



NOT GOVERNMENT POLICY

2300 MHz and 2600 MHz Management Rights review

Discussion document

November 2025



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Glossary

Abbreviation/Term	Meaning
2300 MHz band	Frequencies of radio spectrum between 2300 MHz to 2395 MHz
2600 MHz band	Frequencies of radio spectrum between 2500 MHz to 2690 MHz
3GPP	Third Generation Partnership Project
4G	Fourth generation cellular technology
5G	Fifth generation cellular technology
ECC	Electronic Communication Committee of the European Conference of Postal and Telecommunications Administration
FDD	Frequency Division Duplex: separate frequencies are used for the uplink and downlink communications
GHz	Gigahertz, a unit of measurement for the frequency of radio waves
MHz	Megahertz, a unit of measurement for the frequency of radio waves
MOU	The Memorandum of Understanding signed between the New Zealand Government (the Crown) and the Māori Spectrum Working Group (MSWG), outlining shared objectives, commitments, and principles for the allocation, management, and development of radio spectrum resources to benefit Māori
MR	Management Right, a legal right awarded by the Crown to control and manage a specific block of radio frequencies
MSP	Managed Spectrum Park is a shared block of radio frequencies (for example, 2575 MHz to 2620 MHz in the 2600 MHz band) set aside for local and regional use, where multiple users can access and manage the spectrum cooperatively
MSWG	The Māori Spectrum Working Group (MSWG) is a collective of Māori representatives established to engage with the New Zealand Government on matters relating to Māori interests in radio spectrum
RRF	Register of Radio Frequencies, a public online register of radio licences, spectrum licences and Management Rights issued by RSM in New Zealand
RSM	Radio Spectrum Management, a business unit within MBIE, responsible for the administration of the radio spectrum in New Zealand
Tū Ātea	Tū Ātea Limited, the corporate entity which holds and manages assets (including funding, spectrum, and business) on behalf of Māori, and whose directors are appointed by the MSWG
TDD	Time Division Duplex: same frequencies are used for both uplink and downlink, with uses alternating on a time-basis
The Act	Radiocommunications Act 1989
The Crown	The Crown in right of New Zealand acting by and through the Chief Executive of the Ministry of Business, Innovation and Employment
The Ministry or MBIE	The Ministry of Business, Innovation and Employment

Invitation for submissions

This document sets out options for future use of radio frequencies between 2300 MHz to 2395 MHz and 2500 MHz to 2690 MHz in New Zealand.

Interested parties are invited to comment on the content of this document, in particular the questions posed, and on any related issues. Comments should be submitted in writing, no later than **5pm on 23 January 2026** by:

Email: Radio.Spectrum@mbie.govt.nz (preferred)

Subject line: “2300 MHz and 2600 MHz rights review”

Post:

Radio Spectrum Management Policy and Planning
Ministry of Business, Innovation and Employment
PO Box 2847
WELLINGTON 6140

Any questions or for further information should be emailed to Radio.Spectrum@mbie.govt.nz.

Publication and public release of submissions

Except for material that may be defamatory or out of scope, the Ministry will post all written submissions on the Radio Spectrum Management website at www.rsm.govt.nz. The Ministry will consider you to have consented to posting by making a submission, unless you clearly specify otherwise in your submission.

Submissions are also subject to the Official Information Act 1982. If you have any objection to the release of any information in your submission, please set this out clearly with your submission. In particular, identify which part(s) you consider should be withheld, and explain the reasons(s) for withholding the information. The Ministry will take such objections into account when responding to requests under the Official Information Act 1982.

Use of Generative Artificial Intelligence software

The Ministry may use generative artificial intelligence tools to support the analysis of submissions received through this consultation. These tools assist in identifying themes, summarising feedback, and improving the efficiency and consistency of our analysis. All personal information will be handled in accordance with the Privacy Act 2020 and relevant data protection laws. AI tools will not be used to make decisions about individuals, and human oversight will be maintained throughout the analysis process. Please indicate in your submission if you do not consent to the use of these tools in the analysis of your submission.

Privacy Act 2020

The Privacy Act 2020 establishes certain principles with respect to the collection, use and disclosure by various agencies, including the Ministry, of information relating to individuals and access by individuals to information relating to them, held by such agencies. Any personal information you supply to the Ministry in the course of making a submission will be used by the Ministry in conjunction with consideration of matters covered by this document only. Please indicate in your submission if you do not wish your name to be published.

1 Introduction

The Ministry of Business, Innovation and Employment (MBIE), through Radio Spectrum Management (RSM), is responsible for managing radio spectrum in New Zealand, including the allocation of Management Rights for the use of radio spectrum.

Management Rights for the following frequency bands will expire in the next five years:

- 2300 MHz to 2395 MHz (the 2300 MHz band) will expire in 2030.
- 2500 MHz to 2690 MHz (the 2600 MHz band) will expire in 2028.

These bands, identified for International Mobile Telecommunications, are used to deliver mobile cellular services (including 4G and 5G). The Managed Spectrum Park (MSP) is in the 2575-2620 MHz portion of the 2600 MHz band and is used to provide regional broadband, fixed wireless access and some private networks within a confined local area.

When Management Rights expire, licences in the Management Right end. The spectrum reverts to the administrative regime, under Part 13 of the Radiocommunications Act 1989, and any wireless service using the frequencies covered by the right must cease upon expiry.

