

Regulation Impact Statement: Allocation Limits for 26 GHz Spectrum Auction

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Introduction

This Regulation Impact Statement (RIS) has been prepared by the Department of Infrastructure, Transport, Regional Development and Communications. The purpose of this RIS is to assist the Minister for Communications, Cyber Safety and the Arts, The Hon Paul Fletcher MP (the Minister) to decide if allocation limits should be imposed for the auction of 2,400 Megahertz (MHz), that is 2.4 Gigahertz (GHz), of spectrum in 29 geographic areas in the 25.1 – 27.5 GHz frequency range (the 26 GHz band) and if so, what those limits should be. A decision would be made under subsection 60(10) of the *Radiocommunications Act 1992* (the Act).

Spectrum in the 26 GHz band has been identified internationally and by the Australian Communications and Media Authority (ACMA) for delivery of millimetre wave (mmWave) 5th generation (5G) wireless broadband services.¹ MmWave spectrum is key to providing the peak speeds and full range of use cases of 5G. Although 5G services are already being deployed, the full potential of 5G will not be realised without mmWave spectrum. As one of the first mmWave spectrum bands to be allocated in Australia for wireless broadband services, the 26 GHz band is critical to the deployment of 5G in Australia.

On 18 October 2019, the Minister for Communications, Cyber Safety and the Arts, the Hon Paul Fletcher MP (the Minister), issued a declaration to re-allocate 2.4 GHz of spectrum in the 26 GHz band for spectrum licensing in 29 defined geographic areas. This declaration paves the way for ACMA to auction these spectrum licences, with the auction scheduled for March 2021. The Minister's decision reflected a recommendation from ACMA following public consultation by ACMA. In September 2019 the Department of Communications and the Arts certified that ACMA's consultation process and published documents on the 26 GHz band constitute a process and analysis equivalent to a Regulation Impact Statement (RIS) for the decision to issue a re-allocation declaration for the 26 GHz band.² The ACMA released draft auction instruments for public consultation on 9 July 2020³ and is intending to auction the 2.4 GHz of spectrum in frequency lots of 200 MHz.

The ACMA intends that the auction will be run online using an Enhanced Simultaneous Multi-Round Ascending (ESMRA) auction format. This is a two-stage auction methodology, comprising:

1. a **primary** stage, in which frequency-generic lots for each area are offered simultaneously
2. an **assignment** stage, for assignment of lots to the specific frequencies within the band.

An ESMRA auction format allows bidding on generic lots within each geographic area and provides an assignment stage to allocate the spectrum won in a contiguous block of that bandwidth. It reduces the fragmentation risk associated with the Simultaneous Multi-Round Ascending (SMRA) format, where each lot is bid on separately and contiguity within the region is not guaranteed.

This RIS has been developed in accordance with the Australian Government Guide to Regulation, March 2020, issued by the Office of Best Practice Regulation (OBPR) in the Department of the Prime

¹ ACMA Draft spectrum reallocation recommendation for the 26 GHz band, <https://www.acma.gov.au/consultations/2019-08/draft-spectrum-reallocation-recommendation-26-ghz-band-consultation-142019>

² 26 GHz spectrum re-allocation Independent review certification, <https://ris.pmc.gov.au/2019/11/07/26-ghz-spectrum-re-allocation>

³ ACMA 26 GHz band spectrum licence draft legislative instruments – consultation 19/2020 <https://www.acma.gov.au/consultations/2020-07/26-ghz-band-spectrum-licence-draft-legislative-instruments-consultation-192020>

Minister and Cabinet, and in consultation with the OBPR. Relevant guidance notes issued by the OBPR have also been taken into account.

What is the problem being solved?

This RIS considers whether the Minister should direct ACMA to impose allocation limits for the auction of 2.4 GHz of spectrum in the 26 GHz band and if so, what those allocation limits should be.

Spectrum is a finite resource; it is an essential input to the provision of mobile communications services, and in wireless fixed broadband and enterprise applications, among many other uses of spectrum. This is the first auction of high-band, or mmWave, spectrum for 5G deployment in Australia. The physical and technical characteristics of this spectrum make it key to providing the peak speeds and full range of use cases of 5G.

