



# Vodafone response to Radio Spectrum Management's discussion document on Managed Spectrum Park Review and Regional/Non-National Allocation

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## Introduction

1. Thank you for the opportunity to provide our views on the Radio Spectrum Management's (**RSM**) discussion document on Managed Spectrum Park Review (MSP) and Regional/Non-National Allocation.
2. Vodafone New Zealand Limited is one of Aotearoa's leading digital services and connectivity companies, and we believe every New Zealander will thrive with access to the world's best digital services. We offer almost 3 million connections to Consumer and Business customers. Vodafone is owned by Infratil and Brookfield Asset Management and remains a partner market in association with Vodafone Group, one of the world's largest telecommunications companies. For more information, please visit [www.vodafone.co.nz](http://www.vodafone.co.nz).
3. We have set out our responses to selected questions included in RSM's discussion document below.



## Our position

### MSP Review

4. Vodafone has great concerns about potential interference between services operating in the Managed Spectrum Park (MSP) and services operated by Mobile Network Operators (MNOs) in the adjacent Management Rights (MRs).
5. We are concerned about this for the following reasons:
  - a. The lack of technical parameters in MSP licences;
  - b. The inflexibility of modification of MSP licences;
  - c. The lack of co-operation between MSP users and spectrum users of adjacent MRs bands; and
  - d. The lack of ability by RSM to control or resolve interference issues between MSP users and spectrum users in adjacent MRs bands.
6. Over the past five years, the use of private MRs in the 2600 MHz bands (MR474, 476, 430, 473, 475 and 431) for 3GPP-compliant FDD LTE services has increased significantly, and it is widely expected that these services will be used in increasingly more locations and cell sites by their respective owners. It is also envisioned that these management rights will be re-farmed for FDD 5G services in the next few years, as the demand for 5G services increases and the MNOs transit their networks from 4G to 5G.
7. The technologies currently licenced for use in the MSPs are mostly variants of TDD technologies. When TDD technologies operate in frequency bands near FDD technologies, there is significant risk of interference between these two types of technologies, which can be difficult to eliminate.
8. To date, most of the FDD LTE services operating in the 2600 MHz MRs have been limited to dense urban areas or inbuilding systems, while the majority of TDD systems that use the MSP operate in rural areas. As a result, there have been limited instances of interference between these two types of systems.
9. However, as the use of 2600 MHz MRs increases, especially with the expected move to FDD 5G in this band, the use of these MRs will highly likely spread into areas where the TDD systems in the MSPs are used. This will significantly increase the risk of interference between these systems.
10. Resolving such interferences quickly is challenging due to the lack of technical parameters for MSP licences, and the lack of management of and coordination between the MSP licensees. The interferences would consequently result in prolonged negative impact to the spectrum users and ultimately to New Zealand's consumers and businesses.



11. To avoid this issue, we propose that the following approach is adopted, and the allocation of MSP licences changed accordingly:
  - a. The technical parameters and rules for licences and services that use the MSP should be defined clearly and with sufficient detail. They also need to consider existing technologies and services used in the adjacent MRs, as well as future technologies (5G and beyond), to ensure the coexistence of these technologies when it comes to RF interference.
  - b. Single, widely adopted, and global technology standards should be adopted for the entire MSP bands in all areas of New Zealand. This will simplify the definition of technical parameters, and the management and compliance requirements, for services using MSP bands.
  - c. A clear and practical process should be set up to manage and resolve any interference issues between services in the MSP and those in the adjacent MRs to ensure there is a clear responsibility, accountability and arbitration process.

### Other Regional/Non-National Allocations

12. Addressing interference risk effectively should be a primary objective of any approach used to allocate spectrum bands for regional/non-national use. This should be a primary consideration in any decision on how allocation should occur.
13. In terms of the feasibility of competition at a regional/non-national level, we recognise that regional or sub-regional providers can in principle deliver solutions that are responsive to community needs. However, allocation decisions should recognise that the expansion and enhancement of services provided by existing service providers will often deliver higher end user benefits than provision for theoretical increments in the level of competition. It can't simply be assumed that increased competition will flow naturally from any spectrum allocation approach, or that enhanced service outcomes flow from allocation decisions. When deciding whether to allocate spectrum to new entrants, relevant considerations must include:
  - a. Whether allocation to existing service providers will actually enable expansion or enhancement of existing services, and high confidence that the additional conditions (other than spectrum allocation) that these outcomes require are also present (or are highly likely to become present);
  - b. Whether the benefits of enhanced services are outweighed by the benefits that accrue from any theoretical new entrant.
14. In considering these factors, we believe it is appropriate to give relatively more weight to the position of existing service providers who have already committed investment to



deploy networks than the position of a new entrant who has not yet deployed services or committed investment. This reflects the position that, particularly in the context of regional services, connectivity benefits enabled by spectrum are more likely to be delivered by those operators who have already made network investment decisions and can utilise existing investments to deliver additional end user benefits. In short, theoretical competition should not be favoured over demonstrated market commitment.

15. Where allocations are made in favour of new entrants, these must occur on the same terms as are offered to existing service providers (i.e. favourable terms should not be used to facilitate new entry). New entrants should also be subject to obligations to utilise any allocated spectrum and deploy services – unless such obligations exist and are met, the allocation of spectrum to new entrants is of no value. A scenario in which spectrum is allocated on a regional or sub-regional basis then remains unused would result in waste of valuable economic assets and detriment to end users of services.
16. In terms of defining regional versus national providers, we agree that a workable distinction needs to be developed to identify national providers. Such a distinction could be based on:
  - a. Geographic coverage, e.g. a national provider must have >50% geographic coverage.
  - b. The nature of product and services offered, e.g. a national provider must offer products and services without geographic limitation or discrimination.
17. Our answers to the specific questions included in the discussion document are set out below.

*Q3: What are your thoughts on the level of technical requirements/rules in relation to MSP licenses?*

18. See our response at paragraph [11] above.

*Q4: What are your thoughts on the best method(s) for future regional/non-national spectrum allocations?*

19. Vodafone has no specific thoughts on this issue.

*Q5: Should priority be given to incumbents over new entrants?*

20. See comments above.



*Q6: Is the market big enough to support sub-regional competition?*

21. There is a genuine question as to the minimum efficient scale that is required to deliver products and services to end users. However, the implications of minimum efficient scale are only apparent if spectrum is allocated to all spectrum users on equivalent terms. Favourable allocation terms mask the reality of sub-scale operation. In some regions, sub-regional competition may be possible, but this will not be true in all regions. Given the inherent uncertainty as to whether sub-regional competition is feasible, and corresponding uncertainty as to what benefits, if any, it might deliver, we believe it would be inappropriate for any policy decisions to be made in pursuit of sub-regional competition as a specific objective.

*Q7: Should spectrum allocation rules be used to limit consolidation (mergers or take-overs) of regional players?*

22. No. To the extent that there is a regional market for service provision, and consolidation results in any reduction in competition in this market, provisions in the Commerce Act 1986 provide sufficient means to address this issue. As noted above, there is a genuine question as to whether regional or sub-regional service provision would achieve minimum efficient scale, and consolidation over time could well be a feature of any regional/sub-regional operations. It would not be appropriate for allocation rules to prevent or limit this consolidation.

*Q8: What are your thoughts on how to protect regional rights for regional use?*

23. Vodafone has no specific thoughts on this issue.

## Contact

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