RSM is undertaking a review of expiring Management Rights in the 2300 MHz and 2600 MHz bands. RSM typically reviews Management Rights ahead of their expiry to determine future use of the relevant spectrum. This review informs the policy and planning work required for any future allocations and provides certainty to both incumbents and future users of the spectrum.

1.1 The purpose of this consultation

The purpose of this consultation is to seek feedback on options for future use and allocation of the 2300 MHz and 2600 MHz bands. This document sets out options identified and analysed by RSM in relation to four key decisions relevant to future allocations in these bands:

- **Band configuration options** which consider the merits and trade-offs between Frequency Division Duplex (FDD) and/or Time Division Duplex (TDD) configuration for the 2300 MHz and 2600 MHz bands to improve spectrum efficiency and support emerging technologies. Stakeholders are invited to comment on the technical characteristics, current and future uses, and international trends that may influence optimal configuration.
- **Approaches to allocation of spectrum on the expiry of the commercial Management Rights** – options for allocation (by full renewal, partial renewal or no renewal), value in aligning approaches and the use of spectrum caps. These options aim to balance continuity for incumbents with opportunities for new entrants, while ensuring efficient spectrum use and alignment with policy objectives.
- **The future of non-national rights in the 2600 MHz band** which considers the trade-offs between updating the MSP licensing to continue non-national access and discontinuing the MSP and reallocating the spectrum for other uses.
- **Terms of future Management Rights** which consider the merits and trade-offs with setting Management Right terms to a 10-year term, with a right of renewal following a technical review, and alignment of expiry dates between different spectrum bands.

The following issues are outside the scope of this consultation:

- **Current and future allocations to Māori.** The allocation of spectrum to Māori is being discussed separately with the Māori Spectrum Working Group (MSWG). However, in the interest of transparency and expediting allocation decisions, we have included in the discussion document the options being considered for future allocations to Māori in these bands. This is intended to assist submitters to understand the spectrum that may be available to industry but does not reflect Government decisions which are yet to be taken.
- **Moratorium on MSP licences under the current Management Right.** In 2021, RSM undertook a [review of the rules and operation of the MSP](#). Over the years of operation, disputes have taken a considerable amount of RSM time and effort to resolve. The MSP was closed to new licence applications when the review began. With the upcoming expiry of the Management Right for the MSP, RSM will not reopen applications for new licences in the MSP. More information on the status of the MSP can be found on [RSM's website](#).
- **Configuration and use of adjacent bands.** The discussion document explores use of adjacent bands to understand potential interference management matters that may need to be considered for the configuration of the 2300 MHz and 2600 MHz bands. While we invite feedback on adjacent bands and may use this information in subsequent work, RSM is not currently considering any changes to adjacent bands.

1.2 Next steps

Once industry feedback is received, RSM will analyse the submissions and publish them on our website.

Feedback from the consultation will inform the review underway and Ministerial decisions on future allocations in the 2300 MHz and 2600 MHz band. Our aim is to announce the approach to future allocations in 2026, ahead of allocating new Management Rights by late-2027.

2 Policy considerations

Radio spectrum is a key driver of wireless communication around the world. It is a foundational to the development and use of New Zealand's national mobile infrastructure – enabling the growth of mobile networks, applications and high value services.

In exploring options for these future spectrum rights, the Crown needs to balance technical considerations with long-term economic and social outcomes, broader policy objectives and Māori interests in accessing radio spectrum.

Typically, RSM's approach to radio spectrum management seeks to ensure:

- New Zealanders can choose and use the best wireless technologies for their needs,
- radio spectrum is made available to service providers in a way that is technically optimal and in line with our national interest – including economic and social benefit.

Supporting economic growth is a key objective for the Government. As an extension to this, one of the objectives in the [Government Policy Statement for radiocommunications](#) is that there should be competition in the provision of all communication services. Spectrum is a key input for the provision of communication services.

On this basis, we consider the intended outcomes for the allocation of rights in the 2300 MHz and 2600 MHz bands to be:

- Operators have access to spectrum to maintain the connectivity needs of users.
- New Zealand users can choose and use the best wireless technologies for their needs.
- Spectrum is allocated in a way that enables efficient use of the spectrum – from both a technical and economic perspective.
- Spectrum-related industries are competitive and enables innovation and growth that supports New Zealand's economic development.

To achieve the above outcomes, we propose the following criteria for decisions on future allocations of these bands:

- **Effectiveness** – considers how effective an option is at achieving the desired outcomes. This criterion will be double weighted given the direct correlation to the desired outcomes for radio spectrum allocation.
- **Transparency** – considers the extent to which an option provides operators with clarity and transparency over assignment processes.
- **Ease of implementation** – considers the extent to which options are as simple and low administrative costs as possible to achieve the objectives, for operators and RSM.

Questions for consultation

Q1. Do you support the intended outcomes and decision-making criteria for future allocations? If not, what alternative outcomes or criterion should we consider?

