated in the blue block.

**Example 3**

Figure 6 below also shows what happens in the next clock round (round 3 is indicated in the orange block). Aggregate demand is 4 lots, the opening price is \$107 and only maintain bids are applied during the clock round. In this example, demand  $\leq$  supply and no decrease bids were applied during the clock round. Therefore, the posted price remains at \$107. The clock price for the next round also remains at  $\$107 + 10\% = \$118$  (rounded up to the nearest whole dollar).

Figure 6: Examples 2 and 3 – TSGLC primary stage clock rounds, where demand  $\leq$  supply



Example 3 demonstrates how the price for lots of a product ‘pauses’ when demand  $\leq$  supply and no decrease bids were applied. However, bidding on the product remains open until there is no excess demand for lots across **all** products. The price for lots of this product may increase in later clock rounds if increase bids on the product cause demand to exceed supply.

The bid price point is an important concept in TSGLC primary stage clock rounds, especially in bid processing. It defines the percentage between the opening price and the clock price at which a bid is placed. In Example 2 above, the decrease bid at \$107 equates to a 70% price point, because the difference between the bid price (\$107) and the opening price (\$100) is 70% of the difference between \$100 (opening price) and \$110 (clock price). All bids on lots for all products in a clock round are processed in ascending order of their price points (see bid processing section below).

#### 4.2.1.6 Bid validity

A primary stage bid is valid and will be accepted by the auction system if it satisfies the following criteria:

- > the bid is received between the start time and end time of the clock round
- > the bid price is not less than the opening price and not greater than the clock price for the clock round
- > if the bid is to maintain demand (a maintain bid), the bid price is the clock price
- > the bid price is a multiple of \$100
- > the demand for lots of a given product in the bid is between zero and the supply of lots for the product
- > the demand for lots of a given product in the bid does not:
  - > exceed the bidder’s unused allocation limit for the product
  - > result in the bidder exceeding the allocation limit for any product
- > the demand for lots of a given product is not 1, if the bidder selected the MSR for the product
- > the bid does not result in available eligibility points being exceeded.

If a bid is not valid, the auction system will not accept the bid – it will display an error message immediately and ask the bidder to change its bid accordingly.

#### 4.2.1.7 Bid processing

At the end of a clock round, the auction system undertakes the following actions:

- > automatically accepts any maintain bids
- > places all increase bids and decrease bids for lots of all products in the bid processing queue, in ascending order of price point
- > resolves price point ties using a pseudo-random process
- > processes each bid in the queue according to the following algorithm:
  - 1) starting with the first bid, decide whether to apply the bid, partially apply the bid, or reject the bid:
    - a) if applied, remove the bid from the queue and return to 1)
    - b) if partially applied, leave remainder of the bid in queue, and return to 1).
    - c) if rejected, leave the bid in queue, and process the next bid in the queue
- > stops processing bids when all bids in the queue are processed, or if a bid is rejected and there is no next bid left in the queue
- > calculates the posted price and each bidder's posted demand for lots of each product
- > calculates the eligibility of each bidder for the next round.

When bids are processed the following conditions are considered:

- > whether the bidder has sufficient eligibility for the lot to be accepted
- > whether there is sufficient excess demand to apply (in full or in part) a decrease bid
- > whether applying an increase bid would result in the allocation limits being exceeded
- > whether the bidder has elected for the MSR to apply.

Partial application of decrease bids occurs when the demand change (in lots) of the bid is greater than the excess demand for lots of the product at the time the bid is processed.

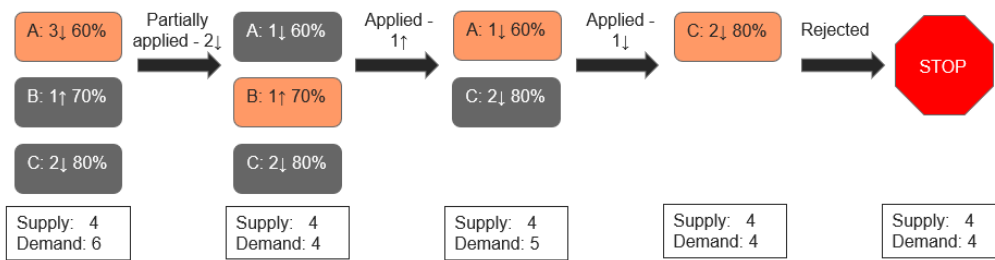
For example, if the supply is 4 lots and aggregate demand is 6 lots this means there is an excess demand of only 2 lots. For a bidder that wants to reduce their demand by 3 lots, the bid is partly applied: that is, a reduction of 2 lots is applied to the bidder's demand. The remaining one lot decrease is left in the bid-processing queue. If an increase bid by another bidder is subsequently applied at a higher price point, the remaining one lot decrease bid may be applied later.

As an example, consider an extension to the scenario above, where supply is 4 lots and aggregate demand is 6 lots at the start of a clock round. The opening price is \$100 and the clock price is \$110. The following 3 bids are received for Product X during the clock round:

- > Bidder A: a decrease bid for 3 lots at \$106 (60% price point)
- > Bidder B: an increase bid for 1 lot at \$107 (70% price point)
- > Bidder C: a decrease bid for 2 lots at \$108 (80% price point).

At the end of the clock round, bid processing progresses as shown in Figure 7 below.

**Figure 7: TSGLC bid processing example**



#### 4.2.1.8 Eligibility points

An applicant will nominate, in its eligibility nomination form, the number of eligibility points it would like to secure for bidding in the 3.7 GHz auction and/or the 3.4 GHz auction. The eligibility points nominated determines the amount of the eligibility payment, Deed of Financial Security or combination of both that a bidder must make or give to the ACMA (see section 3.2.2). As noted in section 3.5 of the auction guide, above, if the ACMA varies the starting prices under section 25 of the allocation determination, it may also vary the lot ratings (which may affect how many eligibility points an applicant wants to nominate).

As described above, eligibility points may be used in either the 3.7 GHz auction and/or the 3.4 GHz auction. A bidder's eligibility points for the pre-bidding round of the first auction the bidder is participating in will be the number of points secured by the bidder. If a bidder does not enter demand in the pre-bidding round that utilises all of the eligibility points they have secured, then the number of eligibility points the bidder will have for bidding in the first clock round will be reduced. In the first clock round of an auction, a bidder can bid on lots of any product up to their eligibility points as at the end of the pre-bidding round.

A bidder's eligibility points for the pre-bidding round of either auction may exceed what the bidder can bid for due to allocation limits and/or the supply of spectrum available. If a bidder has participated in the 3.7 GHz auction, it is also possible that a bidder may have fewer eligibility points than the lot rating of a lot of a product in the 3.4 GHz auction. This would result in the bidder not being able to place a bid in the primary stage of the 3.4 GHz auction.

#### Example 4

Assume a bidder has secured 1,000 eligibility points in the application process. The bidder enters start demands in the pre-bidding round of the primary stage of the 3.7 GHz auction as follows:

- > Product V: 2 lots (each with a lot rating of 90 points)
- > Product W: 2 lots (each with a lot rating of 10 points)
- > Product X: 1 lot (each with a lot rating of 10 points)
- > Product Y: 3 lots (each with a lot rating of 90 points)
- > Product Z: 2 lots (each with a lot rating of 10 points).

In this example, the bidder's eligibility points for bidding in the first clock round of the 3.7 GHz auction primary stage will be the sum of the lot ratings of all the lots entered as start demands, being 500 eligibility points.

For bidders participating in both the 3.7 GHz auction and the 3.4 GHz auction, eligibility points available to a bidder in the 3.4 GHz auction will take into account lots

allocated to that bidder in the 3.7 GHz auction. A bidder's eligibility points for the pre-bidding round of the 3.4 GHz auction will be reduced by subtracting the total lot ratings of lots allocated to the bidder in the 3.7 GHz auction from the number of eligibility points secured by the bidder in the application process.

Continuing from example 4, assume the bidder won the following spectrum in the 3.7 GHz auction:

- > Product V: 2 lots (each with a lot rating of 90 points)
- > Product W: 2 lots (each with a lot rating of 10 points).

The bidder's eligibility points for the pre-bidding round of the 3.4 GHz auction will be  $1,000 - 200 = 800$  eligibility points.

#### 4.2.1.9 Activity rule

TSGLC auctions in the primary stage have a global activity rule similar to standard SMRA auctions, which is used to improve price discovery and maintain auction progress. A bidder's activity is defined as the total eligibility points for the lots of each product for which it has expressed demand. Note that a bidder's available eligibility can only be maintained or decreased as the primary stage progresses. Once decreased, a bidder's available eligibility cannot be regained in future clock rounds.

The activity rule effectively restricts a bidder's current set of bids to be no larger (in an 'eligibility point' sense) than in the previous round. Each bidder must therefore maintain a level of bidding activity if they want to continue with that level of activity later in the auction. In doing this, the activity rule promotes meaningful bidding and price discovery.

Before the auction, the auction manager will set an eligibility requirement percentage (ERP), which is used to calculate the activity target for each clock round. In each clock round, a bidder's activity must be at least the ERP (for example, 90%), or their eligibility will be reduced for the next clock round and all subsequent clock rounds.

During clock rounds, the auction system prevents a bidder from making bids if its activity would exceed its available eligibility in the round, assuming all its bids are fully applied. In practice, this affects increase bids. If a bidder does not have sufficient eligibility to make an increase bid for lots of a particular product, they would need to make a decrease bid of equal or greater eligibility for lots of another product.

Due to partial application of bids, a bidder's activity at the end of the clock round (**bids processed activity**) could be lower than the activity calculated based on bids placed by the bidder in that clock round (**bids placed activity**). To ensure a bidder is not disadvantaged when their bids are partially applied, and their resultant activity is lower than expressed in their bids, their eligibility points for the next clock round are calculated based on the higher of the bids placed activity (activity for bids on lots for each product placed during the clock round) and the bids processed activity (activity after bid processing at the end of the clock round). The eligibility for the next clock round ( $n+1$ ) is calculated based on the current clock round ( $n$ ) as follows:

$$\text{Eligibility } (n + 1) = \min \left\{ \text{Eligibility } (n), \frac{\max (\text{bids processed activity}, \text{bids placed activity})}{ERP} \right\}$$

Continuing example 4 above, where a bidder's eligibility points at the start of the first clock round equals 500 points and the ERP is 90%, then the bidder's activity target for the first clock round is 450 points. If the bidder places bids equivalent to 430 eligibility points (bids placed activity) at the end of the round, the activity rule can be applied in the following ways:

- > If all bids are applied in full, the processed bid activity is the same as the 430 points of bids placed activity at the end of the round. The bidder's activity is below the activity target of 450 points; therefore, eligibility will be reduced for the next clock round due to under-activity. The bidder's available eligibility for the next round is calculated by the posted activity (430 points) divided by the ERP of 90% ( $430/0.9$ ), resulting in 477 available eligibility points for bidding in the next round.
- > If, for example, there is a decrease bid partially applied because there is insufficient excess demand of one lot (with a lot rating of 10 points) to apply it in full, then the bidder's bid processed activity is 440 eligibility points at the end of the round. The bids processed is now greater than the bids placed; however, the activity is still below the activity target of 450 points. The eligibility points available to the bidder in the next round will be reduced from 500 points to 488 points due to under-activity. This amount is calculated by dividing the processed activity (440 points) by the ERP of 90% ( $440/0.9$ ).
- > If a bidder places a mix of increase and decrease bids so that their bids placed equal 430 points, but every increase and decrease bid is rejected when bids are processed, then the bidder's available eligibility will be 500 points in the next round.
- > If the bidder places 500 points of bids but only 465 points of bids are processed due to partially applied bids, then the bidder continues into the next round with 500 points of available activity.

