



## Developing a framework for the long term future of UHF spectrum bands IV and V

Call for input

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Closing Date for Responses: 15 June 2011

## Introduction

- 1.1 Ofcom has a duty to secure the optimal use of the UK's scarce spectrum resources. Of particular interest to potential spectrum users are the Ultra High Frequency (UHF) spectrum bands IV and V (470 – 862MHz), given their attractive propagation characteristics. There are a large range of services that can potentially use this spectrum to deliver value to citizens and/or consumers. These include broadcast television on the Digital Terrestrial Television (DTT) platform and wireless broadband services in addition to a wide range of other services.
- 1.2 Today, the balance of use for UHF spectrum among these services is being defined by digital switchover (DSO). The DSO process is enabling the release of a significant portion of the spectrum used by terrestrial television for use by other services<sup>1</sup>, whilst also increasing the range of services available on the terrestrial television platform through the use of digital compression. The combination of these two developments is delivering substantial benefits to citizens and consumers from the UHF spectrum.
- 1.3 While DSO is in progress, there are a number of developments starting to raise questions on the balance of use of UHF spectrum in the longer term. Of particular note is an international debate starting to emerge within the both the International Telecommunication Union (ITU) and EU around future spectrum needs for wireless broadband. It seems clear that this debate will include discussion of access to UHF spectrum, noting in particular that the US and many other countries throughout the world are making available UHF spectrum at 700 MHz to provide next generation Long Technology Evolution (LTE) mobile services.
- 1.4 We note that such questions are for the longer term, not least because of the long lead times associated with any changes to spectrum use which are constrained by compatibility with existing consumer equipment, service and spectrum licenses, and the need for new international harmonisation and frequency co-ordination agreements.
- 1.5 As a result, we have no immediate plans to adjust the dividing line established by DSO and the DDR between the amount of UHF spectrum retained by the terrestrial television platform and that released for use by other services (shown in figure 1). However, we recognise that adjustments to this dividing line may become necessary in the longer term if citizens and consumers are to gain maximum benefits from future international harmonisation and new service and technological developments in UHF bands IV and V.

## Developing a framework for the long term future of UHF spectrum

- 1.6 Ofcom is currently seeking to develop a better understanding of the future demands for UHF spectrum by different services. This will be used to establish a framework for ensuring that future decisions relating to UHF spectrum support citizens and consumer benefits in the longer term.
- 1.7 For example, this framework would be used to inform an approach to policy decisions such as:
  - the ongoing licensing of the UHF spectrum, including the 600 MHz spectrum released by DSO, and whether this should enable a future opportunity to make

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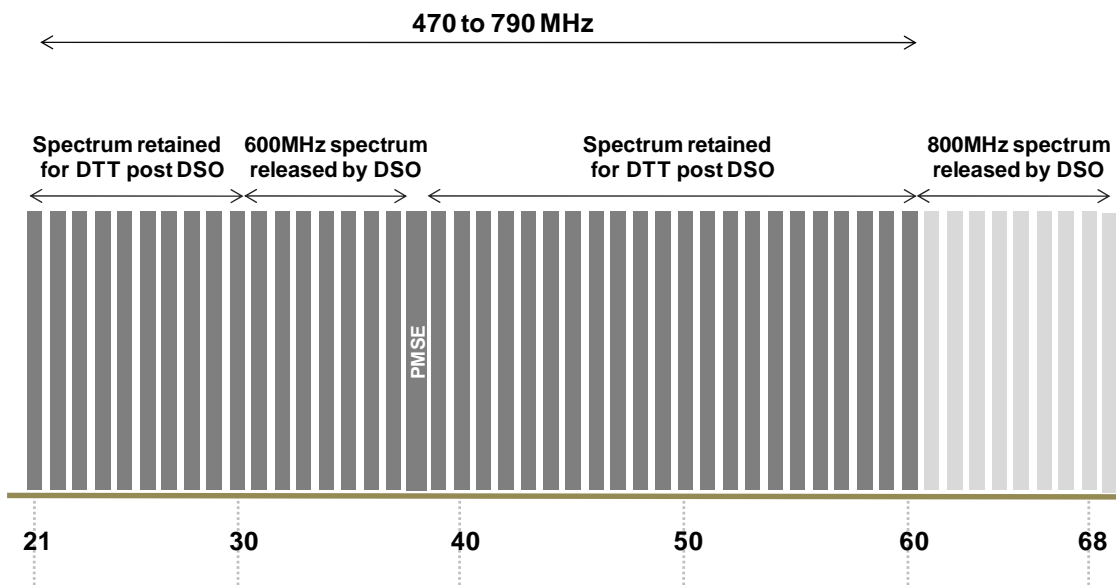
<sup>1</sup> As considered in Ofcom's Digital Dividend Review (DDR)

adjustments to the allocation of the UHF spectrum between different service types;

- the future availability of spectrum for wireless broadband which we expect to be raised at the 2012 World Radio Conference (WRC 12) with a view to its inclusion on the agenda of the following WRC in 2015/16, including possible discussion of a co-primary allocation to broadcast and mobile services in the 700 MHz band.

