



Digital dividend: clearing the 800 MHz band: T-Mobile's response

T-Mobile welcomes the opportunity to respond to Ofcom's consultation, "Digital dividend: clearing the 800 MHz band".

Executive Summary

- T-Mobile strongly supports Ofcom's proposal to clear the 790 – 862 MHz band which is expected to provide significant economic benefits to the UK. Ofcom's analysis clearly shows that the costs of releasing the band are outweighed by the large benefits that are potentially on offer (£2-3 billion vs. £90-200m).
- If Ofcom were not to release the whole 790 – 862 MHz band then the benefits to the UK will be seriously affected with the spectrum being unusable by terminals developed for the European market and hence of no or limited use to the UK mobile community.
- T-Mobile is concerned that the full band will not be available until 2014 at the earliest and would urge Ofcom to clear the channels as soon as is practicable. Ofcom's work on 2G Liberalisation shows the costs in delaying the availability of low frequencies can be considerable: "Delays in liberalisation of 3 months and associated delays in the uptake of higher quality broadband services can reduce welfare by an estimated £45 million". We would prefer that the whole of the 800 MHz band is released by the end of 2012 and would welcome clarification on whether the timescales can be brought forward.
- We note the Government's support for clearing 800 MHz as set out in the Digital Britain Interim report. T-Mobile believes the 800 MHz band could play a significant role in meeting the Universal Service commitment (USC) and hence the Digital Britain work should feed into Ofcom's policy on freeing up this band. T-Mobile is seeking a holistic approach to resolution of the problem of liberalisation of 2G spectrum and this might well affect the awarding of this band.
- The costs of retuning seem overly high (around £15m). As stated in the consultation, re-tuning is a standard task which people should undertake regularly. Paragraph 1.16 states that 'Retuning is a process that takes just a few minutes. Typically, it requires use of the menu function on DTT set-top boxes and integrated digital televisions. Periodic retuning is desirable in any event (e.g. to ensure new channels are properly identified in the EPG).'
- Use of Channel 69 sterilises, on a nationwide basis, 2x10 MHz of spectrum (852 - 862 MHz and the corresponding downlink channels). Ofcom should ensure that both licensed and un-licensed PMSE use should be cleared from this band. Any delay in clearing this band will have a great cost impact

- We note that there are a variety of frequency options available to PMSE and these can be combined as mentioned in paragraph 5.62. Therefore wireless-microphone users can exploit a variety of spectrum options.
- We agree with Ofcom's approach to determining eligibility for, and our assessment of the level of, funding to move PMSE from channel 69. In particular we would be greatly concerned if PMSE users without a valid licence before publication of the consultation would be entitled to financial assistance.
- T-Mobile believes it is important that the channels 61-69 are of equal value and we look forward to receiving the further proposals for the detailed design of the award in summer 2009.
- Ofcom held a stakeholder workshop to discuss the protection clause on 22 September 2008 at which Ofcom said they would consider establishing a working group. T-Mobile would be pleased to work together with Ofcom and other stakeholders to define and understand the impact of this clause.

Question 1: Do you agree that clearing DTT from channels 61 and 62 and PMSE from channel 69 to align the upper band of cleared spectrum in the UK with the emerging digital dividend in other European countries is likely to further the interests of citizens and consumers to the greatest extent?

T-Mobile strongly agrees. In common with the majority of responses to the last DDR consultation, T-Mobile's response¹ explained the great importance of clearing the whole of the 790 – 862 MHz band. It also showed that if the whole band was not released then the benefits to the UK will be seriously affected with the spectrum being unusable by terminals developed for the European market and hence of no or limited use to the UK mobile community.

Ofcom's analysis clearly shows that the costs of releasing the band are outweighed by the large benefits that are potentially on offer (£2-3 billion vs. £90-200m).

In the Market Research that Ofcom commissioned in both 2006 and in 2007 to input on the potential uses of the Digital Dividend Review spectrum, better mobile phone coverage and mobile broadband came consistently near the top of the ranking by individuals as to the potential service that they felt would benefit UK citizens the most. This result was found in both the quantitative and qualitative research. The research indicates that mobile use of the digital dividend is likely to provide strong benefits to society.