#### 4.2.1.10 Minimum spectrum requirement

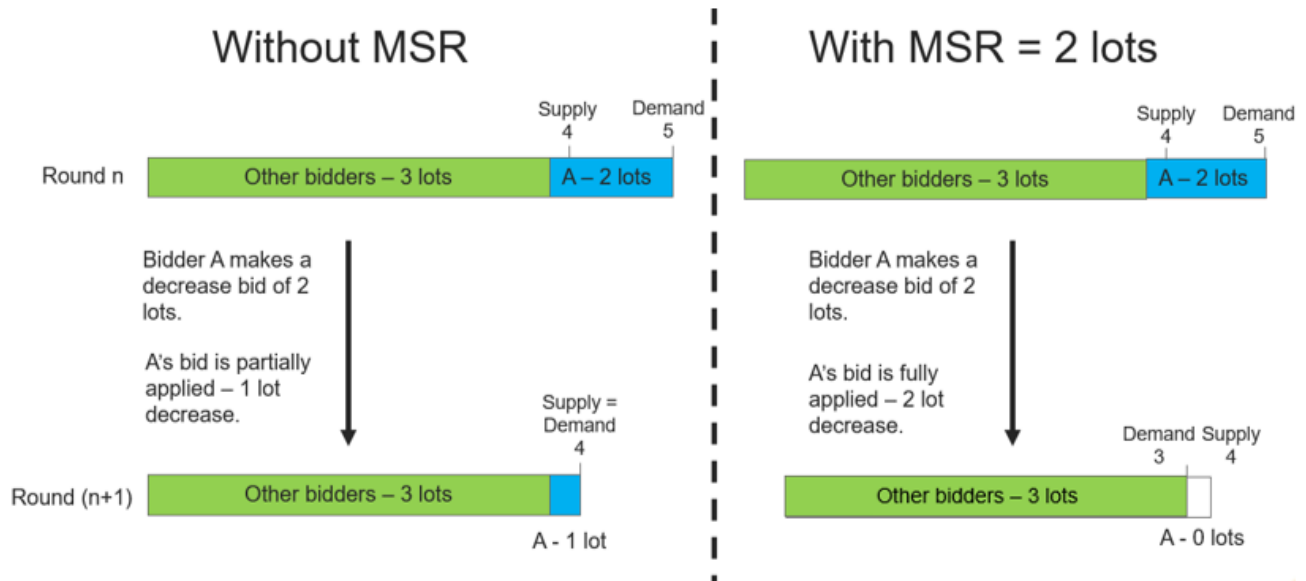
The minimum spectrum requirement (MSR) is an optional feature designed to ensure bidders are not left with an amount of spectrum that they consider to be unusable. For each product in the allocation process, the MSR is **2 lots**.

A bidder that selects the MSR for a product is prevented from being left with a single lot of that product. This means that bidders that select the MSR are guaranteed not to have only a 5 MHz (1 lot) holding in that product after the primary stage involving that product.

Bidders can select whether to use the MSR on a per-product basis by checking a box for the relevant product in the pre-bidding round of the primary stage of an auction. By checking the box, the bidder will have an MSR of 2 lots for that product. Where the bidder does not check the box, they will have no MSR for that product. These selections must be made in the pre-bidding round of the primary stage of each auction.

Using an example of 4 lots as the supply of lots of a product, Figure 8 illustrates how a decrease bid of 2 lots would be applied with and without the MSR.

Figure 8: Example of how the MSR feature would operate



#### 4.2.1.11 Information policy

At the end of each clock round, all bidders are provided with the following information for the lots of each product:

- > posted price (opening price for the next clock round)
- > the bidder's posted commitment (posted price multiplied by posted demand)
- > posted demand (the quantity of lots the bidder holds for each product at the end of the round)
- > an explanation about why a bid was not applied during the round (if applicable)
- > excess demand (which may be a positive number or a negative number or zero. If excess demand is a negative number, that indicates that there is a shortfall – rather than an excess – of demand).

The auction system provides each bidder with their own posted demand for the lots of each product at the posted price. Information about posted demands of other bidders is not disclosed.

Bidders will see the clock price for the next clock round once prices have been announced.

#### 4.2.1.12 Primary stage results

The primary stage concludes when there is no excess demand for lots of any product. Bidders win their posted demands for lots of the relevant products when the primary stage concludes. The price paid per lot by a winning bidder is the final posted price for that product when the primary stage concludes. The total price to be paid by a winning bidder in the primary stage (primary price) is calculated by:

$$\text{Primary price} = \text{sum over all products of:} \\ \text{[final posted price for a lot of a product} \\ \times \text{final posted demand (in lots)]}$$

For example, when the primary stage concludes, a bidder has posted demands in the following products at the given posted prices:

- > Product X 2 lots, posted price = \$4,000,000
- > Product Y one lot, posted price = \$150,000
- > Product Z 4 lots, posted price = \$200,000.

Then, the primary price for the bidder is calculated as follows:

$$(2 \times 4,000,000) + (1 \times 150,000) + (4 \times 200,000) = \$8,950,000.$$

#### **4.2.2 Secondary stage**

The purpose of the secondary stage is to auction single lots of any product that remain unallocated from the primary stage (residual lots). If no residual lot of a product remains unallocated from the primary stage, or there are no eligible bidders for any of the residual lots, the secondary stage is not required. Two factors are relevant when determining whether a bidder is eligible to bid on the lot of a product in the secondary stage:

1. the bidder's MSR selection
2. the allocation limits.

##### **4.2.2.1 MSR selection**

To minimise strategic bidding, a bidder that has selected the MSR for a product in the pre-bidding round of the primary stage of an auction, and does not win any lots of that product during the primary stage, will not be permitted to participate in the secondary stage of that auction in relation to that product. This is to prevent bidders from reducing demand during the primary stage in an attempt to obtain a single unsold lot of a product at a lower price in the secondary stage.

Eligibility points are not applicable to the secondary stage since there is no activity rule or ability to switch demand between products.<sup>7</sup>

##### **4.2.2.2 Allocation limits**

Allocation limits continue to apply in the secondary stage. A bidder is ineligible to bid in the secondary stage if they have already obtained their maximum available lots of a product (under the allocation limits) in the primary stage. If a bidder has not obtained their maximum available lots of a product in the primary stage, but obtaining all available lots in the secondary stage would result in them exceeding the allocation limits, the bidder must nominate which lots it will bid on in the secondary stage.

For example, the allocation limits permit Bidder A to obtain a total of 5 lots across the allocation limit group comprising Product X upper and Product X lower. In the primary stage, Bidder A wins 2 lots in Product X upper and 2 lots in Product Y lower. In the secondary stage, Bidder A may only obtain one further lot in this allocation limit group. Therefore, the auction manager will ask Bidder A whether they wish to bid on the single lot in Product X upper or Product X lower in the secondary stage. Once the auction manager has received the nomination, Bidder A will not be able to bid on the other residual lot.

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<sup>7</sup> However, any spectrum won by a bidder in the secondary stage of the 3.7 GHz auction will cause the eligibility points of that bidder to be reduced by the relevant lot rating(s) for the 3.4 GHz auction.

#### 4.2.2.3 Information policy

The auction system will provide the following information:

- > To each bidder that is eligible to make an entry on at least one residual lot during the pre-bidding round:
  - > before the pre-bidding round – the starting price for the residual lot for the first round
  - > before each round – the start and end time of each round (regardless of whether the bidder has ceased bidding).
- > To each bidder that made an entry on a residual lot during the pre-bidding round:
  - > before the first round – the specified price for that residual lot for the round, and the starting price for the lot
  - > before each subsequent round (unless bidding on the lot has closed) – the specified price for that residual lot for the round, and the specified price for the lot for the previous round (regardless of whether the bidder has ceased bidding)
  - > before each round (unless bidding on the lot has closed) – the total number of bidders that can make a bid on that lot during the round
  - > before each round after the final round for bids for that lot – whether the final round for the lot has occurred, and the residual price for that lot.

No information is given to a bidder that is not eligible to make an entry on any residual lot during the pre-bidding round.

#### 4.2.2.4 Secondary stage bidding

The secondary stage uses an online EOO with a simple ascending-bid format. All residual lots will be offered concurrently within this stage. The starting prices for the secondary stage are the same as for the primary stage.

A lot will only be offered in the secondary stage if it is the only unallocated lot of a product after the primary stage is completed. If multiple lots of a single product remain unallocated, they will not be part of the secondary stage, will remain unsold and will not be allocated at this time.

The secondary stage opens with a pre-bidding round, known in the auction system as Round 0, which shows the bidder the residual lots available to them for bidding. Bidders may place a pre-bid for a residual lot by entering the starting price or a price above the starting price, or they may choose not to enter a bid at all. If a bidder makes a pre-bid for a residual lot during the pre-bidding round, and no other bidder makes a pre-bid for that lot, the bidder will be the secondary winner of the residual lot at the starting price.

If a bidder does not enter a pre-bid in the pre-bidding round, they will be unable to bid for the lot in the rounds of the secondary stage.

At the end of the pre-bidding round:

- > If there is more than one pre-bid for a residual lot, then that lot continues to round 1 of the secondary stage.
- > If only one bidder enters a pre-bid for a residual lot, that pre-bid will be the only bid for the lot in round 1 of the secondary stage. The bidder that entered the pre-bid wins the lot at the starting price.
- > If no pre-bids were entered for a residual lot, it is not available for bidding in round 1 of the secondary stage and it will remain unsold.

- > If no pre-bids were entered for any lots in the pre-bidding round then the secondary stage closes.

Before each round in the secondary stage, the auction manager states the price of each residual lot (the specified price) that the bidder must meet in the upcoming round to place a valid bid in the round. The specified price is calculated by reference to the specified price for the residual lot in the previous round, plus the bid increment percentage for that lot. In the secondary stage, the auction manager may change the bid increment percentage. Before any change, the auction manager must consult relevant bidders of the proposed change, consider their comments and notify them of any change before the round when the change will occur.

The residual lots that were the subject of more than one pre-bid progress to the first round of bidding. Bidders may then enter a price to bid. That price must be at least equal to the **'minimum price to bid'**.

If the price entered is equal to or greater than the **'minimum price to continue'** to the next round, the bid is a 'continue bid'. The minimum price to continue to the next round is the minimum price to bid plus the product of the bid increment percentage multiplied by the minimum price to bid. If the price entered is less than the minimum price to continue, the bid is an 'exit bid' and if bidding on the lot continues in future rounds, the bidder that made the exit bid will not be able to make any further bids on the lot.

If a bidder places a continue bid at a price (the advance price), the 'advance price' feature means the system automatically accepts that advance price as the bid in subsequent rounds until either of the below occurs first:

- > the advance price falls below the specified price for a round (and hence becomes an exit bid); or
- > the bidder makes a new, replacement bid in a subsequent round;

The highest bidder in the final round wins the lot and pays the amount of the second-highest bid – this is the defining feature of a 'second-price auction'. This ensures that the winner never pays more than necessary to win, which encourages 'true value' bidding.

In the case of tied exit-bids in the last round for a lot, which are higher than all other bids, the winning bidder will be chosen by pseudo-random selection. The winning bidder will pay the tied exit-bid amount. The already very low likelihood of tied bids occurring can be further reduced if bidders avoid round numbers as their exit bids. For example, if a bidder's maximum valuation of a lot is around \$500,000, bidders could consider making their final bid price around this figure, for example \$503,000. Bids must be multiples of \$100.

