

Multiband residual lots auction, November 2017

Auction guide

OCTOBER 2017

VERSION 2

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Important notice and disclaimer

The *Applicant information package* (AIP) has been prepared by the ACMA in connection with the proposed allocation of spectrum lots that remain unallocated after the recent auction of the regional 1800 MHz spectrum band, and spectrum in the 2 GHz, 2.3 GHz and 3.4 GHz bands remaining unallocated after licence allocation and reissue processes in those bands. In addition, some spectrum in the 2 GHz band in the Canberra region has recently been designated for spectrum licensing for the first time. The auction is referred to as the multiband residual lots auction. The AIP comprises this Auction guide, legislative instruments, accompanying explanatory statements and other material provided as attachments to the Auction guide, as well as the *Auction forms* booklet. Material that must be included in the AIP is set out in section 28 of the [Radiocommunications \(Spectrum licence allocation – Multi-band Auction\) Determination 2017](#) (the Allocation Determination).

The ACMA must perform its spectrum allocation and management functions in accordance with relevant legislation, in particular, the *Radiocommunications Act 1992* (the Act). An auction process will be conducted in accordance with the rules and procedures made by the ACMA, pursuant to powers under sections 39, 39A, 60 and 294 of the Act. Any subsequent issue of spectrum licences will be made under section 62 of the Act.

The rules and procedures made by the ACMA for the auction process are set out in the:

- > [Allocation Determination](#)
- > [Radiocommunications Spectrum Marketing Plan \(1800 MHz unallocated lots band\) 2017](#)
- > [Radiocommunications Spectrum Marketing Plan \(2 GHz unallocated lots band\) 2017](#)
- > [Radiocommunications Spectrum Marketing Plan \(2.3 GHz unallocated lots band\) 2017](#)
- > [Radiocommunications Spectrum Marketing Plan \(3.4 GHz unallocated lots band\) 2017](#).

These are collectively known as the allocation instruments. Links to each instrument are included as attachments to this Auction guide. Interested persons should note that the allocation instruments have legal effect and are registered as legislative instruments on the Federal Register of Legislation. In the event of any difference between the provisions of the allocation instruments and any other written or oral information made available, the allocation instruments prevail.

The material contained in the AIP, including the Auction guide, is for information only and should not be used as a substitute for independent advice on participating in the auction or other allocation process, and the rights or regulatory responsibilities that attach to any spectrum licences that may be obtained. The AIP does not, and does not purport to, contain all the information that may be required to evaluate any allocation process or spectrum licence, or rights and obligations under the associated legislative instruments or applicable regulatory framework.

Nothing in this Auction guide should be taken to bind the ACMA to any particular course of action in the allocation of spectrum licences in the multiband residual lots auction. The ACMA may vary or revoke a legislative instrument at any time, as permitted by law. The auction manager has the power under the Allocation

Determination to stop a round of the auction, cancel the result of a round of the auction, restart the auction or stop the entire auction if he or she is satisfied that the auction is affected by exceptional circumstances.

The AIP and its contents do not constitute or form part of any offer, contract, agreement or other legal obligation. The AIP is not intended to form any part of the basis of any investment decision or other evaluation by any person, and should not be considered as a recommendation by the ACMA to participate in the auction or other allocation process. It is the responsibility of each person referencing the AIP to make their own independent investigation, review and assessment of:

- > the proposed allocation of spectrum licences and the auction process
- > the rights and responsibilities under spectrum licences issued as a result of the auction or other allocation process
- > the potential cost and value of a licence
- > whether to participate in the auction or other allocation process.

By virtue of clause 19 of the deed of acknowledgment form executed by applicants, the liability of the ACMA, the auction manager, the Commonwealth, and their officers, employees, agents, contractors, subcontractors, associates and delegates in connection with the allocation process is excluded. Completion of the deed of acknowledgement is a requirement for anyone wishing to participate in the allocation process. Please refer to 3.2.1 and 3.2.4 of this Auction guide for further information about application and registration requirements.

The information contained in the AIP is presented in good faith and is believed to be accurate at the time of publication. However, all such information is subject to amendment. It is the responsibility of any interested person, at its own cost, to verify to its own satisfaction the accuracy, currency, reliability and completeness of any of the information contained in or any matter referred to in the AIP, and obtain independent advice from appropriate experts. The ACMA has not authorised any person to make any statements or representations on its behalf that are not expressly contained in or contemplated by the AIP.

Interested persons should not rely solely on any statement, opinion or information set out in the AIP, including any statements about the policies that may be followed by other authorities, nor about the effect of any legislation, but should take steps they consider necessary to inform themselves on those matters independently of the ACMA. The comments made in the AIP about the ACMA's functions and powers reflect the present policies of the ACMA, which may be subject to change.

Prospective applicants should, on their own responsibility, take whatever steps they consider necessary to obtain access to appropriate technical or other specialist advice independently of the ACMA concerning their application, the regulation and operation of radiocommunications devices and services, or any other matters relevant to the proposed spectrum licence allocation process. Applicants are also advised to seek advice independently of the ACMA on the treatment of spectrum licences and other investments under Australian taxation laws, and on the operation of foreign investment laws and policies on a proposed investment in communications in Australia.

Prospective applicants are urged to familiarise themselves with all the provisions of the Act, not just those pertaining to spectrum licensing, and should be aware that activities associated with radiocommunications may also be regulated by the *Competition and Consumer Act 2010* (the Competition and Consumer Act), the *Broadcasting Services Act 1992* (the Broadcasting Services Act) and the *Telecommunications Act 1997* (the

Telecommunications Act). Depending on the activity undertaken when using spectrum under a licence, other Commonwealth, state and territory laws may apply.

The ACMA is a statutory authority established under the *Australian Communications and Media Authority Act 2005* (the ACMA Act) to administer the 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 by the minister administering that Act. The policies of the government may change from time to time.

In exercising its powers and functions, including those conferred on the ACMA by the Act, the Broadcasting Services Act, the Telecommunications Act and the *Telecommunications (Consumer Protection and Service Standards) Act 1999*, the ACMA may also take into account its own policies, which may change from time-to-time.

The ACMA is also required under the *Public Governance, Performance and Accountability Act 2013* to manage its affairs 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.

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.

The ACMA may change its process

The ACMA may in certain circumstances, under the Act and the allocation instruments, vary the processes that apply to the allocation process, including the processes that apply to the auction, or terminate the allocation process. The ACMA reserves the right, in its sole and absolute discretion, but without being under any obligation to do so, to add to, vary, amend, update or supplement the information, terms and procedures set out in the AIP and correct any inaccuracies.

Other ACMA rights

- > Subject to the Act and the Allocation Determination, the ACMA reserves the right, in its sole and absolute discretion, at any stage of the auction process to do all or any of the following:
 - > require additional information from any applicant or bidder
 - > change the structure and timing or any other element of the auction process as permitted from time-to-time.
- > The ACMA makes no representation as to the utility or otherwise of the spectrum.
- > The ACMA reserves the right to allocate further spectrum (that is, spectrum other than that on offer in the auction process) by issuing spectrum licences in the future.

Applicants and bidders to meet own costs

Each applicant's and bidder's participation in any stage of the allocation process shall be at their sole risk, cost and expense.

Applications may be used, disclosed and retained by the Commonwealth

All application documents submitted in connection with the auction process may be used and disclosed by the ACMA for the purposes of the Allocation Determination and in relation to spectrum licences issued, and may be retained by the ACMA for as long as necessary for the performance of the ACMA's functions and exercise of its powers under the Allocation Determination or the Act.

Release of information and documents by the ACMA

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.

Collusive bidding

Applicants and their officers, employees, agents and advisers must not engage in any collusive bidding, anti-competitive conduct or any other similar conduct with any other registered applicants or any other person in breach of applicable laws (including but not limited to the Competition and Consumer Act) when preparing or lodging applications or bidding instructions for a spectrum licence under the allocation process. Applicants must comply with the requirements of the Allocation Determination concerning affiliates.

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 the auction process, other than in accordance with the confidentiality requirements of the Allocation Determination and the deed of confidentiality form executed by applicants and related persons.

Return of information to the ACMA

Applicants must, under the deed of acknowledgment form executed by applicants, at their sole expense, upon request by the ACMA in its absolute discretion, return to the ACMA any items or written information provided to the applicant (and copies of the information) at any stage.

Application of laws

The laws of the Australian Capital Territory and the Commonwealth of Australia apply to the allocation process pursuant to the deed of acknowledgment form executed by applicants.

At a glance—Auction Q&A

Table 1: Auction questions and more information

			More information
1.	What spectrum is available?	<p>Spectrum, referred to as the multiband residual lots, will be offered for allocation via auction in 2017 through the multiband residual lots auction. This spectrum remains unallocated following the most recent auction in the 1800 MHz band and spectrum licence reissue processes in the 2 GHz, 2.3 GHz and 3.4 GHz bands. In addition, some spectrum in the 2 GHz band in the Canberra region has recently been designated for spectrum licensing for the first time. There are 39 lots available across the four bands including:</p> <ul style="list-style-type: none"> > five lots in 1800 MHz > nine lots in 2 GHz > eleven lots in 2.3 GHz > fourteen lots in 3.4 GHz. <p>The details of the frequencies, locations and bandwidths of each lot is available at Table 3.</p> <p>Prior to the auction commencing, the ACMA may decide to allocate spectrum licences in relation to the lots for a pre-determined price in certain circumstances.</p>	2.1, 2.2, 3.2.9
2.	How will the spectrum be licensed?	<p>Spectrum lots won at auction or allocated for a pre-determined price will be authorised for use by winning bidders as spectrum licences issued under section 62 of the Act.</p> <p>Spectrum licences authorise a licensee to operate radiocommunications devices for a fixed period, within a particular frequency range, within a particular geographic area. Spectrum licensing offers a technology-flexible, market-oriented approach to managing the radiofrequency spectrum.</p> <p>Spectrum licensees must comply with a series of licence conditions and the technical framework developed for each of the bands by the ACMA in consultation with industry.</p>	1.3.3, 2.3, 5
3.	When will spectrum licences commence and expire?	<p>Spectrum licences for the multiband residual lots will commence after the payment of balance of the winning price or the balance of the pre-determined price. The expiry date will align with spectrum licences currently issued in each of the respective four bands, as follows:</p> <ul style="list-style-type: none"> > 1800 MHz band: 17 June 2028 > 2 GHz band: 11 October 2032 > 2.3 GHz band: 24 July 2030 > 3.4 GHz band: 13 December 2030. 	2.3.2

			More information
4.	I don't wish to use all the spectrum I purchase through the allocation process—what options are available?	Spectrum licensees can trade part or all of the spectrum space covered by their licence, once issued, in accordance with relevant legislation. They can also authorise third parties to use the licensed spectrum. Further information about trading and third party use is available on the ACMA website.	2.3.1, 5.1, 5.8.2
5.	How will the auction work?	The auction will be conducted online using a simple clock auction (SCA) design. The SCA combines the advantages of the EOO auction with additional capabilities enabled by an electronic implementation, reducing the risk of bidders signalling their intentions during the auction. The SCA is a simple ascending-bid process, much like the EOO. It formalises the process by which prices increase and how much time bidders are given to think about and place their bids.	3, 4.4.2
6.	In what order will the lots be offered at auction?	A total of 39 lots will be on offer, with lots being offered concurrently in three sequential stages: <ul style="list-style-type: none"> > stage 1—all lots in the 1800 MHz band and three 2 x 10 MHz lots in the 2 GHz band > stage 2—six 2 x 5 MHz lots in the 2 GHz band > stage 3—all lots in the 2.3 GHz and 3.4 GHz bands. Table 3 sets out the sequence of lots available in each stage of the auction.	2.1
7.	I want to participate in the auction—what do I need to do?	Chapter 4 of this Auction guide provides a step-by-step guide to participating in the auction. It guides prospective bidders through auction-related activities, from the opening of applications to the issuing of licences—including an explanation of the forms, payments and deadlines associated with the bidder registration process. It also provides references to more detailed information and instructions, as appropriate.	3.2.1, 3.2.2, 3.2.4, 3.2.7, 4
8.	I want to participate in the auction—what amounts will I need to pay?	To apply to be registered as a bidder in the auction, you will need to pay a non-refundable application fee of \$10,000. To complete the bidder registration process, applicants will need to pay a deposit or give a deed of financial security or a combination of both. (A deed of financial security is an alternative to a deposit.) No GST is payable on the application fee or the deposit.	3.2.1, 3.2.2, 3.2.3, 3.2.11, 3.2.12, 3.2.13, 3.2.14

			More information
9.	<p>I am interested in lots in the 1800 MHz band—are there additional requirements in relation to the allocation limits?</p>	<p>The allocation limits in the 1800 MHz band, set by the minister in 2015, restrict the amount of spectrum a single bidder may acquire. The spectrum is capped at 2 x 25 MHz in total and any current holdings an applicant or its associates may have would also have to be taken into account.</p> <p>Parties interested in the 1800 MHz lots will need to provide additional information:</p> <ul style="list-style-type: none"> > during the application stage > if affiliations occur during the auction > prior to lots being allocated for a pre-determined price > prior to lots being allocated to the winning bidders at auction. <p>The additional information includes details of the applicant's associates and making statutory declarations about affiliations with existing 1800 MHz licensees and other successful 1800 MHz applicants. This information will assist the ACMA in determining if any affiliations exist between applicants and existing 1800 MHz licensees and is necessary to ensure the allocation limits are not exceeded.</p> <p>What information is required and when, is set out in the Allocation Determination and further explained in this Guide.</p>	<p>3.2.1, 3.2.5, 3.2.6, 3.2.9, 3.2.13, 4.2.1, 4.2.2, 4.2.3, 4.6.1</p>
10.	<p>How will the Spectrum Review and the implementation of the new spectrum management framework in Australia affect spectrum licences during the transition to the new arrangements and beyond?</p>	<p>The Radiocommunications Bill has not yet been introduced into Parliament. The Department of Communication and the Arts (DoCA) set out in a recent consultation package that transition to a new framework is proposed to take place over a number of years.</p> <p>Given the timeframes associated with the multiband residual lots auction, the ACMA is proposing to allocate spectrum licences in the relevant bands on the basis that the existing regulatory regime will apply when licences are issued. Licences, including spectrum licences issued as a result of the multiband residual lots auction, may be subject to a new legislative framework, if the Bill is introduced to and passed by Parliament.</p> <p>Further information on spectrum reform is available on the DoCA website or by emailing spectrumreform@communications.gov.au</p>	<p>2.3.2</p>

Key dates

Table 2: Important events and dates

	Event	Date
1	The ACMA advertises auction, publishes the <i>Applicant information pack</i> and applications open.	6 October 2017
2	<p>Application deadline.</p> <p>By this date and time, any person wishing to be an applicant will need to:</p> <ul style="list-style-type: none"> > give a completed application form > give a completed deed of acknowledgement form > give a completed deed of confidentiality form > give a completed preference nomination form > give a statutory declaration stating whether the applicant is affiliated with an existing 1800 MHz licensee (only required if the applicant has nominated one or more 1800 MHz lots and the applicant is not an existing 1800 MHz licensee) > pay the application fee to the ACMA on behalf of the Commonwealth > pay a deposit, or give a deed of financial security, to the ACMA on behalf of the Commonwealth, or do both. 	5.00 pm, Friday 27 October 2017
3	The ACMA tells registered bidders that they have been registered and may participate in the auction, and gives them information to enable their participation (e.g., information about how to access and use the online auction system).	After the application deadline
4	Mock auctions held, to familiarise registered bidders with the auction system.	November 2017
5	The ACMA notifies registered bidders about the start date and time of the first and second rounds of the auction.	Mid-November 2017
6	Estimated auction commencement	28 November 2017

Note: The above timetable is subject to change. Any changes made to the timetable will be announced through the sources listed under heading in Chapter 6.

Part one—Understanding the auction process

1. What is the multiband residual lots auction?

This chapter provides information about the:

- > purpose and structure of the Auction guide, and the other elements of the applicant information package**
- > background to the spectrum that is available in the 1800 MHz, 2 GHz, 2.3 GHz and 3.4 GHz bands to be auctioned**
- > instruments that provide the legal basis for the auction**
- > consultative processes by which the auction instruments were developed.**

1.1 Overview

The ACMA is proposing to run a single allocation process for residual spectrum lots in the 1800 MHz, 2 GHz, 2.3 GHz and 3.4 GHz bands, referred to in this Auction guide as the 'multiband residual lots auction'. There are 39 lots on offer, comprising 1800 MHz spectrum that remained unallocated after the recent regional 1800 MHz spectrum auction, 2 GHz, 2.3 GHz and 3.4 GHz spectrum remaining unallocated after previous allocation and reissue processes, and 2 GHz spectrum in the Canberra region that has been newly designated for allocation.

Spectrum licences issued to successful bidders as a result of the multiband residual lots auction will authorise licensees to operate radiocommunications devices for a fixed period, within a particular frequency range, within a particular geographic area. The allocation will include the possibility of lots being allocated for a pre-determined price.

In order to conduct an efficient and effective auction of the multiband residual lots, the ACMA has made a number of legislative instruments, including marketing plans for the 1800 MHz, 2 GHz, 2.3 GHz and 3.4 GHz bands, variation instruments to amend existing marketing plans for the 1800 MHz and 2.3 GHz bands, and the Allocation Determination. These legislative instruments are collectively referred to as the allocation instruments.

The multiband residual lots auction

The multiband residual lots auction will be run online using an SCA format. An SCA is similar to an EOO auction, where all lots may be simultaneously open for bidding in a simple ascending-bid process. It also allows either the sequential or concurrent auction of many unrelated items. The SCA methodology combines the simplicity of the EOO auction format with additional functionality enabled by an electronic platform. An SCA format formalises the process by which prices increase and how much time bidders are given to place bids.

This Auction guide is designed to give prospective bidders information to help them decide whether to apply to take part in the auction—and, if they wish to take part, how to do so. The Auction guide is structured as follows:

Chapter 1: What is the multiband residual lots auction?—provides information about the background to the auction, the decisions to allocate multiband spectrum via auction, and the instruments that provide the legal basis for the auction.

Chapter 2: What is being offered in the auction?—provides information about the spectrum available, how the spectrum is configured as auction lots, and key issues that will affect how winning bidders can use the spectrum.

Chapter 3: How will the auction be conducted?—provides information about the auction format and procedures, the online auction system, as well as support and training opportunities for prospective bidders.

Chapter 4: How do I participate in the auction?—provides a practical step-by-step guide to participating in the auction, from the commencement of the application period to the issuing of licences.

Chapter 5: Spectrum licensing and technical framework—provides information about the spectrum licensing and technical frameworks applicable to the spectrum on offer.

Chapter 6: Updates, queries, lodgements and payments—provides information about how the ACMA will keep stakeholders informed about developments leading up to the auction, and how stakeholders can submit queries, lodge auction documents and make payments to the ACMA.

Attachments—include:

- > the allocation instruments that provide the legal basis for the auction
- > forms that auction participants may be required to complete.

Together, the Auction guide and its attachments form the AIP for the multiband residual lots auction.

