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Association

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Submission

to the

Australian Communications and Media Authority

on the

Planning for mobile broadband within the 1.5 GHz mobile band

Submission by:

Australian Mobile Telecommunications Association and

Communications Alliance

16 July 2012

1. Summary

1.1 The Australian Mobile Telecommunications Association (AMTA) and Communications Alliance (the Associations) acknowledge the potential shortfall of required spectrum of 300 MHz by 2020, noting this as a critical driver for spectrum replanning.

1.2 The Associations recommend:

a) An expansion of the study to take account of the latest emerging developments in Europe, including consideration of a wider frequency range which encompasses the 1310 – 1400 MHz and 1427 – 1517 MHz segments.

b) The ACMA undertake a second round of industry consultation to reassess the options for mobile broadband to take into account other spectrum options that may have not been apparent during the initial review.

c) Further consultation by the ACMA to explore options for opening up access to both Frequency Division Duplex (FDD) and/or UMD technologies based upon the latest European developments, with further work required to identify the feasibility of coordination and alternative platforms including costs and transitional arrangements for existing fixed links used for USO voice and other services.

d) The ACMA taking into account existing or planned Mobile Satellite Services (MSS) operating above 1518 MHz and not ruling out some allocation for Broadcasting Satellite Services (Sound) (BSS(S)) subject to further international study and future demand for these services.

1.3 The Associations suggest that in considering the future use of the 1.5 GHz band for mobile broadband services, it is misleading to refer to this band as the '1.5 GHz mobile band' in deference to the non-mobile services currently deployed in this band and the ITU identification of this band for fixed services.

2. Introduction

The Associations

2.1 The Australian Mobile Telecommunications Association (AMTA) is the peak industry body representing Australia's mobile telecommunications industry. Its mission is to promote an environmentally, socially and economically responsible, successful and sustainable mobile telecommunications industry in Australia, with members including the mobile Carriage Service Providers (CSPs), handset manufacturers, network equipment suppliers, retail outlets and other suppliers to the industry. For more details about AMTA, see http://www.amta.org.au.

2.2 Communications Alliance is the primary telecommunications industry body in Australia. Its membership is drawn from a wide cross-section of the communications industry, carriers, carriage and internet service providers, content providers, search engines, equipment vendors, IT companies, consultants and business groups. Its vision is to provide a unified voice for the telecommunications industry and to lead it into the next generation of converging networks, technologies and services. The prime mission of Communications Alliance is to promote the growth of the Australian communications industry and the protection of consumer interests by fostering the highest standards of business ethics and behaviour through industry self-governance. For more details about Communications Alliance, see http://www.commsalliance.com.au.

2.3 The Associations welcome the opportunity to respond to the Australian Communications and Media Authority (ACMA) Discussion Paper on the Planning for mobile broadband within the 1.5 GHz mobile band.

2.4 The Associations would like to thank the ACMA for taking a pro-active stance in this consultation paper. The following responses are aligned with the questions posed in the paper.

3. Responses to questions in the paper

1. Are there any other new services, other than mobile broadband services, that should be included in the assessment of future use of the 1.5 GHz mobile band?

3.1 The Associations are not aware of any specific new services, other than mobile broadband services, that should be included in the assessment of future use of the 1.5 GHz band.

3.2 The Associations recognise that the ACMA will need to work with Telstra and other fixed link providers to explore the feasibility of replacing the current fixed links in the 1.5 GHz band that are currently used for USO voice and other services.

3.3 Also, the Association notes that the ACMA should not rule out the possibility of some allocation for BSS services, subject to further international study and the future demand for these services.

2. Do you support no change to current arrangements in the 1.5 GHz mobile band or retention of specific existing arrangements?

3.4 The 1.5 GHz band is a 'natural' choice for mobile broadband use based on the intrinsic characteristics pointed out in the Discussion Paper, i.e. noting the international support and the frequency range in question.

3.5 The future use of the 1.5 GHz band is constrained by the current use of the band to deliver USO voice and other services via fixed links.

3.6 Further work is required to identify the feasibility of coordination with these fixed links and the use of alternative platforms (including costs and transitional arrangements).

3. The ACMA seeks comment on the proposed objectives of the review.

3.7 The Five Year spectrum outlook 2012 – 2016 has identified a potential shortfall of required spectrum of 300 MHz by 2020. This is a critical driver for spectrum replanning and needs to be captured as an objective.

3.8 The Associations have been made aware that the reallocation of additional spectrum in the vicinity of this band is being discussed in Europe. In order to account for the latest developments, the Associations suggest that a wider spectrum band could be considered which at least encompasses the segments 1310 – 1400 MHz and 1427 – 1517 MHz. This would need to take into account the existing or planned MSS operating above 1518 MHz.

4. The ACMA seeks information on any other international developments that should be taken into account when reviewing arrangements in the 1.5 GHz mobile band.

3.9 The Associations are aware of the significant momentum overseas to use the 1.5 GHz band for mobile broadband. The summary in the Discussion Paper has provided a good overview of the current status.