The secondary stage concludes when the final round has concluded for each residual lot available for bidding in the secondary stage.

### 4.2.3 Assignment stage

The purpose of the assignment stage is to assign frequency ranges to the generic lot(s) won by a bidder in the primary stage or secondary stage. Only winning bidders from the primary stage or secondary stage can bid in the assignment stage.

There is no requirement for a bidder to bid during the assignment stage. If no assignment bids are made, then bidders are taken to have made an assignment bid on each frequency range option available to them with a bid price of zero dollars.

This stage gives bidders the opportunity to submit additional bids, at prices they choose, to express their preferences for particular frequency range options available to them. These options will be set by the auction manager, in accordance with section 135 of the allocation determination. The options ensure the frequency contiguity of the lots of each product that were allocated to each bidder in the previous stages. A frequency range option will be provided to a bidder even if, because of the lots won by other bidders, the option could not be the winning option for the bidder. Showing only options that could be the winning option may reveal information about the winnings of other bidders, which can be used by bidders to game the assignment stage.

Before the 3.7 GHz auction, the auction manager will consult with registered bidders on the principles for the order of the products and possible grouping of products in the assignment stages of the auctions. After the conclusion of the secondary stage (or the primary stage if there is no secondary stage), the auction manager will also consult with assignment stage participants on the final ordering and grouping of products. The auction manager will then generate a list of frequency range options for all assignment rounds. The list will consist of every contiguous frequency range corresponding with the number of lots won by a bidder, not just the 'feasible' frequency range options (that is, those that could be the winning option for a bidder). This list will be provided to bidders to assist with preparing their bidding strategies for the assignment stage.

Unsold lots will not be pre-assigned to a particular frequency range. If there are 2 or more unsold lots of a product, they will form a contiguous block.

There will be a minimum of 48 hours between the end of the secondary stage (or the primary stage if there is no secondary stage) and the start of the assignment stage. There will be a minimum of 24 hours between the provision of the frequency range options to bidders and the start of the first assignment round.

The example below illustrates bidding in an assignment round.

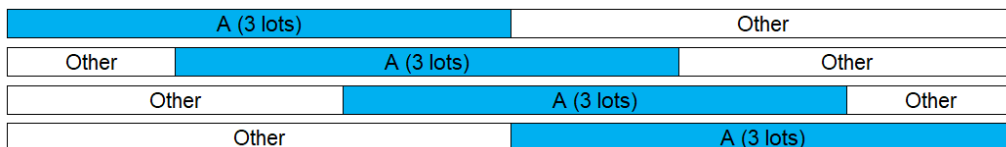
**Example 1:**

Consider the case where for a given product with supply of 6 lots, the winning bids are:

- > Bidder A: 3 lots
- > Bidder B: 2 lots
- > Bidder C: 1 lot.

The auction system would present the frequency range options in blue, shown in Figure 9, to Bidder A and ask Bidder A to submit a bid for each option.

**Figure 9: Frequency range options for Bidder A in the assignment stage**



The auction system would present the frequency range options in blue, shown in Figure 10, to Bidder B and ask Bidder B to submit a bid for each option.

**Figure 10: Frequency range options for Bidder B in the assignment stage**

B (2 lots)	Other	
Other	B (2 lots)	Other
Other	B (2 lots)	Other
Other	B (2 lots)	Other
Other		B (2 lots)

Note that, although the third option will be provided to Bidder B, this could never be the winning option for Bidder B. This is because this option would require Bidder A to have discontinuous frequencies assigned to the lots they have won.

The auction system would present the frequency range options in blue, shown in Figure 11, to Bidder C and ask Bidder C to submit a bid for each option.

**Figure 11: Frequency range options for Bidder C in the assignment stage**

C (1 lot)	Other	
Other	C (1 lot)	Other
Other	C (1 lot)	Other
Other	C (1 lot)	Other
Other	C (1 lot)	Other
Other		C (1 lot)

Note that, although the second and fifth options will be provided to Bidder C, these could never be the winning option for Bidder C. This is because these 2 options would require either Bidder A or Bidder B to have discontinuous frequencies assigned to the lots they have won.

When each round has ended, the auction system determines:

- > the frequency range option that maximises the sum of the bid prices. If there are 2 or more maximising assignment options, the system selects one pseudo-randomly
- > the price each winner pays, based on a form of second-price rule known as the nearest Vickrey core pricing rule.

The assignment price for a winning assignment bid must be rounded to the nearest hundred dollars.

If a leftover lot is not directly allocated to an adjacent licensee after the eligibility deadline, the leftover lot will be combined with the adjacent 5 MHz to form a frequency option of at least 7.5 MHz in the assignment stage.

#### 4.2.3.1 Pricing rule

The assignment prices for the winning frequency range options will be calculated using a form of second-price rule referred to as the **nearest Vickrey core price**. Under this rule, the Vickrey price for each bidder is calculated first.

The Vickrey price for a bidder is their winning bid price minus their incremental contribution, where the incremental contribution refers to the amount by which the bidder has increased the sum of all high bids. The core price (or total amount of a set of core prices) is an amount that is sufficient to ensure there is no other bidder or group of bidders prepared to pay more for the lots, based on their bids that could feasibly form part of a combination of winning assignment bids. In circumstances where a Vickrey price or set of Vickrey prices are less than required to meet the

constraints of core pricing, the Vickrey price(s) are increased to the core price(s) in such a way that they are closest to the Vickrey price(s). Where this price adjustment is applied across a number of bidders, the price increase is shared between the bidders in proportion to the sum of the starting prices of the allocated lots for each bidder included in the assignment round.

**Example 2**

Consider the case where for a given product with supply of 4 lots, the winning bids are:

- > Bidder A: 2 lots
- > Bidder B: 1 lot
- > Bidder C: 1 lot.

The following scenario is an example of how the Vickrey prices and nearest Vickrey core prices are calculated. Noting Example 2 described above, Figure 12 below shows the 6 collections of feasible frequency range options. The bids submitted by each bidder for the options in the assignment stage are also shown, along with the total value of each configuration option according to the bids placed by Bidders A, B and C.

**Figure 12: Example assignment stage bids**

Option	Lots				Value
	1	2	3	4	
ABC	A = 10		B = 0	C = 0	10
ACB	A = 10		C = 0	B = 0	10
BAC	B = 14	A = 0		C = 0	14
CAB	C = 13	A = 0		B = 0	13
BCA	B = 14	C = 0	A = 0		14
CBA	C = 13	B = 12	A = 0		25

The CBA option has the maximum sum of bids, with \$25. Therefore, CBA is the winning frequency assignment combination.

To calculate the Vickrey prices for each bidder:

- > each bidder's bids are set to zero in turn (excluded), and the maximum sum of bids is determined (shown in Figures 13 to 15 below)
- > each bidder's incremental contribution is determined by finding the difference between the overall maximum sum of bids and the maximum sum of bids calculated when that bidder is excluded
- > the incremental contribution is subtracted from the respective bidders' bid prices.

**Figure 13: Calculating maximum sum of bids – Bidder A excluded**

Option	Lots				Value
	1	2	3	4	
ABC	A = 0		B = 0	C = 0	0
ACB	A = 0		C = 0	B = 0	0
BAC	B = 14	A = 0		C = 0	14
CAB	C = 13	A = 0		B = 0	13
BCA	B = 14	C = 0	A = 0		14
CBA	C = 13	B = 12	A = 0		25

The CBA combination yields the maximum sum of bids, with \$25, when Bidder A is excluded.

**Figure 14: Calculating maximum sum of bids – Bidder B excluded**

Option	Lots				Value
	1	2	3	4	
ABC	A = 10		B = 0	C = 0	10
ACB	A = 10		C = 0	B = 0	10
BAC	B = 0	A = 0		C = 0	0
CAB	C = 13	A = 0		B = 0	13
BCA	B = 0	C = 0	A = 0		0
CBA	C = 13	B = 0	A = 0		13

The BCA and CBA combinations yield the maximum sum of bids, with \$13, when Bidder B is excluded.

**Figure 15: Calculating maximum sum of bids – Bidder C excluded**

Option	Lots				Value
	1	2	3	4	
ABC	A = 10		B = 0	C = 0	10
ACB	A = 10		C = 0	B = 0	10
BAC	B = 14	A = 0		C = 0	14
CAB	C = 0	A = 0		B = 0	0
BCA	B = 14	C = 0	A = 0		14
CBA	C = 0	B = 12	A = 0		12

The BAC and BCA combinations yield the maximum sum of bids, with \$14, when Bidder C is excluded.

The incremental contribution for each bidder is calculated as follows:

$$\max[\text{total assignment stage bids}] - \max[\text{assignment stage bids with bidder excluded}]$$

Therefore, the incremental contribution for each bidder is:

- > Bidder A =  $\max[\text{Figure 12}] - \max[\text{Figure 13}]$   
 = \$25 - \$25  
 = \$0
- > Bidder B =  $\max[\text{Figure 12}] - \max[\text{Figure 14}]$   
 = \$25 - \$13  
 = \$12
- > Bidder C =  $\max[\text{Figure 12}] - \max[\text{Figure 15}]$   
 = \$25 - \$14  
 = \$11

The Vickrey prices for each bidder are calculated by subtracting the incremental contribution from their bid prices for the winning combination.

Therefore, the Vickrey prices are:

- > Vickrey (Bidder A) = \$0 – \$0  
= \$0
- > Vickrey (Bidder B) = \$12 – \$12  
= \$0
- > Vickrey (Bidder C) = \$13 – \$11  
= \$2

However, the core constraint requires that there is no bidder or group of bidders willing to pay more than what a winning bidder or group of winning bidders is required to pay under the winning combination. Here, Bidder A bid \$10 for each of the first 2 options (ABC and ACB) but was unsuccessful, despite bidding \$8 more than the total of prices paid by a group of bidders (Bidder B and Bidder C) in the winning combination.

Therefore, Bidders B and C must pay at least the amount of Bidder A's losing bid, which is \$10. The \$8 difference is shared between Bidders B and C in proportion to their allocated spectrum. The assignment price for Bidders B and C is calculated as follows:

$$\text{Assignment price}(\text{Bidder } X) = \text{Vickrey price} + \text{Difference} \left( \frac{\text{No. of lots won by Bidder } X}{\text{No. of lots allocated} *} \right)$$

*\* The number of lots allocated excludes bidders that are not considered when calculating the core constraint. In this case, Bidder A's lots allocated are not included in the 'No. of lots allocated' part of this equation.*

Since Bidders B and C won 1 lot each, the calculations are as follows:

- > Assignment price (Bidder B) = \$0 + 8( $\frac{1}{1+1}$ )  
= \$0 + 8( $\frac{1}{2}$ )  
= \$4
- > Assignment price (Bidder C) = \$0 + 8( $\frac{1}{1+1}$ )  
= \$0 + 8( $\frac{1}{2}$ )  
= \$4

Bidders B and C divide the \$8 difference evenly, which means \$4 is added to each of their Vickrey prices to calculate their nearest Vickrey core prices, which are the actual prices they will pay. Bidder B therefore pays \$4, while Bidder C pays \$6.

