



**Response to Ofcom
Call for inputs**

**‘UHF and VHF spectrum planning
Call for inputs to Ofcom’s plans for the
potential procurement of models, tools &
services’**

9 October 2013

1. Introduction

About Digital Terrestrial Television (DTT)

Digital Terrestrial Television (DTT) is the UK's most popular TV platform. At the heart of DTT in the UK is Freeview – a universally available service offering a range of more than a hundred free-to-air TV, radio and text-based services. It is watched in more than 19 million homes, three-quarters of the total. Freeview is the sole television platform in more than 10 million homes (40%)^[1].

Prior to digital switchover (DSO), more than four million UK households could not access Freeview and elsewhere signal strength was variable. Thanks to industry investment in excess of a billion pounds, switchover made Freeview available to 98.5% of homes.

Viewers are overwhelmingly satisfied with the Freeview service^[2], and post-switchover research demonstrated viewers enjoyed the selection of channels, picture quality and functionality.^[3]

About Digital UK

Digital UK supports the UK's terrestrial TV service and its viewers.

The company is responsible for day-to-day operational management, including the Freeview electronic programme guide, and leads on developing platform strategy, working with its broadcast partners and industry. It also provides viewers with information and advice about terrestrial TV channels, services and reception.

Digital UK is owned by the BBC, ITV, Channel 4 and Arqiva

^[1] Source: Ofcom Digital TV Update, Q4 2012

^[2] 84% of Freeview viewers surveyed between April 2012 and March 2013 reported that they were satisfied with the Freeview service. Source: Hall & Partners Freeview brand tracker; sample 5,200 homes.

^[3] See the Blinc / Digital UK research report 'Viewer Experiences of Switchover', available on the Digital UK Switchover Insights website.

2. Executive Summary

Digital UK is a member of the DTT Frequency Planning Board (the successor body to the Joint Planning Project), and so has considerable interest in the tools used to plan and protect television reception in the UK.

We agree that the on-going world-wide drive to increase the utilisation of spectrum demands continual improvements to the tools used for planning and modelling purposes, including those used for television planning. We note that this is not a new situation; the UK Planning Model (UKPM) has been repeatedly developed and improved over the years and has effectively met the challenges of frequency re-planning through complex projects such as Digital Switchover (DSO) and 800MHz clearance. The UKPM is therefore uniquely well placed to continue to adapt to the ever-changing and increasingly challenging requirements of spectrum planning in the coming years.

The UK Planning Model works alongside a suite of software tools which serve a number of purposes that continue to need to be available to the broadcast industry:

- Transmitter network design
- Predictive Coverage Database (PCD) DTT coverage predictions
- Transitional network planning
- International co-ordination planning
- Co-existence planning
- PMSE spectrum availability
- White Space spectrum availability

Digital UK, in its role managing the DTT Platform on behalf of its members, has a requirement to access the output from the UKPM to ensure the continuing availability of predictions for the PCD. Digital UK also has a requirement to make requests and suggestions from time to time for the further development of the model to support its needs.

3. Response to Consultation Questions

Basic Requirements

Question 1: Do you have a specific requirement for access to a new planning model and if so, what are your specific requirements?

Digital UK has an interest in any new spectrum planning model in so far as we have an on-going requirement for television coverage updates to the PCD that we operate on behalf of the television industry, and which also supports similar services provided by other organisations such as Freeview and BT.

As a member of the DTT Frequency Planning Board we are also concerned that any changes to the television planning tool are made in such a way as to ensure that there is no reduction in the capabilities of the current UKPM, especially with the potential challenges of a future 700 MHz clearance to be faced.

UHF and VHF Spectrum Planning Options

Question 2: Have we correctly identified and characterised the potential options set out above, and what other options – if any – should be taken into account in our consideration?

The range of options described appears to be comprehensive.

Question 3: Do you have a preference for (one or more) particular options?