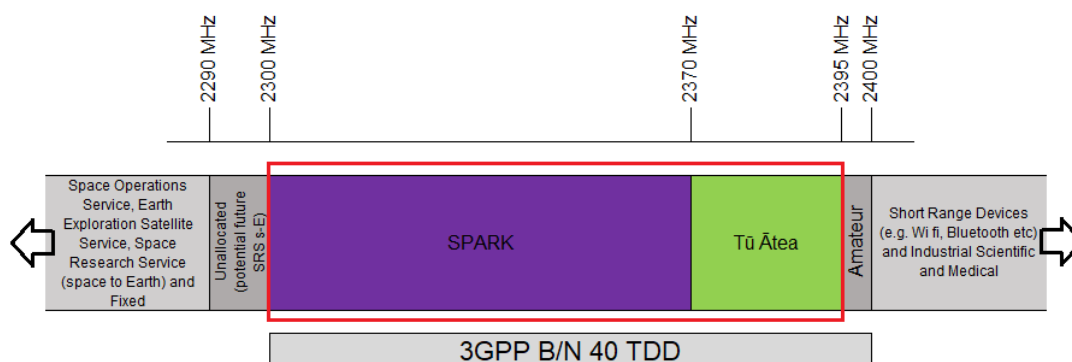
3 Current status of the 2300 MHz and 2600 MHz bands

To support options analysis of future allocation decisions, we have reviewed the current status of the 2300 MHz and 2600 MHz bands, specifically: current use and future use of the bands being allocated as well as uses of adjacent bands.

3.1 2300 MHz band

The 2300 MHz band covers 95 MHz between the 2300 MHz to 2395 MHz frequency range. Management Rights are currently held by Spark and Tū Ātea.

Figure 1: 2300 MHz band and 3GPP band plans¹



3.1.1 Current and future uses of the 2300 MHz band

Current

In New Zealand, the 2300 MHz band is currently allocated to mobile services and is currently used for cellular mobile broadband (e.g. 4G/5G), and fixed wireless broadband services in high-demand areas (e.g. built up urban and suburban areas). We understand the 2300 MHz band typically supplements broader spectrum holdings (i.e. not necessarily the primary frequency for services). In September 2025, there were 441 licences for use within these Management Rights, with most of these held by Spark.²

The existing conditions on the Management Rights can be found in the [Register for Radio Frequencies](#). These conditions include adjacent frequency emission limits, protection limits, power floor and specific conditions such as power limits on the lower portion of the right for managing adjacent band compatibility.

Future

Internationally the band is used for cellular mobile broadband (e.g. 4G/5G). However, in some jurisdictions, portions of the band are also used for government applications and space launch applications, sometimes under shared arrangements with mobile services which will continue for the foreseeable future.

¹ Amateur stations are permitted above 2396 MHz and in portions of the band above 2400 MHz in accordance with the General User Radio Licence for Amateur Radio Operators (<https://gazette.govt.nz/notice/id/2025-go3272>). 2395 MHz to 2396 MHz is unallocated and unused. This is not shown in the figure.

² Licence volumes relate to the approximate number of base stations registered on the Register of Radio Frequencies. At the time, 437 licences were held by Spark and 4 licences were held by Tū Ātea.

Equipment availability in the 2300 MHz band has also rapidly evolved in the last few years, especially with the transition to 5G and the increasing demand for wireless networks overall. Like other mid-band frequencies, the 2300 MHz band offers a good balance between coverage and capacity, making it suitable for urban environments where many users need fast and reliable internet. The radio wave propagation characteristics within this band mean that high density of deployment is not required and thus minimises the number of base stations needed. The band has wide contiguous bandwidths available and supports an additional capacity layer, ideal for use in denser locations. The frequencies complement and have similar characteristics with other mid-band frequencies like 1800 MHz, 2100 MHz and 2600 MHz bands.

The main potential future other uses of some or all of this band we are aware of also include:

- Commercial space launch and re-entry applications,
- Defence and military applications, and
- Private and industrial Networks (using 5G technologies in a local area, such as a building, plant or campus).

3.1.2 Adjacent band configuration and use

In New Zealand, adjacent bands have different uses:

- **Below 2290 MHz** is used for Space Operations Service (space to Earth) and Earth Exploration Satellite Service (space to Earth) and Fixed Services at specific locations across the country. The Space Operations Service supports launch vehicles and satellites in different orbits.
- **2290 MHz to 2300 MHz** is unallocated currently but may be used for Earth stations in the Space Research Service (space to Earth) at specific locations in the future.
- **2395 MHz to 2400 MHz** is predominantly used by amateur radio stations nationwide. 1 MHz below 2396 MHz is currently unallocated and unused, acting as a buffer between amateur uses and the 2300 band. Internationally, this spectrum is also part of 3GPP Band 40. However, in New Zealand, this portion of the spectrum has been allocated for Amateur use since the 1990s.
- **Above 2400 MHz** is used for a wide range of short-range devices (e.g. WiFi, Bluetooth etc) and Industrial Scientific and Medical applications nationwide. Amateur stations are also permitted in portions of this band.

We are not currently aware of any adverse impacts from the existing 2300 MHz band configuration on adjacent bands, or vice versa. The uses of these adjacent bands are specific. While the number of amateur radio users in this specific band are unknown, their use is not commercial in nature. Adjacent frequency emission limits on the Management Rights and obligations on amateurs to ensure they do not cause harmful interference to adjacent users manages interference risks on the upper end.