DDR could play a significant role in meeting the USC

¹ <http://www.ofcom.org.uk/consult/condocs/clearedaward/responses/tmobile.pdf>

We note the Government's support for clearing 800 MHz as set out in the Digital Britain Interim report. T-Mobile believes the 800 MHz band could play a significant role in meeting the Universal Service commitment (USC) and hence the Digital Britain work should feed into Ofcom's policy on freeing up this band. 800 MHz is well suited for developing broadband universal services in rural areas, and hence is a good option for the USC. If it is to be used for the USC it might be that the spectrum will have a coverage obligation attached in whole or in part and/or be awarded by a different process to that so far envisaged by Ofcom.

Question 2: Do you agree that the proposed DTT migration criteria are proportionate and appropriate? If not, please explain why and clearly identify any other criteria you believe should be adopted and why:

T-Mobile agrees. Given the large benefit to society for mobile use of the 800 MHz band, the DTT migration criteria are proportionate and appropriate.

Question 3: Do you have views on the options identified and our assessment of them? Do you believe there are other, superior options, and, if so, why? Do you agree that the hybrid option is most consistent with the DTT migration criteria?

T-Mobile agrees with the options identified and the assessment presented. As we state in our response to Question 1, the 800 MHz band could play a significant role in USC and hence the band should be cleared as soon as is practicable. Delays in releasing the spectrum will lead to costs to society (see response to Question 4).

Question 4: Do you have views on the implementation-timing options identified and our assessment of them? Do you agree that DSO-integrated implementation is most consistent with the DTT migration criteria? If not, why not?

T-Mobile is concerned that the full band will not be available until 2014 at the earliest and would urge Ofcom to clear the channels as soon as is practicable. Ofcom's work on 2G Liberalisation shows the costs in delaying the availability of low frequencies can be considerable: "Delays in liberalisation of 3 months and associated delays in the uptake of higher quality broadband services can reduce welfare by an estimated £45 million"

The FDD (paired) band plan for the 790 – 862 MHz range is almost finalised in CEPT. The figures below show the range of options under consideration. Depending on the final band plan Broadcasting use of Channels 61 and 62 effectively sterilises between 2 x 15 MHz and 2 x 20 MHz out of a total 2 x 30 MHz.

30MHz paired with a duplex gap of 12 MHz, fixed duplex spacing of 42 MHz

Broadcasting channels (9 blocks of 8 MHz)																	
61		62		63		64		65		66		67		68		69	
790-798		798-806		806-814		814-822		822-830		830-838		838-846		846-854		854-862	
2014		2014		2013		2013		2013		2013		2013		2013		2013	
Mobile band plan 1																	
Downlink 2014				Downlink End 2012		Duplex gap		Uplink 2014				Uplink End 2012					
30 MHz (6 blocks of 5 MHz)						12 MHz		30 MHz (6 blocks of 5 MHz)									
1	2	3	4	5	6			1	2	3	4	5	6				
790-795	795-800	800-805	805-810	810-815	815-820	820 – 832		832-837	837-842	842-847	847-852	852-857	857-862				

30MHz paired with a duplex gap of 10 MHz, fixed duplex spacing of 40 MHz and a guard band of 2MHz

Broadcasting channels (9 blocks of 8 MHz)																	
61		62		63		64		65		66		67		68		69	
790-798		798-806		806-814		814-822		822-830		830-838		838-846		846-854		854-862	
2014		2014		2013		2013		2013		2013		2013		2013		2013	
Mobile band plan 3																	
	Downlink 2014			Downlink End 2012			Duplex gap		Uplink 2014			Uplink End 2012					
	30 MHz (6 blocks of 5 MHz)						10 MHz		30 MHz (6 blocks of 5 MHz)								
	1	2	3	4	5	6		1	2	3	4	5	6				
	792-797	797-802	802-807	807-812	812-817	817-822	822-832	832-837	837-842	842-847	847-852	852-857	857-862				

We would prefer that the whole of the 800 MHz band is released at the end of 2012. We understand that clearing the band is a complex issue, should not impact on DSO and will require robust project management and oversight. However we do not entirely understand why it will take 4.5 years (until 2014) to clear the band. We would welcome clarification on this point.