The unique characteristics of this spectrum mean that a failure to obtain spectrum in this auction could preclude a mobile network operator (MNO) from providing the full range of services possible in 5G networks. In addition, any auction participant may have incentives to acquire spectrum in order to preclude its competitors from doing so, thereby undermining its competitors' ability to compete in downstream markets. Although there is a large amount of spectrum available, each operator requires a sizeable holding in order to effectively compete in downstream markets. If only one or two MNOs gain access to 26 GHz band spectrum, this could disadvantage the unsuccessful participant(s) in terms of their ability to deploy 5G services in competition with successful bidders.

This outcome would be contrary to the interests of consumers in terms of service, quality and price for 5G services in downstream markets and contrary to the object of the Act, which provides for the management of the radiofrequency spectrum in order to, amongst other objectives, "maximise, by ensuring the efficient allocation and use of the spectrum, the overall public benefit derived from using the radiofrequency spectrum".

Why is Government action needed?

Government action is needed to restrict the ability of auction participants to attempt to monopolise spectrum holdings and deny competitors from securing spectrum licences in the 26 GHz band. Without any restrictions on this ability, competition in Australia's retail mobile services, fixed broadband services, and private wireless enterprise markets could suffer, negatively affecting consumers and failing to maximise overall public benefits of the spectrum.

Under subsection 60(10) of the Act, the Minister has the power to direct ACMA to impose allocation limits at an auction. In making such a decision, the object of the Act is relevant. As well as maximising "the overall public benefit derived from using the radiofrequency spectrum", the object provides for the management of the radiofrequency spectrum in order to "support the communications policy objectives of the Commonwealth Government" (subsection 3(f) of the Act).

Allocation limits work by placing a cap on the amount of spectrum bidders can acquire in an auction. For example, an allocation limit of 1 GHz in an auction of 2.4 GHz would mean that no bidder is allowed to acquire more than 1 GHz in any geographic area in that auction.

In considering how the problem should be solved, the Department has had regard to the Government's communications policy objectives for the allocation of the 26 GHz band,⁴ which are outlined in the following table.

⁴ <https://www.communications.gov.au/documents/communications-policy-objectives-allocation-26-ghz-band>

Table 1. Government Communications Policy Objectives for the 26 GHz Allocation

Objective	Description
Supporting the deployment of 5G technologies	<p>The Government’s <i>5G – Enabling the future economy</i> directions paper identified that the Government would support the early deployment of 5G in Australia by making spectrum available in a timely manner. The 3.6 GHz band was the first band made available in Australia for the deployment of 5G services, with spectrum licences allocated in December 2018. Following international developments, the 26 GHz band has been identified as the next band in Australia for the deployment of 5G services. Spectrum in the 26 GHz band is expected to be complementary to holdings in the low and mid band ranges; while these lower bands can be used to provide for broader coverage, the 26 GHz band (as a mmWave band) enables the extremely fast, high-capacity services that will characterise 5G.</p>
Promoting competitive market outcomes for the long term benefit of consumers	<p>The Government wants to promote competitive outcomes for the long term benefit of consumers, in order to encourage a range of choice in consumer products and place downward pressure on consumer prices. The Government recognises that spectrum allocations contribute to competitive outcomes for the long term benefit of consumers and that allocation limits can be an effective tool to encourage competition in downstream markets.</p>
Promoting the efficient allocation and use of spectrum	<p>The objects of the Radiocommunications Act 1992 provide that the overall public benefit derived from the use of spectrum should be maximised by ensuring the most efficient allocation and use of the spectrum. Allowing the market to determine the price of spectrum through an auction process promotes allocative efficiency. Recent developments in material and manufacturing technologies mean that mmWave spectrum can be used for the deployment of wireless broadband services. Given the increasing demand for these services, moving to allocate this band as soon as possible and enabling use at the earliest opportunity contributes to the efficient use of spectrum in Australia.</p>
Promoting co-existence with existing services	<p>Existing services within the 26 GHz band and in adjacent bands need to be considered when allocating new licences in the band. Studies have indicated that coexistence between new wireless broadband services and existing services in the band is feasible. Arrangements, including through licencing arrangements, licence conditions and associated administrative guidelines, should be made to ensure the appropriate protection of these services over time while allowing new users to access the band.</p>

Supporting technological innovation and a range of wireless broadband use cases

The allocation of licences in the 26 GHz band will see the introduction of a mix of licence types across the band – class, apparatus and spectrum licences. Providing for these different licence types means that the spectrum is available for a range of wireless broadband use cases, supporting emerging technologies and innovative uses of the band.