3.10 International developments in the Principles and Decision Frameworks should be taken into account, for instance the current EC re-assessment of the basis for comparing the efficiency of spectrum use by commercial and non-commercial users. This basis addresses technical efficiency, economic efficiency, and social efficiency in the assignment of spectrum. This work updates the material proposed in the ACMA Discussion Paper.

3.11 Europe is carrying out an inventory of spectrum supply and demand, identifying the economic and social values (e.g. being able to compare radioastronomy with mobile services). It is important that the principles underpinning the Australian spectrum planning take into account those being developed in Europe. Reference is made to the EC 'Inventory and review of spectrum use: Assessment of the EU potential for improving spectrum efficiency' Workshop held in Brussels on 30 March 2012, further information can be found at http://ec.europa.eu/information_society/policy/ecomm/radio_spectrum/get_involved/activities/index_en.htm#past_workshops.

3.12 It is anticipated that the review of the 1.5 GHz is the first of a number of international spectrum replanning activities and it is important that Australia is a part of the process at an early stage.

3.13 The CEPT *Electronic Communications Committee* (ECC) *FM 50* recently finalised its work on the preparation of a draft ECC Report on the *Future Harmonized Use of 1452 – 1492 MHz in CEPT* (in 29 June 2011). These studies began in late 2010 when CEPT decided to undertake a review of the 1452 – 1492 MHz band with the aim of using this 40 MHz segment to enable the development of new services and applications which could bring substantial social and economic benefits for Europe. This draft Report details *the results of an impact analysis* of the most appropriate future harmonized use of this band. Various candidate applications, including Mobile Broadband and Mobile Supplemental Downlink, were analysed against a number of agreed criteria. Based on this work and the analysis of the regulatory options:

> 'it is concluded that the most appropriate regulatory framework is the harmonization of the band 1452 – 1492 MHz for mobile broadband / mobile supplemental downlink in CEPT, while allowing individual countries to adapt to specific national circumstances in part of the band for terrestrial broadcasting and other terrestrial applications. This regulatory framework will bring the highest benefits for CEPT, with those benefits being maximized when mobile supplemental downlink is deployed under this framework.'

3.14 This draft Report will be considered for approval at the WG FM Plenary meeting in September 2012. The ECC will adopt an ECC Decision designating the band for Mobile/Fixed Communication Networks (MFCN) supplemental downlink and defining the Least Restrictive Technical Conditions with a harmonized band plan for the 1452-1492 MHz band, based on 8 blocks of 5 MHz.

3.15 As well as considering adopting a Supplementary Downlink (or UMD) allocation in the 1452 – 1492 MHz segment (which may become available in 2013). European countries are also considering additional FDD segments adjacent to and around the UMD allocation. The Associations consider that there is likely to be benefit in aligning with the EU plans and therefore recommends that the scope of the review be expanded to encompass the 1310 – 1400 MHz and 1427 – 1517 MHz segments.

5. The ACMA seeks comment on the expected future use, if any, of the 1452–1492 MHz band for broadcasting services in Australia.

3.16 The 1452 to 1492 MHz band is the only frequency band which includes an allocation for Broadcasting Satellite Services (limited to digital audio services) available in Australia. The ACMA should not rule out some allocation for BSS services subject to further international study and future demand for these services.

6. The ACMA seeks comment on the expected future use of the 1.5 GHz band for fixed point-to-point and point-to-multipoint services in Australia.

3.17 Refer to Q2

7 The ACMA seeks comment on the expected future use of the 1.5 GHz mobile band by the Department of Defence in Australia.

No comment.

8. The ACMA seeks comment on the issues associated with replanning the 1.5 GHz mobile band for mobile broadband services using the FDD arrangement specified by the 3GPP.

3.18 Refer to Q2.

9. Should this planning option be pursued, how much of the 2 × 35 MHz identified by the 3GPP for FDD services should be investigated for use by mobile broadband services in Australia? Why? If less than 2 × 35 MHz, where in the band should this allocation be made? Why?

3.19 Refer to Q4.

10. What are the implications of pursuing the FDD planning option for mobile broadband for existing allocations and users of the 1.5 GHz band?

3.20 Refer to Q2.

11. What would be the costs and benefits associated with the FDD planning option for mobile broadband in the 1.5 GHz mobile band?

3.21 The spectrum in this band is expected to be valuable for meeting the demand for mobile broadband services in the medium-to-longer term, assuming that the band is identified as an internationally harmonised band for such services at the next ITU World Radio Conference in 2015 and followed by global commercial support.

3.22 Further work is required (in conjunction with Telstra and other fixed link operators) to identify and evaluate the alternative options available for the replacement of fixed link infrastructure, including the cost of these options and funding arrangements.

12. The ACMA seeks comment on the issues associated with replanning the 1.5 GHz mobile band for mobile broadband services using a UMD arrangement.