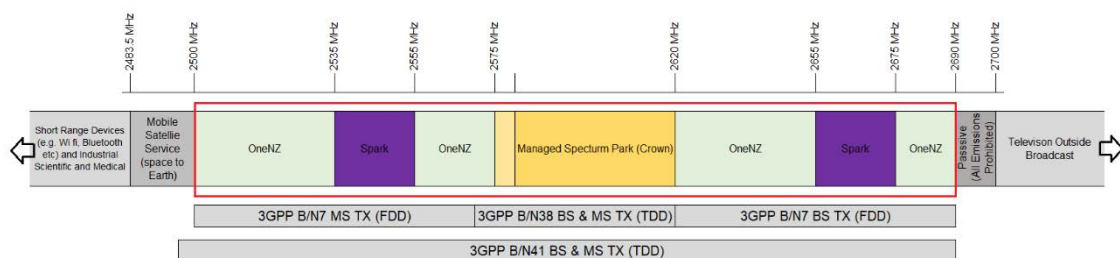
Questions for consultation

- Q2.** Do you agree with our understanding of the current status of the 2300 MHz band? Are there any other uses or matters that we should be considering for future use?
- Q3.** Are there any other issues with the current Management Rights in the 2300 MHz band we should be considering in the scoping of considerations for future allocations?

3.2 2600 MHz band configuration

The 2600 MHz band covers 190 MHz within the 2500 MHz to 2690 MHz frequency range. Management rights are currently held by One NZ³, Spark and the Crown.

Figure 2: 2600 MHz band and 3GPP band plans



3.2.1 Current and future uses

Current

In New Zealand the 2600 MHz band is allocated to mobile services and is currently used for cellular and mobile broadband (e.g. 4G/5G) and fixed wireless services with part of the band configured in TDD and part in FDD. RSM expects this band will transition to 5G technology in the future. In September 2025, there were a total of 2712 licences in this band, a majority of which are held by One NZ in the upper Management Right frequencies (MR 430 and MR 431)⁴. A detailed breakdown of each Management Right suggests some frequencies are being more actively used than others⁵.

The existing conditions on the Management Rights can be found in the [Register of Radio Frequencies](#), these conditions include adjacent frequency emission limits, protection limits, power floor and specific conditions such as power limits on the lower portion of the right for managing adjacent band compatibility while providing flexibility (e.g. between TDD and FDD configurations).

Future

Internationally, 2600 MHz is widely used for mobile services both in FDD and TDD arrangements or both⁶. Equipment availability in the 2600 MHz band has also rapidly evolved in the last few years. Like the 2300 MHz band, the amount of spectrum available provides opportunities and enables compatibility with a wide range of technologies.

Like other mid-band frequencies, the 2600 MHz band offers a good balance between coverage and capacity. Radio wave propagation characteristics at 2600 MHz minimises the number of

³ In May 2024 the [Commerce Commission](#) granted clearance for One NZ to acquire 100% of the shares in Dense Air New Zealand Limited, including 2 x 35 MHz Management Rights.

⁴ Licence volumes relate to the approximate number of base stations registered on the Register of Radio Frequencies in September 2025.

⁵ In September 2025, there were 1303 licences held by OneNZ (upper pair MR 430 & MR 431), 831 licences held by Spark (MR 476 & MR 475), 192 licences held by OneNZ (lower pair MR 474 & MR 473) and 386 licences in the MSP (MR 258) which were held by 13 licensees across New Zealand.

⁶ ECC Decision (05)05 provides for both FDD and TDD or SDL in the centre band gap which is similar to the current New Zealand arrangement. See <https://docdb.cept.org/document/388>

base stations and due to wide contiguous bandwidths being available, offers good capacity as well, ideal for denser deployments. The frequencies compliment and can be substituted with other mid-band frequencies like 1800 MHz, 2100 MHz and 2300 MHz bands, although this depends on equipment availability and 3GPP standards.

Internationally, this band is also being used for space or satellite activities. The main potential future uses for the 2600 MHz band in New Zealand we are aware of include:

- Direct-to-device services, and
- Other space or satellite services.

3.2.2 Adjacent band configuration and use

In New Zealand, adjacent bands have different uses:

- **Below 2483.5 MHz** is used for a wide range of short-range devices (e.g WiFi, Bluetooth etc) and industrial scientific and medical applications nationwide.
- **2483.5 MHz to 2500 MHz** is used for mobile satellite service, for space to Earth transmissions with these mobile Earth stations being nationwide.
- **2690 MHz to 2700 MHz** is a 'passive' band where all emissions are prohibited, this is allocated to the Earth Exploration Satellite Service, Radio Astronomy Service and Space Research Service.
- **Above 2700 MHz** is used for Television Outside Broadcast links.

We are not currently aware of any adverse impacts with the existing 2600 MHz band configuration in band or in adjacent bands, or vice versa.

Questions for consultation

- Q4.** Do you agree with our understanding of the current status of the 2600 MHz band? Are there any other uses or matters that we should be considering for future use?
- Q5.** Are there any other issues with the current Management Rights in the 2600 MHz band we should be considering in the scoping of considerations for future allocations?

4 Options for band configurations

Typically, spectrum bands are configured for FDD or TDD operation. Expiring Management Rights offer an opportunity to consider reconfiguration of the bands to maximise efficient use of spectrum over the term of the Management Right.

The decision to reconfigure the 2300 MHz and 2600 MHz bands must balance effectiveness in achieving desired outcomes for spectrum management and ease of implementation.

FDD configuration has bands paired together, one for uplink (mobile station transmit) and one for downlink (base station transmit), with a mid-band gap to allow for frequency separation and isolation between transmitters and receivers.