1.2 Background to the allocation of multiband residual lots

1.2.1 1800 MHz band

Allocation (auction), 2015

In May 2015, the Minister for Communications made the [Radiocommunications \(Spectrum Re-allocation—Regional 1800 MHz Band\) Declaration 2015](#). The declaration provides that specified parts of the 1800 MHz band in defined geographic areas (regional 1800 MHz spectrum) be reallocated by the issue of spectrum licences. Earlier in January 2014, the minister also made the [Radiocommunications \(Spectrum Designation\) Notice No.1 of 2014](#) making residual spectrum¹ in Adelaide, regional South Australia and North Queensland (residual 1800 MHz spectrum) available for allocation by issuing spectrum licences. The regional and residual 1800 MHz spectrum was subsequently put to market via a simultaneous multi-round ascending (SMRA) auction, which ran from November 2015 to February 2016 ('the preceding 1800 MHz allocation').

Individual bidders (any person or specified group of persons) were restricted on the amount of spectrum they could acquire through the auction by allocation limits set out in the [Radiocommunications \(Spectrum Licence Limits – Regional 1800 MHz Band\) Direction 2015](#) (1800 MHz limits direction), made by the minister on 26 May 2015. The ACMA gave effect to the 1800 MHz limits direction by imposing an allocation limit on the regional 1800 MHz spectrum, of 25 MHz of paired spectrum, through the [Radiocommunications \(Spectrum Licence Allocation – 1800 MHz Band\) Determination 2015](#). The 1800 MHz limits direction remains in force and unchanged and therefore applies to the 1800 MHz regional lots available for allocation in the multiband residual lots auction.

A table detailing who secured which spectrum lots, as well as lots that remained unsold at the conclusion of the auction, is available on the [ACMA's website](#). This may not necessarily reflect current licensing in the 1800 MHz band at the time of the auction, if there has been any trading of spectrum licences.

Unallocated spectrum from the preceding 1800 MHz allocation

The 1800 MHz frequencies and locations available for allocation through the multiband residual lots auction are summarised in **Table 3**.

¹ This spectrum remained unallocated and unencumbered from the ACMA's [expiring spectrum licences process](#).

1.2.2 2 GHz band

Allocation (auction), 2001

In October 2000, the [Radiocommunications \(Spectrum Re-allocation\) Declaration No.2 of 2000](#)² (the 2 GHz reallocation declaration) was made by the Minister for Communications, Information Technology and the Arts, providing for specified parts of the 2 GHz band (1900–1980 MHz and 2110–2170 MHz) in defined areas to be reallocated by issuing spectrum licences. A copy of the 2 GHz reallocation declaration is available from the [ACMA's website](#).

The reallocation of the 2 GHz band was conducted by way of an auction under the [Radiocommunications \(Spectrum Licence Allocation – 2 GHz Band\) Determination 2000](#); this auction concluded on 22 March 2001. Information about what each bidder acquired is available on the [ACMA website](#). Of the 58 lots on offer in the auction, 48 were sold. Licences were issued for a 15-year term, with a date of effect from 12 October 2002 and an expiry date of 11 October 2017.

Bidders (any person or specified group of persons) were restricted to the amount of spectrum they could acquire through the 2 GHz auction held in 2001 by allocation limits set out in the [Radiocommunications \(Spectrum Licence Limits—2 GHz Band\) Direction No. 2 of 2000](#) (the 2 GHz limits direction) made by the minister on 29 November 2000.

The 2 GHz limits direction has since been revoked by the Minister for Communications³, which means there is no restriction on the amount of spectrum in the 2 GHz band that a person can acquire in the multiband residual lots auction.

2 GHz spectrum licence reissue, 2017

On 9 February 2012, the Minister for Broadband, Communications and the Digital Economy made the [Radiocommunications \(Class of Services\) Determination 2012](#) (class of services determination) on the basis that it would be in the public interest to reissue licences to incumbent licensees who had used their licences to provide certain classes of services, including mobile voice and data communication services in the 2 GHz band (1920–1980 MHz and 2110–2170 MHz). All such licensees accepted the offer to have their licences reissued. The ACMA has completed the reissue process with the re-issued 2 GHz spectrum licences due to commence on 12 October 2017.

Unallocated spectrum

During the reissue process, the ACMA identified additional spectrum in the Canberra area that was not included in the 2 GHz reallocation declaration.⁴ The 1920–1935 MHz and 2110–2125 MHz frequency ranges covering the geographic area of Canberra⁵ were not originally spectrum licensed due to possible interference to mobile telecommunications receivers from high-powered deep-space transmitters operating in the Canberra Deep Space Communications Complex (CDSCC) at Tidbinbilla. Given advances in computer processing and terrain modelling since the 2 GHz reallocation declaration was made, the ACMA has re-assessed the risk for interference. The analysis indicated that, although there is some potential for interference, there is an opportunity to utilise these parts of the 2 GHz band for terrestrial telecommunications in the Canberra area.

² Repealed in 2005 by the *Legislative Instruments Act 2003* (now the *Legislation Act 2003*).

³ Repealed on 2 September 2017 by the [Radiocommunications \(Spectrum Licence Limits-2 GHz Band\) Repeal Direction 2017](#).

⁴ Details on the spectrum available in Canberra is available in Chapter 5.

⁵ Maps showing the geographic area for Canberra in the 2GHz band are available in Chapter 2.

On 21 April 2017, the minister made the [Radiocommunications \(Spectrum Designation – 2 GHz and 3.4 GHz Bands\) Notice 2017](#), following consideration of a recommendation by the ACMA, making residual spectrum in both the 2 GHz (including Canberra) and 3.4 GHz bands available for allocation as spectrum licences. The 2 GHz frequencies and locations available for allocation through the multiband residual lots auction are summarised in **Table 3**.

1.2.3 2.3 GHz band

Conversion to spectrum licences, 2000

In January 2000, the then Minister for Communications, Information Technology and the Arts made the [Radiocommunications \(Spectrum Designation\) Notice No. 1 of 2000 \(14/01/2000\)](#). The designation provided that specified spectrum in the 2.3 GHz band be allocated by issuing spectrum licences. Existing apparatus licensees in the 2.3 GHz band were subsequently offered the opportunity to convert their apparatus licences to 15-year spectrum licences.

The majority of the existing Multipoint Distribution Station (MDS) apparatus licences in the band were converted to 15-year spectrum licences in 2000. The spectrum licences could be used for any purpose provided they complied with the technical framework, which allowed for a wider variety of uses than the former MDS apparatus licences. The licences expired on 24 July 2015.

Allocation (auction), 2011

The 2.3 GHz spectrum that remained unallocated after the conversion to spectrum licences in 2000 was offered for allocation via auction in 2011. The successful bidders and the price paid for the lots sold is available on the [ACMA website](#). The spectrum licences issued as a result of the 2011 allocation process expired on 24 July 2015, in line with the expiry date of the spectrum licences issued in 2000.

2.3 GHz spectrum licence re-issue 2015

On 9 February 2012, the Minister for Broadband, Communications and the Digital Economy made the [class of services determination](#) on the basis that it would be in the public interest to reissue licences to licensees who had used their licences to provide wireless broadband services in the 2.3 GHz band.

The ACMA completed the spectrum licence re-issue process for spectrum licensees and the reissued 2.3 GHz spectrum licences expire on 24 July 2030. Some licensees did not take up the offer to have their licences re-issued, leaving some spectrum available for allocation through the multiband residual lots auction.

Unallocated spectrum from the preceding 2.3 GHz allocation

Residual spectrum in the 2.3 GHz band will be made available for allocation through the multiband residual lots auction in various metropolitan and regional areas.⁶ No allocation limits apply to this band. The 2.3 GHz frequencies and locations available for allocation through the multiband residual lots auction are summarised in **Table 3**.

1.2.4 3.4 GHz band

Allocation (auction), 2000

The Radiocommunications (Spectrum Re-allocation) Declaration 2000⁷ made by the Minister for Communications, Information Technology and the Arts provided for specified parts of the 3.4 GHz band to be re-allocated by the issue of spectrum

⁶The 2302–2335 MHz frequency range in Canberra will not be released. This is because of the limited utility of the spectrum due to the protection requirements of adjacent band deep-space receivers operating at the CDSCC.

⁷ Repealed in 2005 by the *Legislative Instruments Act 2003* (now the *Legislation Act 2003*).

licences. The Radiocommunications (Spectrum Re-allocation) Declaration 2000 is available from the [ACMA website](#).

Bidders (any person or specified group of persons) were restricted as to the amount of spectrum they could acquire through the auction by allocation limits set out in the Radiocommunications (Spectrum Licence Limits - 3.4 GHz band) Direction No.1 of 2000 (3.4 GHz limits direction) made by the minister on 11 April 2000. Specific limits also applied in relation to Telstra and its related bodies corporate. The 3.4 GHz limits direction is available from the [ACMA website](#). However, the 3.4 GHz limits direction is no longer in force. As no new direction has been made by the minister, no limits apply to the lots in the 3.4 GHz band that are available for allocation in the multiband residual lots auction.

An allocation of spectrum licences in the 3.4 GHz was completed in October 2000 (preceding 3.4 GHz allocation). There were 460 spectrum lots sold and 22 lots passed in. The 22 spectrum lots that remained unsold following the 3.4 GHz auction in 2000 were re-offered to market in 2002; however, they again remained unsold. These lots were offered for allocation on a quarterly basis from 2004 to 2008.

3.4 GHz spectrum licence re-issue, 2015

On 9 February 2012, the Minister for Broadband, Communications and the Digital Economy made the [class of services determination](#) on the basis that it would be in the public interest to reissue licences to incumbent licensees who had used the licence to provide wireless broadband services in the 3.4 GHz band.

The original spectrum licences expired in December 2015. The majority of spectrum licences were re-issued to the same licensees, with an expiry date of 13 December 2030. As a result, the spectrum now available is a combination of the spectrum that was not reissued in 2015 and unsold lots from the preceding 3.4 GHz allocations.

Unallocated spectrum from the preceding 3.4 GHz allocation

On 21 April 2017, the Minister for Communications and the Arts made the [Radiocommunications \(Spectrum Designation – 2 GHz and 3.4 GHz Bands\) Notice 2017](#), making residual spectrum in both the 2 GHz and 3.4 GHz bands available for allocation by way of issuing spectrum licences. No allocation limits apply to this band. The 3.4 GHz frequencies and locations available for allocation through the multiband residual lots auction are summarised in **Table 3**.

1.3 Legislative framework

The Act provides the legislative framework for allocating spectrum licences. Provided below is a brief overview of the legislative instruments associated with the allocation of spectrum licences.

1.3.1 Allocation Determination

Section 60 of the Act requires the ACMA to determine written procedures to apply to the allocation of spectrum licences by auction, by tender or for a pre-determined price.

Section 294 of the Act allows the ACMA to fix the spectrum access charges payable by licensees for issuing spectrum licences, which may be won through an allocation process, such as an auction or a pre-determined price process. It also allows the ACMA to specify when the charges are payable.

A determination made under sections 60 and 294 of the Act essentially sets out the allocation rules for allocation by auction or, in some circumstances, for allocating spectrum licences for a pre-determined price. This includes procedures for

determining the spectrum access charges payable, based on the starting prices for each lot. For the multiband residual lots auction, the ACMA has made the [Allocation Determination](#).

Broadly speaking, the Allocation Determination specifies, among other things:

- > that the auction will be conducted using an SCA and the procedures for the auction
- > the allocation limits (also referred to as 'competition limits' or 'spectrum caps') on the amount of spectrum in the 1800 MHz band a person will be permitted to purchase in the auction—see 3.2.5
- > administrative matters such as the bidder registration process and the different payments auction participants may be required to make.

Further information about the procedures set out in the Allocation Determination is provided in Chapter 3.

1.3.2 Marketing plans

The marketing plans for the multiband residual lots have been made under either section 39 or section 39A of the Act. Section 39 of the Act requires the ACMA to prepare a marketing plan for issuing spectrum licences within a particular part of the spectrum where a spectrum designation notice has been made. Section 39A of the Act requires the ACMA to prepare a marketing plan for issuing spectrum licences within a particular part of the spectrum where a spectrum re-allocation declaration has been made.

A marketing plan made under section 39 or section 39A essentially sets out the product offering and may specify matters, including:

- > the procedures to be followed for issuing spectrum licences
- > how the spectrum is to be apportioned among the spectrum licences to be issued
- > the conditions, or types of conditions, that may be included in spectrum licences to be issued.

A marketing plan can also specify other matters.

New marketing plans have been made for the allocation of remaining lots in each of the bands for the multiband residual lots auction:

- > the [Radiocommunications Spectrum Marketing Plan \(1800 MHz unallocated lots band\) 2017](#) (1800 MHz marketing plan)
- > the [Radiocommunications Spectrum Marketing Plan \(2 GHz unallocated lots band\) 2017](#) (2 GHz marketing plan)
- > the [Radiocommunications Spectrum Marketing Plan \(2.3 GHz unallocated lots band\) 2017](#) (2.3 GHz marketing plan)
- > the [Radiocommunications Spectrum Marketing Plan \(3.4 GHz unallocated lots band\) 2017](#) (3.4 GHz marketing plan).

The following amending instruments have been made to remove the residual lots offered for allocation in the 1800 MHz and 2.3 GHz bands from the operation of previous marketing plans⁸:

⁸ The previous marketing plans for the 1800 MHz band and 2.3 GHz band were the [Radiocommunications Spectrum Marketing Plan \(1800 MHz Band\) 2015](#) and the [Radiocommunications Spectrum Marketing Plan \(2.3 GHz Band\) 2009](#).

- > the [Radiocommunications Spectrum Marketing Plan \(1800 MHz Band\) Variation 2017 \(No. 1\)](#)
- > the [Radiocommunications Spectrum Marketing Plan \(2.3 GHz Band\) Variation 2017 \(No. 1\)](#).

The marketing plan for each band specifies the spectrum product that will be available, the method by which the product will be allocated, and the conditions that will or may apply to the spectrum licences issued. Key aspects of the marketing plans are discussed in Chapter 3.

1.3.3 Technical framework

The technical framework for a spectrum licensed band is a set of technical conditions and instruments prepared by the ACMA for operation within a spectrum licensed band. Under the Act, the framework consists of three interlocking regulatory elements:

- > conditions on the licence (including core licence conditions)
- > a determination of unacceptable interference for the purpose of device registration
- > radiocommunications advisory guidelines.

The instruments that, in conjunction with licence conditions, constitute the technical framework of the spectrum licences and are made under subsection 145(4) and section 262 of the Act. Subsection 145(4) provides that the ACMA may determine what constitutes an ‘unacceptable level of interference’ for a spectrum-licensed band. The ACMA may refuse to include details of a transmitter on the Register of Radiocommunications Licences if it is satisfied that operation of the transmitter could cause an unacceptable level of interference to the operation of a radiocommunications device. If the transmitter is not included on the Register and is not exempt from the registration requirements, the licensee must not operate the transmitter under the licence.⁹ A determination under subsection 145(4) effectively, therefore, sets out the circumstances where the ACMA may refuse to register a device under the spectrum licence. Generally, these circumstances include:

- > if any part of the ‘device boundary’ falls outside the geographic area of the spectrum licence
- > if the operation of the transmitter will breach a core condition of the spectrum licence
- > if the device will exceed any specified deployment constraints.

Section 262 of the Act provides that the ACMA may make advisory guidelines about any aspect of radiocommunications. Generally, the radiocommunications advisory guidelines include provisions to assist in the assessment of the risk of interference between spectrum-licensed devices and services operating under apparatus or class licences.

As each of the four bands has previously been subject to allocation processes, the instruments for the technical frameworks already exist for each band and are available

⁹ Section 69 of the Act provides that spectrum licences must include a licence condition that radiocommunications transmitters not be operated under the licence unless the requirements of the ACMA under Part 3.5 for registration of the transmitter under that Part have been met. The condition may exempt particular kinds of radiocommunications transmitters from meeting those requirements.

on the [ACMA website](#) and on the Federal Register of Legislation at www.legislation.gov.au.

In order to support making the 1920–1935 MHz and 2110–2125 MHz frequency ranges available for spectrum licensing in Canberra, the ACMA has [consulted](#) on some minor changes proposed to the technical framework for the 2 GHz band during the recent designation¹⁰ process for the 2 GHz and 3.4 GHz bands. The changes are detailed in 2.3.1.

1.4 Stakeholder consultation

The ACMA has been working with relevant stakeholders on how best to allocate the multiband residual lots. This has included developing arrangements with appropriate regard to stakeholder views. Accordingly, the ACMA developed the allocation instruments and allocation processes in consultation with stakeholders, particularly prospective participants.

A [summary of the stakeholder consultation](#) undertaken in preparation for the auction, including links to all relevant information and documents, is available on the ACMA's website.

¹⁰ [Radiocommunications \(Spectrum Designation – 2GHz and 3.4 GHz Bands\) Notice 2017](#).

2. What is being offered in the auction?

This chapter provides information about:

- > **available lots in the multiband residual lots auction (in the 1800 MHz, 2 GHz, 2.3 GHz and 3.4 GHz bands)**
- > **how the spectrum will be configured as auction lots**
- > **key matters affecting how winning bidders can use the spectrum.**

2.1 Available spectrum

The multiband residual lots auction is being held in a three-stage auction format to allocate spectrum in the following locations and frequency ranges shown in Table 3.

Table 3: Multiband residual lots

Stage	Band	Lot #	Geographic area	Frequency (MHz)	Bandwidth
1	1800 MHz	1	Dubbo	1775–1780/ 1870–1875	2 x 5 MHz
		2	Mackay	1775–1785/ 1870–1880	2 x 10 MHz
		3	Maryborough	1745–1750/ 1840–1845	2 x 5 MHz
		4	Regional Western Australia	1780–1785/ 1875–1880	2 x 5 MHz
		5	Tasmania	1750–1755/ 1845–1850	2 x 5 MHz
	2 GHz	6	Canberra B ^{1,2}	1920–1930/ 2110–2120	2 x 10 MHz
		7	Darwin	1920–1930/ 2110–2120	2 x 10 MHz
		8	Hobart	1920–1930/ 2110–2120	2 x 10 MHz
2	2 GHz	9	Adelaide	1930–1935/ 2120–2125	2 x 5 MHz
		10	Brisbane A	1930–1935/ 2120–2125	2 x 5 MHz
		11	Canberra A ²	1930–1935/ 2120–2125	2 x 5 MHz
		12	Darwin	1930–1935/ 2120–2125	2 x 5 MHz
		13	Hobart	1930–1935/ 2120–2125	2 x 5 MHz
		14	Perth	1930–1935/ 2120–2125	2 x 5 MHz
3	2.3 GHz	15	Cameron Corner	2365–2400	35 MHz
		16	Central Australia	2337–2365	28 MHz
		17	Delamere	2302–2400	98 MHz
		18	Geraldton/Kalgoorlie	2365–2400	35 MHz
		19	Gold Fields	2337–2365	28 MHz
		20	Kimberley	2365–2400	35 MHz
		21	Melbourne	2393–2400	7 MHz
		22	Mid West Radio Quiet Zone	2337–2365	28 MHz

Stage	Band	Lot #	Geographic area	Frequency (MHz)	Bandwidth
		23	NSW East	2393–2400	7 MHz
		24	Outer ACT	2302–2330	28 MHz
		25	Telfer Mine	2302–2400	98 MHz
	3.4 GHz	26	Adelaide	3439–3442.5	3.5 MHz
		27	Brisbane B	3490–3492.5	2.5 MHz
		28	Brisbane B	3542.5–3575	32.5 MHz
		29	Canberra A	3490–3492.5	2.5 MHz
		30	Canberra A	3542.5–3547	4.5 MHz
		31	Hobart	3439–3442.5	3.5 MHz
		32	Hobart	3489–3492.5	3.5 MHz
		33	Launceston	3439–3442.5	3.5 MHz
		34	Launceston	3489–3492.5	3.5 MHz
		35	Rockhampton	3490–3492.5	2.5 MHz
		36	Rockhampton	3542.5–3547	4.5 MHz
		37	Sydney B	3542.5–3546	3.5 MHz
		38	Toowoomba	3490–3492.5	2.5 MHz
		39	Toowoomba	3542.5–3547	4.5 MHz

Note 1: This lot does not include an area immediately surrounding the CDSCC to protect deep space transmitters.