Encouraging investment in infrastructure, including in regional Australia

The Government supports continued investment in mobile and fixed broadband networks. It also recognises that the different characteristics of spectrum bands, types of licencing arrangements and allocation processes can contribute to, or detract from this outcome. The proposed licencing arrangements in the band are designed so that smaller wireless broadband providers can access this spectrum and provide services outside the large metropolitan and regional centres.

At the time of making the re-allocation declarations, the Minister sought advice from the Australian Competition and Consumer Commission (ACCC) about whether allocation limits should be applied to the amount of spectrum that bidders could win in the 26 GHz auction and, if so, what the ACCC considers those limits should be.

As spectrum is a wholesale input its value is realised through its use in downstream markets to deliver services to consumers and businesses. Therefore, the ACCC's advice to the Minister was based on a competition assessment which focused on the allocation's likely impact on downstream markets. The ACCC identified three relevant downstream markets which could be impacted by competition issues arising from the 26 GHz allocation. These markets are: the national retail mobile services market; the national fixed broadband services market; and the private wireless enterprise market. The analysis also considered carriers' existing spectrum holdings in other bands to evaluate carrier abilities to deploy 5G and compete in downstream markets with or without spectrum from this allocation. The ACCC applied the 'long term interests of end users' (LTIE) test to consider the potential impacts of the 26 GHz allocation, in particular whether it will promote competition for the benefit of consumers and end users. The ACCC also conducted public consultation with industry stakeholders to inform its advice. The ACCC advised that allocation limits should be applied to mitigate the risk of:

- monopolisation of spectrum, which could dampen future competition if any operator is able to significantly benefit from a first-mover advantage, particularly in nascent enterprise connectivity markets given the new services and applications made possible using this spectrum, and
- very asymmetric spectrum holdings as a result of an auction without allocation limits, as operators in Australia are at different stages of 5G deployment and significant disparities in spectrum holdings could potentially dampen future competition.

While the ACCC acknowledged that allowing the market to determine the price of spectrum through an auction process can promote allocative efficiency – that is, the price paid can ensure that the spectrum is put to its highest value use – it also recognises that selling spectrum in an auction to the highest bidder can weaken competition in downstream markets by adversely affecting efficiency. This point was summed up by Cramton et al:

*'This is the great deficiency of an unrestricted auction when incumbents have rents to protect. Symmetric auctions among asymmetric bidders are prone to inefficient outcomes because the interests of consumers are not directly represented in the auction.'*⁵

In other words, the ACCC argued that companies with a strong existing position will value the bid based on both the value of the spectrum to them, and the value to be gained by keeping it from competitors. Allocation limits can help promote competition and allocative efficiency in downstream markets by giving all operators an opportunity to acquire sufficient spectrum to compete efficiently.

Conversely, without allocation limits there is a real risk that a larger, well-resourced bidder may acquire all or most of the available spectrum, thereby excluding other bidders from accessing spectrum. This would have a detrimental impact on consumers through diminished competition in the relevant downstream markets. This is because exposure to competition in a market provides incentives for firms to innovate in order to improve the choice, quality or cost of service offerings in order to attract market share. Absence of competition increases the risk of conditions that enable rent seeking behaviour, which is detrimental to end users.

For instance, in the national fixed broadband services market, an operator who fails to acquire spectrum may be constrained in its ability to compete in the market. This is because such an operator will be unable to deliver the ultra-high speed services (enabled by mmWave spectrum) that are needed to compete in the fixed broadband market.

Options for mitigating competition risks.