TDD configuration uses the same frequency for both transmitting and receiving, but at different times. This configuration can be more efficient, especially for asymmetric traffic. However, TDD networks require separation either by time (i.e. synchronisation and common frame structure to avoid interference between adjacent users of spectrum). Where networks are unsynchronised, they may need spatial separation or by frequency separation (i.e. having frequency separation between networks, noting that the frequency block may be used for another application in that case).

Our analysis of the configuration options for each band is set out below. Our analysis is informed by the decision-making criteria and the following factors:

- Equipment availability
- Approach taken by other overseas regulators and international developments
- Amount (bandwidth) of spectrum available in each configuration
- Future spectrum trends and usage in the band
- Equipment investment and possible future expenditure from a change to status quo
- Effect on users in adjacent bands
- Consistency of services to users

4.1 Configuration options for the 2300 MHz band

In line with other countries who have made the 2300 MHz band available for cellular mobile use, the Management Rights in the 2300 MHz band are currently configured for TDD.

However, some countries have also adopted separate FDD configurations within this range, known as 3GPP Band 30, which covers a subset of our 2300 MHz band. The FDD configuration is most common in the United States and Canada where it comprises of 2 x 10MHz blocks.

Option	Commentary and analysis
Option one: 2300 MHz remains in TDD <i>Preferred approach</i>	This reflects the status quo. RSM would prefer to retain the TDD configuration for the 2300 MHz band as it provides a more efficient use of the available spectrum. The 2300 MHz band can be used more widely with a greater proportion of handsets being compatible to use this frequency. Retaining TDD in 2300 MHz aligns with international best practice and enables domestic operators to leverage from mature device ecosystems.

Option two: 2300 MHz is changed to FDD with a mid-band gap in TDD	The band would be reconfigured to a combination of FDD and TDD segments. RSM would undertake further technical working to determine appropriate technical conditions. FDD is not commonly used in this band and likely to result in allocations of smaller bandwidth and less equipment to support its deployment. The FDD band plan does not maximise the use of the available spectrum unlike the TDD Band 40/n40.
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Questions for consultation

Q6. Do you support retaining the TDD configuration for the 2300 MHz band? If not, why not?

4.2 Configuration options for the 2600 MHz band

In New Zealand, the current Management Rights are configured for FDD operation for 2 x 70 MHz of useable spectrum, with the mid-band duplex gap, currently operating as the Managed Spectrum Park (MSP), configured for TDD operation.

In addition to the current FDD configuration, international specifications also allow for a TDD band plan. The band typically offers channel bandwidths up to 20 MHz in FDD mode for 4G use and up to 50 MHz for 5G. In TDD mode for 5G channel bandwidths are up to 100 MHz, enabling high throughput and efficient spectrum use.

Option	Commentary and analysis
Option one: 2600 MHz remains in FDD configuration and a TDD configuration for the mid-band gap <i>Preferred approach</i>	This reflects the status quo. Conditions on Rights under this configuration would continue to manage interference risks and enable TDD operations within the FDD configuration – for example adjacent frequency emission limits, protection limits and conditions (refer to the RRF for more information). RSM prefers option one as the current configurations provide sufficient spectrum to maintain the connectivity needs of users and efficient use of the spectrum relative to technology and demand. Maintaining the status quo will minimise the disruption to the industry and continued use of existing infrastructure. Lastly, a FDD configuration supports future uses – specifically direct-to-device services which may not be able to operate in TDD configuration with standard/unmodified mobile handsets at present.
Option two: 2600 MHz is changed to a fully TDD configuration	The band would be reconfigured to be fully TDD. RSM would run technical working groups with relevant stakeholders to determine appropriate frame structures and compatibility issues to determine appropriate conditions and frequency ranges of any non-national rights in the band. A TDD configuration could support allocations with wider bandwidths and/or reconfigure the MSP. This would require a first-principle based

	allocation on the expiry of the current rights and potentially creates an opportunity to realise new uses. However, a TDD configuration will introduce challenges to operators and potentially limit or delay services such as direct-to-device services. Changing the configuration may require incumbents to invest in new equipment. A shift to TDD may also require planning of compatibility conditions (e.g. potential frequency, distance and coordination/licensing rules) and/or synchronisation and frame structure requirements to manage interference with adjacent band users.
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Questions for consultation

- Q7.** Do you support retaining the FDD configuration with a TDD segment for the 2600 MHz band? If not why, why not?
- Q8.** How do you see future spectrum trends, such as 5G standalone, or direct-to-device, impacting the desirability of a wholly TDD configuration for the 2600 MHz band?

5 Approaches to future allocations

Allocation of new Management Rights requires the following policy decisions which are discussed in this section:

- For commercial Management Rights;
 - how Management Rights are allocated (i.e. allocation approaches),
 - whether RSM should align the allocation processes for 2300 MHz and 2600 MHz bands, and
 - whether future allocations should include spectrum caps.
- For the MSP, whether non-national rights should continue in the 2600 MHz band.

5.1 Allocation of commercial Management Rights

There is no obligation for the Crown to grant a renewal of existing rights. Previous practice has been to offer incumbents renewed rights where the spectrum is actively being used at the time of expiry. Renewal offers were not made, or a modified right offered, if:

- there is limited or no use of the existing rights,
- there is a public policy reason to do so,
- technology developments require a different configuration of the frequencies, or
- the frequencies are needed to meet New Zealand's international obligations.

