

**VODAFONE NEW ZEALAND LIMITED SUBMISSION  
TO THE MINISTRY OF BUSINESS INNOVATION AND  
EMPLOYMENT**



**UHF Radiomicrophones : Opportunities for future use**

**25 June 2013**

## Summary

1. Vodafone welcomes the opportunity to provide comments on the Ministry of Business Innovation and Employment (MBIE) discussion paper "UHF Radiomicrophones : Opportunities for future use."
2. The Government recognises the importance of the 700MHz band as a once-in-a-generation opportunity with the potential to deliver economic benefits for New Zealand of up to \$2.4 billion over the next twenty years<sup>1</sup>. Vodafone agrees with the Government's view. In this context it is important that MBIE ensures that the decisions made in relation to radio microphones do not jeopardise benefits the 700MHz band can deliver.
3. Vodafone strongly opposes the use of the band 698-703MHz for radio microphone. Vodafone does not agree with MBIE's assessment that interference potential to base station from radio microphones is minimal. With cellular operators increasing cell site density to deliver faster speeds radio microphones are more likely to be in the proximity of base stations which will increase the interference potential.
  - Further Australia is amending its Low Interference Potential Devices (LIPD) class licence which will prohibit the use of 694-820MHz band for radio microphones from 1 January 2015. This clearly shows that ACMA is of the view that radio microphones will cause interference to cellular base stations if they operate in the band 698-703MHz.
4. Vodafone is comfortable with radio microphones continuing operation in the band 703-806MHz until 11 March 2015. Vodafone's previous experience shows that Government setting an expiry date for the radio microphones use does not guarantee that radio microphones will stop using the band 703-806MHz. Therefore Vodafone wants MBIE to take an active role in ensuring radio microphones vacate out of 703-806MHz by 11 March 2015.

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<sup>1</sup> Media Release, Minister of Communications and Information Technology, *Govt releases spectrum consultation document*, 15 May 2013.

## Introduction

5. Vodafone welcomes the opportunity to provide comments on the MBIE discussion paper “UHF Radiomicrophones : Opportunities for future use”.
6. This discussion paper considers the use of the radio microphones in the UHF band. Vodafone’s comments are limited to matters related to the band 698-806 MHz band which is generally referred to as the 700MHz band. Out of the four questions MBIE has raised in its discussion paper Vodafone’s submission only answers the first two.
7. Parallel to this discussion paper MBIE is also consulting on 700MHz auction. The importance of the 700MHz band is well recognised by the Government. The Minister’s media release in February 2013 noted that “the reallocation of the 700 MHz band of the radio spectrum is a once-in-a-generation opportunity”, and “[i]ndications are that by using the spectrum for 4G mobile networks, we can expect economic benefits for New Zealand of up to \$2.4 billion over the next twenty years.”
8. Vodafone shares the Government’s view. In this context it is important that MBIE ensures that the decisions made in relation to radio microphones do not jeopardise benefits the 700MHz band can deliver.

## Questions

**Question 1 : Do you agree with allowing radio microphones to continue operation in the 703-806MHz band until 11 March 2015 to allow a phase out period, noting that radiomicrophones must cease operation if they are causing interference? If not why?**

9. Vodafone is comfortable with radio microphones continuing operation in the band 703-806MHz band until 11 March 2015. However, Vodafone wants to make the following observations.
10. The Government setting an end date for the radio microphone licence does not guarantee that the radio microphones will cease operation on the 11<sup>th</sup> of March 2015. Vodafone’s previous experience shows that radio microphones users who are not aware of the expiry of the licence will continue to operate the radio microphones in this band.
11. In the early 1990s Vodafone spent considerable resources finding illegal transmitters that were operating in the 900MHz band. Vodafone expects the same to happen in the 700MHz band unless MBIE actively educates radio microphone users to move out of the 700MHz band.
12. Further radio microphones are intermittent and mobile in their operation which makes them harder to locate. Therefore it is important that MBIE starts an educational campaign to ensure radio microphones clear out of the 700MHz band by 11<sup>th</sup> of March 2015.
13. Vodafone also requests MBIE operational teams help on finding interference. Current Act requires proof (that could be used in a court) before MBIE investigates interference. This may be very difficult to produce when the interference is intermittent and mobile. MBIE needs to do more than just relying on the Radio Communications Act (Act) to ensure there are no illegal interferers.

14. In its other submissions Vodafone's has outlined the limitations the Act has in dealing with these types of interference. Currently the Act does not address:
- Unlicensed operation: Unlicensed operation is not within the scope of the Act.
  - Cumulative effect of licensed emissions: There are no provisions to address the cumulative effect of interference from licensed or unlicensed emissions.
- These limitations make policing interference from radio microphone impossible after 11 March 2015.

**Question 2 : Do you agree with permitting the operation of radio microphones at low power in the 698 – 703 MHz band (–20dBW / 10mW EIRP) on a non-interference basis?**

15. Vodafone strongly opposes the use of radio microphone in the band 698-703MHz.
16. In its discussion paper MBIE notes that
- Australia is amending its Low Interference Potential Devices (LIPD) class licence to do the following:
- allow continued use of the 694 – 820 MHz band for radiomicrophones until 31 December 2014, after this date radiomicrophones will no longer be able to operate in this frequency range;
17. This clearly shows that ACMA is of the view that radio microphones will cause interference in the band 698-703MHz.
18. MBIE takes the view that low power use will limit the probability of interference to the base stations. This assumes that the radio microphone use will be away from the base stations which will provide the distance separation required to minimise interference. Vodafone does not agree with this view.
19. Cellular operators are increasing cell site density to deliver the faster speeds. This will increase the probability of radio microphones being closer to cellular base stations.
20. There are already a number of scenarios where the cellular base stations are only tens of meters from office buildings and convention centres. This will only increase in the future.
21. With the limitations that currently exist in the Act Vodafone proposes a cautious approach because if there is interference the Act is not able to deal with interference and will be very expensive to fix.
22. With the expected high and ubiquitous use of mobile radio microphones and mobiles are likely to be used in same locations. This proximity increases the chances of interference from mobile to radio microphones.
23. Therefore Vodafone does not believe it is prudent for MBIE to allow radio microphones to operate in 698-703MHz band.