The Department considers that applying allocation limits to the sale of the spectrum is the most suitable option for mitigating the risks of monopolisation and asymmetric holdings. As an alternative to using allocation limits, it would be possible to rely on section 50 of the Competition and Consumer Act 2010 (CCA), however this option would generate higher uncertainty for business and would therefore be less effective in fostering strong investment conditions. Under section 50 of the CCA, the ACCC has the discretion to intervene in the issue of spectrum licences if it believes that the acquisition of the licences will have the effect or likely effect of substantially lessening competition in the relevant market. The ACCC's discretionary power remains an important safeguard for preserving competitive conditions, however, there are difficulties relying on it exclusively as there may be some variation in stakeholders' perceptions of when intervention would occur, therefore increasing ambiguity around what market conditions for the auction may be. This risks creating an additional burden for both participants and the ACMA which would have to prepare for a greater range of contingencies. By contrast, allocation limits provide transparent parameters for prospective bidders prior to auction, which provides a stronger foundation for informed investment decisions.

Relying on section 50 could also delay the rollout of mmWave spectrum. Even if the ACCC made an intervention under section 50, a range of uncertainties would remain, such as who should gain access to the spectrum, through what allocation method and at what price. Such issues could take a significant amount of time to be resolved. For instance, if a decision was made to auction the spectrum again (which the Government, the ACCC, ACMA and all three MNOs agree is the preferred method of allocating the spectrum), not only would that take years, but a decision would need to be made to impose allocation limits on the party that was denied the spectrum in the first place. This

⁵ Cramton, P., A. Skryzpacz and R. Wilson (2007), 'The 700 MHz spectrum auction: an opportunity to protect competition in a consolidating industry', Submission to the United States Department of Justice, 13 November 2007. <http://www.cramton.umd.edu/papers2005-2009/cramton-skryzpacz-wilson-competition-in-700-mhz-auction.pdf>

would significantly delay the rollout of mmWave spectrum, and accordingly delay the rollout of 5G technologies and their associated benefits for Australia.

There is also a distinction between section 50 – a safeguard against an acquisition that *substantially lessens* competition – and the Government’s policy objective of ‘promoting competitive market outcomes for the long term benefit of consumers’. While an acquisition of spectrum might not substantially lessen competition, it does not follow that such an acquisition would necessarily promote competition. Allocation limits can promote competition through scenarios in which a bidder acquires more spectrum than they otherwise would have in an unrestricted auction, and is then able to compete more effectively in the downstream market – benefitting consumers through more choice and lower prices.

Allocation limits have been a common mechanism for managing competition issues in modern spectrum auctions in Australia, and are widely accepted by industry. Circumstances when allocation limits have not been applied have primarily been for the allocation of residual, previously unsold, lots (such as for the allocation of residual lots in the 2 GHz, 2.3 GHz and 3.4 GHz bands during 2017).

Allocation limits have also been used in the allocation of 5G (including mmWave) spectrum in jurisdictions overseas. Internationally, operators have been able to acquire between 200 MHz to 1200 MHz in high-bands such as 26 GHz and in the majority of cases, the operators have acquired less than the allocation limit. Countries have pursued different approaches to setting allocation limits, reflecting the unique market conditions of those countries, with some favouring limits that promote greater competitive tension in the auction process, with others favouring limits that secure far more uniform allocations of spectrum at the starting price. The ACCC notes that some jurisdictions around the world have chosen to respond to the potential for first mover advantages dampening future competition by either; delaying the allocation of high-band spectrum or issuing shorter, temporary licences.

Allocation of mmWave spectrum

To maximise the benefit and utility of spectrum in the 26 GHz and neighbouring bands (spectrum in the range 24.25–29.5 GHz, will be available for wireless broadband and other services), ACMA plans to utilise a combination of the three different licence categories available under the Act (class, apparatus and spectrum licences) to allocate spectrum. The 26 GHz auction will allocate spectrum licences only. Spectrum licences authorise the operation of devices within a defined geographic area and frequency range and can be issued for 15 year terms (although licence holders have the right to trade all or part of their licences during the licence term subject to any rules set out by the ACMA). They are often preferred by MNOs due to the greater certainty provided for infrastructure investment decisions. The 26 GHz band is also the only spectrum in this range in which ACMA plans to permit use by wide-area mobile broadband networks of the sort usually deployed by MNOs. Spectrum in the 28 GHz band (27.5–29.5 GHz) will be apparatus licensed and ACMA will not permit use for mobile services. ACMA will also impose restrictions on apparatus licensed spectrum in the segment 24.7–25.1 GHz which will limit its utility for retail mobile and fixed broadband services. Additionally, conditions for class licensed access in the 24.25-25.1 GHz range will not be conducive to wide area deployments (retail or otherwise).