Note 2: This lot includes a no protection condition from interference that may be caused by CDSCC deep space transmitters.

2.2 Multiband residual lots

To be allocated efficiently, spectrum needs to be appropriately configured before it is offered to market. This process is referred to as lot configuration. Where appropriate, spectrum is packaged into units, referred to as spectrum lots. There are two dimensions to lot configuration—bandwidth and geography. In deciding lot configuration for any allocation, the ACMA considers a range of factors, including the source of demand and the technical characteristics of the spectrum. The technical frameworks for the spectrum on offer have been optimised to support the current uses in the bands, such as mobile or fixed wireless broadband services. While accommodating existing uses in the bands, the frameworks are technologically flexible allowing for other uses.

2.2.1 Lot configuration

Following the ACMA’s consideration of stakeholder submissions to [consultation](#) on the multiband residual lots auction the residual spectrum has been configured into 39 lots.

Due to the number of bands and the total number of lots on offer, the ACMA believes it would not be appropriate to offer all of them concurrently in a single stage. Therefore, for convenience and ease of bidding and managing the auction, the ACMA will run the multiband residual lots auction in three sequential stages:

- > stage 1—all lots in the 1800 MHz band and the three 2 x 10 MHz lots in the 2 GHz band

- > stage 2—the six 2 x 5 MHz lots in the 2 GHz band
- > stage 3—all lots in the 2.3 GHz and 3.4 GHz bands.

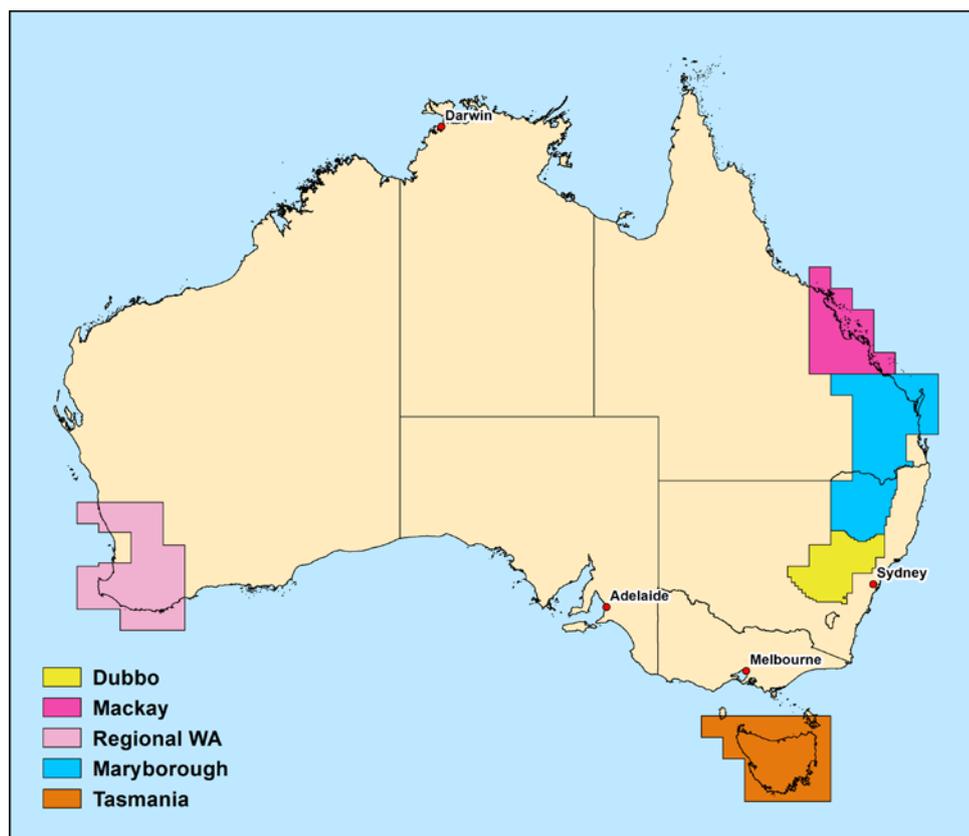
Table 3 above sets out the sequence of lots available in each stage of the auction.

2.2.2 Geographic areas

As discussed in the ACMA’s [consultation paper](#) on the multiband residual lots auction, the ACMA considered the dispersed location and the various amounts of bandwidth available at each location. Following the ACMA’s consideration of stakeholder submissions to consultation, the regions listed above in **Table 3** and indicated on the maps provided below show the location of the lots on offer. The maps are only an indicative pictorial representation of each region and interested persons should satisfy themselves of the geographic boundaries of each region.

The geographic areas for the multiband residual lots are defined using a hierarchical cell identification scheme (HCIS).¹¹ The HCIS is a naming convention developed by the ACMA that applies unique labels to each square cell in the Australian Spectrum Map Grid¹², derived from the cell’s position in a hierarchically arranged group of cells. Schedule 2 to each of the four marketing plans reflects these geographic boundaries.

Figure 1: Map of defined geographical areas—1800 MHz



¹¹ HCIS coordinates can be converted into a Placemark file (viewable in Google Earth or other GIS tools) through a facility on the ACMA website: www.acma.gov.au/theACMA/convert-hcis-area-description-to-a-placemark.

¹² Access the [Australian spectrum map grid 2012](#).

Figure 2: Map of defined geographical areas—2 GHz

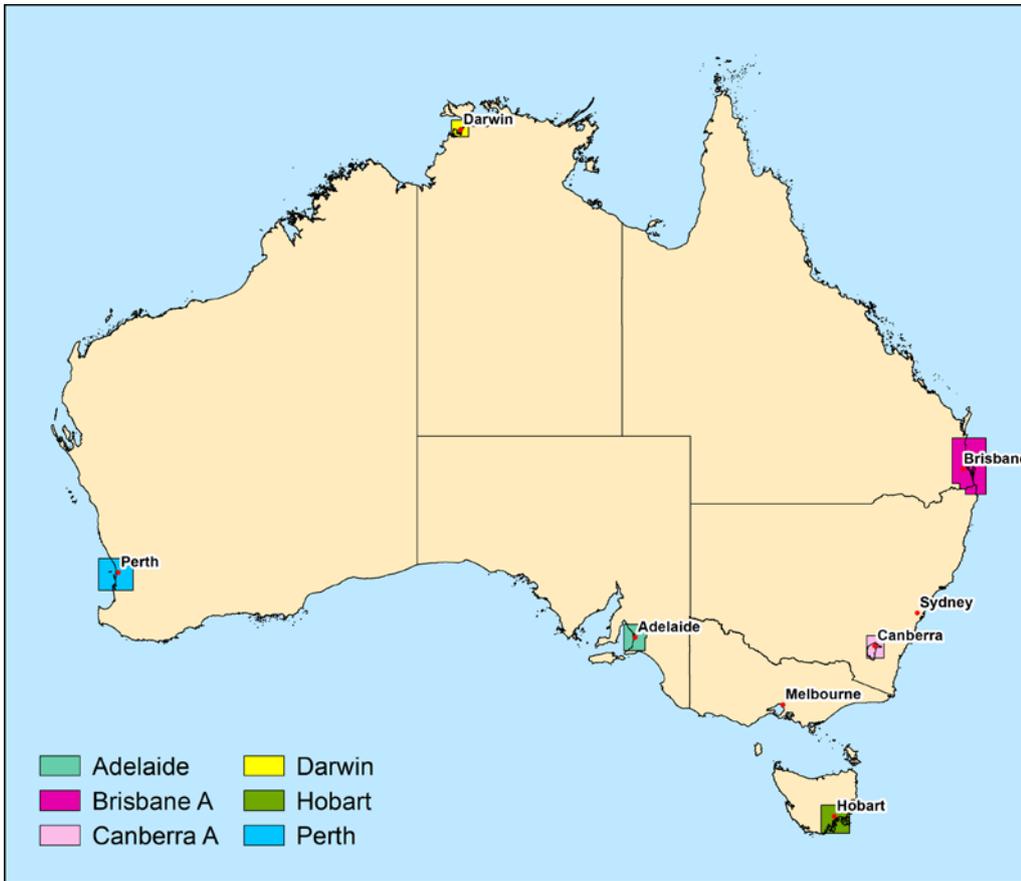


Figure 3: Map of defined geographical areas—2 GHz in Canberra

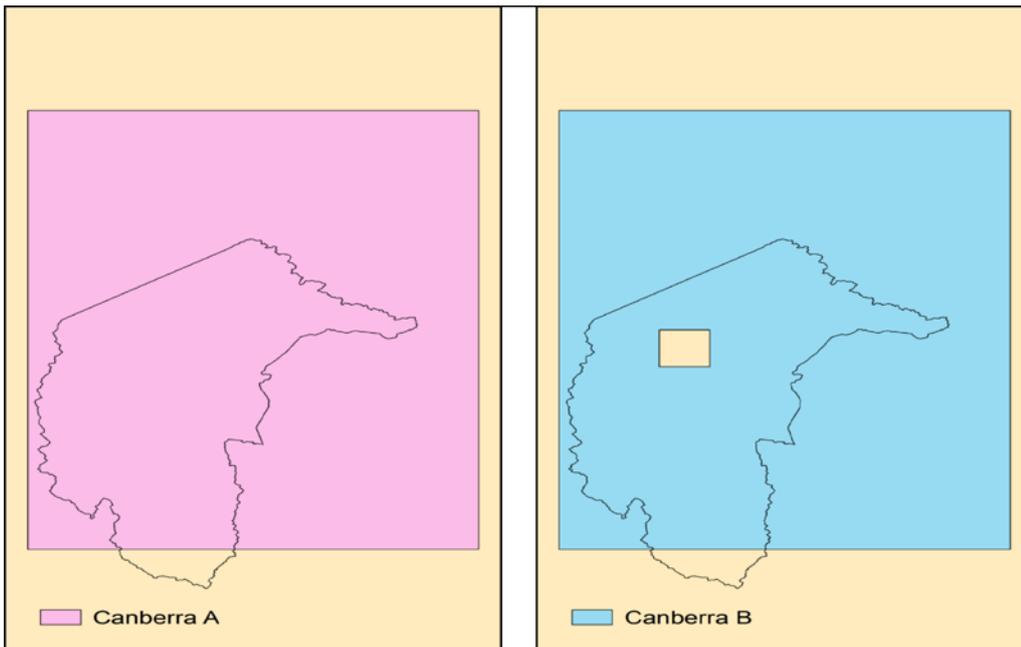


Figure 4: Map of defined geographical areas—2.3 GHz in South Eastern Australia

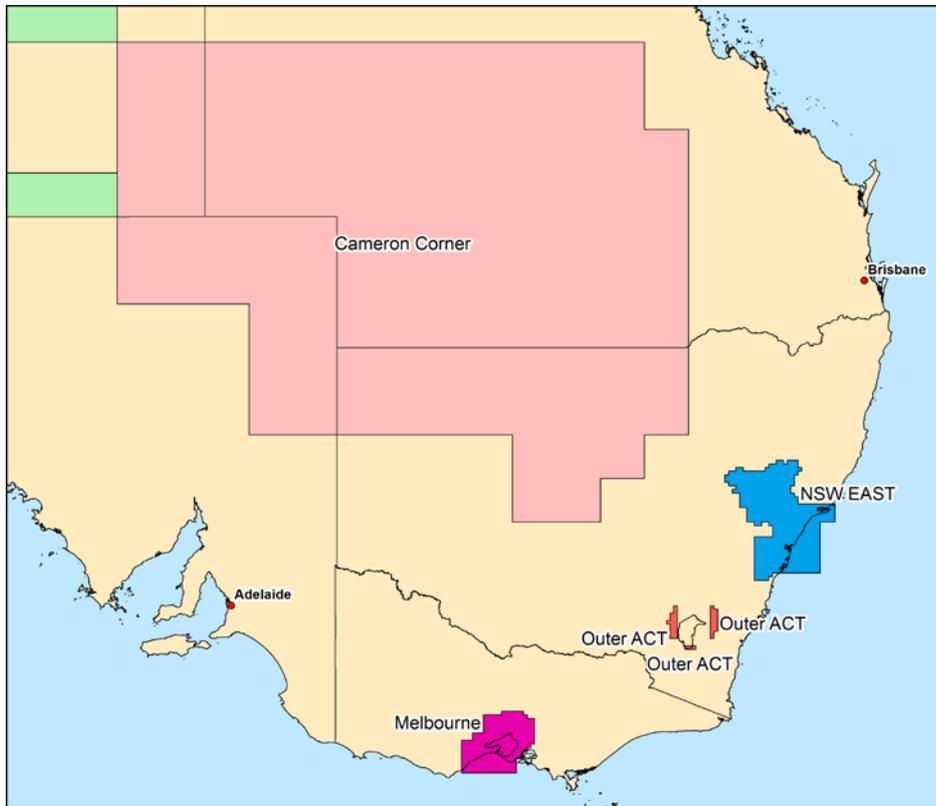


Figure 5: Map of defined geographical areas—2.3 GHz in Central and Western Australia

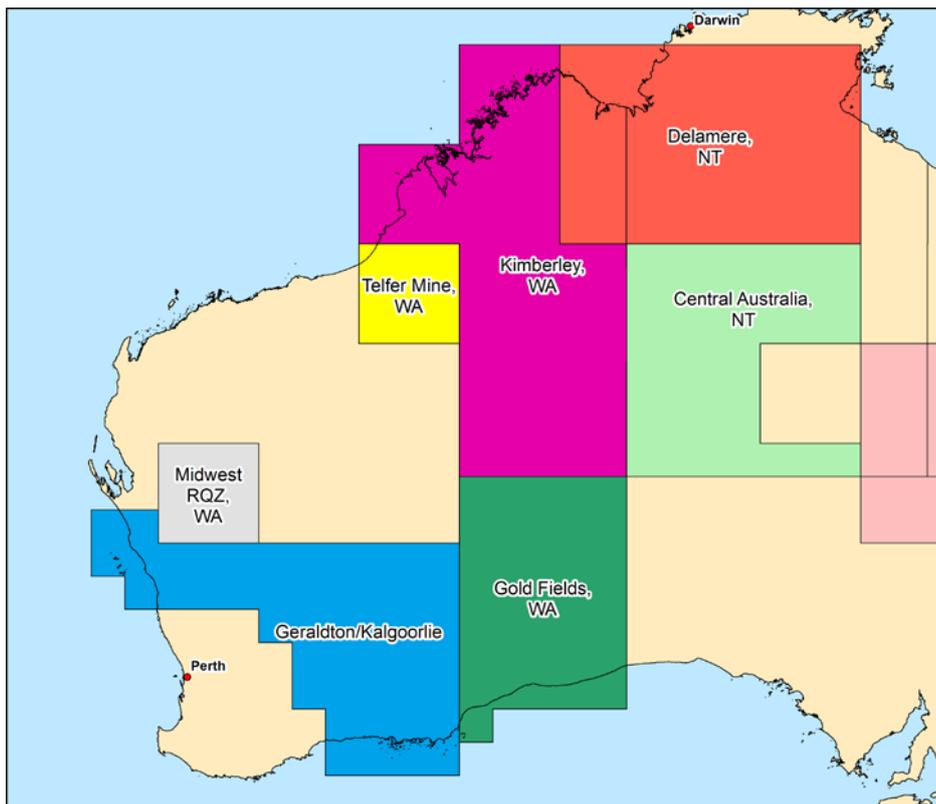
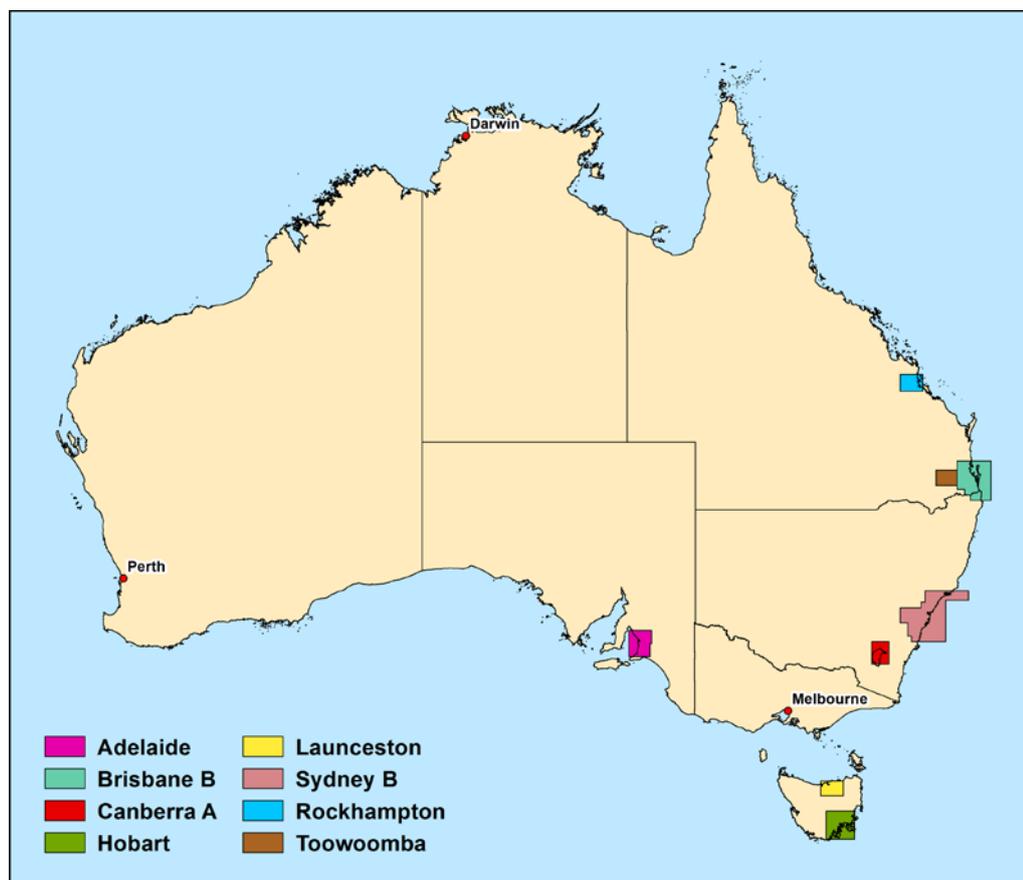


Figure 6: Map of defined geographical areas—3.4 GHz



*Not to scale.

2.3 Key issues affecting the use of the spectrum

2.3.1 Spectrum to be allocated as spectrum licences

Spectrum lots won at auction, or allocated for a pre-determined price, will be allocated as spectrum licences issued under section 62 of the Act.