### 4.3 Procedures if there is only one bidder in an auction

The ACMA will become aware if there is only one bidder in an auction after the end of the pre-bidding round of the primary stage. If there is only one bidder in an auction, the ACMA must notify the bidder as soon as reasonably practicable after the end of that pre-bidding round that they are the only bidder, and that the procedures set out in section 59 of the allocation determination will apply. These procedures are:

- > the bid increment percentage for the first clock round of the primary stage is 0%, meaning the 'starting price' is the same as the 'clock price'
- > there will be one notional clock round in the primary stage, where the bidder is treated as having made maintain bids for each product at the starting price (this maintains the start demand entered during the pre-bid round by the bidder). It is not possible for the bidder to enter a different bid in this notional Round 1
- > the assignment stage will be conducted as soon as possible after the primary stage to enable the bidder to indicate the frequency ranges they wish to have assigned to the number of allocated lots of each product. This will be done by a bid for the

desired frequency range option at a price. Regardless of the bid price, the assignment stage prices will be \$0 in accordance with subsection 144(3)(c) of the allocation determination. For the 3.4 GHz auction, the assignment stage may include the allocation of leftover lots not directly allocated to a bidder.

## 4.4 Reporting affiliations during the allocation period

There is a requirement to report affiliations during the allocation period. If a bidder believes that they may be an affiliate of another bidder, the bidder must immediately tell the ACMA in writing the identity of the other bidder and give details of the affiliation. Division 3 of Part 5 of the allocation determination sets out the procedures for reporting affiliations to the ACMA during the allocation period.

If the ACMA has reason to believe 2 or more bidders are affiliated during the allocation period, the ACMA must notify the bidders (notified bidders) and tell them the basis on which the ACMA believes the affiliation exists.

If the ACMA gives that notice before the start of the assignment stage of the 3.4 GHz auction, the ACMA must give each notified bidder details about the identity of all other notified bidders; and ask each notified bidder to make a statement about whether the bidder is an affiliate of another notified bidder and, if so, identifying the other notified bidder and giving details of the affiliation.

Further, if the ACMA gives that notice:

- > after the start of the allocation period but before the end of the primary stage (if there is no secondary stage) or the secondary stage of the 3.7 GHz auction; or
- > after the start of the pre-bidding round of the primary stage of the 3.4 GHz auction and before the end of the primary stage (if there is no secondary stage) or the secondary stage of that auction;

then the ACMA must, as soon as practicable before the end of the relevant stage:

- > give each primary winner and each secondary winner in the auction details about the identity of all other primary winners and secondary winners in that auction; and
- > for the 3.4 GHz auction—give each primary winner and each secondary winner in the auction details about the identity of all primary winners and secondary winners in the 3.7 GHz auction; and
- > ask each such primary winner and secondary winner to make a statement about whether the winner is an affiliate of a primary winner or secondary winner and, if so, identifying the other winner and giving details of the affiliation.

The ACMA will state a deadline, at least 10 working days after the date of the request, before which the statement must be received by the ACMA.

## 4.5 Consequences of affiliations

The ACMA must not allocate spectrum licences to the affiliated primary winners or secondary winners if allocating the licences would exceed the allocation limits.

If it is possible for one or more lots of a product to be allocated to one or more affiliated primary winners or secondary winners in the affected auction without exceeding the allocation limits, then the affiliated primary winners or secondary winners in the auction may give a direction in writing to the ACMA specifying how lots are to be allocated between them without exceeding the allocation limits. The direction must be given jointly by the affiliated persons within 5 working days of the affiliated applicants being notified that the ACMA is satisfied that the bidders are affiliated. If the ACMA does not receive a compliant direction, the ACMA may allocate lots to the affiliated bidders at its

discretion, without exceeding the allocation limits. Despite not being allocated all lots won, a winning bidder must pay the full balance of the total winning price.

## **4.6 Affiliated applicants participating in the 3.4 GHz auction**

If the ACMA is satisfied 2 bidders are affiliated before the start of the pre-bidding round of the primary stage of the 3.4 GHz auction, the affiliated bidders may participate in the 3.4 GHz auction. The affiliated bidders may give a direction in writing to the ACMA specifying how to apportion between those bidders the unused allocation limit for each metropolitan product or regional product that is available in the 3.4 GHz auction. The direction must be given jointly by the affiliated bidders within 5 working days of the affiliated applicants being notified that the ACMA is satisfied that the bidders are affiliated. If the ACMA does not receive a compliant direction, the ACMA may apportion the relevant limit to the affiliated bidders at its discretion.

# 5. Post-auction procedures

**Chapter 5** outlines procedures that the ACMA, the auction manager, and bidders will follow at the conclusion of the assignment stage of the 3.7 GHz auction and at the conclusion of the assignment stage of the 3.4 GHz auction.

Processes that will occur after the 3.7 GHz auction has concluded include:

- > notifying each winning bidder of their 3.7 GHz auction result
- > notifying every bidder of the 3.7 GHz auction result
- > calculating each bidders' unused allocation limit and available eligibility points for the 3.4 GHz auction.

Processes that will occur after the 3.4 GHz auction has concluded include:

- > notifying each winning bidder of their 3.4 GHz auction result
- > the publication of the results of the allocation process
- > payment of the winning price by winning bidders
- > notification of unsuccessful bidders and withdrawn applicants.

## 5.1 Notifying each bidder of their 3.7 GHz auction result

At the conclusion of the 3.7 GHz auction, the auction manager will provide results to winning bidders in accordance with section 64 of the allocation determination. This includes:

- > the number of lots of each product allocated to the winning bidder in the auction (including, for the 3.4 GHz auction, any leftover lots allocated to the winning bidder)
- > the frequency ranges assigned to the lots allocated to the winning bidder in the auction
- > the winning price to be paid by the winning bidder in relation to the auction.

## 5.2 Notifying every bidder of the 3.7 GHz auction results

At the conclusion of the 3.7 GHz auction, the ACMA will notify every bidder of the 3.7 GHz auction result, in accordance with section 77 of the allocation determination. This information will include, for each winning bidder:

- > the names of the winning bidders
- > the number of lots of each product allocated to each winning bidder
- > the frequency ranges assigned to those lots
- > the winning price paid, or to be paid, by each winning bidder
- > the posted price of the lots of each product in the final clock round
- > the residual price of each residual lot in the secondary stage (if any) of each auction.

The results of the 3.7 GHz auction comprise confidential information and will not be announced publicly until after the end of the allocation period.

### **5.3 Unused allocation limit and eligibility points for the 3.4 GHz auction**

At the conclusion of the 3.7 GHz auction, the auction manager will recalculate each bidder's unused allocation limit in accordance with section 15 of the allocation determination. For the 3.4 GHz auction, a bidder's unused allocation limit takes into account any lots allocated to the bidder in the primary stage or secondary stage of the 3.7 GHz auction.

If bidders are affiliated before the start of the pre-bidding round of the primary stage of the 3.4 GHz auction, the unused allocation limit will be apportioned between the bidders in accordance with section 73 of the allocation determination. The apportionment may be as directed in writing jointly by the affiliated bidders, or in a manner determined by the ACMA.

The auction manager will also calculate each bidder's eligibility points immediately before the start of the 3.4 GHz, in accordance with item 4 of section 104 of the allocation determination. This is calculated by starting with the bidder's eligibility points immediately before the start of the 3.7 GHz auction and subtracting the sum of the lot ratings for each lot of a product for which the bidder was a primary winner or a secondary winner in the 3.7 GHz auction.

### **5.4 Notifying each bidder of their 3.4 GHz auction result**

At the conclusion of the 3.4 GHz auction, the auction manager will provide results to winning bidders in accordance with section 64 of the allocation determination. This includes:

- > the number of lots of each product allocated to the bidder in the auction, including any leftover lots allocated to the bidder
- > the frequency ranges assigned to the lots allocated to the bidder in the auction
- > the winning price to be paid by the bidder in relation to the auction.

### **5.5 Publication of the results of the allocation process**

After the conclusion of the 3.4 GHz auction, the auction manager will provide results to all bidders in accordance with section 85 of the allocation determination, including:

- > the names of all winning bidders for each auction
- > the names of any unsuccessful bidders in the auctions
- > the frequency ranges in relation to the lots allocated, including leftover lots
- > the winning price paid, or to be paid, by each winning bidder in relation to each auction
- > the posted price for the lots of each product in the final clock round of each auction
- > the residual price of each residual lot in the secondary stage (if any) of each auction.

As soon as practical after the end of the allocation period, the ACMA will publish the following information on its website, in accordance with section 92 of the allocation determination:

- > the names of the winning bidders in each auction
- > the spectrum allocated to each winning bidder
- > the winning price to be paid by each winning bidder in relation to each auction
- > the posted price of the lots of each product in the final clock round of the primary stage of each auction

- > the residual price of each residual lot in the secondary stage (if any) of each auction
- > the names of bidders that were not allocated any spectrum in either auction.

Unless all bidders agree in writing, the ACMA will not announce or publish any further information regarding the results of the auctions, unless required by law.

## **5.6 Winning bidders, payment of winning prices and issue of licences**

Bidders that are allocated spectrum in the allocation process must meet the financial obligations set out in the allocation determination before the ACMA can issue spectrum licences.

The winning price for a winning bidder in relation to the 3.7 GHz auction or the 3.4 GHz auction is the total of:

- > the primary price for all lots allocated to the bidder in the primary stage of the auction; and
- > the secondary price for all lots allocated to the bidder in the secondary stage (if there is one) of the auction; and
- > the total assignment price (if any) for all frequency ranges assigned to those lots in the assignment stage of the auction; and
- > for the 3.4 GHz auction, the set price for any leftover lot directly allocated to the bidder.

The spectrum access charge payable by a winning bidder is the sum of the 2 winning prices for the bidder.

The balance of the total winning price for a bidder is the spectrum access charge less any eligibility payment paid by a winning bidder.

If, for a winning bidder, the balance of the total winning price is less than 0, the ACMA will issue a licence to the winning bidder for spectrum won in the 3.7 GHz band and a licence for spectrum won in the 3.4 GHz band, and refund any amount of the eligibility payment that exceeds the spectrum access charge.

As soon as practicable after the allocation process, the ACMA will notify winning bidders where their balance of the total winning price is greater than 0, of the following:

- > the winning price in relation to each auction
- > the total of the winning prices (that is, the spectrum access charge)
- > the effect on those winning prices of any eligibility payments made by the bidder
- > that the balance of the total winning price must be paid in full, and the date by which it must be paid.

### **5.6.1 Payment, licence issue and commencement**

The ACMA will issue an invoice for the balance of the total winning price. The winning bidder must pay the full balance to the ACMA by the date notified by the ACMA.

Following payment of the balance of the total winning price, in accordance with section 62 of the Radiocommunications Act, the ACMA will issue winning bidders with:

- > a single spectrum licence for all parts of the spectrum from 3400 MHz to 3575 MHz assigned to the lots (if any) allocated to the bidder (including any leftover lots); and

- > a single spectrum licence for all parts of the spectrum from 3700 MHz to 3800 MHz assigned to the lots (if any) allocated to the bidder.

Spectrum licences authorise licensees to operate radiocommunications devices for a fixed period, within the parcel of spectrum space won at auction – that is, within one or more particular frequency bands and, for each such frequency band, within a particular geographic area.

### **5.6.2 Default**

If a winning bidder does not pay the balance of the total winning price by the time required, then:

- > spectrum licences are not allocated to the winning bidder
- > the allocation of spectrum licences to other winning bidders is not affected
- > spectrum that would have been allocated to the winning bidder may be later made available for allocation in a manner to be determined by the ACMA.