The 26 GHz band auction will allocate spectrum licences in 29 cities and major regional centres. These are towns or cities with a population over 50,000 as well as smaller towns/cities with features such as universities or high tourism that may require the deployment of high-density wireless broadband services. The technical framework for spectrum at auction is optimised to accommodate 5G wireless broadband services through either mobile or fixed network deployments.

To maximise the utility of the band, apparatus licences will also be offered for the 26 GHz and 28 GHz bands (considered substitutable spectrum for applications such as fixed wireless deployment). Apparatus licences typically authorise the use of an individual device/type of device at a specific location to deliver a specified service. They are generally issued for a fixed fee through an administrative process (rather than via auction) for a maximum period of 5 years.

In the 26 GHz and 28 GHz bands ACMA plans to make available a new licence type, called an 'area-wide apparatus licence' (AWL). This licence type would authorise the operation of multiple radiocommunications devices in a particular frequency range within a particular geographic area, similar to spectrum licences, but over smaller (aggregable) areas and with a maximum period of 5 years. These licences will be available Australia-wide across both the entire 28 GHz band and in 24.7-25.1 GHz; they will also be offered in the 26 GHz band outside the geographic areas designated for spectrum licensing, where lower demand is anticipated. Although offering different characteristics, the option to acquire mmWave spectrum through mechanisms not subject to allocation limits is relevant in looking at the overall impact of regulation applying limits on spectrum licences in 26 GHz.

ACMA's use of the AWL apparatus licence type is designed to address the spectrum requirements of potential new entrants and smaller players in the market, by making it more likely that they can acquire spectrum and to support innovative use cases. The Minister's reallocation determination and allocation limits direction relate to the issue of spectrum licences through the auction, and do not apply to the apparatus-licensed portions of the 26 GHz and 28 GHz bands. ACMA is separately developing arrangements for the issue of AWLs in the band.

Class licences will also be provided in the 24.25-25.1 GHz segment of the 26 GHz band for use Australia-wide. These licences will enable the usage of low interference potential devices in localised private facilities, including enterprise or industrial networks in educational facilities, factories, hospitals etc. They do not attract fees or require an application to ACMA.

What policy options are being considered?

There are three options being considered:

Option 1 – No allocation limits are set.

- No allocation limits would be imposed for the auction. This would minimise government intervention in the operation of the auction. The ACCC did not support this option as it sees a significant risk of asymmetric holdings or monopolisation of spectrum, with long-term impacts on downstream competition, if allocation limits are not applied to the 26 GHz auction. The ACCC notes that operators are likely to require a diverse spectrum portfolio to deliver 5G, including a mix of low, mid and high-band spectrum. Operators may cease to be competitive in the long term if they cannot successfully deploy 5G.

Option 2 – Impose allocation limits of 1 GHz per bidder for spectrum licences in the 26 GHz band in any geographic area in the auction.

- This option addresses the issues raised by option 1 (imposing no allocation limits in the auction), namely the potential negative impacts on downstream competition, while also allowing for some competitive tension in the auction. Bidders' apparatus licences in the 26 or 28 GHz bands would not be taken into account in the allocation limits. This option is consistent with the ACCC's advice to the Minister.

Option 3 – Impose allocation limits of 800 MHz per bidder for spectrum licences in the 26 GHz band in any geographic area in the auction.

- This option also addresses the issues that arise if allocation limits are not imposed. If there are only three bidders at auction (which is possible), an 800 MHz limit across 2.4 GHz would likely result in an allocation of up to 800 MHz to each bidder at the starting price, or unsold lots in certain areas. This option therefore removes the risk of monopolisation of spectrum in the 26 GHz band, and encourages more symmetric 26 GHz spectrum licence holdings across all three MNOs in the existing market. However, this option should to be weighed against the positive effects competitive tension in an auction can provide. Potential lack of competition in the auction would not necessarily support as efficient an outcome: efficient allocation of spectrum is more likely to be achieved where there is sufficient competition at auction to allow price discovery through upward movement toward the market value. The submissions to the ACCC's consultation paper indicate that the quantum of spectrum required to provide a competitive mobile broadband service is likely significantly less than 800 MHz. For wireless fixed broadband service providers, any shortfall in 26 GHz spectrum can be supplemented with apparatus licences to be made available by ACMA in substitutable spectrum in the 28 GHz band.