Spectrum licences authorise licensees to operate radiocommunications devices for a fixed period, within a parcel of spectrum space—that is, within a particular frequency range and within a particular geographic area. Spectrum licensing offers a technology-flexible, market-oriented approach to managing the radiofrequency spectrum in that licensees may:

- > subject to some limits, subdivide and trade their spectrum licences
- > change their services over time in response to the changing market environment and new technologies.

Spectrum licensees must comply with:

- > the Act
- > a set of core licence conditions
- > statutory licence conditions
- > other licence conditions

Detailed information about spectrum licensing and the technical frameworks applicable to the 1800 MHz, 2 GHz, 2.3 GHz and 3.4 GHz bands, and other important matters for

spectrum licensees to be aware of, is provided in Chapter 5. Information specific to the spectrum licences to be issued for the lots on offer in the multiband residual lots auction is available in the marketing plans. Each marketing plan includes a sample licence containing the conditions that may be included in a spectrum licence to be allocated.

Following is information about a number of key issues affecting use of the spectrum on offer that may be of particular interest to prospective auction participants.

Continued operation of fixed links—1800 MHz

Before the 1800 MHz allocation process in 2015, the 1800 MHz regional band was used largely for the provision of apparatus-licensed fixed point-to-point services (fixed links), the majority of which were licensed to Telstra. During consultation, Telstra advised that it would be unlikely to be able to clear all of its fixed links from the band before the end of the reallocation period on 29 May 2017, when its apparatus licences would be cancelled by operation of the Act. While Telstra has made good progress in clearing these links since the end of the reallocation period, there are still a number of links that require more time to clear. In light of this, the ACMA has issued apparatus licences to Telstra to authorise the operation of these fixed links after the end of the reallocation period, and the marketing plan for the 1800 MHz band includes, at Schedule 5, a list of these fixed links (specified fixed links). In all, there are 20 specified fixed links listed in the 1800 MHz marketing plan.

A licence issued as a result of the multiband residual lots auction will include a condition¹³, stating that where:

- > a service is provided using the same parameters as a fixed link specified in Table 1 of Schedule 5 to the 1800 MHz marketing plan; and
- > the specified fixed service uses frequencies wholly or partly within the 1800 MHz band; and
- > the specified fixed service is provided using a radiocommunications device operated under an apparatus licence;

then the spectrum licensee:

- > must not operate radiocommunications transmitters under the spectrum licence in a manner that would be inconsistent with Part 2 of the [Radiocommunications Advisory Guidelines \(Managing Interference from Spectrum Licensed Transmitters – 1800 MHz Band\) 2012](#) (1800 MHz RAG), which specifies the out-of-band and in-band protection to be afforded to specified fixed services as outlined in [Radiocommunications Assignment and Licensing Instruction FX 3 Microwave Fixed Services Frequency Coordination](#); and
- > cannot claim protection from specified fixed services listed in Table 1 of Schedule 5 to the 1800 MHz marketing plan.

The effect of this condition is that spectrum licensees in the band cannot establish operation of, or use, any devices authorised by the spectrum licences in a manner that causes interference to the operation of any radiocommunications device authorised by an apparatus licence issued in relation to the specified fixed links. Also, devices operated under a spectrum licence cannot claim protection from interference caused by such radiocommunications devices.

The specified fixed links operating under apparatus licences, issued in accordance with the special circumstances provision of paragraph 153P(3)(d) of the Act, are protected from interference from devices operated under spectrum licences. The

¹³ See the 1800 MHz marketing plan, condition 8 of licence schedule 6 to the sample spectrum licence.

ACMA has issued apparatus licences to Telstra for the purposes of this condition. Details of apparatus licences are available from the Register of Radiocommunications Licences.

It is anticipated that Telstra will clear all specified fixed links before the end of the first quarter of 2018; however, potential applicants for 1800 MHz lots in the multiband residual lots auction should note that, in the majority of cases, apparatus licences for these fixed links have been issued for an additional three months after the anticipated clearance dates to allow for any unforeseen circumstances that may delay clearances. The ACMA will provide successful bidders with a schedule of dates by which it expects Telstra to clear its fixed links from the band. Telstra will also provide regular updates to the ACMA on its progress against the clearance schedule. The ACMA will update successful bidders accordingly, so that they know when they can deploy services in affected areas.

Spectrum in the Canberra region—2 GHz

Of the 2 x 15 MHz of spectrum available in Canberra, the 2 x 10 MHz bounded by 1920–1930 MHz and 2110–2120 MHz has been designated to be available in the Canberra B region, which excludes an area that encompasses the Canberra Deep Space Communication Complex (CDSCC). The other Canberra lot, 2 x 5 MHz bounded by 1930–1935 MHz and 2120–2125 MHz, is available in the Canberra A region, which includes the area encompassing the CDSCC.

A condition will be attached to all licences stating that devices operated in the 2110–2125 MHz frequency range cannot claim protection from interference caused by transmitters operating at the CDSCC in the 2025–2120 MHz frequency range. This condition is also intended to ensure that any spectrum licences issued in the 1920–1935 MHz and 2110–2125 MHz frequency ranges in Canberra will not constrain current or future operations at the CDSCC in the 2110–2120 MHz frequency range.

The [Radiocommunications \(Unacceptable Levels of Interference – 2 GHz Band\) Determination Variation 2017 \(No.1\)](#) has amended the [Radiocommunications \(Unacceptable Levels of Interference – 2 GHz Band\) Determination 2016](#) to include technical requirements in relation to spectrum licences issued in Canberra. It was recently updated to remove the requirement for transmitters operating under a spectrum licence in the 2110–2120 MHz frequency range to meet the device boundary criteria in the area defined by the MW4H6 hierarchical cell identification scheme (HCIS) identifier (the cell in which the CDSCC operates).

2.3.2 Licence commencement and expiry

In accordance with the Allocation Determination and the marketing plans, spectrum licences for the multiband residual lots allocated as a result of the multiband residual lots auction (or for a pre-determined price) will commence after payment of the pre-determined or winning price. The expiry date for each spectrum licence will align with the expiry date that applies to spectrum licences currently issued in the bands; these dates are:

- > 1800 MHz: expiry 17 June 2028
- > 2 GHz: expiry 11 October 2032
- > 2.3 GHz: expiry 24 July 2030
- > 3.4 GHz: expiry 13 December 2030.

Under the Act, there is no right of renewal for spectrum licences. Rules for the re-issuing of spectrum licences are set out in Division 4 of Part 3.2 of the Act.

The Department of Communications and the Arts has conducted a review into potential reform of the spectrum management framework in Australia, and has published and consulted on draft legislation as a consequence of that review. At the time this Auction guide was prepared, no Bills had been introduced into the Commonwealth Parliament. Given the timeframes associated with the multiband residual lots auction, the ACMA will allocate and issue spectrum licences under the Act, and the regulatory regime established by the Act will continue to apply to these licences. However, there is the prospect that the Commonwealth Parliament will change the regulatory regime in line with the review conducted by the Department of Communications and the Arts before these spectrum licences expire. Information on spectrum reform is available from [Department of Communication and the Arts \(DoCA\) website](#), or by contacting spectrumreform@communications.gov.au.

Part two—Participating in the auction

3. How will the auction be conducted?

This chapter provides information about:

- > **the SCA format**
- > **the SCA procedures**
- > **other key auction procedures**
- > **the online auction system**
- > **mock auction and support for bidders.**

Important warning: The information in this chapter is intended to provide only a general overview of the procedures contained in the Radiocommunications (Spectrum Licence Allocation — Multi-band Auction) Determination 2017.

Potential applicants should *not* rely on this information, but should instead carefully review and understand the content of the Allocation Determination itself.

3.1 The SCA format

The multiband residual lots auction will be conducted online using a sequential SCA format according to the procedures set out in the Allocation Determination. A practical step-by-step guide to registering as a bidder and participating in the auction is provided in Chapter 4.

This chapter provides general information about the auction system and information about how the auction process works. In this auction, bidders will compete for spectrum licences. Broadly speaking, instead of authorising the operation of a specific device or type of device, a spectrum licence authorises the use of ‘spectrum space’ within a geographic area and frequency band, provided that the device operating in that space complies with the technical framework for spectrum licensing in the band.

This chapter explains how the ACMA will use the SCA format to allocate spectrum lots to winning bidders. Lots are like the ‘building blocks’ of spectrum space. The auction process allocates lots to the applicants who value them most highly and bid accordingly to win those lots. Lots which are sold to the one bidder may be combined after the auction by the ACMA to form a spectrum licence.¹⁴ The spectrum lots on offer in the auction are defined in the respective marketing plans.

3.1.1 Auction rounds

The SCA format uses a simple ascending-bid method, formalising the process by which prices increase from round to round, and how much time bidders are given in between rounds. In this auction, the lots will be offered concurrently within a stage and there will be three sequential stages.

Before each round, the auction manager states the price of a lot (the specified price) that the bidder must meet in the upcoming round to be eligible to place a bid in the subsequent round. The specified price is calculated by reference to the specified price for the lot in the previous round, plus the bid increment percentage for that lot. The bidder can make a bid at or above the specified price (a continue bid) or place a lower bid (an exit bid). An exit bid must be equal to or greater than the specified price for the previous round of the auction (or the starting price, if the round is the first round). If a bid for a lot is lower than the specified price of the current round—that is, if it is an exit bid—then it is the bidder’s final bid for that lot. Once a bidder has made an exit bid, the bidder cannot resume bidding on that lot in future rounds.

The bidder can also place a continue bid above the specified price for the round using the ‘advance price’ feature. The system automatically accepts that ‘advance price’ as the bidder’s bid in subsequent rounds until either 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 (whichever occurs first).

¹⁴ For the purposes of the multiband residual lots auction, all spectrum licences will be issued in the single licence format. That is, for each licensee, spectrum won at auction, within a band, may be issued in one licence.

Bidding on a lot ceases when there is only one continue bid made on the lot in a round, where only exit bids are made on the lot in a round, or where no bids are made on the lot in a round. A bidder will only win if no other bidder places a higher bid, such as when there is only one bidder who bids at least the specified price in the final round, or a bidder who places the highest exit bid in the final round. The highest bidder in the final round wins 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 that are higher than all other bids, the winning bidder will be chosen by pseudorandom selection. The winning bidder will pay the amount of the last bid made by the winning bidder (that is, the amount of the tied exit bid).

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 exit bid around this figure, for example \$503,000. Bidders should obtain their own advice about their valuation of lots and bidding strategies.

3.1.2 SCA training and bidding strategies

The ACMA will arrange for registered bidders to be provided with an opportunity to trial the SCA system prior to the auction commencing. In addition, registered bidders will be provided with a user guide for the auction system.

Importantly, registered bidders should not rely solely on the instruction material provided by the ACMA on the SCA system. Instructions will be concerned only with the ‘mechanics’ of bidding and how to operate the online auction system. The ACMA will not provide instruction or advice on bidding strategies, or on all the possible effects of the actions of bidders during the auction process. Applicants should seek such legal and other expert advice as they consider necessary in relation to the auction system.

3.2 Key auction procedures

The following information provides an overview of the main auction procedures. Detailed information on the bidding process and actions associated with this are provided in Chapter 4.

3.2.1 Application

Before the application deadline on **27 October 2017 (at or before 5.00 pm)**, applicants are required to:

- > give the ACMA a completed application form (information about the applicant’s associates will be required for applicants who nominate one or more 1800 MHz lots)
- > give the ACMA a deed of acknowledgement
- > give the ACMA a deed of confidentiality executed by the applicant
- > give the ACMA a completed preference nomination form
- > pay the application fee
- > pay a deposit, provide a deed of financial security, or do both
- > if the applicant is applying for a 1800 MHz lot and is not an existing 1800 MHz licensee, give a statutory declaration stating whether the applicant is affiliated with an existing 1800 MHz licensee.

Before the application deadline, applicants are required to submit a completed preference nomination form setting out which lot or lots they want to bid on. The 1800 MHz allocation limits may restrict the 1800 MHz lots that applicants may nominate. Applicants are also required to pay a deposit or give a deed of financial security for the amount of 10 per cent of the starting price for their preferred lots, by the application deadline. The starting prices are set out in 3.2.2.

During the auction, a registered bidder will only be able to bid on, and access pricing information on those lots nominated in its preference nomination form. If a bidder stops bidding on a lot, they will continue to see pricing information while bidding on the lot continues in subsequent rounds of the auction.

3.2.2 Starting prices and preference nomination

The ACMA has set starting prices for the 39 lots on offer, as shown in Table 4 below.

Table 4: Starting prices

Stage	Band	Lot number	Geographic name	Frequency (MHz)	Bandwidth (MHz)	Population at Sept 2017	Starting price
1	1800 MHz	1	Dubbo	1775–1780/ 1870–1875	2 x 5 MHz	328,384	\$252,000
		2	Mackay	1775–1785/ 1870–1880	2 x 10 MHz	373,213	\$1,120,000
		3	Maryborough	1745–1750/ 1840–1845	2 x 5 MHz	1,165,378	\$4,302,000
		4	Regional Western Australia	1780–1785/ 1875–1880	2 x 5 MHz	305,785	\$235,000
		5	Tasmania	1750–1755/ 1845–1850	2 x 5 MHz	534,645	\$410,000
	2 GHz	6	Canberra B ^{1,2}	1920–1930/ 2110–2120	2 x 10 MHz	487,886	\$2,147,000
		7	Darwin	1920–1930/ 2110–2120	2 x 10 MHz	143,239	\$630,000
		8	Hobart	1920–1930/ 2110–2120	2 x 10 MHz	268,315	\$1,181,000
2	2 GHz	9	Adelaide	1930–1935/ 2120–2125	2 x 5 MHz	1,421,568	\$2,346,000
		10	Brisbane A	1930–1935/ 2120–2125	2 x 5 MHz	3,480,010	\$5,742,000
		11	Canberra A ²	1930–1935/ 2120–2125	2 x 5 MHz	487,911	\$805,000
		12	Darwin	1930–1935/ 2120–2125	2 x 5 MHz	143,239	\$236,000
		13	Hobart	1930–1935/ 2120–2125	2 x 5 MHz	268,315	\$443,000
		14	Perth	1930–1935/ 2120–2125	2 x 5 MHz	2,063,407	\$3,405,000

Stage	Band	Lot number	Geographic name	Frequency (MHz)	Bandwidth (MHz)	Population at Sept 2017	Starting price
3	2.3 GHz	15	Cameron Corner	2365–2400	35 MHz	69,154	\$12,000
		16	Central Australia	2337–2365	28 MHz	11,823	\$2,000
		17	Delamere	2302-2400	98 MHz	34,740	\$17,000
		18	Geraldton/ Kalgoorlie	2365–2400	35 MHz	111,339	\$19,000
		19	Gold Fields	2337–2365	28 MHz	1,037	\$1,000
		20	Kimberley	2365–2400	35 MHz	27,824	\$5,000
		21	Melbourne	2393–2400	7 MHz	4,947,227	\$173,000
		22	Mid West Radio Quiet Zone	2337–2365	28 MHz	419	\$1,000
		23	NSW East	2393–2400	7 MHz	5,694,577	\$199,000
		24	Outer ACT	2302–2330	28 MHz	1,692	\$1,000
		25	Telfer Mine	2302–2400	98 MHz	140	\$1,000
	3.4 GHz	26	Adelaide	3439– 3442.5	3.5 MHz	1,421,568	\$25,000
		27	Brisbane B	3490– 3492.5	2.5 MHz	3,093,768	\$39,000
		28	Brisbane B	3542.5– 3575	32.5 MHz	3,093,768	\$1,005,000
		29	Canberra A	3490– 3492.5	2.5 MHz	487,911	\$6,000
		30	Canberra A	3542.5– 3547	4.5 MHz	487,911	\$11,000
		31	Hobart	3439– 3442.5	3.5 MHz	268,315	\$5,000
		32	Hobart	3489– 3492.5	3.5 MHz	268,315	\$5,000
		33	Launceston	3439– 3442.5	3.5 MHz	135,476	\$2,000
34		Launceston	3489– 3492.5	3.5 MHz	135,476	\$2,000	
35		Rockhampton	3490– 3492.5	2.5 MHz	120,890	\$2,000	
36		Rockhampton	3542.5– 3547	4.5 MHz	120,890	\$3,000	
37		Sydney B	3542.5– 3546	3.5 MHz	6,058,117	\$106,000	
38		Toowoomba	3490-3492.5	2.5 MHz	202,099	\$3,000	
39		Toowoomba	3542.5– 3547	4.5 MHz	202,099	\$5,000	

3.2.3 Withdrawal from the auction

A person who has applied for registration as a bidder may only withdraw from the auction *before* the application deadline by written notice given to the ACMA. An applicant may not withdraw after the application deadline. An applicant who has withdrawn will not be readmitted to the auction. In some circumstances, the Allocation Determination provides that an applicant may be taken to have withdrawn its application.

Applicants who withdraw from the auction will remain subject to the confidentiality provisions in the Allocation Determination until after the end of the auction period (see 3.2.7). The ACMA will notify withdrawn applicants as soon as practicable after the end of the auction period that their confidentiality obligations have ended. As previously outlined, withdrawn applicants will not be refunded their application fee, but will, subject to any decision by the ACMA to retain the deposit in accordance with section 81 of the Allocation Determination, be refunded any deposit they have paid to the ACMA.

3.2.4 Bidder registration

Parties wishing to participate in the auction will need to be registered as a bidder. The ACMA will only register an applicant as a bidder if:

- > a valid application has been received by the ACMA by the application deadline
- > a completed preference nomination form has been submitted to the ACMA by the application deadline
- > a deposit has been paid to, or a deed of financial security has been received by, the ACMA (or a combination of both) by the application deadline.

Details about the procedures involved at each stage of the registration process (including information about the relevant payments, forms and deadlines) are provided in the step-by-step guide in Chapter 4.

Only parties who have fulfilled all requirements (including the completion and lodgement of all relevant deeds and other forms) within the application deadline will be entitled to participate in the auction.

Subject to the requirements of each stage being met, the ACMA will contact registered bidders after the application deadline¹⁵ (**27 October 2017**) to confirm their registration and provide them with relevant material (including information about how to access and use the online auction system) to enable them to participate in the auction. Bidders will be required to keep secure any material provided to them during the auction period¹⁶ and to notify the ACMA immediately of any relevant disclosure, 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 auction outcome, it may take action under the breach provisions discussed at 3.2.8.

¹⁵ 'Application deadline' is the date and time before which a completed application form, preference nomination form, deposits or deeds of financial security, and other documents must be given to the ACMA.

¹⁶ 'Auction period' is defined in subsection 4(1) of the Allocation Determination, and means the period commencing on the application deadline and ending at the close of the auction under clause 13 of Schedule 1 to the Allocation Determination.

3.2.5 Allocation limits—1800 MHz

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 Act.

The allocation limits applicable to the multiband residual lots auction apply to the 1800 MHz band only. The [1800 MHz limits direction](#) directs the ACMA to determine procedures that impose limits that ensure that no one person or specified group of persons¹⁷ may use more than 25 MHz of each of the following parts of the spectrum available in regional Australia:

- > 1725 MHz to 1785 MHz; and
- > 1820 MHz to 1880 MHz

The allocation limits that were previously in force in relation to the 2 GHz band were [revoked](#) by the minister on 30 August 2017.