Where frequencies are not included in a renewal offer, or renewal offers are not accepted, these frequencies may be competitively allocated or directly allocated to other parties.

The Management Rights in the 2300 MHz and 2600 MHz band were last allocated in 2007⁷. International developments combined with decreased utilisation of rights since the 1990's supported a first-principles allocation at the time.

5.1.1 Options analysis of allocation approaches

RSM is considering three approaches to future allocations of commercial Management Rights for each band – full renewal, partial renewal and no renewal (i.e. full reallocation on a first principles basis).

Allocation options for the 2300 MHz band are premised on the assumption that 25 MHz is set aside to be allocated to Māori. This would be a renewal of the amount of spectrum currently allocated to Tū Ātea. As indicated in [Section 1.1](#), spectrum allocations to Māori are outside the scope of this consultation. These options are provided without prejudice to ongoing discussions with Māori, and the spectrum frequency range allocated to Māori may differ from what is presented here.

Options for allocation of the mid-band gap are considered separately in [Section 5.2](#) below.

To inform stakeholder feedback, we have provided our preliminary analysis of the preferred approach to future allocation of these bands. We are interested in stakeholder views of the potential trade-offs of each option noting that the approach taken will need to strike a balance between the impacts on incumbent operators and newcomers.

⁷ <https://www.rsm.govt.nz/projects-and-auctions/auctions/completed-spectrum-auctions-1996-present/auction-9>

Option	Commentary and analysis
Option 1: Full renewal of all existing holdings to incumbents	Renewal offers for the available spectrum would be made to incumbents at a price set by the Government. For the 2300 MHz band, this would result in the remaining 70 MHz being offered to Spark. For the 2600 MHz band, this would result in the 145 MHz being offered to Spark and OneNZ. This approach will require further consideration of the specific frequency ranges offered to each incumbent. Full renewal offers a transparent and straightforward implementation pathway, ensuring continuity of services and spectrum access for incumbents. While this maintains the status quo, frequencies of Management Rights could still change which could provide additional operational efficiencies, particularly in the 2600 MHz band. However, RSM does not consider this approach to be effective for the upcoming allocations of these bands for the following reasons: • Less effective in meeting the Government Policy Statement’s objective of fostering competition in communications services. Spectrum is a critical input, and recent Commerce Commission decisions highlight growing interest from non-incumbent parties. • Without robust utilisation metrics, it is difficult to assess whether renewal supports optimal use – especially given the uneven scale of current use across the 2600 MHz band.
Option 2: Partial renewal of existing holdings to incumbents	Renewal offers will be made to incumbents at a price set by Government. Remaining spectrum will be allocated via a competitive process, with auctions as the preferred method. Allocation design decisions will be finalised closer to expiry. This approach will require further consideration of how much spectrum is included in the offer, specific frequency range and whether all incumbents are treated equally. This is a balanced approach that leverages on the positives of option Options 1 and 3 – transparency, ease of implementation and continuity of services whilst also enabling some competition by accommodating new entrants. However, RSM does not consider this approach to be effective for the upcoming allocations of these bands for the following reasons: • Despite licence data suggesting reasonable use, without utilisation metrics (e.g. throughput, geographic coverage), it is difficult to assess whether renewal of any scale is justified. With utilisation metrics and additional resourcing, this approach allows frequencies which are being used less to be reallocated to achieve optimal spectrum efficiency. • Incumbents may unfairly benefit from offers as auctions typically result in higher prices – renewal offers also present an opportunity for negotiations which will not be possible in an auction.

Option 3: No renewal of existing holdings to incumbents <i>Preferred approach</i>	Allocation will be based on first principles, with auctions as the preferred method. Additional allocation design decisions will need to be made closer to expiry. For the 2300 MHz band, this would involve auctioning the entire 70 MHz in the band. For the 2600 MHz band, this would involve auctioning the entire 145 MHz in the band. RSM considers a first-principles allocation approach most effective in meeting policy objectives, particularly in promoting competition in line with the Government Policy Statement for radiocommunications. Furthermore, the mobile network industry and space industry, key future users of this band, has changed significantly since these Rights were last allocated. A full commercial allocation process has the benefit of enabling more efficient allocations of spectrum which ensures interested operators can access spectrum. While current licencing figures suggest the spectrum is being used, more efficient uses could be identified through competitive allocation processes. RSM acknowledges that an auction-based reallocation poses implementation challenges, requiring complex planning around transition and service continuity. This approach also presents considerable risks to incumbents and investments they have made to date – particularly if they are unsuccessful at auction. Delivering an auction would typically require at least 12 months of preparation before allocation. This would be the only option to consider a band reconfiguration (as discussed in in Section 4).
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Questions for consultation

- Q9.** Do you agree with RSM’s preferred approach of no renewal and auctioning of new rights after the expiry of the current Management Rights in the 2300 MHz and 2600 MHz bands? If not, why not?
- Q10.** If a partial renewal is preferred, what proportion of spectrum should be allocated to incumbents through a renewal offer?

5.1.2 Aligning allocation approaches

While we have considered the merits of each option for the bands separately, RSM prefers to use the same method of allocation for both bands and allocate them at the same time. This reflects the similar use cases for both bands, ensures equal competitive opportunity across both bands and a level playing field between all operators. This is more efficient, transparent and easier to implement for both RSM and operators. As noted in our analysis above, this could result in both bands being auctioned in 2027 – one year before the Management Rights to the 2600 MHz band expire.