Who is affected and what is the impact?

Compliance costs

None of the options under consideration involve increased compliance costs for auction participants compared to previous spectrum auctions. Organisations are not required to participate in the auction and if they participate, they are free to choose the nature and extent of their participation. Further, the mix of licensing mechanisms being made available by ACMA in neighbouring spectrum gives interested parties the opportunity to obtain spectrum outside of an auction process and not subject to allocation limits.

Business impacts

Allocation limits restrict the amount of spectrum a bidder can acquire at auction. This may result in a positive or negative business impact, depending on the bidder. Consider the following example, which reflects the expected scenario at auction and assumes an allocation limit of 1 GHz. There is 2.4 GHz of spectrum available and three bidders. If a hypothetical bidder, Bidder A, is willing to pay more than any other bidder for an amount of spectrum that is over the allocation limit (e.g. the bidder is seeking 1.2 GHz of spectrum, is willing to pay more than any other bidder for that spectrum, but the allocation limit is 1 GHz), that bidder will be negatively impacted.

Conversely, there will be 1.4 GHz available⁶ for purchase by bidders B and C, who are willing to pay less than bidder A. The difference in willingness to pay between bidders B and C will determine the quantity of spectrum each bidder acquires and for what price. Both bidders B and C are likely to be positively impacted compared with no allocation limit because of bidder A's higher willingness to pay. If there was no allocation limit, it is likely one or both bidders would receive less spectrum and/or have to pay a higher price for the spectrum. In the longer-term, this would likely reduce the ability of these bidders to effectively compete with bidder A in downstream markets, a negative impact. Note this example says nothing about the factors affecting bidder A's higher willingness to pay than the other bidders. It could be higher because it believes it can make the best use of the spectrum in terms of its product offerings in downstream markets, but, as discussed earlier, a likely factor could also be that bidder A wants to deny its competitors from acquiring spectrum.

Overall, the impact of applying allocation limits cannot be generalised across all prospective participants and is likely to be just one variable influencing individual business' participation, and overall demand, in the auction.

⁶ 2.4 GHz - 1 GHz = 1.4 GHz

An allocation limits direction includes an ‘associates in common’ provision to reduce the scope for anticompetitive behaviour including collusion or bypassing the intent of allocation limits by controlling spectrum through multiple related entities. The provision has been redrafted from that used in previous allocation limits directions and will reduce compliance costs of participants (in identifying and removing associates in common prior to the auction) without materially increasing the risk that allocation limits could be subverted by affiliated bidders.

Costs to government

Competition settings are just one of many variables that are likely to impact the revenue generated by the auction – other factors include starting prices (which are yet to be set by the ACMA), each bidder’s own valuation of the spectrum, and other commercial and market conditions.

Generating revenue is not an object of the Act. It would not be consistent with the current legislation for the Minister or ACMA to make decisions about spectrum allocations, including setting allocation limits, with the goal of maximising revenue. Appropriate allocation limits can have positive impacts on government revenue by supporting competitive tension and price discovery during the auction. However, positive impacts on revenue created by competitive tension should only be viewed as a secondary benefit of enhancing the efficient allocation of spectrum. There is also the possibility that if fewer participants than anticipated bid in a given location, an allocation limit may increase the risk of unsold lots, and result in lower revenue.

What is the likely net benefit of each option?

Option 1

No allocation limits for the auction would have a net cost rather than a net benefit. This option would not address the incentive for MNOs to monopolise the spectrum.

The ACCC notes that in an unrestricted auction, available spectrum is not always allocated to its highest value use. This is because bidders may see an incentive to pursue anti-competitive behaviour by acquiring additional spectrum in order to restrict their competitors’ capacity to compete in the downstream markets in the future. The ACCC and the Department agree that allocation limits should be applied, in order to safeguard future competition and ensure that all operators have the opportunity to acquire high-band spectrum needed to compete in downstream markets.