The Allocation Determination includes procedures that ensure that the 1800 MHz allocation limits are complied with.

3.2.6 Affiliations—1800 MHz band

Two applicants or bidders will be affiliated if one is an ‘associate’ of the other, or if they have an associate in common.¹⁸ An applicant or bidder is affiliated with another applicant or bidder if the specified group of persons in relation to one applicant or bidder has at least one member in common with the specified group of persons in relation to the other applicant or bidder.

An applicant or bidder will be affiliated with an existing 1800 MHz licensee if one is an ‘associate’ of the other, or if they have an associate in common. An applicant or bidder is affiliated with an existing 1800 MHz licensee if the specified group of persons in relation to the applicant or bidder has at least one member in common with the specified group of persons in relation to the existing 1800 MHz licensee.¹⁹

There are rules in place to identify and respond to affiliations formed before, during, and after the auction. Given the nature of the 1800 MHz lots on offer, the 1800 MHz allocation limits are only likely to be exceeded where a person who already holds a spectrum licence in the 1800 MHz band nominates an 1800 MHz lot, or is affiliated with a person who nominates an 1800 MHz lot. Details about existing spectrum licences in the 1800 MHz band are available on the [Register of Radiocommunications Licences](#).

Affiliation procedures before auction

When lodging an application, applicants who have nominated a lot in the 1800 MHz band as one of its preferred lots will be required to provide information about the identity of their associates. If an applicant has nominated one or more 1800 MHz lots in its preference nomination form and the applicant is not an existing 1800 MHz licensee, the applicant will also be required to provide a statutory declaration with their

¹⁷ The [1800 MHz limits direction](#) defines ‘specified group of persons’ as ‘an applicant for a spectrum licence and all of the associates of the applicant’.

¹⁸ ‘Associate’ is defined in section 11 of the Allocation Determination.

¹⁹ Affiliation between applicant or bidder and existing 1800 MHz licensee is defined in section 13 of the Allocation Determination.

application, stating whether they are affiliated with an existing 1800 MHz licensee—and, if so, providing details of the affiliation.

If an affiliation is identified at this stage, and if the affiliation could result in the 1800 MHz allocation limits being exceeded, the affiliated applicants will have the option of submitting a new preference nomination form to remove any 1800 MHz lots that could be affected by the operation of the 1800 MHz allocation limits, and to add any other lots to replace those removed 1800 MHz lots.

Affiliations during auction

If during the auction period a bidder on a 1800 MHz lot believes it may be affiliated with another bidder on a 1800 MHz lot, or with an existing 1800 MHz licensee, the bidder must immediately report the matter in writing to the ACMA. If during the auction period, the ACMA is satisfied that one bidder for a 1800 MHz lot is affiliated with another bidder for a 1800 MHz lot, or with an existing 1800 MHz licensee, the auction will continue and any affiliation issues will be considered after the auction.

Affiliation procedures after auction

As soon as practicable after the end of the auction period, the ACMA will give each winning bidder for a 1800 MHz lot details about the identity of all other winning bidders for 1800 MHz lots, including the details of those bidders' associates. Each winning bidder will then be required to provide to the ACMA a statement about whether they are affiliated with another winning bidder for a 1800 MHz lot or an existing 1800 MHz licensee—and, if so, provide details of the affiliation. If an affiliation is identified at this stage, the allocation limits will cap the amount of spectrum that can be issued to the affiliated bidders, which may result in the winning bidders being issued licences for fewer lots than they won in the auction. Regardless of this, the winning bidder will remain liable to pay the full balance of the winning price for all of the lots they have won.

3.2.7 Confidentiality

Applicants, bidders and 'related persons'²⁰ 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 allocation outcome. The rules are intended to guard against anti-competitive behaviour in the auction or other allocation processes and to complement the prohibition on cartel conduct contained in the Competition and Consumer Act.

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

- > to obtain advice on the auction from a person in their professional capacity; and
- > to obtain finance to purchase spectrum licences in the auction; and
- > to the ACMA; and
- > to another related person of that applicant or bidder; or
- > as authorised by the Allocation Determination or otherwise required by law.

²⁰ 'Related person' is defined in section 4 of the Allocation Determination.

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.

Confidential information is defined in the Allocation Determination and includes any information that, if disclosed, could be reasonably expected to affect another applicant's or bidder's behaviour in the auction, or the auction outcome. This includes information about an applicant's or a bidder's bids or proposed bids, bidding strategy or lot valuations.²¹

Applicants are required to complete a deed of confidentiality as part of the bidder registration process. Each 'related person' who has knowledge of the applicant's or bidder's confidential information will (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 be required to complete a deed of confidentiality. By completing the deed, applicants and their related persons will be agreeing not to disclose confidential information before their confidentiality obligations have ceased to apply. The precise point at which the rules cease to apply to an applicant, bidder or their related persons will depend on whether the applicant or bidder is a winning bidder, is not a winning bidder, or withdraws from the auction.

Applicants, bidders and their 'related persons' 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 two working days after they become aware the breach has occurred. If the auction manager is satisfied that the auction has been affected by a breach of the confidentiality rules, they may take steps to, among other options, stop the auction, or wind the auction back to an earlier point (see 3.2.18). Applicants or bidders who breach the confidentiality rules may be subject to the breach provisions discussed at 3.2.8.

3.2.8 Breaches of the auction procedures

Section 81 of the Allocation Determination will apply in cases where the ACMA is satisfied that an applicant or bidder (or, where applicable, a related person) has breached a provision of the Allocation Determination. If the ACMA makes such a decision:

- > the ACMA may retain a deposit paid, or enforce a deed of financial security given by the applicant or bidder
- > in accordance with sections 82 and 83, the applicant or winning bidder may not, regardless of whether they have paid the applicable winning price or pre-determined price, be issued a licence for any spectrum they won in the auction.

For example, the ACMA may apply these sanctions if it is satisfied that an applicant or bidder (or one of an applicant's related persons) breached the confidentiality rules during the auction period in a way that affected the outcome of the auction. Sanctions may also be applied if, after the end of the auction period, a winning bidder (or one of their related persons) breaches the confidentiality rules before their confidentiality obligations come to an end, or fails to provide a statement about whether they are affiliated with another winning bidder. These examples do not limit the circumstances in which the ACMA may take enforcement action.

Section 84 of the Allocation Determination provides that, where the ACMA acts under section 81, the affected applicant or bidder may, within a year of being notified by the

²¹ 'Confidential information' is defined in section 16 of the Allocation Determination.

ACMA about the breach, apply to the Federal Court for the return of all or part of any amount retained by the ACMA.

3.2.9 Allocation of licences for a pre-determined price before auction

Part 5 of the Allocation Determination deals with the pre-determined price (PDP) allocation process (the first PDP process). The first PDP process provides that in cases where only one applicant nominates a particular lot as its preferred lot, the ACMA may offer this lot to the applicant for a pre-determined price (the starting price). In considering such an option, the ACMA would have regard to:

- > the information provided by applicants in relation to their preferred lots
- > any other information about each applicant's preferred lots provided to the ACMA.

This is a standard process, regularly included in an Allocation Determination for every auction. In such a circumstance, the ACMA will write to the relevant applicant or applicants, setting out the offer of a spectrum licence. Such an offer would include a draft copy of the licence and relevant pricing information. An applicant wishing to accept the offer must do so in writing, in accordance with requirements set out in the Allocation Determination.

Before the ACMA offers a spectrum licence for an 1800 MHz lot under the first PDP process, the ACMA will give the relevant applicant details about the identity of each other 1800 MHz applicant that may be offered a spectrum licence for a 1800 MHz lot as part of the first PDP process. The ACMA will request that each notified applicant give details of each associate of the applicant. The ACMA will also request that the applicant give a statement (Form 10) on whether the applicant is an affiliate:

- > of an existing 1800 MHz licensee, including identifying that licensee and giving details of that affiliation; or
- > another applicant that may be offered a spectrum licence for a 1800 MHz lot under the first PDP process, and if so, identifying the other applicant and giving details of the affiliation.

If an affiliation is identified at this stage of the first PDP process, the allocation limits will cap the amount of spectrum that can be issued to the affiliated applicants, which may result in the applicants being offered a reduced spectrum licence or not being offered any spectrum licence.²²

If an applicant does not accept a spectrum licence offered to it, the ACMA will not allocate the lots for that spectrum licence by auction under the Allocation Determination.

Spectrum offered in the first PDP process or at auction, but not allocated, may be later offered for allocation in accordance with the post-auction pre-determined price process set out in Schedule 4 of the Allocation Determination. Information about the PDP process that follows the auction (the second PDP process) is discussed at 3.2.13.

This Auction guide is focused on providing potential applicants and registered bidders with information about the allocation of the multiband residual lots via an auction process. Should a situation occur where the allocation of spectrum licences for a pre-determined price be considered by the ACMA, further information will be provided to relevant applicants at that time. Applicants notified in accordance with the first PDP process should read Part 5 of the Allocation Determination closely. The ACMA will make a decision about whether the first PDP process applies to any lot before the

²² See sections 42 and section 43 of the Allocation Determination.

auction, but it may take any further action in relation to first PDP process before the auction, during the auction, or shortly after the conclusion of the auction.

3.2.10 Publication of auction results—winning bidders

If a bidder is successful at auction, the ACMA will publish the following information on its website:

- > the names of winning bidders
- > the spectrum allocated to each winning bidder
- > the winning price for each spectrum lot won by each winning bidder

3.2.11 Payment of winning prices and issue of licences

The Allocation Determination (Division 4 of Part 7) sets out the financial obligations to be met by successful bidders before the ACMA can issue spectrum licences.

Following the close of the auction, the ACMA will advise a winning bidder of the balance of the winning price—that is, the winning price less any deposit paid. The balance of the winning price must be paid to the ACMA no later than 20 working days after the date of the notice. It is expected that the licence would be issued shortly after payment.

3.2.12 Default

If a winning bidder does not pay the balance of the winning price in accordance with section 71 of the Allocation Determination, then:

- > the spectrum licence will not be allocated to the winning bidder;
- > the issue of a spectrum licence to other winning bidders will not be affected.

3.2.13 Allocation of licences for a pre-determined price after auction

In the event that any of the lots are not allocated as a result of the multiband residual lots auction or during the first PDP process, the ACMA may later offer these lots for allocation after the auction (the second PDP process).²³ Any lots not sold at the auction (including, potentially, lots offered for allocation for a pre-determined price through the first PDP process, but rejected by the applicant) may be made available for an over-the-counter, first-in-time allocation for a pre-determined price to interested applicants, subject to the conditions set out in Part 3 of Schedule 4 to the Allocation Determination. The lots could be potentially available for allocation under this process until their expiry date, or until the ACMA revokes its offer of allocation.

Schedule 4 sets out the procedure for post auction allocation of lots. In broad terms, the ACMA will advertise details about the second PDP process including:

- > the spectrum licences available for allocation
- > the date and time when an application may be made
- > an applicant information package.

The pre-determined price for the second PDP process will be based on the starting price set by the ACMA for the relevant lot, but will reduce over time in accordance with a specified formula, to account for a reduced licence term.²⁴

²³ Section 76 of the Allocation Determination refers to unallocated spectrum.

²⁴ Sub-clause 2(4) of Schedule 4 to the Allocation Determination includes a formula for determining the post-auction pre-determined price.

The ACMA will not allocate a spectrum licence in the second PDP process if the application is for one or more 1800 MHz lots and the issue of a licence for these lots to an applicant would breach the 1800 MHz allocation limits.

3.2.14 Refund of payments and cancellation of deeds of financial security

An application fee will not be refunded under any circumstances, including if an applicant or bidder withdraws before the auction, or is excluded from the auction.

Subject to the matters discussed in 3.2.8, a deposit paid by an applicant will be refunded:

- > to applicants who withdraw from the auction before the application deadline; or
- > to bidders who do not win any spectrum in the auction.

Subject to the matters discussed in 3.2.8, a deed of financial security provided to the ACMA under section 33 of the Allocation Determination will be cancelled, according to the terms of the deed, either:

- > upon payment by the promisor of the amount secured by the deed; or
- > if the promisor receives written notice from the Chair of the ACMA.

The Chair of the ACMA intends to give such written notice shortly after payment of the balance of the payment of the winning price or the pre-determined price.

3.2.15 Auction manager

Pursuant to section 23 of the Allocation Determination, the ACMA has appointed the Manager of the Spectrum Licensing Policy Section of the ACMA as the auction manager for the multiband residual lots auction.

The auction manager has a number of specific responsibilities and discretionary powers under the Allocation Determination. These include:

- > notifying bidders of the start date and time of the first and second round
- > scheduling the rounds of the auction
- > setting the bid increments that determine the specified prices that will apply to the lots in each round
- > announcing the conclusion of the rounds.

The auction manager's discretionary powers under sections 57 and 58 of the Allocation Determination include:

- > permitting a bidder to submit a bid by a method other than the auction system, if he or she is satisfied that the bidder is unable to submit a bid using the auction system
- > permitting a bidder to submit a bid for a round after the end time of the round (but not after information about the outcome of the round has been given to bidders), if he or she is satisfied that the bidder could not submit the bid during the round because of technical or communication problems
- > taking any of the following actions if he or she is satisfied that the 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:
 - > the results of the current round of the auction; and
 - > information received by a bidder after that round; or

- > stop the current round of the auction and restart the round (for example, when the circumstances are resolved)
- > cancel the results of one or more rounds and restart the auction from the point before those rounds
- > restart the auction from the first round
- > stop the auction.

The auction manager may delegate any of his or her powers and functions under the Allocation Determination to another person who is a member of the ACMA or a member of ACMA staff at the Executive Level 1 or above.

3.2.16 Communicating with the auction manager

Before the start of the auction, all contact with the auction manager should, in the first instance, occur using the contact details/methods provided at 6.2.

During the auction, contact with the auction manager would preferably occur through the electronic messaging facility within the auction system. Alternatively, if this is not appropriate to the particular query or situation, contact should occur through the email address, telephone number or fax number set out in 6.2. 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 would only be used in those circumstances where the auction system was unable to be utilised (for example, if there was an internet or power failure).

3.3 Online auction system

The auction will be conducted over the internet (online) using auction system software developed for the ACMA by [Power Auctions LLC](#). Subject to the user system requirements discussed below, the online auction system is designed to allow bidders to participate in the auction from their normal office locations, or any other location of their choice.

Bidders will use the auction system to bid in all rounds of the auction. As noted, the auction system will also be the primary mode of communication between the ACMA and bidders during the auction period.

The ACMA will endeavour to provide emergency backup bidding procedures, and communication arrangements will be in place in the event that technical or other problems prevent use of the auction system for a period.

Procedures conducted before the beginning of the auction period will be performed independently of the auction system, as set out in 3.2.16.

3.3.1 Accessing and using the auction system

Bidders will use the auction system from their own computers connected to the internet, by accessing the auction system internet site. The system has been designed to minimise the requirements on bidders' equipment and to make the bid submission process as straightforward as possible. The auction system internet site will use secure sockets layer (SSL) technology to ensure all transmissions are secure.

The auction system will employ two-factor authentication, using Time-based One-Time Password Algorithm (TOTP). To access the auction system, in addition to entering their username and password, users will need to enter a validation code generated using a smartphone app and the TOTP algorithm. This additional method of verifying the user's identity adds an extra layer of security to the conduct of the auction.

After the application deadline, the ACMA will give registered bidders further information to explain how they can participate in the auction. This will include the following material about how to access and use the auction system:

- > The Auction System Bidders' User Guide (User Guide)—providing instructions about how to access and log-in to the auction system internet site, place bids, view round schedules and results, download bidder files, and communicate with the auction manager using the auction system.
- > 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 set up a password to login to the auction system, as well as the information necessary to set-up TOTP apps on their smartphones to generate verification codes for two-factor authentication.
- > Instructions about how to use the emergency backup bidding arrangements that will apply in the event that a bidder is unable to submit a bid using the auction system.

Bidders may access and use the auction system only 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 mentioned in the previous paragraphs is confidential information within the meaning of the Allocation Determination. Bidders are also required by section 54 of the Allocation Determination to keep the items mentioned in the previous paragraph secure during the auction period, and to notify the ACMA immediately of any unauthorised disclosure, 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 auction outcome, the ACMA may take action under the breach provisions discussed at 3.2.8.

3.3.2 User system requirements

The auction system will be accessible using a standard, internet-connected personal computer (PC) with an internet browser with a minimum of TLS 1.2 security, such as Internet Explorer 11 or above, or the latest version of Google Chrome. The User Guide will contain details of the recommended configuration for user equipment.

The auction system may run on PC configurations other than the one recommended in the User Guide. 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 discussed at 3.4. It is recommended that bidders use the same configuration for the mock auction as they intend to use for the live auction. 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 hacker 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 for use during the auction in the event that their primary internet connection fails. For example, bidders could arrange to have a mobile internet service available for use if their normal cable or ADSL broadband service is disrupted; or a backup bid team, with its own power and communications services and authorisation to access the auction system, at a separate location from the primary bid team.

3.4 Bidder support and the mock auction

In addition to this Auction guide, and the instruments and explanatory statements attached, the ACMA will make available further information in the lead-up to the auction. This will include:

- > **Auction System Bidders' User Guide**—to be made available to registered bidders.
- > **Mock auction**—Following the registration process (see 3.2.4), the ACMA will provide details to registered bidders about the date of the proposed mock (trial) auction and provide any relevant material and information required to participate. It is expected the mock auction will be held in November 2017. The mock auction will give prospective bidders the opportunity to practise using the auction system, from their own location, in a simulated auction environment. The mock auction will use the same lot configuration and starting prices as the live auction, and bidders will be free to bid as they wish. However, the ACMA may (for example, as a clearly identified participating bidder) intervene as appropriate to ensure the mock auction progresses in a timely and comprehensive manner. It is expected that the mock auction will span approximately half a business day. Depending on the number of registered bidders, and the available time between the application deadline and the auction commencement, the ACMA will endeavour to hold a second mock auction, if possible.

Announcements about the release of this and other relevant information, including the final date for the mock auction, will be made during the lead-up to the auction through the sources listed at 6.1. It is the responsibility of applicants and registered bidders to ensure that they review those sources regularly in order to receive all such information for the purposes of preparing for the auction.

4. How do I participate in the auction?

On the basis of the auction procedures discussed in Chapter 3, this chapter provides practical information to guide participants through the auction process. It includes information about:

- > steps that should be taken before applying to register as a bidder**
- > the bidder registration process—including relevant forms, payments and deadlines**
- > material the ACMA will provide to registered bidders to help them access and use the auction system**
- > the announcement of round schedules and results during the auction**
- > post-auction processes.**

Important warning: The information in this chapter is intended to provide a guide only to the steps required to participate in the auction process in accordance with the procedures contained in the Radiocommunications (Spectrum Licence Allocation — Multi-band Auction) Determination 2017.

A potential applicant should *not* rely on this information, but should instead carefully review and understand the content of the Allocation Determination itself.

This chapter provides practical information to guide participants through the key steps in the auction process. Several of these steps require auction participants to lodge forms with the ACMA. All forms are available in the *Auction forms* booklet.

Where an auction participant is required to lodge a form with, or make a payment to, the ACMA, they must do so in accordance with the relevant procedures in the Allocation Determination.²⁵ Summaries of the lodgement procedures and payment procedures are provided at 6.3 and 6.4, respectively, and in the *Auction forms* booklet.

