

## **Response to the Ofcom consultation: “Digital dividend: 600 MHz band and geographic interleaved spectrum” of 18th February 2010, from Ericsson Ltd.**

### **Introduction**

Ericsson welcomes the opportunity to respond to this consultation. A short discussion of Ericsson’s views on general issues arising from the consultation is set out below.

### **General comments**

At Ericsson we observe that consumer demand for television and content based services is changing. We see a trend away from linear TV and an interest in more personalized content, and seeing it on demand.

We also observe an increasing expectation that content is made available on a wider variety of devices, including mobile devices.

In addition, as indicated in our responses to the Digital Britain consultation, we see that lower frequencies such as the 600MHz band have application in rural areas due to the beneficial propagation effects they afford. Furthermore, in rural areas it is possible to rollout a mobile broadband network faster than a fixed network. This is relevant in either a permanent or temporary context.

These needs and opportunities are increasing beyond what can realistically be served by conventional broadcast TV stations using current technologies and deployments within the frequency range allocated to the Broadcasting Service while using current spectrum practices.

Therefore, there is a need for a new digital low power cellular broadcasting system that is capable of operating in the frequency band 470-698 MHz within the “white spaces” of e.g. a terrestrial digital video broadcasting (DVB-T) network; however, most findings, with regard to the coexistence aspect, would also apply to other broadcasting systems.

For high power high tower DVB-T networks for rooftop and portable outdoor reception both Multi Frequency Networks (MFN) and Single Frequency Networks (SFN) are used. The frequency reuse pattern of a normal DVB-T network is essentially fixed and the new low power cellular broadcasting system network would be deployed such that it can reuse frequencies of the DVB-T network with a predefined low level of interference from the low power cellular broadcasting network to the DVB-T network. The “white spaces” coexistence concept exploits the fact that a DVB-T network requires a frequency reuse factor much larger than 1, typically 7 to 13, for nation wide services even with the limited SFNs planned in the UK. This new low power cellular broadcasting system would be designed with a frequency reuse factor of 1 within an arbitrarily large cluster of cells.

Ericsson has made a proposal for the protection of the new low power cellular broadcasting system applications from other non-broadcasting systems that use spectrum within the same frequency allocation, to Working Party 6A of the ITU.

In the UK, this proposal would result in the new digital low power cellular broadcasting system operating on an interleaved basis in the 470-550 MHz band and also in the cleared 550-606 MHz band.

Ericsson suggests that the band 698 - 790 MHz could, in the future, become a “second Digital Dividend” and could possibly be harmonised within CEPT and also with Regions 2 and 3. This would result in the upper broadcast channel being channel 48, with a guard band of 694-698 MHz. Whilst noting that this would change regionalisation possibilities we believe that the industry is in flux, both in producer and consumer terms, to such an extent that it is wise to consider such eventualities at an early stage.