Any time delay in the release of channels 61 and 62 would mean a substantial drop in value for the associated mobile channels and affect between 2 x 15 MHz and 2 x 20 MHz of the available spectrum. This would need to be factored into the auction design as it is clear that lots across the 800 band will be significantly different.

Question 5: Do you agree that a programme-control and governance arrangement such as that outlined above is appropriate?

This could be appropriate however T-Mobile is concerned that an overly complicated programme-control and governance arrangement could lead to extra delays.

Question 6: Do you agree that the four cost categories adequately capture the costs associated with clearing DTT from channels 61 and 62? Are there any costs that do not appear to have been accounted for in any of these categories?

The costs of retuning seem overly high (around £15m). As stated in the consultation re-tuning is a standard task which people should undertake regularly. Paragraph 1.16 states that ‘Retuning is a process that takes just a few minutes. Typically, it requires use of the menu function on DTT set-top boxes and integrated digital televisions. Periodic retuning is desirable in any event (e.g. to ensure new channels are properly identified in the EPG).’

Question 7: Do you agree that our cost profile is a reasonable basis for planning the capital expenditure for clearing DTT from channels 61 and 62?

T-Mobile does not have a strong view on the question.

Question 8: Do you agree that these are the most appropriate criteria to assess which spectrum is the best alternative to channel 69 for PMSE?

Question 9: Do you agree with our technical and coverage analysis of the possible alternatives to channel 69 for PMSE?

Question 10: Do you agree with our economic assessment of the realistic alternatives to channel 69 for PMSE?

Question 11: Do you agree that channel 38 is the best alternative to channel 69 for PMSE?

T-Mobile believes that Questions 8 – 11 are primarily for the PMSE community to respond to. The work in ECC TG4 will need to be taken into account by Ofcom: ECC TG4 is developing a response to the 2nd EC Mandate to deliver a “Recommendation on the best approach to ensure the continuation of existing Program Making and Special Events (PMSE) services operating in the UHF (470-862 MHz), including the assessment of the advantage of an EU-level approach”.

T-Mobile notes that the FDD duplex gap around 820 – 832 MHz could be a better alternative to channel 38, since there is a chance that this can be harmonised on a European wide basis and is very close to Channel 69.

Finally we note that there are a variety of options available to PMSE and these can be combined as mentioned in paragraph 5.62. Therefore wireless-microphone users can exploit a variety of spectrum options.

Question 12: Do you agree that we should award channel 38 to the band manager on the same terms as would have applied to channel 69?

T-Mobile agrees.

Question 13: Do you agree with our proposal to maintain PMSE access to channel 36 on 12 months’ notice to cease and to the rest of the cleared spectrum (channels 31-35, 37 and 61-69) until DSO is completed in the UK in late 2012?

T-Mobile does not have any strong views on the PMSE access to channel 36.

Use of Channel 69 sterilises, on a nationwide basis, 2x10 MHz of spectrum (852 -862 MHz and the corresponding downlink channels). Ofcom should ensure that both licensed and un-licensed PMSE use should be cleared from this band. Any delay in clearing this band will have a great cost impact: As we already state in our response to Question 4, Ofcom’s work on 2G Liberalisation shows the costs in delaying the availability of low frequencies can be considerable: “Delays in liberalisation of 3 months and associated delays in the uptake of higher quality broadband services can reduce welfare by an estimated £45 million”

Question 14: Do you agree with our approach to determining eligibility for, and our assessment of the level of, funding to move PMSE from channel 69?

T-Mobile believes that Ofcom’s approach and assessment is sensible. In particular we would be greatly concerned if PMSE users without a valid licence before publication of the consultation would be entitled to financial assistance.

Question 15: Do you agree that three years is long enough for PMSE to move from channel 69?



T-Mobile agrees

Question 16: Do you agree that with our analysis of the key impacts of our policy options? Are there any other key impacts we should assess?

T-Mobile fully supports the release of channels 61 – 69. T-Mobile believes it is important that the channels 61-69 are of equal value and we look forward to receiving the further proposals for the detailed design of the award in summer 2009.

Ofcom held a stakeholder workshop to discuss the protection clause on 22 September 2008 at which Ofcom said they would consider establishing a working group. T-Mobile would be pleased to work together with Ofcom and other stakeholders to define and understand the impact of this clause.

T-Mobile (UK)
April 2009