Several of the steps require the ACMA to provide auction participants with information or material.

Prior to the start of the auction period, and after the end of the auction period, the ACMA will direct all such communication to the 'contact person' nominated by the auction participant in their application form, using the nominated contact details.

During the auction period, the ACMA will, where practicable, direct communications to the 'authorised persons' nominated by the auction participant in their application form, using the electronic messaging facility in the auction system. Where an alternative mode of communication is required (for example, during the period before the authorised persons have access to the auction system, or if the ACMA is unable to communicate reliably using the auction system), the ACMA will direct communications to the contact person nominated by the auction participant in their application form, using the nominated contact details.

In addition to the information and material, the ACMA will provide to auction participants under the steps below, updates about auction developments and events from time-to-time through the sources listed at 6.1. It is the responsibility of prospective applicants, applicants and registered bidders to ensure that they review these sources in order to receive all updated information.

4.1 Step 1—Consider the AIP and monitor developments

Before applying to participate in the auction, prospective bidders should read and understand all of the material in the AIP, including this Auction guide and the instruments and explanatory statements provided as attachments to this guide. Applicants should also seek their own expert advice on regulatory and other matters.

During the lead-up to the auction, prospective bidders should also regularly monitor the sources listed at 6.1 to remain informed about auction-related developments and events.

²⁵ Procedures for 'giving documents to the ACMA' and 'payment of amounts' are set out in sections 6 and 7 of the Allocation Determination, respectively. There are additional lodgement requirements in relation to deeds of financial security in section 33 of the Allocation Determination.

4.2 Step 2—Register as a bidder

As outlined in 3.2.4, people wishing to participate in the auction are required to register as a bidder. The registration process involves:

1. Lodging an application (which will require provision of relevant details for assessment of affiliations, for applicants for 1800 MHz lots)
2. Submitting a preference nomination form and paying a deposit or giving a deed of financial security for the relevant amount for the lots nominated.

Only parties who have fulfilled all requirements (including the completion and lodgement of all relevant deeds and other forms) within the application deadline, will be entitled to participate in the auction.

4.2.1 Lodge an application

Prospective bidders will need to lodge an application by:

- > Paying the non-refundable application fee of \$10,000.²⁶
- > Lodging a completed application form (Form 1)—providing information about:
 - > the applicant and any associates of the applicant (information about the applicant's associates is only required for the purposes of the 1800 MHz allocation limits as discussed at 3.2.6)
 - > up to three 'authorised persons' (for example, individual staff of the applicant) who require login details for the auction system.²⁷
- > Lodging a completed deed of acknowledgement form (Form 2)—containing, among other things, provisions to the effect that:
 - > the applicant understands and agrees to be bound by the provisions of the Allocation Determination
 - > the applicant agrees to indemnify the ACMA and the Commonwealth against any liability, damages, losses, costs or expenses arising from the actions of the applicant or its associates in relation to the auction, or from any breach by the applicant of the Allocation Determination or deed of acknowledgement.
- > Lodging a completed deed of confidentiality form (Form 3)—containing provisions to the effect that:
 - > the applicant agrees not to disclose confidential information before their confidentiality obligations cease to apply (discussed at 3.2.7).
- > Lodging a completed preference nomination form (Form 7) (see 4.2.2 below).
- > Paying a deposit, or giving a deed of financial security (Form 5), or both, for an amount that is 10 per cent of the sum of the starting prices of the lots nominated by the person in its preference nomination form (see 4.2.2 below)

²⁶ Section 24 of the Allocation Determination provides that before the ACMA publishes a notice inviting applications for the auction, it must set the amount of the application fee. GST is not payable on the application fee.

²⁷ In the interests of operational efficiency and security, applicants are encouraged to nominate no more than three authorised persons. However, applicants can nominate an additional two authorised persons (that is, a total of up to five persons) if they wish. Instructions for nominating authorised persons are provided in the application form. Applicants are also encouraged to nominate at least one authorised person who is in a different physical location to his or her colleagues. This will reduce the risk of complete bidder system failure—for example, because of a power outage—during the auction.

If an applicant has nominated one or more 1800 MHz lots in its preference nomination form, and it is not an existing 1800 MHz licensee, the applicant will also be required to submit a statutory declaration about affiliations (Form 4), see 4.2.3 below.

Applications must be lodged by the application deadline of **27 October 2017, at or before 5.00 pm**.

Under the confidentiality rules in Part 3 of the Allocation Determination, a 'related person' of an applicant or bidder who has knowledge of the applicant's or bidder's 'confidential information' must also lodge a completed deed of confidentiality form (see 3.2.7). Where the related person receives knowledge of the applicant's confidential information *before* the application deadline, the person must lodge a completed deed before the application deadline. Otherwise, they must lodge a completed deed as soon as reasonably practicable after receiving knowledge of an applicant's or bidder's confidential information.

The ACMA will contact applicants as soon as practicable after receiving the material above to confirm receipt and, if necessary and possible, 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 such cases, and applicants to update their application if they wish, *before* the application deadline.

4.2.2 Preference nomination

It should be noted that if the applicant is, or is affiliated with, an existing 1800 MHz licensee, they may not be permitted to nominate their preferred lots if the allocation of those lots to the applicant would cause the applicant, or the specified group of persons that includes the applicant, to exceed the 1800 MHz allocation limits. See 4.2.3 below and sections 31 and 32 of the Allocation Determination.

The preference nomination form is included in the *Auction forms* booklet provided in the AIP. The form, among other things, contains information about the lots offered for allocation, the starting price of each lot and the amount of deposit and/deed of financial security required. GST is not payable on a deposit.

The completed preference nomination form, and deposit and/or deed of financial security, must be given to the ACMA by the application deadline of **27 October 2017**. If an applicant provides a deposit or deed of financial security for an amount less than the amount required above for the lots nominated in the applicant's preference nomination form, subsection 33(2) of the Allocation Determination allows the applicant an opportunity to 'top up' its deposit or deed of financial security. If the applicant does not take that opportunity, it may be prevented from nominating particular lots, or may be taken to have withdrawn its application (subsections 33(3) and 33(4)).

4.2.3 Provide statutory declaration about affiliations—1800 MHz band

Before the application deadline, if the applicant is nominating one or more 1800 MHz lots in its preference nomination form and the applicant is not an existing 1800 MHz licensee, the applicant will be required to provide a statutory declaration (Form 4) with its application, stating whether it is affiliated with an existing 1800 MHz licensee—and, if so, providing details of the affiliation.

Such statutory declarations are required for the for the purposes of subsection 29(1)(g) of the Allocation Determination and must be lodged by the application deadline.

If an applicant does not give the ACMA a statutory declaration as required, it will not have made a complete application, and will not be able to participate in the auction.

If the ACMA is satisfied that one or more applicants for 1800 MHz lots are affiliated with an existing 1800 MHz licensee who is not also an applicant for a 1800 MHz lot²⁸, and the aggregate of the lot size of the nominated lots and the part or parts of the spectrum that the existing 1800 MHz licensee would potentially use in the 1800 MHz band exceeds the 1800 MHz limit (that is, more than 2 x 25 MHz), the ACMA will notify the affiliated applicants in writing that it is affiliated with the existing 1800 MHz licensee about the possibility that should they be a winning bidder for one or more of the 1800 MHz lots, the 1800 MHz limit of 2 x 25 MHz would be exceeded.

Within five working days of being notified about an affiliation with an existing 1800 MHz licensee, an applicant must give the ACMA a new preference nomination form if it wishes to participate in Stage 1 of the auction in relation to the 1800 MHz lots.

If the 1800 MHz lots included in the revised preference nomination form given by an affiliated applicant could still result in the applicant exceeding the 1800 MHz allocation limits, the applicant will be taken to not have nominated any 1800 MHz lots as its preferred lots. The ACMA will advise the applicant in writing if this applies.

4.2.4 ACMA confirms registration and provides information

Subject to the requirements of the registration process having been met, the ACMA will contact registered bidders after the application deadline to confirm that they have been registered to participate in the auction, and provide them with the following:

- > a copy of the information about the bidder recorded on the register of bidders maintained by the ACMA under section 50 of the Allocation Determination
- > the ACMA's email address and telephone and fax numbers available for registered bidders to use
- > information about accessing and using the auction system—for example, a user manual for the auction system, the URL for accessing the auction system internet site, and login credentials for each of the 'authorised persons' nominated in the bidder's application form
- > information about how to bid by alternative means if the bidder is unable to submit a bid using the auction system.

The ACMA will give a set of this material to each authorised person nominated in the bidder's application form.

4.3 Step 3—Accessing mock auction and bidder support

Registered bidders will be encouraged to take part in a mock auction that will be held prior to commencement of the auction. During the lead-up to the auction, announcements about the mock auction and bidder support will be made through the sources listed at 6.1.

4.4 Step 4—Bid in the auction

This section of the Auction guide outlines how the auction rounds will be scheduled, and how the schedules and other relevant information (for example, round results and the conclusion of the rounds) will be announced to bidders during the auction period.

Unless the ACMA has offered and bidders have accepted a spectrum licence in a pre-determined price process under Part 5 of the Allocation Determination, the auction will

²⁸ In accordance with section 32 of the Allocation Determination allocation limits also apply to applicants who may be affiliated to an existing 1800 MHz licensee who is not an applicant for an 1800 MHz lot.

be conducted over the internet using auction system software. Information about how to access and use the auction system, including the User Guide, will be provided to registered bidders after the application deadline of 27 October 2017. That information will be supplemented by the opportunity for applicants to participate in a mock auction (see 4.3).

During the auction period, bidders and their 'related persons' should remain aware of their reporting obligations under the Allocation Determination. Under these obligations:

- > if at any time during the auction period, a bidder for a 1800 MHz lot believes they may be an affiliate of another bidder for a 1800 MHz lot, or an existing 1800 MHz licensee, they must immediately tell the ACMA in writing the identity of the other bidder or licensee and give details of the affiliation
- > a bidder, or a related person of a bidder, who discloses confidential information, or who receives the confidential information of another applicant or bidder must report the matter to the ACMA in writing as soon as possible, but no later than two working days after becoming aware the disclosure or receipt has occurred²⁹
- > if any item provided by the ACMA to a bidder for the purpose of accessing the auction system is lost or stolen during the auction period, the bidder must notify the ACMA immediately.

4.4.1 Auction rounds—Scheduling

Due to the number of bands and the total number of lots on offer (39), the ACMA will run the auction in three sequential stages:

- > stage 1—all lots in the 1800 MHz band and the three 2 x 10 MHz lots in the 2 GHz band
- > stage 2—the six 2 x 5 MHz lots in the 2 GHz band
- > stage 3—all lots in the 2.3 GHz and 3.4 GHz bands.

Table 3 above sets out the lots available in each stage of the auction.

The first round of stage 1 of the auction is expected to commence in late November 2017. The auction manager will contact registered bidders after the application deadline, and at least 10 working days before the day of the first round of stage 1, to confirm the starting date and time for the first and second rounds. The rounds for stage 2 and stage 3 of the auction will be scheduled following the completion of the previous stage. The auction manager intends to consult with the registered bidders after the application deadline on the scheduling of the rounds, for each stage of the three-stage auction, including anticipated recess days, if relevant.

The Allocation Determination provides that rounds of the auction must start and end between 9.00 am and 5.00 pm (Canberra time) on working days.³⁰ Prospective applicants should note that the scheduling of rounds is at the discretion of the auction manager in accordance with the Allocation Determination. As such, the auction manager will consider relevant circumstances when scheduling rounds for any given day, and bidders are strongly advised to always be prepared for the prospect of a round commencing at 9.00 am.

²⁹ As well as applying to bidders and their related persons during the auction period, this obligation also applies to applicants, bidders, and the related persons of applicants and bidders, *before and after* the auction period (see 3.2.7).

³⁰ Working days are defined in the Allocation Determination as a day which is not a Saturday, a Sunday or a public holiday in the Australian Capital Territory, New South Wales or Victoria.

The Allocation Determination provides that at least one hour before the start time of the first round of the day, the auction system will indicate the anticipated schedule of rounds for that day. However, where practical and possible to do so, the auction manager will endeavour to post the schedule of rounds for the following day before 5.00 pm each day. It is the responsibility of bidders to ensure that they monitor the auction system as necessary, to ensure they are aware of all announcements.

The auction manager may vary the schedule of rounds at any time. Any variations to the schedule will be announced to bidders via the auction system as soon as practicable.

Before the start of the each round for each of the three stages, the auction manager will indicate to each bidder via the auction system:

- > the start and end time for the round
- > the start and end time for recess periods
- > the specified price that will apply to each lot in the round
- > for each round other than the first round of a stage, the specified prices that applied in the previous round
- > the total number of bidders that have nominated each lot as a preferred lot
- > the total number of bidders remaining in that stage of the auction for each lot after the end of the previous round
- > any other information the ACMA considers necessary or convenient to conduct the auction.

4.4.2 Bidding in the auction

Starting prices

In accordance with section 26 of the Allocation Determination, the ACMA has specified a starting price for the lots on offer—see **Table 4**.

If there is excess demand for a particular lot at a specified price, then the price for that lot will increase as the auction progresses, thereby increasing the winning price to be paid by the winning bidder (see Part 7 of, and Schedule 1 to, the Allocation Determination). If only one bidder nominates a particular lot at the beginning of the auction, then this particular lot may be sold at its starting price to that particular bidder (see Part 5 of the Allocation Determination). If more than one bidder nominates a particular lot, but only one bidder places a bid on the lot at auction, then this particular lot may be sold at its starting price to that particular bidder.

Specified prices

Before each round, the auction manager states the price of a lot (the specified price) that the bidder must meet in the upcoming round to be eligible to place a bid in the subsequent round. The specified price is calculated by reference to the specified price for the lot in the previous round plus the bid increment percentage for that lot. The specified price for the first round for a lot will be the starting price plus the bid increment (see below for outline of bid increments).

The bidder can make a bid at or above the specified price (a continue bid) or place a lower bid (an exit bid). An exit bid must be equal to or greater than the specified price for the previous round of the auction (or the starting price, if the round is the first round). If a bid for a lot is lower than the specified price of the current round—that is, if it is an exit bid—then it is the bidder's final bid for that lot. Once a bidder has made an exit bid, the bidder cannot resume bidding on that lot in future rounds. However an exit

bid may still be a winning bid if no continue bids are made in the same round and the exit bid is the highest exit bid made in that round.³¹

The bidder can also place a continue bid above the specified price for the round using the 'advance price' feature. The system automatically accepts that 'advance price' as the bidder's bid in subsequent rounds until either 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 (whichever occurs first).

All relevant prices and bids in the auction (including starting prices, specified prices, advance prices, continue bids and exit bids) must be multiples of one thousand dollars.

Bid increment percentage

After the application deadline, the ACMA will set the bid increment percentage for each lot. The bid increment percentage determines the dollar amount by which the prices will go up between rounds. The bid increment percentage will be set as a percentage of the starting price for the lot in the first round, and of the specified price for the lot in any subsequent round. In accordance with Schedule 1 to the Allocation Determination, the auction manager may, after consulting with the bidders, at any time during the auction change the bid increment percentage, effectively to vary the specified prices for a lot in future rounds.

The ACMA intends to consult with the registered bidders after the application deadline on bid increment percentages for the auction. The bid increment percentage may be different for different lots.

Bidding—general

The lots will be offered in three sequential stages. It is at the auction manager's discretion on whether there may be a recess period or a recess day between stages of the auction.³² Before declaring a recess period or recess day during the auction, the auction manager will consult with the relevant bidders about timing between each stage of the auction.³³

Registered bidders will place bids on a secure online system using the SCA methodology. Detailed information on accessing the system and user requirements is available at 3.3.

During the auction, registered bidders will only be able to bid, ~~and access pricing information,~~ on those lots nominated during the application stage. If a bidder has nominated lots that are contained in a particular stage, then they will only have access to that stage of the auction. For example, if a bidder is only interested in lots in the 1800 MHz band, then they will only have access to, and be able to participate in, stage 1 of the multiband residual lots auction.

NOTE: The above text that has been struck out was published when this auction guide was initially released on 6 October 2017. This new version of the auction guide, including this errata note, was released on 17 October 2017. While registered bidders

³¹ In the situation where no continue bids are made but two or more equal exit bids have been made and are the highest exit bids for the lot, the winning bidder will be chosen by pseudorandom selection (see 3.1.1 above).

³² In accordance with clause 1 of Schedule 1 to the Allocation Determination, there is no minimum or maximum length for the interval between rounds.

³³ Clause 3 of Schedule 1 to the Allocation Determination, makes provision for the auction manager to declare recess days during the auction.

will only be able to bid on lots nominated during the application stage, **they will have access to pricing information on all lots in a stage if they nominated any lot in that stage.**

Before the start time of each round, the auction manager will provide bidders with the following via the online auction system:

- > the start time of the round
- > the end time of the round
- > the specified price that will apply to the lot in the round
- > for each round other than the first round, the specified prices that applied to the lot in the previous round
- > the total number of bidders that have nominated the lot as a preferred lot
- > any other information the ACMA considers necessary or convenient to conduct the auction.

A bidder may change, delete or replace a bid in the auction system as often as desired during a round. The bid that will be treated as binding for a bidder, and that will be taken to be the bid made by the bidder in the round, is the bid in the auction system at the end time of the round.

As outlined above, before each round, the auction manager will announce the specified price for that round. This is the minimum price point to which the bidder must bid in the round if it wishes to continue bidding in subsequent rounds. If a bidder does not wish to bid at or above the specified price, it can place an exit bid—that is, a bid below the specified price for the current round, but equal to or greater than the specified price for the previous round (or, in the first round, equal to or greater than the starting price for the lot).

The bidder can also place a bid above the specified price for a round using the ‘advance price’ feature. The system automatically accepts that ‘advance price’ as the bidder’s bid in subsequent rounds. This continues until either 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 (whichever occurs first).

Round results

After each round, the auction manager will provide the following information to each individual bidder:

- > the bid made by that bidder during the round
- > for each round other than the final round for each lot, the number of bidders remaining in that stage of the auction for that lot after the round
- > if the bidder wins the lot, the winning price for that lot
- > any other information that the ACMA considers necessary or convenient to conduct the auction.

Determining winning bidders

The final round for bids on a lot is the first round where:

- > there are no continue bids made on the lot and at least one exit bid is made
- > there is only one continue bid made on the lot (regardless of how many exit bids are made); or
- > there is no bid made on the lot.

A bidder will only win if no other bidder places a higher bid for that lot. The highest bidder wins and pays the amount of the second-highest bid. This ensures that the winner never pays more than necessary to win, which encourages ‘true value’ bidding.

The winning bidder for each lot will not be publicly announced until after the auction has concluded, that is, until all three stages of the auction have been offered for allocation and the auction is closed by the auction manager.

In the case of tied exit bids in the last round for a lot that are higher than all other bids, the winning bidder will be chosen by pseudorandom selection. The winning bidder will pay the amount of the last bid made by the winning bidder (that is, the amount of the tied exit bid).

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 for a lot is around \$500,000, bidders could consider making their exit bid around this figure, for example \$503,000. Bidders should obtain their own advice about their valuation of lots and about bidding strategies.