It is a licence condition that a spectrum licensee meet all their obligations to pay, among other things, the spectrum access charge (section 67 of the Act). The spectrum access charge may be recovered as a debt due to the Commonwealth (section 298 of the Act).

## **5.7 Early access licences**

Spectrum licences will commence:

- > for the 3.4 GHz band – immediately on the issue of the licence
- > for the 3.7 GHz band – 8 weeks after publication of the auction results or the day the licence is issued (whichever is later).

Given that the spectrum licences will commence shortly after the auction concludes, the ACMA does not intend to provide winning bidders with early access to the spectrum won at auction.

### **5.7.1 Incumbent apparatus licences**

Spectrum in the 3.4/3.7 GHz bands is subject to different levels of incumbency. The 3.4/3.7 GHz band is used by incumbents to provide a range of services including fixed satellite service (FSS) earth stations and point-to-point links.

#### ***Effect of the re-allocation declaration***

The re-allocation declaration has the effect of cancelling all apparatus licences in the 3.4/3.7 GHz bands at the end of the re-allocation period. The re-allocation period set for the 3.4/3.7 GHz bands ends on 16 July 2027. Any existing apparatus licences remaining in the spectrum-licensed areas of the 3.4/3.7 GHz bands will be automatically cancelled on this date.

## **5.8 Unsuccessful bidders and withdrawn applicants**

As soon as practicable after the end of the allocation period, the ACMA will notify each withdrawn applicant that their confidentiality obligation has ended. Subject to any decision by the ACMA to retain the eligibility payment paid by the withdrawn applicant under section 155 of the allocation determination, the withdrawn applicant will be refunded any eligibility payment paid.

As soon as practicable after the completion of the assignment stage of the 3.4 GHz auction, the ACMA will notify each bidder that did not win lots in the 3.4 GHz auction or the 3.7 GHz auction that:

- > the bidder was unsuccessful in the auctions
- > the bidder's confidentiality obligation will end when the ACMA publishes the results of the allocation process after the end of the allocation period.

If an unsuccessful bidder or withdrawn applicant made an eligibility payment and section 155 does not apply, the refund must be provided no later than 6 months after the notification releasing them from their confidentiality obligation. The ACMA intends to refund eligibility payments close to the 6-month deadline specified in the allocation determination to allow time to resolve any issues related to potential breaches of auction rules.

## 5.9 Refunds and cancellations

An application fee will only be refunded in accordance with section 35 of the allocation determination, where the ACMA varies starting prices under paragraph 25(1)(a) or the set price of a leftover lot under paragraph 25(1)(c) of the allocation determination and an applicant withdraws its application before the extended eligibility deadline.

Otherwise, an application fee will not be refunded under any circumstances, including:

- > if the applicant withdraws from the allocation process; or
- > if the applicant is taken to have withdrawn from the allocation process; or
- > if the applicant or bidder is not permitted to make a bid in the 3.4 GHz auction or the 3.7 GHz auction.

An applicant's eligibility payment will be refunded, or its Deed of Financial Security cancelled, if:

- > the applicant withdraws from the allocation process before the eligibility deadline (or the extended eligibility deadline, if there is one); or
- > the bidder does not win any spectrum in the allocation process.

If a winning bidder's spectrum access charge is less than its eligibility payment, then (subject to section 155) the ACMA will refund the excess amount to the bidder no later than 6 months after telling bidders the results of the allocation process under section 85 of the allocation determination.

If a bidder provides the ACMA with a Deed of Financial Security to secure their eligibility points, the Deed of Financial Security may, according to the terms of the deed, either:

- > be cancelled if the promisor (the securing bank) receives written notice from the Chair of the ACMA of the cancellation
- > cease to be effective, upon payment by the promisor of the amount secured by the deed.

The ACMA intends to return eligibility payments or cancel a deed of financial security close to the 6-month deadline specified in the allocation determination to allow time to resolve any issues related to potential breaches of auction rules.

## **5.10 Unallocated spectrum**

Spectrum lots left unallocated at the end of the 3.4 GHz auction, or the 3.7 GHz auction, may later be offered for allocation by a procedure to be determined by the ACMA. Prospective bidders should not assume that unallocated lots will be offered for allocation soon after the allocation process, or that they will be offered for allocation at less than the starting prices or set prices for leftover lots, determined by the ACMA for this allocation process.

# 6. Spectrum licences

**Chapter 6** outlines rules and regulations applicable to the spectrum licences that will be allocated to winning bidders in the allocation process. Specifically, this chapter includes information about:

- > spectrum licensing under the Act
- > the technical framework applicable to 3.4/3.7 GHz bands spectrum licences
- > core conditions, and other conditions, of spectrum licences issued in the 3.4/3.7 GHz bands.

## 6.1 Overview of spectrum licences

A spectrum licence authorises the operation of radiocommunications devices for a fixed period, within one or more specified frequency bands and, for each of those bands, within a specified geographic area. Each combination of a specified frequency band and geographic area is sometimes called a 'spectrum space'. Spectrum licensing is designed to be a technology-flexible, market-oriented approach to managing the radiofrequency spectrum.

Licensees can choose how they deploy devices within their spectrum space, the nature of the services they wish to deliver and the technology they use, providing the operation of devices is consistent with the conditions on the spectrum licence.

A licensee's use of spectrum available under a spectrum licence is subject to several constraints, including:

- > compliance with the Act
- > compliance with a set of core licence conditions required to be included in the licence in accordance with subsection 66(1) of the Radiocommunications Act
- > compliance with statutory licence conditions required to be included in the licence in accordance with sections 67, 68, 69 and 69A of the Act
- > compliance with other conditions that the ACMA may include in the licence under section 71 of the Radiocommunications Act
- > management of interference issues with reference to technical instruments established for the band under subsection 145(4) and section 262 of the Radiocommunications Act.

A winning bidder will be issued a single spectrum licence for all spectrum allocated to that bidder in the 3.4 GHz band (including any leftover lots), and a single spectrum licence for all spectrum allocated to that bidder in the 3.7 GHz band.

## 6.2 Licence commencement and duration

Spectrum licences will commence:

- > for the 3.4 GHz band – immediately on the issue of the licence
- > for the 3.7 GHz band – 8 weeks after publication of the auction results or the day the licence is issued, whichever is later.

Spectrum licences will be issued for the following duration:

- > for the 3.4 GHz band – from when the licence comes into force until 13 December 2030
- > for the 3.7 GHz band – from the later of 8 weeks after publication of the auction results or the day the licence is issued, until the day that is 20 years from the day 8 weeks after publication of the auction results.

The maximum term for a licence in the 3.7 GHz band is 20 years.

## 6.3 Licence renewal

Licence renewal statements are intended to provide greater transparency and predictability for licensees around timeframes and the prospect of renewal of their licences from the outset. These statements are a tool for the ACMA to communicate its expectations or requirements for the renewal of licences, as well as specify the timing for when licensees may apply for renewal, and the timeframe the ACMA has to make a decision.

When considering expiring spectrum licences, the ACMA expects to consider matters such as whether existing arrangements facilitate the long-term public interest, whether renewal of the licence is in the public interest, the duration, renewal statements and conditions of any renewed licence, and any taxes and charges payable in relation to any renewed licence. The ACMA expects that matters to be considered will be discussed in more detail closer to the expiry of the relevant licences.

The ACMA's [discussion paper](#) released in May 2023 details the proposed expiring spectrum licence process for spectrum licences that are due to expire between 2028 and 2032. Existing and new 3.4 GHz spectrum licences are due to expire during this period and therefore will be considered as part of this process.

### 6.3.1 Statements related to licence renewal

All spectrum licences issued as a result of the allocation process will include statements relating to renewals, pursuant to section 65A of the Act.

Spectrum licences issued for the 3.4 GHz band will include the following statements relating to renewal:

- > Renewal statement: The licence may be renewed at the discretion of the ACMA.
- > Renewal application period statement: The renewal application period (that is the period during which the licensee can apply for the licence to be renewed) will commence on 13 December 2028 and end on 12 December 2030 (a period of 2 years before licence expiry).
- > Renewal decision-making period statement: The renewal decision-making period (that is, the period during which the ACMA must come to a decision on the renewal of the licence) will be the period of 6 months after receiving an application for renewal of the licence
- > Public interest statement: A public interest statement will be included to the effect that the ACMA will not renew the licence unless it is satisfied it is in the public interest to do so.

The inclusion of the public interest statement in the 3.4 GHz band spectrum licence is intended to require the ACMA to consider the public interest when considering whether to renew the licence. The public interest statement in the 3.4 GHz band licences is intended to reflect that, when the ACMA has regard to the object of the Act, particularly in relation to facilitating efficient planning, allocation and use of the spectrum, the ACMA may consider the extent of fragmentation of licences across a

band, among other things. However, the ACMA has not predetermined all the matters that might be relevant to its assessment of whether renewal of a spectrum licence would be in the public interest, as it is not possible to predict all those matters well in advance of licence expiry.

Spectrum licences issued for the 3.7 GHz band will include the following statements relating to renewal:

- > Renewal statement: The licence may be renewed at the discretion of the ACMA.
- > Renewal application period statement: The renewal application period will be of 1 year, commencing 5 years before licence expiry.
- > Renewal decision-making period statement: The renewal decision-making period will be a period of 2 years, commencing immediately after the renewal application period
- > Public interest statement: No public interest statement will be included on any spectrum licences issued as a result of the 3.7 GHz auction. Although no public interest statement will be included on spectrum licences issued as a result of the 3.7 GHz auction, the ACMA must not renew a spectrum licence for a period of 10 years or longer unless satisfied that it is in the public interest to do so, in accordance with subsection 77C(5) of the Radiocommunications Act. The ACMA may also decide to consider public interest matters when considering whether to renew the licence, even though it may not be required to do so.

## 6.4 Licence framework

The technical framework for the 3.4/3.7 GHz bands was developed by the ACMA, with input from industry via a technical liaison group (TLG). A TLG is a short-term advisory body convened by the ACMA and provides an informal discussion forum between the ACMA, industry and other stakeholders with an interest in the technical aspects of spectrum licences. The 3.4/3.7 GHz bands TLG ran from September 2022 to January 2023. The discussions are summarised on the TLG [webpage](#). A draft spectrum licence technical framework was released for public [consultation](#) in February 2023 as part of the wider consultation on the allocation of spectrum licences in the 3.4/3.7 GHz bands.

The technical framework for spectrum licences consists of several interlocking regulatory elements:

- > conditions on the licence (including core licence conditions), included in the spectrum licence issued as a result of the allocation process
- > a determination of unacceptable levels of interference, for device registration purposes, made under subsection 145(4) of the Act
- > radiocommunications advisory guidelines, made under section 262 of the Radiocommunications Act.

The ACMA may refuse to include details of a radiocommunications transmitter on the Register of Radiocommunications Licences (RRL) if it is satisfied that operation of the transmitter could cause an unacceptable level of interference to the operation of another radiocommunications device. If the transmitter is not included on the RRL and is not exempt from the registration requirements, the licensee must not operate the transmitter under the licence.<sup>8</sup>

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<sup>8</sup> Section 69 of the Radiocommunications Act provides that spectrum licences must include a licence condition that radiocommunications transmitters are not operated under the licence unless the requirements of the ACMA under Part 3.5 for registration of the transmitter have been met. The licence conditions may exempt particular kinds of radiocommunications transmitters from meeting those requirements.