Questions for consultation

- Q11.** Do you support the same allocation method being used for both bands and being allocated at the same time? If not, why not?

5.1.3 Spectrum caps

Spectrum caps are a mechanism which limit the amount of spectrum a party can acquire in a band or bands of spectrum. They support competition by preventing large holdings in a spectrum band. However, the design of spectrum caps needs to ensure the caps are appropriate to support their intended use and do not unduly restrict operators.

Larger contiguous blocks of spectrum may be preferred by operators as it provides greater capacity. Smaller spectrum caps could result in less throughput (i.e. lower data rates) that might diminish some technologies that are deployed. While 10 MHz, 15 MHz or 20 MHz channels have been sufficient to support 4G services to date, wider bandwidths are often desired to support 5G services. When considering 3.5 GHz, mobile network operators preferred 100 MHz channels but it was generally considered that 40 MHz was the minimum viable channel for 5G services. In the end, 80 MHz channels were offered at the time.

RSM is consulting on three options which could be applied to both partial renewals and no renewals – separate caps, combined caps and no caps. RSM does not have a preferred option at this stage and seeks feedback on the potential trade-offs and merits of each option.

Proposed spectrum caps have been calculated by evenly distributing available spectrum between two to three operators. This is informed by our understanding of current and future uses of these bands, market participants and technical considerations.

Option	Commentary and analysis
Option one: Separate caps for each band	Each band will have a separate limit to accommodate two to three operators within the available spectrum. For the 70 MHz available in the 2300 MHz band (i.e. excluding 25 MHz set aside for Māori), an appropriate cap could range between 20 MHz to 35 MHz. For the 145MHz available in the 2600 MHz band (i.e. excluding MSP), an appropriate cap could be pairs of 25MHz or 30 MHz. The separate spectrum caps will provide greater transparency and would be easier to implement. The proposed caps would result in a reduction of current holdings which could impair services and existing infrastructure.
Option two: A combined cap for both bands	A combined cap distributes the available spectrum in both bands (excluding spectrum set aside for Māori and MSP) between three operators. We think an appropriate cap across both bands could be 70 MHz. Combined spectrum caps will allow operators to leverage allocations across bands, potentially enabling them to access more spectrum overall. This approach could however be less transparent and harder to implement in an auction.
Option three: No spectrum caps	There would be no limit on the spectrum that could be accessed by a single operator. Subject to the allocation method, the entire band could be allocated to a single operator. This is more effective in providing operators with the spectrum they need and potentially allows the status quo to be maintained. Under this approach however, some operators could access significantly more spectrum than others.

Questions for consultation

Q12. Which option is your preferred option for setting spectrum caps for any future allocation of the 2300 MHz and 2600 MHz bands – separate caps for each band, a combined cap across both bands or no caps? Please explain why this is your preferred option.

Q13. What would be the minimum viable spectrum cap in each or both bands and why?

5.2 Future of MSP and non-national rights in 2600 MHz

RSM acknowledges the importance of non-national and regional services. Our aim is to ensure there are non-national rights for use by these regional service providers as well as provide access to spectrum for developing uses such as private networks.

RSM seeks feedback on two options for the future of non-national rights in the 2600 MHz bands. RSM does not have a preferred option at this stage. We are looking to understand from stakeholders whether spectrum needs are met by existing and potential upcoming allocations in 3300 MHz band, or whether reopening access to spectrum in 2600 MHz is required.

Subject to the feedback received on these options, RSM will undertake further work on the best way to manage the allocation process, treatment of incumbents and newcomers, implementation requirements, and co-operation for non-national spectrum.

Option	Commentary and analysis
Option one: Non-national rights continue in 2600 MHz. The current MSP licence structure and rules are updated, and licensing recommences.	This retains the status quo. However, the MSP licence structure and rules would be updated to allow licensing of non-national rights to recommence in the 2600 MHz band. RSM's initial views are that the new structure and rules would be based on the approach used in 3300-3340 MHz. This option maximises spectrum use. In an FDD configuration, a mid-band gap will be required, and the MSP provides an efficient use of this gap. This option ensures continuity of services and current operators can continue to access spectrum for regional services.
Option two: Non-national rights do not continue in 2600 MHz – spectrum is allocated for a different use	The MSP is discontinued in 2600 MHz and replaced by some other form of national rights in a TDD configuration. Alternative uses of this spectrum will be considered as part of subsequent technical reviews. This provides the opportunity to identify different or new uses of spectrum, creating the space for new operators and services. Use of the MSP has declined in recent years. Since the MSP review, spectrum for regional broadband has been made available in the 3300-3340 MHz band which has become more widely used. Additional spectrum is available in this band which could provide additional capacity for non-national rights. RSM is considering the suitability and technical requirements of this separately. However, implementing new alternative uses will be complicated and will require comprehensive technical work to understand coexistence opportunities in this band ensure this spectrum is efficiently used.

Questions for consultation

Q14. Would you prefer non-national rights to continue under an updated MSP structure or non-national rights in the mid-band gap to be discontinued? If so, please explain why.