4.5 Step 5—Post-auction procedures

The steps to be followed after the end of the auction period will be different for:

- > bidders who won lots in the auction
- > bidders who won 1800 MHz lots in the auction
- > bidders who did not win lots in the auction
- > applicants who withdrew from the auction before the application deadline, or who were taken to withdraw from the auction.

Lots that are offered at auction or for a pre-determined price but not allocated may be later offered for allocation in accordance with Schedule 4 to the Allocation Determination, see 4.7 below.

4.5.1 Winning bidders

1800 MHz band—affiliations

Following the auction, but prior to publicly announcing the auction results, the ACMA will:

- > give each winning bidder of a 1800 MHz lot details about the identity of all other winning bidders of 1800 MHz lots, including details of those bidders’ associates
- > ask the bidder to make a statement for the purposes of section 65 of the Allocation Determination (Form 6), stating whether the bidder is an affiliate of another winning bidder of a 1800 MHz lot, or of an existing 1800 MHz licensee and, if so, identifying the other bidder or licensee and giving details of the affiliation.

Statements for the purposes of section 65 of the Allocation Determination must be lodged by the deadline stated in the ACMA’s request. The deadline will be at least 10 working days after the date of the request. A winning bidder’s confidentiality obligations (see 3.2.7) will end when they give the statement to the ACMA. Winning bidders of 1800 MHz lots who fail to give the ACMA a statement as requested may be subject to the breach provisions discussed at 3.2.8.

Where the ACMA is satisfied that two or more winning bidders for 1800 MHz lots are affiliated, or where a winning bidder for a 1800 MHz lot is affiliated with an existing 1800 MHz licensee, it will notify the relevant bidders in writing and tell them the reasons why it is satisfied that this is the case.

If a winning bidder wins a 1800 MHz lot, and is affiliated with another winning bidder or an existing 1800 MHz licensee such that issuing a spectrum licence for a lot would exceed the allocation limit, the ACMA must not issue a spectrum licence that would exceed the allocation limit in accordance with section 67 of the Allocation Determination. Instead, the ACMA will only issue spectrum licences that would not result in the winning bidder exceeding the allocation limits.

Payments by winning bidders

The **winning price** for a winning bidder is the sum of the winning prices for the lots won at auction. The **balance of the winning price** is the winning price, less any deposit paid by a winning bidder.

If, for a winning bidder, the balance of the winning price is greater than zero, the ACMA will notify the winning bidder via registered mail of the balance of the winning price and the lots won.

The balance of the winning price must be paid no later than 20 working days after the date of the notice.

If, for a winning bidder, the balance of the winning price is equal to or less than zero, the ACMA will issue a licence to the winning bidder and refund any amount of the deposit that exceeds the winning price.

4.5.2 Unsuccessful bidders and withdrawn applicants

As soon as practicable after the end of the auction period, the ACMA will notify each bidder that did not win lots in the auction that:

- > the bidder was unsuccessful in the auction
- > the bidder's confidentiality obligations have ended.

Subject to any decision by the ACMA to retain the bidder's deposit under section 81 of the Allocation Determination, the unsuccessful bidder will be refunded any deposit paid.

As soon as practicable after the end of the auction period, the ACMA will notify each withdrawn applicant that their confidentiality obligations have ended. Subject to any decision by the ACMA to retain the deposit paid by the withdrawn applicant under section 81, the withdrawn applicant will be refunded any deposit paid.

4.6 Step 6—Publication of auction results

Before announcing or publishing the results of the auction publicly, or issuing invoices to winning bidders, the ACMA will ask winning bidders of 1800 MHz lots to make a statement about affiliations in accordance with section 65 of the Allocation Determination.

Following completion of the affiliation process for the 1800 MHz band, and after the end of the auction period, the ACMA will announce or publish:

- > the names of winning bidders
- > the spectrum allocated to each winning bidder
- > the winning price for each lot won by each winning bidder.

4.7 Step 7—Post-auction allocation

Schedule 4 to the Allocation Determination outlines the process whereby unallocated spectrum from the multiband residual lots auction may be allocated in a post-auction allocation process. If the ACMA conducts an auction under Part 6 of the Allocation

Determination, the ACMA cannot begin this post-auction allocation process before the end of the auction process.

The ACMA may publish a notice on its [website](#) inviting interested persons to apply to the ACMA to be allocated a spectrum licence on request after the auction. The notice will specify the spectrum that is available to be allocated, and will show the opening times for receipt of application and the method for calculating the post-auction pre-determined price. An applicant information package about the post-auction allocation process will also be available on the [ACMA website](#).

A notice may invite applications for only some of the spectrum to which Schedule 4 applies (for example, only the lots in one band may be the subject of a particular notice). The ACMA may publish more than one notice, so that, over time, all the spectrum to which Schedule 4 applies is made available.

The ACMA will accept applications once the post-auction allocation has begun and will consider applications on a first-in-time basis. More details are available at Schedule 4 to the Allocation Determination.

Part three—Understanding spectrum licences

5. Spectrum licensing and technical framework

This chapter provides information about:

- > spectrum licensing**
- > the technical framework applicable to spectrum licences for each band**
- > other important issues affecting spectrum licences.**

Important warning: The information in this chapter is intended to provide a general overview of, and does not purport to contain all information regarding, rights and obligations in respect of spectrum licences issued under the Act and associated legislative instruments.

Potential applicants should *not* rely on this information, but should instead make their own investigation.

This chapter provides a brief introduction to spectrum licensing and the technical framework applicable to the spectrum licences to be allocated in the multiband residual lots auction. It provides:

- > an overview of spectrum licensing—more detailed information about the key obligations placed on spectrum licensees is available in the ACMA publication [Know your obligations—Spectrum licensees](#)
- > an explanation of the technical framework underpinning spectrum licensing in each of the four bands in which lots are available—more detailed information on the development of the technical framework for each band can be found on the [spectrum licence technical liaison groups](#) page on the ACMA website
- > other important information.

Legislative instruments referred to in this chapter that comprise the technical framework for each band are available on the [Federal Register of Legislation](#) and the [ACMA website](#).

The marketing plan for each band, describing the technical framework associated with each band, is available with this guide as attachments B to E.

5.1 Spectrum licensing

A spectrum licence authorises the operation of radiocommunications devices for a fixed period of up to 15 years³⁴, within a specified frequency band, within a particular geographic area. Licensees choose how they deploy devices within their spectrum space, the nature of the services they wish to deliver and the technology they use—as long as the operation of devices is within the parameters of the conditions of the spectrum licence.

A licensee's use of spectrum available to it 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 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 under section 71 of the Act
- > management of interference issues with reference to technical instruments established for the band under subsection 145(4) and section 262 of the Act.

Licensees may be permitted to make agreements with affected adjacent licensees to change emission limits within the parameters of the technical framework. The agreed

³⁴ The spectrum licences issued as a result of the Allocation Determination will be for a shorter period (see 2.3.2).

limit cannot exceed any absolute limit specified in the technical framework, in limits outside the designated spectrum space or at the boundary of other licensees not party to the agreement.

The spectrum licensing arrangement is a technology-flexible, market-oriented approach to managing the radiofrequency spectrum. The spectrum space may be subdivided and traded in standard trading units (STUs). The ability to trade and the flexibility of the technology that may be used in accordance with the technical framework allow licensees to change their service over time in response to commercial realities, and respond to technological innovation within the flexibility of the framework.

Information specific to the spectrum licences on offer for the 1800 MHz, 2 GHz, 2.3 GHz and 3.4 GHz bands is available in Part 3 of the relevant marketing plans. Each of the marketing plans also include a sample licence containing the conditions that may be included in a spectrum licence for that band.

5.2 The technical framework

The technical framework for a spectrum-licensed band is the set of technical rules and guidelines, made by the ACMA in consultation with industry, applicable to the operation of radiocommunications devices within the given band. The primary purpose of the technical framework is to specify the relevant technical conditions that licensees should comply with to effectively manage interference between users of the spectrum.

The technical framework is crafted using several interlocking regulatory elements:

- > the core conditions of the licence, which must be included in all spectrum licences in accordance with section 66 of the Act, including conditions relating to out-of-band and out-of-area emissions
- > licence conditions requiring registration of radiocommunications transmitters to be operated under the licence, in accordance with section 69 of the Act
- > a determination of unacceptable levels of interference for the purposes of assessing applications for device registration, made under subsection 145(4) of the Act (the subsection 145(4) determination)
- > radiocommunications advisory guidelines, made under section 262 of the Act, and conditions specified in the licence relating to the advisory guidelines.

Information on each of the regulatory elements and how a technical framework is developed is provided in [Know your obligations](#).

The technical framework for each band seeks to minimise the potential for interference caused by:

- > unwanted in-band emissions
- > unwanted emissions falling outside the frequency band of the licence
- > transient emissions such as those caused by switching a transmitter on and off
- > intermodulation effects.

All four of these mechanisms are dealt with by a combination of the core licence conditions relating to outside-the-area and outside-the-band emissions, and the licence condition requiring registration of devices before operation under the licence, which gives effect to the unacceptable interference requirements. The device registration process is discussed at 5.4.1.

The spectrum licence technical frameworks for the four bands were developed by the ACMA in consultation with industry. The 1800 MHz band and 2 GHz band technical

frameworks have been optimised to support frequency division duplex (FDD)³⁵ mobile broadband services, while the 2.3 GHz and 3.4 GHz band technical frameworks have been optimised to support time division duplex (TDD)³⁶ mobile broadband services. However, this does not explicitly exclude use of the licences in any of the bands for other uses. The frameworks are flexible enough to allow operators to deploy a variety of different services, provided the relevant conditions of the licence are met.

5.3 Core 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 Act. The core conditions specify the geographic area and frequency range of the licence, as well as the maximum permitted emission levels outside the frequency and geographic boundaries of the licence. The core conditions of a spectrum licence include:

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

Further information and explanation on each of these core conditions is available in [Know your obligations](#). The following information refers specifically to how each of the core conditions is applied in the context of the 1800 MHz, 2 GHz, 2.3 GHz and 3.4 GHz bands.

5.3.1 Area of operation

The geographic areas subject to allocation via the issue of a spectrum licence in the each of the bands are described in Schedule 2 of the relevant marketing plan.

The geographic area within which the operation of radiocommunications devices is authorised by the spectrum licence is described in Part 2 of Licence Schedule 1 to the sample spectrum licence included in each marketing plan, in the form of HCIS identifiers. The conversion of HCIS area descriptions to a Google Earth Placemark (KML file) is available on the [ACMA website](#).

5.3.2 Frequency band of operation

1800 MHz

Spectrum in the 1800 MHz band is being offered in the auction on a paired basis, which will support the deployment of FDD mobile broadband services. The frequency band segments available for operation of devices are described in Schedule 1 to the 1800 MHz marketing plan.

An example of a paired frequency segment within the 1800 MHz band can be found in Part 2 of Licence Schedule 1, in the sample spectrum licence available in Schedule 6 to the 1800 MHz marketing plan.

³⁵ FDD is a technique where downlink and uplink communications can operate at the same time but are separated by the allocation of different frequency blocks. The frequency separation between these blocks is known as the FDD 'split'.

³⁶ TDD is a technique where downlink and uplink communications use the same frequency but are separated by the allocation of different time slots. This means uplink and downlink communications cannot occur at the same time.

2 GHz band

Spectrum in the 2 GHz band is being offered in the auction on a paired basis, which will support the deployment of FDD mobile broadband services. The frequency band segments available for operation of devices are described in Schedule 1 to the 2 GHz marketing plan.

An example of a paired frequency segment within the 2 GHz band can be found in Part 2 of Licence Schedule 1, in the sample spectrum licence available in Schedule 5 to the 2 GHz marketing plan.

2.3 GHz band

Spectrum in the 2.3 GHz band is being offered in the auction as unpaired spectrum, which will support the deployment of TDD mobile broadband services. The frequency band segments available for operation of devices are described in Schedule 1 to the 2.3 GHz marketing plan.

An example of an unpaired frequency segment within the 2.3 GHz band can be found in Part 2 of Licence Schedule 1, in the sample spectrum licence available in Schedule 5 to the 2.3 GHz marketing plan.

3.4 GHz band

Spectrum in the 3.4 GHz band is being offered in the auction as unpaired spectrum, which will support the deployment of TDD mobile broadband services. The frequency band segments available for operation of devices are described in Schedule 1 to the 3.4 GHz marketing plan.

An example of an unpaired frequency segment within the 3.4 GHz band can be found in Part 2 of Licence Schedule 1, in the sample spectrum licence available in Schedule 5 to the 3.4 GHz marketing plan.

5.3.3 Outside-the-area emission limits

This limit is listed in Schedule 3 to each marketing plan, and is set out in Licence Schedule 2 of the sample licence provided in each marketing plan.

This core condition effectively places a cap on the horizontally radiated power of transmitters anywhere outside of the area of the licence.³⁷

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 the ACMA is satisfied may cause unacceptable levels of interference, within the meaning of the relevant subsection 145(4). This point is discussed in detail at 5.4.

5.3.4 Outside-the-band emission limits

The outside-the-band emission limits for each band, sometimes referred to as emission masks, are listed in Schedule 4 to each marketing plan.

Outside-the-band emission limits have been expressed in the form of absolute levels, rather than levels relative to the transmitter output power, to allow licensees to operate transmitters with an optimised balance between transmit power and outside-the-band emission suppression. The emission limits specific to licences in each band are set out in Licence Schedule 2 in the sample licence provided in each marketing plan. These

³⁷ Horizontal radiated power is the power limit radiated from an antenna in the horizontal plane. A full description can be found in the sample licence provided in the marketing plan for each band.

levels may be varied through negotiated agreement with affected adjacent licensees (see 5.4.3).

5.4 Unacceptable levels of interference determination

Before a transmitter can be operated under a spectrum licence, its details must be recorded in the Register of Radiocommunications Licences (RRL), unless it is exempted from registration. Subsection 145(1) of the Act gives the ACMA the power to refuse to register a device if the ACMA is satisfied that it could cause an unacceptable level of interference to the operation of other radiocommunications devices when operated. The ACMA has determined under subsection 145(4) of the Act what constitutes unacceptable interference in each band.

The subsection 145(4) determination that defines what will be taken to be unacceptable levels of interference for spectrum licences in each band is:

- > [Radiocommunications \(Unacceptable Levels of Interference – 1800 MHz Band\) Determination 2012](#)
- > [Radiocommunications \(Unacceptable Levels of Interference a 2 GHz Band\) Determination 2016](#)
- > [Radiocommunications \(Unacceptable Levels of Interference a 2.3 GHz Band\) Determination 2013](#)
- > [Radiocommunications \(Unacceptable Levels of Interference — 3.4 GHz Band\) Determination 2015.](#)

Each subsection 145(4) determination sets out the following basic requirements that must be met in order for the ACMA to be satisfied that interference is not unacceptable that:

- > the core conditions of the licence relating to emissions are met (see 5.3)
- > full location details of the transmitter are provided for inclusion in the RRL (see 5.4.1)
- > specified device boundary criteria are met (see 5.4.1)
- > deployment constraints applicable to the band are adhered to (see 5.4.2).

More information about device registration options and procedures is available on the [ACMA website](#).

5.4.1 Registration of devices

It is a condition of all spectrum licences issued that licensees must not operate transmitters under those licences unless they are registered on the RRL, or are exempt from the registration requirements (see 5.4.5).

Before a device is registered for use under a licence, licensees may be required to ensure that the device will not cause unacceptable interference to other spectrum users. This is achieved by obtaining an interference impact certificate (IIC) under subsection 145(3) of the Act by an accredited person.³⁸

The ACMA has made the [Radiocommunications \(subsection 145\(3\) Certificates\) Determination 2012](#), pursuant to section 266A of the Act, which relevantly states the conditions that must be satisfied before an accredited person may issue a certificate

³⁸ The [Radiocommunications \(section 145\(3\) Certificates\) Determination 2012](#) sets out the conditions that apply to accredited persons when issuing IICs. Contact details for all current accredited persons who have consented to the release of those details are on the ACMA [website](#).

for the purposes of subsection 145(3). The conditions require that, before issuing a certificate, the accredited person must be satisfied that either:

- > the operation of the radiocommunications transmitter will not cause an unacceptable level of interference as set out in the relevant subsection 145(4) determination; and
- > the use of guard space is sufficient to mitigate potential interference from the radiocommunications transmitter, or
- > consent in writing to interference from the radiocommunications transmitter has been given by all licensees who, in the opinion of the accredited person, may be affected by the interference.

Additional information on the registration of radiocommunications devices under a spectrum licence is available in the ACMA publication [Registration of radiocommunications devices under spectrum licences](#).

In addition, before issuing a certificate for the purposes of subsection 145(3) of the Act, 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 core conditions set out in a marketing plan, and in the relevant spectrum licence, are maintained, and that the level of interference is not unacceptable within the meaning of the relevant subsection 145(4) determination.

Calculating a device boundary involves mathematical calculations to determine whether the device boundary is contained within the geographic boundary of the spectrum licence.

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 device would cause levels of emission outside the licence area that would be considered 'unacceptable interference' within the meaning of the relevant subsection 145(4) determination. There are exceptions to this in the 2 GHz, 2.3 GHz and 3.4 GHz bands, which are detailed in the respective subsection 145(4) determinations. An exception can also be made where there is an agreement of the type discussed at 5.4.3. In these circumstances, the agreement provides that a device boundary may exceed the geographic area of licence because the relevant adjacent licensee has specifically agreed to that and accepts any interference caused to its use of the spectrum.

Under the subsection 145(4) determination, if the device boundary of a fixed transmitter cannot be calculated in accordance with Part 1 of Schedule 2 of the subsection 145(4) determination, the transmitter is taken to cause unacceptable interference.

Licensees may decide whether to apply for the registration of radiocommunications receivers based on a risk assessment of any benefits that may be achieved through coordination of registered receivers to manage outside-the-band interference. A receiver will only be afforded protection if it is registered. The type of protection receivers should be provided is defined in the relevant radiocommunications advisory guidelines as discussed at 5.5.

5.4.2 Deployment constraints

The relevant subsection 145(4) determination for each band may also define specific deployment constraints. A transmitter cannot be registered unless it meets the relevant deployment constraints or has agreement to exceed them from affected licensees. Deployment constraints typically involve restrictions on the deployment heights of transmitters, limitations on the maximum EIRP of a transmitter operated on certain

frequencies or restrictions on the deployment of transmitters on aircraft. There can be similar recommended constraints on receiver antenna heights in the radiocommunications advisory guidelines, dealing with the notional receiver developed as part of the technical framework. The advisory guidelines are discussed at 5.5.

5.4.3 Core condition agreements

Spectrum licensees can agree to accept emissions that would, in the absence of an agreement, exceed the core conditions of an adjacent frequency or area spectrum licence. In this case, it is a requirement that all affected spectrum licensees agree to accept the higher levels of emissions.

5.4.4 Registering groups of transmitters and receivers

Unless exempted, transmitters must always be registered as either an individual transmitter or as part of a group of transmitters. If two or more transmitters are operated for the purpose of communicating with the same receiver, or same group of receivers, and they have identical emission characteristics, then they may be treated as a group in order 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' for the purpose of simplifying the assessment of whether the devices cause unacceptable interference for the purpose of registration of those devices. 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 in order to determine whether they meet the unacceptable levels of interference requirements.