Likewise, the technical characteristics of 5G mean operators will require relatively large allocations of contiguous spectrum, depending on their proposed application. Therefore, if one or two MNOs acquire large amounts of spectrum, the remaining amount of spectrum may not be sufficient for a third operator to roll out a commercially competitive 5G service using mmWave technology. This scenario would remove a third MNO’s incentive to bid and create a risk that remaining spectrum could be unsold and lie fallow, producing neither revenue, nor productivity benefits for Australia. Additionally, the MNO(s) who does acquire sufficient spectrum will face less competition which could lead to higher prices and lower quality services for consumers.

Although Section 50 of the Competition and Consumer Act 2010 (CCA) offers some safeguards for competition in spectrum markets, if relied on in isolation without allocation limits, it is unlikely to offer the certainty businesses require to inform investment decisions.

Option 2

An allocation limit of 1 GHz will promote competition and the other communications policy objectives because it reduces the risk that spectrum will be monopolised as a result of the allocation, and provides an opportunity for a number of operators to acquire a sizeable contiguous allocation of spectrum to deploy effective 5G services. This allocation limit reflects that there are likely to be at least three bidders in the 26 GHz auction, including the three MNOs (Telstra, TPG Telecom and

Optus). An allocation limit of 1 GHz per bidder per geographic location, across the 2.4 GHz of available spectrum will therefore help support competitive tension in the auction and aid price discovery.

Additional spectrum can be acquired through apparatus licensing if necessary, although would be subject to different conditions, including shorter licence terms.

Option 3

A limit of 800 MHz would also address the risk of spectrum monopolisation. However, compared to a 1 GHz limit there would be a much greater risk of low (or no) competitive tension at auction, and consequently a greater risk that the auction would result in a less efficient allocation of spectrum. In the event that there were only three bidders (which is a real possibility), all bidders would have the opportunity to acquire 800 MHz at the starting price, regardless of differences in bidder valuations.

Who will you consult?

To inform its advice to the Minister, the ACCC conducted public consultation with industry stakeholders.

The ACCC released a consultation paper on 26 February 2020 seeking submissions to help inform its consideration and advice. The consultation period closed on 27 March 2020. In response, the ACCC received submissions from the nine stakeholders below:⁷

- Telstra;
- Optus;
- [REDACTED] made confidentially
- NBN Co;
- Communications Alliance Satellite Services Working Group;
- OneWeb;
- Commpete;
- BAI Communications; and
- the Australian Radio Communications Industry Association.

The ACCC requested feedback from stakeholders on a range of issues including:

- Competition concerns about allocation of spectrum licences in 26 GHz band
- The allocation's impact on operators' ability to compete in both the short and long term
- The impact and treatment of apparatus licences in the 26 GHz and 28 GHz bands
- Likely short and long term intended uses of 26 GHz and/or 28 GHz spectrum in Australia
- Optimal and minimum allocation of 26 GHz and/or 28 GHz spectrum required to support likely intended uses
- Role of this allocation in supporting technical requirements of 5G service deployment
- Geographical differences in demand
- Additional investment requirements to deploy spectrum for intended uses
- Identifying relevant downstream markets, as well as current and future competition issues in these markets
- Potential for new markets in the future
- Substitutability between spectrum in the 26 GHz and 28 GHz bands.

⁷ <https://www.accc.gov.au/regulated-infrastructure/communications/mobile-services/spectrum-competition-limits/request-for-advice-26-ghz-spectrum>

MNOs had different views about the amount of spectrum that is needed to support 5G deployments in mobile or fixed applications. Telstra's submission noted that it did not expect demand in the auction to exceed 1 to 1.2 GHz per MNO, arguing that even without allocation limits there would remain potential for several bidders to win spectrum in the auction. Optus supports an allocation limit of 800 MHz to ensure no one MNO is able to acquire dominance in spectrum assets to the detriment of competition.

Of non-MNO submissions stakeholders generally also favoured some form of mechanism to protect competition in the 26 GHz band, such as allocation limits (although several were primarily concerned with access to the 28 GHz band and did not address limits in 26 GHz directly).

What is the best option from those you have considered?

Option 2 (allocation limit of 1 GHz on spectrum licences per bidder in a given geographical area) is the preferred option. This option best supports the Government's communication policy objectives for the 26 GHz auction.