The timescale envisaged for re-procurement is one where the UK will be actively involved in international negotiations in relation to access the 700MHz spectrum and may also be considering future spectrum scenarios. We are therefore concerned that the level of risk introduced by changing the model during the suggested period will be significant, both in terms of diverting limited and valuable planning resource and also in terms of the possibility of making fundamental errors. We therefore favour an approach based on evolution of the UKPM to incorporate the new features required rather than a revolutionary approach.

Impacts

Question 4: Have we correctly identified and characterised the potential impacts set out above, and what other impacts – if any – should be taken into account in our consideration?

We agree with the analysis of the potential impacts.

We note that any decision to change the model used for spectrum planning would be a significant one not to be taken lightly. All spectrum planning models use different

approaches and therefore will give different results for the same input parameters. If a decision were taken to adopt a model other than the UKPM, there would need to be an extensive period of comparison and validation to confirm that the new model is giving the expected results and to allow the Stakeholders to become comfortable with its use and interpretation. As mentioned in our response to Question 3, we are concerned that this process would divert limited and valuable planning resource and management oversight away from front-line frequency planning during a complex and critical period in the development of UHF spectrum usage in the UK.

Question 5: What evidence, whether qualitative or quantitative, should we obtain and/or take into account in considering each of these potential impacts? Please identify any sources of specific evidence to which we should have regard.

We do not offer a view.

Benefits

Question 6: Have we correctly identified and characterised the potential benefits set out above, and what other benefits – if any – should be taken into account in our considerations?

We do not offer a view.

Question 7: What evidence, whether qualitative or quantitative, should we obtain and/or take into account in considering each of these potential benefits? Please identify any sources of specific evidence to which we should have regard.

We are encouraged by the news that the number of householders complaining of immediately noticeable interference linked to the deployment of the new LTE services in the 800 MHz band is lower than the number predicted to have a reduced reception margin in the earlier Ofcom modelling work and consultations. We understand that there is now work underway looking at how the mitigation programme managed by at800 could be adapted to better target those viewers who are likely to experience and report noticeable interference.

However, we think that it would also be useful to review the effectiveness of the planning model used to make the original interference predictions in the light of the experiences of LTE deployment to date. Such a review would be able to consider whether the use or interpretation of the planning model (or its parameters) itself was overly pessimistic regarding the impact of LTE services deployed in the 800 MHz band or whether some of the assumptions made within the model (such as out of band performance of LTE base station equipment) have not been matched by the actual experiences of the current LTE deployment. It would also be helpful to include more accurate information from householders about how the new LTE transmissions have affected their reception of DTT services which could be informed by work we understand is being commissioned by the Oversight Board.

As the original planning work was based upon the use of UKPM data it would appear appropriate that this review should be done by Ofcom in conjunction with the broadcast planners and the mobile operators. We consider that this is particularly important to enable more accurate modelling predictions thereby helping with future policy decisions about new services especially where these are planned to coexist with DTT services.

Given the low level of interference to date, we cannot afford to be complacent about the dangers of future interference to DTT. Any relaxation in the Ofcom model may inadvertently result in higher levels of interference from white space devices. The Ofcom modelling assumed a certain level of base station power and out of band (OOB) levels and if MNOs are operating at lower power levels, or better OOB, then a lower level of interference would not be surprising. We believe there has been limited MNO deployment in the lower frequency block (block A) so far, and these deployments are more likely to cause adjacent channel interference to services operating at channels 60 and 59. Nor have we had any visibility of the number of filters which have been sent out, or actually deployed, and this may be mitigating the levels of interference as originally predicted by the Ofcom model.

Question 8: Should we place different weights on some impacts and benefits than on others?

We do not offer a view.

Work Plan

Question 9: Do you have any comments on the work plan we have outlined? e.g. do you agree with our proposed timing and approach for securing a new model?

As mentioned above, we are concerned that the proposed procurement timetable straddles a key period in international spectrum planning and the process will divert limited and valuable planning resource and also potentially reduce confidence in the outcome of the co-ordination process.