5.4.5 Registration exemptions

Certain kinds of low-power transmitters are exempt from registration. The conditions these devices need to meet to be exempt from registration will be specified in the spectrum licences issued as a result of the auction. Typical devices that are exempt from registration are cellular mobile telephone handsets, wireless modems, subscriber terminals and smart repeaters.

5.5 Radiocommunications advisory guidelines

Further guidance on device deployment and coordination is provided in radiocommunications advisory guidelines made under section 262 of the Act (the advisory guidelines). 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 Act that spectrum licensees must comply with. This is the case for spectrum licences to be issued for any of the four bands in the multiband residual lots auction. For further details, see the marketing plan and sample spectrum licence conditions for each band in attachments B to E.

The advisory guidelines include provisions to assist interference assessments between spectrum-licensed devices and services operating under apparatus or other licences. The ACMA will consider the advisory guidelines when assessing interference and managing interference disputes.

The advisory guidelines for each band contain information for spectrum licensees on managing interference from frequency-adjacent apparatus, class and spectrum licensed services. The advisory guidelines also contain information for spectrum licensees on managing interference to non-spectrum licensed receivers.

There are band-specific advisory guidelines made under section 262 of the Act that are associated with spectrum licensing for the four bands on offer. The advisory guidelines are available on the [Federal Register of Legislation](#) and the [ACMA website](#).

Further information on the radiocommunications advisory guidelines is available in [Know your obligations](#).

5.5.1 Managing interference to spectrum-licensed receivers

The advisory guidelines set out a minimum performance level for receivers in each band. These criteria provide a basis from which licensees are able to develop procedures for managing interference between receivers and transmitters in adjacent frequency bands. When planning services and resolving interference cases, licensees (and accredited persons) should follow the advisory guidelines. The guidelines only apply to registered fixed receivers—they do not apply to receivers that are not registered on the RRL, or are not fixed. This includes mobile or nomadic receivers operated under a spectrum licence.

While the minimum level of receiver performance specified in the advisory guidelines are not mandatory, receivers will be assumed to meet these minimum levels for the purpose of 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. It is for licensees to 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 guide the interference settlement process. Receivers with poor interference susceptibility performance can be used; but in those cases, licensees may have to use more of their own spectrum space as guard space to limit the risk of interference.

5.5.2 Managing interference from spectrum-licensed transmitters

Advisory guidelines contain information for spectrum licensees about protection to be provided to receivers of services operating in or adjacent to the band.

5.6 Statutory licence conditions

Along with the core conditions of a licence, there are other conditions that the ACMA must include in a spectrum licence, in accordance with the requirements of the Act. These conditions are referred to as 'statutory conditions' and a brief summary of the requirements of each is outlined below. Further information on each of the statutory conditions is available in [Know your obligations](#).

5.6.1 Payment of charges

Under section 67 of the 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 Act (the winning price for the lots allocated by auction, or the starting price for lots allocated for a pre-determined price)
- > amounts of spectrum licence tax.

It is expected that the ACMA will consult on potential amendments to the Radiocommunications (Spectrum Licence Tax) Determination 2014 in 2018. The amendments will take into account changes to the 'base amounts' for each of the spectrum licensed frequency ranges and update the references to population in the 2016 Census.

If a licensee contravenes a condition of its licence, the ACMA may suspend or cancel the licence (see Division 3 of Part 3.2 of the Act). The spectrum access charge may be recovered as a debt due to the Commonwealth (section 298 of the Act).

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

5.6.3 Registration of radiocommunications transmitters

Under section 69 of the Act, the ACMA must include a condition that radiocommunications transmitters must not be operated under the licence unless the relevant requirements under Part 3.5 of the Act for registration of transmitters are met (see 5.4). The condition may exempt radiocommunications transmitters of particular kinds from meeting those requirements.

5.6.4 Residency

Under section 69A, 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 must be an Australian resident or the income, profits or gains are to be attributable to a permanent business establishment in Australia. Similarly, at all times when an authorised person derives income, profits or gains from operating a radiocommunications device under the spectrum licence, the authorised person must be an Australian resident or the income, profits or gains are to be attributable to a permanent business establishment in Australia.

5.7 Licence conditions included by the ACMA

Under section 71 of the Act, the ACMA may include other licence conditions on spectrum licences. The ACMA has included further licence conditions in Licence Schedule 4 of the sample licence provided with each marketing plan. These are mainly generic conditions attached to all licences but may also include additional conditions that are specific to a band. For example, the sample licence in the 1800 MHz marketing plan includes a condition relating to the specified fixed links still operating in the 1800 MHz band, and the sample licence in the 2 GHz marketing plan includes a condition in relation to causing interference to, and claiming protection from, the CDSCC. These conditions are sample conditions only and the conditions contained in actual spectrum licences issued by the ACMA may vary.

5.7.1 Information for the RRL

The licensee must give the ACMA all information as required by the ACMA from time-to-time for inclusion in the RRL.

5.7.2 International coordination

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

5.7.3 Electromagnetic energy requirements

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

5.7.4 Protection of the Mid-West Radio Quiet Zone

The ACMA established Australia's first radio quiet zone on 11 April 2005. The Mid-West Radio Quiet Zone (RQZ) aims to maintain the current 'radio-quietness' of a site in remote Western Australia. The area has very low levels of radiofrequency energy because of its low population and lack of industrial development. The Mid-West RQZ is intended to facilitate the development and use of new radio astronomy technologies at that location.

Before seeking to register a radiocommunications transmitter for use in or around the Mid-West RQZ, as defined by the [Radiocommunications \(Mid-West Radio Quiet Zone\) Frequency Band Plan 2011](#), the licensee must follow the procedures set out in Radiocommunications Assignment and Licensing Instruction (RALI) MS 32 (MS 32) as in force from time-to-time. While the relevant part of RALI MS 32, [Coordination of Apparatus Licences within the Mid-West Radio Quiet Zone](#), applies directly to apparatus-licensed devices, the condition included in the licences makes these methods and procedures also applicable to spectrum-licensed devices.

The band plan defines the RQZ and auxiliary RQZ zones for coordination purposes.

5.8 Other information

There are a range of other important matters affecting spectrum licensees. This section outlines these matters for prospective auction participants. Further information about each issue is available in [Know your obligations](#).

5.8.1 Flexibility of a spectrum licence

The inherent flexibility of the spectrum licence technical framework allows winning bidders to choose how they deploy services in the spectrum they win, the nature of the services they deliver, and the technology they employ. However, these decisions should be based on a careful technical and commercial assessment; taking into account the harmonised generic emission limits, as well as the amount of spectrum available and purchased, for the performance of the equipment the bidder desires to operate.

The spectrum-licensed bands have a recommended minimum contiguous bandwidth (MCB) to minimise fragmentation of the band during spectrum trading. The MCB is the minimum bandwidth holding in a given area for issue of a licence. However, the ACMA will consider allowing licensees to hold smaller bandwidths where good reasons can be shown to exist in a particular case for holding the smaller bandwidth. The relevant applicable rules are in the [Radiocommunications \(Trading Rules for Spectrum Licences\) Determination 2012](#) (the trading rules).

The spectrum lots and subsequently issued spectrum licences are not pre-designed to accommodate any particular equipment standard. However, they may accommodate

the operation of a particular standard (or even non-standard equipment) at a particular location and frequency, depending on the bandwidth and area of the spectrum licence that a bidder has acquired.

5.8.2 Spectrum trading

Current and prospective spectrum licensees are permitted to negotiate purchases of spectrum licences, subject to trading rules determined by the ACMA. The rules allow spectrum licensees to subdivide and sell part of their licences to prospective licensees—or alternatively, to acquire additional spectrum licences to increase the size of the geographic space, or increase the bandwidth within which the licensee is authorised to operate devices.

Pursuant to section 86 of the Act, where trading of licences takes place, both parties to the trade must notify and provide relevant information to the ACMA as soon as practicable after the trade has been agreed, so the ACMA can amend the RRL and vary, issue or cancel licences as appropriate to give effect to the trade.

5.8.3 Suspension and cancellation of spectrum licences

Division 3 of Part 3.2 of the Act provides that the ACMA may, by written notice giving the reasons, suspend or cancel a spectrum licence if it is satisfied that a licensee or authorised third party has:

- > breached a licence condition or the Act; or
- > operated a radiocommunications device under the licence, or purportedly under the licence, either:
 - > in contravention of any other law (whether written or unwritten) of the Commonwealth, a state or a territory
 - > in the course of contravening such a law.

5.8.4 Interference that the technical framework does not prevent

No matter how rigorous the engineering analysis of a device, there is always a possibility of actual interference when devices are deployed in the field. Under the framework described in this chapter, assuming compliance with licence conditions and relevant obligations, it is anticipated that the risk of interference between spectrum-licensed devices is low. Such interference may be caused by emissions at frequencies either inside or outside the licensees' spectrum space.

Before making an interference complaint, licensees are strongly advised to check the RRL in an attempt to locate the source of any interference. This may reveal the cause of the interference and it may be possible to settle the problem without the ACMA's intervention. If the ACMA becomes involved, licensees may be charged for any work undertaken by or on behalf of the ACMA.

5.8.5 International coordination

Potential spectrum licensees should note that the ACMA will impose such additional licence conditions on spectrum licences as may be necessary to meet its international obligations in accordance with the International Telecommunication Union Radio Regulations.

5.8.6 Health and safety

There are some regulatory arrangements relevant to the occupational health and safety, electromagnetic exposure and the supply of equipment operated under a spectrum licence. Prospective bidders should ensure that they inform themselves about, and are familiar with, any relevant regulations.

5.8.7 Environmental and other considerations

Antenna siting, height and construction may be regulated by state, territory or local government legislation. Prospective bidders should ensure that they inform themselves about, and are familiar with, any relevant regulations.

Part four—Communicating with the ACMA

6. Updates, queries, lodgements and payments

This chapter provides information about how:

- > the ACMA will release updates and announcements about the auction**
- > to submit queries about the auction to the ACMA**
- > to lodge auction documents with the ACMA**
- > to make auction payments to the ACMA.**

6.1 Updates and announcements

The ACMA will post updates and announcements about the auction on the ACMA's dedicated [multiband residual lots auction webpage](#). Potential applicants, applicants and registered bidders are responsible for monitoring the webpage for all current information on the auction and associated matters.

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

6.2 Queries

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

Email: multibandauctionmanager@acma.gov.au

Telephone: (02) 6219 5151

Fax: (02) 6219 5427

Post: Multiband residual lots auction manager
Spectrum Licensing Policy Section
Australian Communications and Media Authority
Red Building, Benjamin Offices, Chan St
Belconnen ACT 2617

6.3 Lodging documents

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

Email: multibandauctionmanager@acma.gov.au

Fax: (02) 6219 5427

Delivery to: Multiband residual lots auction manager
Spectrum Licensing Policy Section
Australian Communications and Media Authority
Red Building, Benjamin Offices, Chan St
Belconnen ACT 2617

Section 6 of the Allocation Determination sets out procedures for lodging documents by email, fax or via delivery of documents to the physical address listed above.

If a document is **emailed**:

- > the document must be included as an attachment
- > the document must be:
 - > if it is a statutory declaration, statement under subsection 41(3) or section 65 of the Allocation Determination or a deed—in PDF format or another format approved by the auction manager; or
 - > if it is not a document mentioned above—in Word, RTF or PDF format or another format approved by the auction manager.

If a document is **faxed**, it must be accompanied by a cover sheet that states:

- > the sender's name, postal address, telephone number and fax number
- > the number of pages transmitted, including the cover sheet.

If a faxed document is a completed application form, a completed preference nomination form, a statutory declaration, a statement under subsection 41(3) or section 65, or a deed, the cover sheet must also state the type of document.

Subsections 33(7) and (8) of the Allocation Determination set out additional requirements for deeds of financial security:

- > if a deed of financial security is given to the ACMA by fax or email, the original deed must be received by the ACMA no later than three working days after the application deadline (or if the ACMA agrees to a later time, the agreed time)
- > 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.

6.4 Making payments

All amounts payable to the ACMA for the auction (for example, application fees, deposits and winning bid payments or pre-determined price payments) must be paid in Australian currency by one of the two following methods:

1. EFT

Bank: ANZ Bank
Branch: Belconnen
BSB: 012-951
Account no.: 8379 24272
Account name: ACMA Official Administered Receipts
Transfers should be labelled: 'multiband/purpose of payment/name applicant'.
Note: Because transfer labels are limited to 15 characters, abbreviations must be used.
For example:
'multiappfee/XCo'
'multi/nompref/XCo'
'multi/win/XCo'
'multi/pdp/XCo'.

Evidence of the electronic transfer (for example, a transfer receipt) should be emailed to multibandauctionmanager@acma.gov.au as soon as practicable after the transfer is made.

2. Bank cheque (crossed 'not negotiable')

Made payable to: Australian Communications and Media Authority on behalf of the Commonwealth
Delivered to: Multiband residual lots auction manager
Spectrum Licensing Policy Section
Australian Communications and Media Authority
Red Building, Benjamin Offices, Chan St
Belconnen ACT 2617

Subsection 7(4) 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;
or
- > 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 three working days after the deadline; or
- > 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 or the deposit.

Auction documents— Attachments A to M

Click to download or to access link

Allocation Determination

Attachment A— [Radiocommunications \(Spectrum Licence Allocation – Multi-band Auction\) Determination 2017](#), and explanatory statement

Marketing plans and technical framework instruments

Attachment B— [Radiocommunications Spectrum Marketing Plan \(1800 MHz unallocated lots band\) 2017](#), and explanatory statement

Attachment C— [Technical framework instruments for the 1800 MHz Band](#)

Attachment D— [Radiocommunications Spectrum Marketing Plan \(2 GHz unallocated lots band\) 2017](#), and explanatory statement

Attachment E— [Technical framework instruments for the 2GHz Band](#)

Attachment F— [Radiocommunications Spectrum Marketing Plan \(2.3 GHz unallocated lots band\) 2017](#), and explanatory statement

Attachment G— [Technical framework instruments for the 2.3 GHz Band](#)

Attachment H— [Radiocommunications Spectrum Marketing Plan \(3.4 GHz unallocated lots band\) 2017](#), and explanatory statement

Attachment I— [Technical framework instruments for the 3.4 GHz Band](#)

Spectrum Designation Notices

Attachment J— [Radiocommunications \(Spectrum Designation\) Notice No. 1 of 2000](#) (2.3 GHz band)

Attachment K— [Radiocommunications \(Spectrum Designation—2 GHz and 3.4 GHz Bands\) Notice 2017](#)

Spectrum Reallocation Declaration

Attachment L— [Radiocommunications \(Spectrum Re-allocation—Regional 1800 MHz Band\) Declaration 2015](#)

Ministerial direction

Attachment M— [Radiocommunications \(Spectrum Licence Limits—Regional 1800 MHz Band\) Direction 2015](#)

Auction forms

There are 10 forms for the multiband residual lots auction:

- > Form 1—Application form
- > Form 2—Deed of acknowledgement form
- > Form 3—Deed of confidentiality form
- > Form 4—Statutory declaration form about affiliations (section 29)
- > Form 5—Deed of financial security form
- > Form 6—Statement about affiliations form for winning bidders (section 65)
- > Form 7—Preference nomination form
- > Form 8—Associates form—body corporate
- > Form 9—Associates form—individuals
- > Form 10—Statement about affiliations form for pre-determined price (PDP) offer (subsection 41(3))

Instructions on who needs to complete the forms, and when to do so, are provided in the step-by-step guide in Chapter 4 and at the start of each form.

Forms 1–10 are available in the *Auction forms* booklet in the *Applicant information package* on the ACMA's website.

Glossary

Word/phrase	Definition
ACMA	Australian Communications and Media Authority
ACMA Act	Australian Communications and Media Authority Act 2005
Act	Radiocommunications Act 1992
AIP	Application information package
Allocation Determination	Radiocommunications (Spectrum Licence Allocation – Multi-band Auction) Determination 2017
allocation instruments	<ul style="list-style-type: none"> > Radiocommunications (Spectrum Licence Allocation – Multi-band Auction) Determination 2017 > Radiocommunications Spectrum Marketing Plan (1800 MHz unallocated lots band) 2017 > Radiocommunications Spectrum Marketing Plan (2 GHz unallocated lots band) 2017 > Radiocommunications Spectrum Marketing Plan (2.3 GHz unallocated lots band) 2017 > Radiocommunications Spectrum Marketing Plan (3.4 GHz unallocated lots band) 2017
allocation limits	Limits on the aggregate amount of spectrum that can be used by a bidder. The allocation limits have the effect of capping the total amount of spectrum that a single bidder can acquire in the auction (see 3.2.5).
auction period	Defined in subsection 4(1) of the Allocation Determination as: the period commencing on the application deadline and ending at the close of the auction under clause 13 in Schedule 1 to the Allocation Determination.
Broadcasting Services Act	Broadcasting Services Act 1992
Competition and Consumer Act	Competition and Consumer Act 2010
FDD	Frequency Division Duplex A technique where downlink and uplink communications can operate at the same time but are separated by the allocation of different frequency blocks. The frequency separation between these blocks is known as the FDD 'split'.
HCIS	Hierarchical cell identification scheme (see 2.2.2 and 2.3.1)
lot	Defined in subsection 4(2) of the Allocation Determination as each of the following is a lot: <ul style="list-style-type: none"> > each 1800 MHz lot > each 2 GHz lot > each 2.3 GHz lot > each 3.4 GHz lot.
LTE	Long Term Evolution technology

Word/phrase	Definition
marketing plan	<ul style="list-style-type: none"> > Radiocommunications Spectrum Marketing Plan (1800 MHz unallocated lots band) 2017 > Radiocommunications Spectrum Marketing Plan (2 GHz unallocated lots band) 2017 > Radiocommunications Spectrum Marketing Plan (2.3 GHz unallocated lots band) 2017 > Radiocommunications Spectrum Marketing Plan (3.4 GHz unallocated lots band) 2017
MCB	minimum contiguous bandwidth
PDP	pre-determined price
radiocommunications advisory guidelines (RAGs)	Radiocommunications advisory guidelines are made under section 262 of the Act, and can refer to any aspect of radiocommunications or radio emissions. Generally, RAGs 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 guidelines, which enables licensees to assess the risk of interference between the services and to make arrangements to mitigate this risk.
Reallocation Declaration	Radiocommunications (Spectrum Re-allocation—Regional 1800 MHz Band) Declaration 2015
multiband residual lots	39 lots across four bands (1800 MHz, 2 GHz, 2.3 GHz, 3.4 GHz) as listed in Table 3, 2.1
SCA	Simple clock auction The auction format being employed for the multiband residual lots auction.
Stage 1, 2 & 3	There will be a Stage 1, Stage 2 and Stage 3 of the auction, as defined in subsection 4(1) of the Allocation Determination and discussed in 4.4.1
TDD	Time Division Duplex A technique where downlink and uplink communications use the same frequency but are separated by the allocation of different time slots. This means uplink and downlink communications cannot occur at the same time.
technical instruments	There are three interlocking regulatory elements that make up the technical framework for a spectrum licensed band including: <ul style="list-style-type: none"> > conditions on the licence (including core licence conditions) > a determination of unacceptable interference for the purpose of device registration > radiocommunications advisory guidelines The technical instruments for each band is available on the ACMA website .
Telecommunications Act	Telecommunications Act 1997

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