A determination under subsection 145(4) effectively, therefore, sets out the circumstances where the ACMA may refuse to register a radiocommunications transmitter under the spectrum licence. Generally, in such an instrument, these circumstances include:

- > if any part of the 'device boundary' of a radiocommunications transmitter falls outside the geographic area of the spectrum licence
- > if the operation of the transmitter would breach a core condition of the spectrum licence
- > if the transmitter would exceed any specified deployment constraints set out in the determination.

#### **6.4.1 Radiocommunications advisory guidelines**

Section 262 of the Radiocommunications Act provides that the ACMA may make advisory guidelines about any aspect of radiocommunication or radio emissions. Generally, radiocommunications advisory guidelines (the advisory guidelines) include provisions to assist in the assessment of the risk of interference between spectrum-licensed radiocommunications devices and radiocommunications devices operating under apparatus or class licences. When planning the deployment of radiocommunications devices, the ACMA recommends spectrum licensees understand the advisory guidelines. The advisory guidelines do not prevent licensees negotiating other protection requirements with each other.

While the use and compliance methods set out in the advisory guidelines are not generally mandatory, they set out the ACMA's policy approach and, in certain instances, will be made entirely or partly mandatory by licence conditions or other instruments under the Radiocommunications Act that spectrum licensees must comply with. The ACMA will consider the advisory guidelines or any agreements between licensees in place when assessing interference and managing interference disputes. Licensees should follow advisory guidelines when resolving interference cases.

The advisory guidelines made under section 262 of the Radiocommunications Act for the 3400 MHz to 3800 MHz band (which includes the 3.4/3.7 GHz bands) are:

- > **Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters—3.4 GHz Band) 2015**

This legislative instrument contains information for spectrum licensees about protection intended to be provided to receivers that receive transmissions from radiocommunications transmitters operating under other licences in or adjacent to the 3400 MHz to 3800 MHz band as well as radio altimeters operating in the 4200 MHz to 4400 MHz band.

- > **Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Receivers—3.4 GHz Band) 2015**

This legislative instrument sets a minimum performance level for registered fixed receivers operating under a spectrum licence in the 3400 MHz to 3800 MHz band. The criteria provide a basis from which licensees can develop procedures for managing interference to such receivers from transmitters in frequencies outside those authorised by the licence. While it is not mandatory to meet the minimum level of receiver performance specified in this instrument, receivers will generally be assumed to meet these minimum levels when the ACMA is involved in resolving interference disputes.

Licensees will need to take account of the emission limits permitted under the technical framework when deciding the level of performance they require for their receivers. Licensees must balance the cost of receiver performance against the risk of interference.

The framework provides for the operation of receivers that have interference susceptibility commensurate with that achieved by current technology, and for this level of performance to help guide the interference settlement process. Lower performing receivers can be used; but in those cases, licensees may need to use more of their own spectrum space as guard space to limit the risk of interference.

Applicants should read the advisory guidelines together, and in conjunction, with:

- > the determination of unacceptable levels of interference
- > the allocation instruments (including the sample spectrum licence).

These instruments should be followed by licensees when planning radiocommunications transmitters in the 3.4/3.7 GHz bands.

#### **6.4.2 3.4/3.7 GHz bands core licence conditions**

The core conditions of a spectrum licence are mandatory technical requirements that form the basis of the licence, as required under section 66 of the Radiocommunications Act. The core conditions of a spectrum licence deal with the:

- > geographic area of operation
- > frequency bandwidth of operation
- > permissible outside-the-area emission limits
- > permissible outside-the-band emission limits.

##### ***Area of operation and frequency bandwidth***

The geographic areas of operation are described in Table 1 of Schedule 2 to the marketing plan and Chapter 2 of this guide. Licence Schedule 1 of the sample spectrum licence in Schedule 7 to the marketing plan shows how the frequency bands and corresponding geographic areas of lots won at auction will be specified in a spectrum licence. The marketing plan lists the HCIS identifiers for each geographic area where spectrum licences will authorise operation. Applicants can view the geographic areas on Google Earth by converting the HCIS area descriptions to a Google Placemark (KML file). Applicants will need to copy the HCIS identifiers from the marketing plan into the [converter tool available on the ACMA website](#).

##### ***Outside-the-area emission limits***

The outside-the-area emission limit places a cap on the total radiated power (TRP) or transmitted power per antenna port for devices employing or not employing (respectively) active antenna systems (AAS) emitted from a transmitter that radiates outside the area of the spectrum licence. TRP is also the metric used to define the maximum in-band emission limit for transmitters.

The emission limits outside the geographic area are set out in Schedule 3 to the marketing plan.

An additional layer of outside-the-area emission management is imposed at the point of registration of devices, as the ACMA may refuse to register devices that could cause unacceptable levels of interference, within the meaning of the relevant subsection 145(4) determination. This point is discussed in detail at 6.4.3. There are conditions where some devices are exempt from registration, and these are listed in subsection 21(2) of the marketing plan.

### ***Outside-the-band emission limits***

The outside-the-band emissions limits are also referred to as unwanted emission limits. The spectrum licence core conditions cap unwanted emissions by specifying the maximum permitted level of radio emission caused by the operation of radiocommunication devices (both transmitters and receivers) under the spectrum licence. Unwanted emission limits are set out in Schedule 4 to the marketing plan. An example of this core condition is provided in Licence Schedule 2 to the sample spectrum licence.

### ***Core condition agreements***

A spectrum licensee can make a written agreement with an affected licensee to exceed the prescribed outside-the-band emission limits. An affected licensee is a licensee that holds a frequency-adjacent spectrum licence, area-adjacent spectrum licence or a frequency-adjacent or area-adjacent apparatus licence. The written agreement will specify the agreed maximum permitted levels of unwanted emissions. If no written agreement is in place between affected licensees, then the unwanted emission limits set out in Schedule 4 to the marketing plan and Licence Schedule 2 to the sample spectrum licence apply.

### **6.4.3 Statutory licence conditions**

Along with the core conditions of a licence, there are conditions that the ACMA must include in a spectrum licence, in accordance with the requirements of the Radiocommunications Act. These are referred to as 'statutory conditions' and a summary of the requirements of each is outlined below and include:

- > payment of charges and taxes
- > third-party use
- > transmitter registration requirements
- > exemptions from registration
- > residency.

### ***Payment of taxes and charges***

Under section 67 of the Radiocommunications Act, the ACMA must include a condition that the spectrum licensee meets all obligations to pay:

- > charges fixed by the ACMA under section 60 of the ACMA Act
- > any spectrum access charges fixed by a determination made under section 294 of the Radiocommunications Act (the set price for leftover lots and the winning price for the lots allocated in the allocation process)
- > amounts of spectrum licence tax as determined by the ACMA.

### ***Authorisation of third parties***

Spectrum licensees may authorise third parties to use the licensed spectrum by negotiating a private agreement that allows a 'third-party user' to operate a radiocommunications device under the licensee's licence.

Under section 68 of the Radiocommunications Act, the ACMA must include a condition about third-party use of the spectrum licence. This condition is that the operation of devices by persons other than the licensee must comply with any rules made by the ACMA about third-party use under subsection 68(3) of the Radiocommunications Act. The licensee must also notify any third-party user of its obligations under the Act.

At present, the ACMA has not made any rules relating to third-party use under subsection 68(3) of the Act.

### **Registration of radiocommunication transmitters**

Before a radiocommunications transmitter can be operated under a spectrum licence, its details must be recorded in the RRL, unless it is exempted from registration. The licence includes a condition, in accordance with section 69 of the Radiocommunications Act, that radiocommunications transmitters must not be operated under the licence unless the relevant requirements under Part 3.5 of the Radiocommunications Act for registration of transmitters are met. This condition can also exempt particular kinds of radiocommunications transmitters from meeting those requirements.

Subsection 145(1) of the Radiocommunications Act gives the ACMA the power to refuse to register a radiocommunications transmitter if the ACMA is satisfied that it could cause an unacceptable level of interference to the operation of other radiocommunications devices when operated.

Before a transmitter is registered for use under a licence, licensees may be required to demonstrate that the transmitter will not cause unacceptable interference to other spectrum users. This can be achieved by obtaining an interference impact certificate (IIC), mentioned in subsection 145(3) of the Radiocommunications Act, from an accredited person.

The ACMA has made the [Radiocommunications \(Conditions of Interference Impact Certificates\) Determination 2021](#) (Certificate Determination), pursuant to section 266A of the Radiocommunications Act. If an accredited person issues an IIC in relation to a radiocommunications device, the IIC must state that operation of the device satisfies the condition specified in the Certificate Determination. The Certificate Determination specifies the condition that, if the device is a radiocommunications transmitter, the transmitter must not cause an unacceptable level of interference, within the meaning of the [Radiocommunications \(Unacceptable Levels of Interference – 3.4 GHz Band\) Determination 2015](#). However, this condition does not apply if the accredited person is satisfied either:

- > that the use of guard space is sufficient to mitigate potential interference, or
- > that each person who may be affected by the interference has given consent in writing to that interference.

Certain requirements apply to the accredited person when forming these views: see the [Radiocommunications Accreditation \(General\) Rules 2021](#).

Before issuing an IIC, an accredited person may need to calculate the device boundary of the transmitter to ensure that an unacceptable level of interference does not occur. This ensures that the level of emissions outside the geographical area of the licence do not exceed the level defined in the Radiocommunications (Unacceptable Levels of Interference – 3.4 GHz Band) Determination 2015.

Calculating a device boundary involves mathematical calculations to determine where a proposed transmitter would exceed a defined protection criteria into a notional receiver. The first point the protection criteria is not exceeded along each of 360 horizontal radials separated by one degree is termed the 'device boundary'.

If the device boundary falls outside the geographic area of the relevant spectrum licence, the ACMA will generally refuse to register the device. This is because such a device is deemed to cause an unacceptable level of interference within the meaning of the Radiocommunications (Unacceptable Levels of Interference – 3.4 GHz Band) Determination 2015. There are exceptions to this, which are detailed in that instrument.

Additionally, if the device boundary of a transmitter cannot be calculated in accordance with Part 1 of Schedule 2 to the Radiocommunications (Unacceptable Levels of Interference – 3.4 GHz Band) Determination 2015, the transmitter is taken to cause an unacceptable level of interference.

Although radiocommunications receivers operated under a spectrum licence are not required to be registered on the RRL, licensees may decide to register radiocommunications receivers based on their assessment of any benefits that may be achieved. A receiver will generally only be afforded protection by the ACMA if it is registered.

Unless exempted, radiocommunications transmitters must always be registered as either an individual transmitter or as part of a group of transmitters. If 2 or more transmitters are operated to communicate with the same receiver or same group of receivers and they have identical emission characteristics, then they may be treated as a group to simplify the registration process.

Each subsection 145(4) determination sets out the definition of a 'group of radiocommunications transmitters' and a 'group of radiocommunications receivers' to simplify the assessment of whether the devices cause unacceptable interference for the purpose of registration. Groups are defined to help minimise the work associated with the registration process of similar transmitters. They specify how the location details for a group of transmitters and receivers must be calculated to determine whether they meet the unacceptable levels of interference requirements.

Information about how to register a radiocommunications device to be used under a spectrum licence is available on the [ACMA website](#).

### ***Registration exemptions***

Certain kinds of radiocommunications transmitters are exempt from registration by the application of subsection 69(2) of the Radiocommunications Act. Typical devices that may be exempt from registration are low-powered, mobile and nomadic devices, such as cellular mobile telephone handsets, wireless modems, subscriber terminals and smart repeaters.