1.8 The framework will focus on UHF spectrum in the range 470 MHz to 790 MHz (shown in figure 1), but linkages to market developments in other frequency bands, including the 800 MHz band, will also be taken into account in its development.

**Figure 1 – the usage of UHF spectrum bands IV and V post DSO**



1.9 At this stage we are not seeking to reach a view on how the UHF spectrum should be allocated in future. Instead, we want to invite comments from stakeholders on the factors that will have a bearing on how the future use of UHF spectrum will further the interests of citizens and consumers and what if any issues arise from this perspective.

1.10 Any decisions on any future adjustments to the allocation of the UHF spectrum would necessarily need to be taken nearer to the time when they could be implemented given the inherent uncertainty on a number of key factors such as how the market will develop or the result of international harmonisation decisions.

## Call for input

1.11 In establishing a framework for ensuring that future uses of UHF spectrum deliver citizen and consumer benefits in the longer term, it is important that Ofcom captures the full range of relevant issues. We are seeking initial views from all stakeholders on the overarching themes listed below in relation to UHF spectrum, and any others interested parties feel that we should take into account:

- Demand and supply of services that are based on UHF spectrum

- Technological developments that will influence UHF spectrum usage
  - International developments
  - Potential costs and benefits to citizens and consumers from different uses of UHF spectrum
  - Timescales associated with any possible future adjustment to the use of UHF spectrum
- 1.12 **Demand and supply of services:** we will consider the services that can be delivered to consumers and citizens using UHF spectrum, including but not limited to broadcast television, mobile broadband and emergency services; and the potential consumer and citizen demand for such services.
- 1.13 **Technological developments:** we will consider technological developments that may both increase the demand for UHF spectrum, including: HDTV, 3DTV and new high capacity wireless broadband applications; and those which may reduce demand including: improved digital compression, improved efficiency digital transmission standards such as DVB-T2 and LTE, smaller mobile cell sizes, and the offloading of wireless broadband traffic onto fixed networks.
- 1.14 **International developments:** we will consider the impact of the potential future international harmonisation of different parts of the UHF spectrum, including the harmonisation of the 700 MHz band for both broadcast and mobile use in Europe. This will include the impact of international harmonisation on service provider and consumer equipment economies of scale and prices.
- 1.15 **Benefits to citizens and consumers:** we will consider the benefits different services operating in the UHF spectrum can bring to citizens and consumers. From a citizen perspective these will include continued universal free-to-air access to digital terrestrial television services and potential wider access to wireless broadband services. From a consumer perspective these may include access to wider range of attractive services and increasing competition between service providers. We will also consider the impact of future changes of spectrum use on the need for citizens and/or consumers to change and invest in new equipment.
- 1.16 **Future timescales:** we will consider at what point in time any possible future re-balancing of the use of UHF spectrum bands IV and V could be implemented. This will build on all the considerations above but will also take into account other factors that may either delay or accelerate any possible future rebalancing. These could include: the lead times required to implement changes to spectrum use; the terms of existing and future spectrum and service licenses; and varying options for re-planning spectrum based on geography.
- 1.17 We are seeking views from stakeholders on all the areas set out above and any other issues you think we should consider.

## Next steps and timescales

- 1.18 Over the coming months, we will conduct internal analysis taking into account stakeholders' submissions in response to this call for input.

- 1.19 Our work will be aimed at developing proposals on one or more possible frameworks to ensure that the use of UHF spectrum in the long term delivers benefits for citizens and consumers.
- 1.20 We will then consult on our proposals. We expect the consultation period to start in the last quarter of 2011.

## How to make submissions

- 1.21 Ofcom invites written submissions to be made by 5pm on Wednesday 15 June 2011. We are seeking responses that provide views, supported by evidence, on the areas discussed above, or on other considerations stakeholders consider relevant.
- 1.22 Please make representations via:
- The online web form at <https://stakeholders.ofcom.org.uk/consultations/uhf-spectrum-bands/howtorespond/form>
  - By email - especially for larger submissions - particularly those with supporting charts, tables or other data – to [UHFframework@ofcom.org.uk](mailto:UHFframework@ofcom.org.uk) attaching your response in Microsoft Word format, together with a consultation response coversheet (see next page).
- 1.23 Responses may alternatively be posted or faxed to the address below, marked with 'Call for input on UHF spectrum framework'.

Marco Marini  
Ofcom  
Riverside House  
2A Southwark Bridge Road  
London SE1 9HA  
Fax: 020 7981 3706

- 1.24 We do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.
- 1.25 Ofcom strictly observes confidentiality in all aspects of its operations. This applies to material supplied in response to this call for input. If your submission includes material which is confidential, we will require a full version with confidential information omitted, together with reasons why the submission should be treated as confidential.

## Cover sheet for response to an Ofcom consultation

### BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

### CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing

Name/contact details/job title

Whole response

Organisation

Part of the response

If there is no separate annex, which parts?

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

### DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name

Signed (if hard copy)