All options are in line with the objectives of *Supporting the deployment of 5G technologies* and *Encouraging investment in infrastructure, including in regional Australia*, with the 5G-suitable 26 GHz band being made available at the same time across all three options. Option 1 does not, however, *Promote competitive market outcomes for the long term benefit of consumers*, leaving open the real possibility of bidders attempting to monopolise spectrum. Although the spectrum will go to the bidder that values it the most in option 1, it does not necessarily follow that this corresponds to the highest overall economic value or public benefit. Option 2 strikes a balance between restricting monopolisation (promoting competition in downstream markets) and *Promoting the efficient allocation and use of spectrum*. It allows the market to determine the price of spectrum through an auction process, improving allocative efficiency (promoting competition in the spectrum market). Option 3 promotes competition in downstream markets by addressing the risk of spectrum monopolisation, but does not promote competition at auction, potentially reducing the likelihood of an efficient allocation and use of spectrum.

The objective of *Supporting technological innovation and a range of wireless broadband use cases* is facilitated best by options 2 and 3 because they remove the possibility of one participant monopolising the spectrum, a situation that would reduce the ability of others to acquire spectrum for innovative use cases.

ACMA's planning processes deal with the objective of *Promoting co-existence with existing services* and this objective is not relevant to a decision on allocation limits.

In short, option 2 is the preferred option because it meets all the relevant communications policy objectives for the band. Options 1 and 3 do not satisfy the Government's objectives, making them unsuited to addressing the competition issues in the band.

How will you implement and evaluate your chosen option?

The Minister's decision regarding allocation limits will be implemented through a direction to the ACMA under section 60 of the Act, and then incorporated into the allocation procedures ACMA is developing for the upcoming 26 GHz spectrum auction.

The Department monitors access to, and the cost of, telecommunications services as part of its business as usual functions and will monitor both in the emerging mmWave 5G market.

In the case of the 26 GHz auction, the Department will evaluate the impacts of the allocation limits by analysing:

- the impacts of the auction on the relevant markets;
- the number of unsold lots at the conclusion of the auction;
- whether MNOs acquired enough spectrum to deploy viable 5G networks; and
- whether operators, including smaller players, were able to acquire spectrum through the alternative apparatus licensing system.

Furthermore, the Department and ACMA are in regular contact with the stakeholders who are likely to be affected by the allocation limits, and will take up opportunities to seek feedback and incorporate lessons learned into future spectrum allocation decisions.

The ACCC monitors the competition of the telecommunications sector through its annual telecommunications report.⁸ The report examines the market power of the industry and the price paid by consumers, two aspects of the sector that allocation limits seek to improve. Although it is difficult to assess the effects of allocation limits alone, the ACCC is well placed to monitor the overall competition of the industry. The wealth of information the ACCC has access to is likely sufficient to assess the impacts of allocation limits.

Under section 50 of the *Competition and Consumer Act 2010* (CCA), the ACCC has the power to intervene in the issue of spectrum licences if it believes that issuing the licences will have the effect or likely effect of substantially lessening competition in the relevant market.

Conclusion

The Department supports the recommendation of the ACCC to apply an allocation limit on spectrum licences of 1 GHz per bidder in a given geography, for the 26 GHz spectrum licence allocation. The recommended limits do not represent a new cost for the industry or consumers. It is an option familiar to the industry as a result of participation in previous spectrum auctions and is therefore likely to be accepted by auction participants.

An allocation limit of 1 GHz is the best option to both: mitigate potential market failure of monopolisation or asymmetric holdings of mmWave spectrum; and to support the Government's Communications Policy Objectives for the 26 GHz Allocation.

Spectrum is an essential input for Australia's current and future communications, and 5G technology will require substantial amounts of spectrum. The 26 GHz auction will make a large amount of mmWave spectrum available to support the deployment of networks that enable the peak speeds and full range of possible use cases of using 5G standards. An allocation limit of 1 GHz addresses both competition issues and other communications policy objectives, and provides an opportunity for a number of operators to acquire a sizeable contiguous allocation of spectrum to deploy effective 5G services.

⁸ Australian Competition and Consumer Commission (ACCC), [ACCC telecommunications market report](#)