In the 3.4/3.7 GHz bands, the conditions these devices need to meet to be exempt from registration are specified in subsection 21(2) of the marketing plan and Licence Schedule 3 of the sample spectrum licence in Schedule 7 to the marketing plan.

Radiocommunications transmitters that operate with a maximum TRP of less than or equal to 28 dBm per occupied bandwidth are exempt from registration.

### ***Residency***

Under section 69A of the Radiocommunications Act, the ACMA must include a condition that at all times when the licensee derives income, profits or gains from operating a radiocommunications device under the spectrum licence (or from authorising others to do so), the licensee is to be an Australian resident, or the income, profits or gains are to be attributable to a permanent establishment in Australia through which the licensee carries on business. Similarly, the spectrum licence must include a condition that at all times when an authorised person (i.e., an authorised third party) derives income, profits or gains from operating a radiocommunications device under the spectrum licence, the authorised person is to be an Australian resident, or the income, profits or gains are to be attributable to a permanent establishment in Australia through which the authorised person carries on business.

#### **6.4.4 Other licence conditions**

Under section 71 of the Radiocommunications Act, the ACMA may include other licence conditions on spectrum licences. The ACMA sets out indicative *other licence conditions* in Licence Schedule 4 of the sample licence in Schedule 5 to the marketing plan. These include generic conditions routinely attached to spectrum licences but may also include additional conditions specific to a single licence, or to licences in a particular band.

The following licence conditions are proposed to be included on 3.4/3.7 GHz band spectrum licences and are included in the sample licence in Licence Schedule 4.

##### ***Responsibility to manage interference***

The licensee must manage interference between radiocommunications devices operated under the licence and any other radiocommunications devices operated under that licence or another spectrum licence held by the licensee.

##### ***Co-sited radiocommunications devices***

For the purposes of this licence condition, radiocommunications devices located within 500 metres of each other are co-sited. The licensee must manage interference with any co-sited devices that are operated under the licence or another licence, with the holder of the licence or site manager, as applicable.

##### ***International coordination***

The licensee must ensure that operation of a radiocommunications transmitter under this licence does not cause harmful interference to a radiocommunications receiver that operates in accordance with the International Telecommunication Union's Radio Regulations and is located in a country other than Australia.

##### ***Registration exemptions and managing harmful interference***

A licensee must ensure that the operation of any radiocommunications device that is exempt from the requirement to be registered on the RRL does not cause harmful interference to other radiocommunications devices operated under another spectrum or apparatus licence.

##### ***Information for the RRL***

A licensee must give the ACMA all information as required for inclusion in the RRL. The licensee should assist the ACMA to keep the information on the RRL accurate and up-to-date by informing the ACMA of changes to device registration as soon as possible after those changes occur.

##### ***Electromagnetic energy requirements***

The licensee must comply with Parts 2, 3, and 4 of the [Radiocommunications Licence Conditions \(Apparatus Licence\) Determination 2015](#), or any instrument that replaces that determination, as in force from time to time, as if each reference to a licence in that determination were a reference to a spectrum licence.

##### ***Coordination with the Australian Radio Quiet Zone Western Australia (ARQZWA)***

Before seeking to register a radiocommunications transmitter for use in or around the ARQZWA, the licensee must follow the procedures set out in [Radiocommunications Assignment and Licensing Instruction \(RALI\) MS 32 Coordination of apparatus licensed services within the ARQZWA](#), as in existence from time to time.

##### ***Coordination with earth station protection zones***

Before seeking to register or operate a radiocommunications transmitter, the licensee must follow the procedures set out in [RALI MS 44 Frequency coordination procedures for the earth station protection zone](#) for coordination with, and protection of, any earth stations operating in the 3.4 GHz band in earth station protection zones.

### ***Synchronisation requirement***

The synchronisation requirement is applied only in situations where interference occurs between a radiocommunications device operated under a 3.4 GHz band spectrum licence (the first device) and a radiocommunication device (the other device) operated under another 3.4 GHz band spectrum licence. If interference occurs, the licensee may be required to manage the interference by synchronising the timing of the uplink-downlink configuration (or other sequence of radio emissions) between the first device and the other device.

This requirement only applies if the level of interference exceeds the compatibility requirements set out in the Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers – 3.4 GHz Band) 2015, and either the licensee or the holder (or authorised third party) of the other licence wishes to resolve the interference and the parties are unable to reach agreement about how to manage the interference.

A defined uplink-downlink configuration and special subframe configuration for use when the synchronisation requirement is invoked is detailed in condition 1 of Licence Schedule 4 of the sample licence in the marketing plan.

### ***Managing interference to incumbent apparatus licensees***

Apparatus licences affected by the re-allocation of spectrum for the issue of spectrum licences (affected apparatus licences) can continue to be renewed until the end of the re-allocation period. At this point, the apparatus licences will be cancelled. During the re-allocation period, spectrum licensees are generally required to provide protection to affected apparatus licences.

In the 3400 MHz to 3800 MHz band, a spectrum licensee must provide protection to an affected apparatus licence in the manner set out in Part 3, Part 4 and Part 5 of the Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band) 2015, or any instrument made under section 262 of the Radiocommunications Act that replaces those guidelines, as in force from time to time, until the end of the relevant re-allocation period.

### ***Managing interference to aeronautical radionavigation services***

Aeronautical radionavigation services are authorised to operate in the 4200 MHz to 4400 MHz frequency range in accordance with the Radiocommunications (Aircraft and Aeronautical Mobile Stations) Class Licence 2016. To assist in the management of interference into aeronautical radionavigation services, a range of measures have been introduced, as described in the [wireless broadband and radio altimeter outcomes paper](#). These conditions only apply to spectrum licences issued in the 3.7 GHz band.

Spectrum licensees will be required to ensure that radiocommunications transmitters operating in the 3700 MHz to 3800 MHz frequency range do not exceed a total equivalent isotropically radiated power of 72 dBm/5 MHz.

A spectrum licensee must operate radiocommunications transmitters in the manner set out in Part 13 of the Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band) 2015, or any instrument made under section 262 of the Radiocommunications Act that replaces those guidelines, as in force from time to time. The radiocommunications advisory guidelines incorporate by reference specific requirements of [RALI MS 47](#) Frequency coordination and licensing procedures for Area-Wide Licences (AWL) in the 3400–4000 MHz band (RALI MS 47), which must be adhered to. This requires the operation of transmitters in the 3700 MHz to 3800 MHz frequency range to be consistent with the requirements for area-wide licences (AWLs) under [RALI MS 47](#) regarding radio altimeters. The coexistence measures in RALI MS 47 apply until 31 March 2026.

## 6.5 Spectrum licence tax

On 11 October each year, spectrum licence tax (SLT) is payable in accordance with the [Radiocommunications \(Spectrum Licence Tax\) Act 1997](#). The amount of tax payable is worked out under the [Radiocommunications \(Spectrum Licence Tax\) Determination 2021](#) (SLT Determination).

There are 2 components to the SLT. The main component of the SLT recovers the indirect costs of spectrum management activities such as international coordination, domestic planning, interference investigation and policy development. The 'Total Annual EME component' of the SLT contributes to the costs of the government's electromagnetic energy program and applies to all spectrum licences, except licences used for rail safety or television outside broadcast services, and those held by Commonwealth departments and agencies.<sup>9</sup>

As part of the consultation on the allocation instruments for this allocation process, the ACMA sought views on the changes to the SLT Determination to:

- > change the existing frequency range used to calculate SLT from 3400 MHz to 3700 MHz, to 3400 MHz to 3800 MHz
- > change the base amount for this frequency range, used to calculate SLT, from \$166,032 to \$221,376, to reflect the change in the frequency range.

As noted in the draft *Five-year spectrum outlook 2023–28*, and as specified in the SLT Determination, the 'Total Annual EME Component' of the spectrum licence tax was \$2.6 million in 2022–23. In 2023–24, the 'Total Annual EME Component' will be \$1.9 million and adjusted to an amount no more than the consumer price index. These adjustments will also occur in each subsequent financial year. The ACMA will consult on the proposed adjustments for 2023–24 in July 2023 (July consultation).

Once the July consultation is complete, it is the ACMA's intention to incorporate the change in the frequency range and the new base amount and any proposed changes relating to the July consultation on the change in the EME component into the SLT Determination in September 2023.

## 6.6 Trading rules

Section 88 of the Radiocommunications Act permits the ACMA to determine rules for trading spectrum licences.

Spectrum licences may be traded in integer multiples of the 'standard trading unit' defined in the [Radiocommunications \(Trading Rules for Spectrum Licences\) Determination 2023](#) (the trading rules determination). The ability to trade and the flexibility of the technology that may be used in accordance with the technical framework allows licensees to change their services over time in response to commercial realities and respond to technological innovation within the flexibility of the framework.

The trading rules determination also specifies a minimum contiguous bandwidth that limits the smallest contiguous bandwidth that can generally be licensed as a result of the trade of part of a licence and reduces the potential for fragmentation in the band.

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<sup>9</sup> For more information on the spectrum licence tax arrangements please see [the ACMA's website](#).

For the 3.4/3.7 GHz bands, the minimum contiguous bandwidth is 10 MHz, and the following standard trading unit applies:

- > a geographic area of a level 1 HCIS cell
- > a part of the spectrum, where the lower and upper limits of the part are integers when described in Hertz.

# 7. Communicating with the ACMA

**Chapter 7** sets out how stakeholders can contact the ACMA. This chapter also outlines how the ACMA will publish and announce information regarding the allocation process.

## 7.1 Updates and announcements

The ACMA will post updates and announcements about the allocation process on the dedicated [3.4/3.7 GHz allocation process](#) webpage.

Prospective applicants, applicants and registered bidders are responsible for monitoring the webpage for all current information on the allocation process and associated matters. The webpage also has a sign-up facility to receive auction updates via a 3.4/3.7 GHz e-bulletin.

If needed, the ACMA will contact applicants and registered bidders directly using the contact details provided on the application form. Where appropriate, the auction manager will contact registered bidders using the electronic messaging facility within the auction system.

## 7.2 Queries

Queries about the allocation process may be directed to the auction manager, by:

**Email:** [spectrumallocations@acma.gov.au](mailto:spectrumallocations@acma.gov.au)

**Telephone:** (02) 6219 5151

**Post:** Auction Manager  
Major Spectrum Allocations Section  
Australian Communications and Media Authority  
Level 32, Melbourne Central Tower  
360 Elizabeth Street  
Melbourne VIC 3000

Before the start of the 3.7 GHz auction (the first auction), or between the end of the 3.7 GHz auction and the start of the 3.4 GHz auction, all contact with the auction manager should, in the first instance, occur using the contact details/methods set out above.

During an auction, contact with the auction manager should occur through the electronic messaging facility within the auction system. Alternatively, if this is not appropriate to the query or situation, contact should occur through the email address or telephone number provided to registered bidders. The electronic messaging facility within the auction system should be the primary and default form of contact with the auction manager. Other forms should only be used in circumstances where the auction system was unable to be utilised (for example, if there was an internet or power failure).

## 7.3 Giving documents to the ACMA

Auction documents (for example, application forms, associates forms, deeds, statutory declarations, eligibility nomination forms, statements) may be given to the ACMA, by:

**Online submission:** ACMA [auction application portal](#)

**Email:** [spectrumallocations@acma.gov.au](mailto:spectrumallocations@acma.gov.au)

**Delivery to:** Auction Manager  
Major Spectrum Allocations Section  
Australian Communications and Media Authority  
Level 32, Melbourne Central Tower  
360 Elizabeth Street  
Melbourne VIC 3000

Section 6 of the allocation determination sets out procedures for giving documents to the ACMA by email, via delivery of documents to the physical address listed above or online via the ACMA auction application portal.