6 Options for term of Management Right

6.1 Term of rights for 2300 MHz and 2600 MHz

RSM is considering two options for the term of future Management Rights in both the 2300 and 2600 MHz bands. RSM does not have a preferred approach at this stage.

Option	Commentary and analysis
Option one: 20-year term	This is a long-term Management Right that provides operators with security of tenure. It also provides greater transparency and be significantly easier to implement.
Option two: Two 10-year terms with a technical review in the 8 th year	The split term and technical review will allow for consideration of technical conditions and parameters in the band. Changes (if any) following review would take effect in the 10th year, at the commencement of the second Management Right. This option provides operators certainty of tenure and flexibility to respond to any technical developments (such as direct-to-device). However, the review process adds complexity and reduces transparency which will need to be managed carefully by RSM.

Questions for consultation

Q15. Which option is your preferred option for setting the term of future Management Rights in 2300 MHz – the current 20-year term or two 10-year terms? Please explain why this is your preferred option.

Q16. Which option is your preferred option for setting the term of future Management Rights in 2600 MHz – the current 20-year term or two 10-year terms? Please explain why this is your preferred option.

Q17. Are there any other options RSM should consider for the term of future Management Rights in either band? If so, please explain.

6.2 Opportunity to align mid-band spectrum Management Right expiry

The current review of Management Rights in 2300 and 2600 MHz presents an opportunity to consider the alignment of the expiration of rights across mid-band spectrum (1.71 GHz to 3.8 GHz). Rights in 1800 MHz and 2100 MHz will expire in 2041 and rights in 3.5 GHz will expire in 2043. Aligning expiry dates can be achieved by creating a custom Management Right term for 2300 and/or 2600 MHz to align with upcoming expiry dates across the mid-band spectrum range.

Alignment can provide industry certainty about access to spectrum across multiple bands. However, it can mean that the cost of acquiring access to multiple bands falls due at a similar time. For RSM, alignment creates resource efficiencies and enables a review of mid-band spectrum in isolation from other spectrum bands. We seek feedback from stakeholders about the desirability or not of alignment of mid-band spectrum rights.

Alternatively, alignment of Management Right terms could focus solely on 2300 and 2600 MHz bands. This could be achieved by allocating these Management Rights at the same time in either 2028 or 2030 and providing them with the same expiry date.

Questions for consultation

- Q18.** How desirable is alignment of mid-band spectrum rights expiry dates for you? If desirable, please explain why.
- Q19.** How desirable is alignment of the 2300 MHz and 2600 MHz Management Rights expiry dates for you? If desirable, please explain why.

7 Summary of questions

This discussion document seeks feedback on the following questions. Submitters are encouraged to provide their feedback in the template provided on the [RSM website](#).

Policy considerations

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| Q1. | Do you support the intended outcomes and decision-making criteria for future allocations? If not, what alternative outcomes or criterion should we consider? |
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Current status of the 2300 MHz and 2600 MHz bands

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| Q2. | Do you agree with our understanding of the current status of the 2300 MHz band? Are there any other uses or matters that we should be considering for future use? |
| Q3. | Are there any other issues with the current Management Rights in the 2300 MHz band we should be considering in the scoping of considerations for future allocations? |
| Q4. | Do you agree with our understanding of the current status of the 2600 MHz band? Are there any other uses or matters that we should be considering for future use? |
| Q5. | Are there any other issues with the current Management Rights in the 2600 MHz band we should be considering in the scoping of considerations for future allocations? |

Options for band configurations

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| Q6. | Do you support retaining the TDD configuration for the 2300 MHz band? If not, why not? |
| Q7. | Do you support retaining the FDD configuration with a TDD segment for the 2600 MHz band? If not why, why not? |
| Q8. | How do you see future spectrum trends, such as 5G standalone, or direct-to-device, impacting the desirability of a wholly TDD configuration for the 2600 MHz band? |

Approaches to future allocations

- | | |
|-------------|--|
| Q9. | Do you agree with RSM's preferred approach of no renewal and auctioning of new rights after the expiry of the current Management Rights in the 2300 MHz and 2600 MHz bands? If not, why not? |
| Q10. | If a partial renewal is preferred, what proportion of spectrum should be allocated to incumbents through a renewal offer? |
| Q11. | Do you support the same allocation method being used for both bands and being allocated at the same time? If not, why not? |
| Q12. | Which option is your preferred option for setting spectrum caps for any future allocation of the 2300 MHz and 2600 MHz bands – separate caps for each band, a combined cap across both bands or no caps? Please explain why this is your preferred option. |
| Q13. | What would be the minimum viable spectrum cap in each or both bands and why? |
| Q14. | Would you prefer non-national rights to continue under an updated MSP structure or non-national rights in the mid-band gap to be discontinued? If so, please explain why. |

Options for term of Management Right

Q15.

Which option is your preferred option for setting the term of future Management Rights in 2300 MHz – the current 20-year term or two 10-year terms? Please explain why this is your preferred option.

Q16.

Which option is your preferred option for setting the term of future Management Rights in 2600 MHz – the current 20-year term or two 10-year terms? Please explain why this is your preferred option.

Q17.

Are there any other options RSM should consider for the term of future Management Rights in either band? If so, please explain.

Q18.

How desirable is alignment of mid-band spectrum rights expiry dates for you? If desirable, please explain why.

Q19.

How desirable is alignment of the 2300 MHz and 2600 MHz Management Rights expiry dates for you? If desirable, please explain why.