3.23 In the interests of harmonisation and minimising costs to the Australian economy, it would seem prudent that the ACMA give further consideration to reviewing the potential for the adoption of the EU arrangements in Australia. Initial technical studies by the global mobile industry have indicated that there could be substantial benefits in network downlink speed and capability based on the adoption of UMD. The Associations recommend that further investigation be undertaken into the benefits of this approach.

3.24 The Associations are aware that UMD is not currently used in Australian or overseas mobile networks and is not currently part of 3GPP standards. This means that there is uncertainty about the future commercial development of the device and equipment ecosystem to support it.

13. Should this planning option be pursued, how much of 1.5 GHz mobile band should be investigated for use by mobile broadband services in Australia using a UMD arrangement? Why? Where in the band should this allocation be made? Why?

3.25 There is merit in exploring alignment with the EU as discussed under Q4, including consideration of the need for a satellite broadcasting component as discussed under Q5.

14. What are the implications of pursuing the UMD planning option for mobile broadband for existing allocations and users of the 1.5 GHz band?

3.26 The Associations note that a UMD planning option could have a lesser (but still substantial) impact on the fixed link systems used to deliver USO voice and other telecommunications services. Consideration needs to be given to the feasibility of alternative delivery mechanisms and transition plans for these fixed link systems.

15. What would be the costs and benefits associated with the UMD planning option for mobile broadband in the 1.5 GHz mobile band?

3.27 While further research is necessary, the benefits of adopting a UMD approach are expected to increase downlink burst data rates and/or increased user capacity. The UMD option would need to be appropriately harmonised with emerging international plans and followed by global commercial support. If these developments materialise, Australia could benefit from reduced infrastructure and terminal device costs through global economies of scale and increased opportunities for roaming.

16. The ACMA seeks comment on the UMD concept more generally. Should this concept be used as an approach in spectrum arrangements for mobile broadband more broadly and in other frequency bands?

3.28 There is merit in considering UMD allocations within other bands. However, the feasibility of such allocations will depend on the specific planning options available in each band, the scope for harmonisation with international frequency planning, the extent of global commercial support and the need for significant device take up by customers.

17. The ACMA seeks comment on the geographical areas within which the 1.5 GHz mobile band should be replanned to facilitate mobile broadband services.

3.29 The Associations recognise the need to take into account use of the band to deliver USO voice and other services via fixed links as discussed under Q2.

3.30 The Associations support the replanning of the 1.5 GHz band to accommodate the provision of mobile broadband services at as many geographic locations as possible.

18. How will the limiting of mobile broadband services to certain geographic areas vary the impact of the introduction of these services on existing users and allocation in the 1.5 GHz mobile band?

3.31 Refer to Q2. The Associations support the replanning of the 1.5 GHz band to accommodate the provision of mobile broadband services at as many geographic locations as possible.

19. The ACMA seeks comment on the level of support for, and benefits of, facilitating the use of mobile broadband services in the 1.5 GHz mobile band generally.

3.32 The 1.5 GHz band is a promising one for meeting future mobile broadband demand within Australia, after infrastructure is deployed in the soon to-be-auctioned 700 MHz and 2.5 GHz bands. There is also growing international interest in the use of this band for mobile broadband.

20. The ACMA seeks comment from stakeholders on a preferred planning option. What are the costs/benefits to stakeholders and the broader economy of adopting each option?

3.33 With significant current and projected strong future growth in demand for mobile broadband services it is critical that a spectrum roadmap is developed that identifies future demand and how such demand will be met. It is important to understand how the planned options will contribute to meeting the future demands for mobile broadband.

3.34 Based on the information currently available, Australia should engage in further research in considering harmonising with emerging European arrangements (including both UMD and FDD segments).

21. Are there any other planning options that have not been considered in the discussion paper?

3.35 As mentioned previously, the scope of the investigation needs to be expanded to cover the wider frequency range encompassed by the 1310 – 1400 MHz and 1427 – 1517 MHz segments.

22. The ACMA seeks comment on the timing of any replanning of the 1.5 GHz mobile band, particularly taking into account the influence of international developments.

3.36 The Associations would like to highlight the importance of having effective Australian input into WRC–15 to support parts of the 1.5 GHz band being designed for IMT, noting that this will also be an important milestone in the 3GPP spectrum planning for this band.

3.37 It is also important that the Australian planning is aligned with international plans developed by the ITU, APT, 3GPP and commercial organisations. The Australian position must also take into account the local environment and in particular, how the existing Australian frequency assignments in this band are going to be managed.

3.38 The Associations agree with the Discussion Paper that any designation of all of part of the 1.5 GHz band for Mobile Broadband services prior to WRC–15 could pre-empt the outcomes of the WRC. Consideration of options for the fixed link systems also needs to be completed before making any commitments.

23. The ACMA seeks suggestions for additional issues to be considered as part of the review of arrangements in the 1427.9–1510.9 MHz band.

3.39 The Associations note that downlinks for the MSS occupy the spectrum between 1518 and 1559 MHz. In particular the segment form 1518 to 1525 MHz was only allocated relatively recently and MSS operators are only now planning the usage of that segment.