The ACMA auction application portal will only be available to an applicant that completes the webform version of the application form.

If a document is emailed or uploaded:

- > for a statutory declaration, statement under section 70 of the allocation determination or a deed: PDF or another format approved by the auction manager
- > all other documents: Word or PDF or another format approved by the auction manager.

The allocation determination sets out the following additional requirements for giving deeds of financial security to the ACMA:

- > If a Deed of Financial Security is executed by a person acting under a power of attorney for a body corporate, a copy of the power of attorney must be given with the deed under subsection 41(6) of the allocation determination.
- > If a Deed of Financial Security is given to the ACMA by email or uploaded online, the original deed must be received by the ACMA no later than 3 working days after the eligibility deadline (or if the ACMA agrees to a later time, the agreed time).
- > If more than one deed of financial security is given to the ACMA for the purposes of a single applicant or bidder, each deed of financial security must be given a unique identifier.

## 7.4 Making payments

All amounts payable to the ACMA for the allocation process (for example, application fees, eligibility payments and winning price payments) must be paid in Australian currency. Except as set out below, payments must be made by electronic transfer or bank cheque.

An application fee or eligibility payment can be made by BPAY or credit card, but only a person uses the ACMA auction application portal to give documents to the ACMA.

BPAY or credit card payments can also be made if the amount is a winning bidder's balance of the total winning price and, under Division 7 of Part 5 of the allocation determination, the winning bidder has been notified by the ACMA of the bidder's balance of the total winning price.

Details for each payment method are provided below:

#### 7.4.1 Electronic transfer

<b>Bank:</b>	ANZ Bank
<b>Branch:</b>	Belconnen
<b>BSB:</b>	012-951
<b>Account no.:</b>	8379 24272
<b>Account name:</b>	ACMA Official Administered Receipts
<b>Transfers should be labelled:</b>	'3437 (space) purpose of payment (space) company name'. Note: Because transfer labels are limited to 15 alphanumeric characters, the following abbreviations must be used: '3437 af <name of applicant>' '3437 ep <name of applicant>' '3437 win <name of applicant>'

Evidence of the electronic transfer (for example, a transfer receipt) should be emailed to [spectrumallocations@acma.gov.au](mailto:spectrumallocations@acma.gov.au) or uploaded to the auction application portal as soon as practicable after the transfer is made.

#### 7.4.2 BPay

Payment information will be available on the tax invoice.

#### 7.4.3 Credit card payment

Payment information will be available on the tax invoice.

#### 7.4.4 Bank cheque (crossed 'not negotiable')

Made payable to:	Australian Communications and Media Authority on behalf of the Commonwealth
Delivered to:	Auction Manager Major Spectrum Allocations Section Australian Communications and Media Authority Level 32, Melbourne Central Tower 360 Elizabeth Street Melbourne VIC 3000

Subsection 9(5) of the allocation determination sets out rules about when an amount is taken to have been paid by a relevant deadline. Under these rules, an amount is taken to have been paid by a deadline if:

- > the ACMA receives a bank cheque for the full amount on or before the deadline
- > the ACMA receives evidence that an electronic transfer of the full amount was made on or before the deadline (for example, a transfer receipt) and the amount is received in the ACMA's bank account no later than 3 working days after the deadline
- > the ACMA receives other evidence that satisfies it that the person making the payment has taken all reasonable steps to pay the amount on or before the deadline.

An amount due under the allocation determination is not paid in full if bank charges or government duties imposed on a payment reduce the net payment to less than the amount payable. An applicant or bidder must add the value of any bank charge or government duty to the amount of the payment.

GST is not payable on the application fee, an eligibility payment or a winning price.

# Appendix A: Auction instruments

## Allocation instruments

[Radiocommunications \(Spectrum Licence Allocation – 3.4/3.7 GHz Bands\) Determination 2023](#)

[Radiocommunications Spectrum Marketing Plan \(3.4/3.7 GHz Bands\) 2023](#)

## Technical framework instruments

[Radiocommunications \(Unacceptable Levels of Interference – 3.4 GHz Band\) Determination 2015](#)

[Radiocommunications Advisory Guidelines \(Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band\) 2015](#)

[Radiocommunications Advisory Guidelines \(Managing Interference to Spectrum Licensed Receivers – 3.4 GHz Band\) 2015](#)

The above technical instruments were varied in June 2023. While these changes have taken effect, it can take time for them to be incorporated into the relevant instruments published online. For this reason, the associated amendment and variation instruments are also provided below:

[Radiocommunications \(Unacceptable Levels of Interference – 3.4 GHz Band\) Amendment Determination 2023 \(No. 1\)](#)

[Radiocommunications Advisory Guidelines \(Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band\) Variation 2023 \(No. 1\)](#)

[Radiocommunications Advisory Guidelines \(Managing Interference to Spectrum Licensed Receivers – 3.4 GHz Band\) Variation 2023 \(No. 1\)](#)

## Spectrum re-allocation declaration

[Radiocommunications \(Spectrum Re-allocation – 3.4 GHz and 3.7 GHz Bands\) Declaration 2022](#)

## Trading rules

[Radiocommunications \(Trading Rules for Spectrum Licences\) Determination 2023](#)

# Appendix B: Auction forms

There are 10 forms for the allocation process:

- > Form 1 – Application form
- > Form 2 – Deed of Acknowledgement
- > Form 3 – Deed of Confidentiality
- > Form 4 – Associates form – body corporate
- > Form 5 – Associates form – individuals
- > Form 6 – Statutory declaration
- > Form 7A – Statement about affiliations given before assignment stage of 3.7 GHz auction
- > Form 7B – Statement about affiliations given before assignment stage of the 3.4 GHz auction
- > Form 8– Deed of Financial Security
- > Form 9 – Eligibility nomination form.

Instructions on completing the forms and when to do so, are provided in section 3.1 of this auction guide and at the start of each form.

The forms are available in the 'Auction forms' booklet that accompanies this auction guide in the applicant information package on the [ACMA website](#).

The application webform (Form 1) is available on the ACMA auction application portal.

# Glossary

Word/phrase	Definition
3.4 GHz auction	Auction of spectrum licences in the 3.4 GHz band
3.4 GHz band	Spectrum in the frequency range 3400 MHz to 3575 MHz
3.7 GHz auction	Auction of spectrum licences in the 3.7 GHz band
3.7 GHz band	Spectrum in the frequency range 3700 MHz to 3800MHz
3.4/3.7 GHz bands	Spectrum in the 3.4 GHz band and the 3.7 GHz band
AAS	Active antenna system
ACMA	Australian Communications and Media Authority
ACMA Act	<a href="#">Australian Communications and Media Authority Act 2005</a>
advisory guidelines	Guidelines made under section 262 of the Radiocommunications Act. Generally, advisory guidelines include provisions to assist interference assessments between spectrum-licensed devices and services operating under spectrum, apparatus or class licences. Potentially affected adjacent band services are identified in the advisory guidelines, which enables licensees to assess the risk of interference between the services and arrange to mitigate this risk.
AIP	Applicant information package
allocation determination	<a href="#">Radiocommunications (Spectrum Licence Allocation – 3.4/3.7 GHz Bands) Determination 2023</a>
allocation instruments	<a href="#">Radiocommunications (Spectrum Licence Allocation – 3.4/3.7 GHz Bands) Determination 2023</a> <a href="#">Radiocommunications Spectrum Marketing Plan (3.4/3.7 GHz Bands) 2023</a>
allocation process	The allocation of spectrum licences in the 3.4/3.7 GHz bands.
allocation limit	Defined in section 12 of the allocation determination: 140 MHz of spectrum in metropolitan areas and 160 MHz of spectrum in regional areas.
allocation period	Defined in subsection 11(3) of the allocation determination, the period commencing on the eligibility deadline and ending immediately after the auction manager provides the results for the allocation process in accordance with section 85 of the allocation determination.
ARQZWA	Australian Radio Quiet Zone Western Australia
AWL	Area-wide licence
Certificate Determination	<a href="#">Radiocommunications (Conditions of Interference Impact Certificates) Determination 2021</a>
core price	The nearest Vickrey core price, used to work out the assignment prices during the assignment stage of an auction
EOO	English Open Outcry
ERP	Eligibility requirement percentage
ESMRA	Enhanced Simultaneous Multi-Round Ascending auction

Word/phrase	Definition
HCIS	Hierarchical cell identification scheme used as part of the Australian Spectrum Map Grid 2012 document published by the ACMA on its website. The following link is to a tool that converts lists of HCIS area descriptions into placemark files to visualise the areas using mapping software: <a href="http://www.acma.gov.au/convert-hcis-area-description-placemark">www.acma.gov.au/convert-hcis-area-description-placemark</a> .
IIC	Interference impact certificate
LA	<a href="#">Legislation Act 2003</a>
leftover lot	A defined 2.5 MHz of spectrum. See subsection 10(8) of the marketing plan.
lot	A unit of a product. See subsection 10(4) and subsection 10(9) of the marketing plan.
marketing plan	<a href="#">Radiocommunications Spectrum Marketing Plan (3.4/3.7 GHz Bands) 2023</a>
MPS	<a href="#">Radiocommunications (Ministerial Policy Statement – 3.4–4.0 GHz) Instrument 2022</a>
MSR	Minimum spectrum requirement. The MSR is an optional feature designed to ensure bidders are not left with an unwanted single lot of a product.
primary, secondary and assignment stages	The TSGLC auction format has primary and assignment stages, as defined in the allocation determination. The TSGLC auction format may have a secondary stage.
RALI	Radiocommunications Assignment and Licensing Instruction
re-allocation deadline	The time by which at least one spectrum licence must be allocated. The re-allocation deadline for the 3.4/3.7 GHz bands is defined in the re-allocation declaration.
re-allocation declaration	<a href="#">Radiocommunications (Spectrum Re-allocation – 3.4 GHz and 3.7 GHz Bands) Declaration 2022</a>
re-allocation period	The re-allocation period for the 3.4/3.7 GHz bands is defined in the re-allocation declaration. At the end of the re-allocation period, existing apparatus licences in the spectrum covered by the re-allocation declaration are cancelled.
RRL	<a href="#">Register of Radiocommunications Licences</a>
SMRA	Simultaneous Multi-Round Ascending auction
SoE	Statement of expectations for the ACMA
SLT	Spectrum licence tax
SLT Determination	<a href="#">Radiocommunications (Spectrum Licence Tax) Determination 2021</a>
technical framework	The technical framework for spectrum licences consists of several interlocking regulatory elements: <ul style="list-style-type: none"> <li>&gt; conditions on the licence (including core licence conditions), included in the spectrum licence issued as a result of the allocation process</li> <li>&gt; a determination of unacceptable levels of interference, for device registration purposes, made under subsection 145(4) of the Act</li> <li>&gt; advisory guidelines.</li> </ul>

Word/phrase	Definition
Technical liaison group ( <a href="#">TLG</a> )	A technical liaison group is an advisory body convened by the ACMA to provide advice on the technical and regulatory aspects required to develop a spectrum licence technical framework.
trading rules	Rules for trading spectrum licences are made under section 88 of the Radiocommunications Act and are contained in the <a href="#">Radiocommunications (Trading Rules for Spectrum Licences) Determination 2023</a> .
TRP	Total radiated power
TSGLC	Two-stage generic lots clock auction