

Question 1: Do you have any comments on the application of the protection clause to all new licences for the 600 MHz band and geographic interleaved spectrum?:

Samsung Electronics UK agrees that the protection of existing DTT services from out-of-band harmful interference is an important factor in any consideration of further release of UHF broadcasting spectrum for new services. Therefore Samsung Electronics UK is pleased to see that a 'protection clause' continues to feature as a licence obligation to be applied to new services.

Samsung Electronics UK understands how this protection clause may help to protect the broadcast services but wants to ensure that a stable and well-defined environment is provided to manufacturers of DTT receiving equipment which will be evolving to cater for new broadcast technologies and to account for the new environment.

Samsung agrees that the realisation of the protection clause is a potentially complex technical and economic challenge and Samsung foresees that in general, DTT subscribers will have no understanding of the technical aspects of the problem to be solved. Therefore Samsung has the opinion that any mitigation measures or procedures chosen should not leave consumers confused and uncertain about the robust delivery of their services.

From Samsung's perspective, there are two key aspects to be dealt with:

- 1) The protection of the huge population of legacy DTT receivers.
- 2) The future specification and performance of new DTT receivers.

Regarding 1), Samsung notes that current proposals under development for the 800MHz band are considering retro-fitting filters to DTT receiving equipment in households potentially susceptible to harmful interference from mobile service base stations. The delivery of this mitigation has many elements that have yet to be clarified but to a large extent the technical aspects of the proposals are simplified by the harmonised identification of the 800MHz band both nationally and internationally.

Regarding 2), Samsung foresees that new specifications and products will eventually be developed to replace the legacy equipment (although it may take some considerable time for new equipment to be widely installed) but defining the appropriate specification may be more technically and economically challenging if country specific solutions are required. Harmonisation of the spectrum allocation is a key element in driving economic design and providing access to the largest available market to bring down costs.

Samsung Electronics considers that solutions to both these aspects may be even more challenging when considering operation in interleaved spectrum.

Samsung Electronics has noted the declared intentions of the European Commission to drive towards further digital dividend opportunities through improvements in broadcast service efficiency and DTV receiver performance (EC Communication COM(2009) 586/2). Samsung Electronics believes that in considering the wider European market and consumer base, the European Commission will drive towards further harmonisation and this could mitigate the challenges highlighted above.

In summary, Samsung Electronics UK supports the initiatives to bring new spectrum for new services to the market especially where these are expected to provide consumers with increased connectivity and more capacity for data services but believes this should be carried

out in the context of European developments which could lead towards a harmonised identification of spectrum. Samsung Electronics UK requests that UK Ofcom works closely with the European Commission and other appropriate bodies to expedite work towards digital dividend spectrum harmonisation across Europe before implementing a nationally specific initiative.

Question 2: Do you have any comments on our approach to technical licence conditions for the 600 MHz band and geographic interleaved spectrum?:

In the cleared 600MHz band, Samsung Electronics UK believes that further frequency separation for mobile transmitters may not necessarily resolve the difficulties and that again a European harmonised spectrum plan will facilitate development of an appropriate complementary specification for DTV receivers. In interleaved spectrum it may be more difficult to resolve the interference potential. This could suggest that it might be more appropriate to allocate interleaved spectrum to services that exhibit similar characteristics to the mainstream DTT services.

Question 3: Do you have any evidence using frequency offsets with DVB-T2 EC signals might have an adverse impact on uses of adjacent interleaved spectrum?:

No. Samsung Electronics UK finds it difficult to determine the impact that DVB-T2 signal offsets might have on adjacent services until there is greater clarity about the applications in the interleaved spectrum.

Question 4 Do you have any evidence mobile services using the 600 MHz band and geographic interleaved spectrum could cause harmful interference to cable television?:

No, however based on consideration of 800MHz band investigations, Samsung Electronics UK has seen reports that co-frequency operation of mobile terminal devices in close proximity to cable network receiving equipment has the potential to disturb the cable service. It may be prudent to avoid co-frequency operation.

Question 5: Do you have any comments on protecting PMSE in channel 38?:

None. Samsung Electronics UK has no opinion on this point.

Question 6: Do you have any comments on non-technical licence issues and the way we propose to approach them?:

None. Samsung Electronics UK has no opinion on this point at this time.

Question 7: Do you have any comments on our assessment of the most likely uses of the 600 MHz band and geographic interleaved spectrum? Are there any potential uses we have not mentioned that should be considered?:

Samsung Electronics UK believes that the most likely uses have been considered. Samsung Electronics agrees that mobile broadband services are likely to be more appropriate in the cleared spectrum but also believes that the point delivered under question 1 concerning spectrum harmonisation is important here if a rich eco-system of mobile devices and infrastructure is to be developed.

BWA services in inter-leaved spectrum could bring interesting new opportunities to support the Digital Britain agenda in underserved areas.

Question 8: Are there any distinctive considerations and uses for this spectrum in the nations and regions of the UK?:

Samsung Electronics UK has no opinion on this point at this time.

Question 9: Do you have any comments on our continued inclusion of channel 36 in the award of the 600 MHz band?:

Samsung Electronics UK has no opinion on this point.

Question 10: Do you have any comments on our intention to maintain a market-led approach to awarding the 600 MHz band and geographic interleaved spectrum?:

Samsung Electronics UK has no opinion on this point at this time.

Question 11: What information can you provide on packaging and award design considerations?:

Samsung Electronics UK believes (notwithstanding the point under the response to Q1 concerning a preference for a harmonised approach) that allocations in the cleared spectrum based on an aggregation of basic 5MHz blocks would be most consistent with the anticipated mobile broadband technologies likely to be deployed in the foreseeable future.

Question 12: When would you like to start operating new services using the 600 MHz band and/or geographic interleaved spectrum?:

Samsung Electronics UK is not a direct user of the spectrum but will be interested in developing products to enable consumers to extract the greatest utility from the technology options available to them. However the development processes required to achieve this will be slower without a clear picture concerning spectrum harmonisation, particularly of the cleared spectrum. So again Samsung Electronics UK encourages Ofcom to be active in the European developments to drive towards a more harmonised solution for further digital dividend and not towards a UK specific arrangement.