



**Intel Corporation Response to the RSPG public consultation
on their draft Opinion on “The Introduction of Multimedia
Services in particular in the frequency bands allocated to the
broadcasting services”**

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Intel would like to thank the Radio Spectrum Policy Group for issuing this draft Opinion on “The Introduction of Multimedia Services in particular in the frequency bands allocated to the broadcasting services”.

Intel has been operating in Europe since the early 1970's. Today, Intel employs some 14.000 employees in the Europe Middle East and Africa region. Of these, 5.800 are based in the current 25 EU Member States. About a quarter of Intel revenue comes from the EMEA region. In Europe, INTEL performs R&D in Ireland, Denmark, Germany, France, Poland Spain, and UK. To ensure ongoing technology innovation, Intel sponsors



university research projects in Europe and sponsors labs at Cambridge University and the Universitat Politecnica de Catalunya in Barcelona.

We would like to support the RSPG statement that multimedia services are one of the promising new services fostering growth and innovation and we would like to emphasize that one the key issues to allow the developments of such services is the access to spectrum.

It is obviously essential to ensure that no specific technology is favoured following the concept of technology neutrality consistent with the Opinion adopted by the RSPG on WAPECS. It is really important to promote a technology neutral approach as there are a number of terrestrial and satellite technologies that have the capability to provide mobile multimedia broadcast services as DVB-H and WiMAX. This approach will promote competition, encourage innovation and promote an EU market of new services.

Intel regards access to radio spectrum as vital for the development of broadband and ICT within Europe and therefore of multimedia services. Technological advances, while improving spectrum efficiency, are also increasing demand for access to radio spectrum which is either under-utilised or reserved for other technologies.

Therefore, more spectrum is needed to meet the increasing demand for existing services and to enable the introduction of new services. Most importantly, unnecessary regulatory restrictions need to be removed in a systematic fashion across the region. This is particularly true for new innovative technologies like WiMAX, especially Mobile WiMAX, which do not have specific spectrum allocations.

The new spectrum management approach which is to be introduced through the Directives review process - based on technology and service neutrality – should be applied to the digital dividend across the EU Member States.

We will focus our answer mainly on the **UHF (470 – 862 MHz)** band. Wherever possible spectrum should be made available for mobile multimedia broadcast network(s) **prior to switch off date**.

It is deemed extremely important to have Europe-wide harmonization of the spectrum to support mobile multimedia networks since this key issue needs to be addressed in the same way across Europe. Common and unique frequencies for mobile multimedia networks within a country, and ideally across Europe, improves indoor coverage, roaming, acquisition time, spectrum efficiency and also reduces costs, equipment and network deployment complexity, the number of transmit sites, cross border interference, etc.



When considering allocations of frequencies of the digital dividend - **after the analogue switch-off** –, the new approach of spectrum management which is to be adopted in 2007 through the review of the EU regulatory framework should be retained.

- It would be contrary to this approach to pre-define that some bands of the digital dividend should be devoted to a specific category of technology.
- While it is clear that video is going to be a key driver of demand for broadband, it will be a component of many different applications.
- The RSPG opinion should not encourage Member States or the European authorities to jeopardize the benefits of a spectrum digital dividend by pre-reserving part of it for a specific service. Intel encourages RSPG to stress that the new spectrum management approach – based on technology and service neutrality – should be applied to the digital dividend across the EU Member States.

Indeed, the “700 MHz band” could help the broadband development in rural areas and increase the deployment of different technologies in the bands currently used for analog TV. Expediting the digital TV transition could clear the 700 MHz band for new wireless broadband services. This band would be particularly useful for wireless broadband in rural and less densely populated areas given its outstanding propagation characteristics and could therefore promote a wider development of multimedia services.

The upshot for some rural and underserved areas is that using the TV frequencies for broadband wireless service would likely make the difference between a high quality broadband alternative and none at all. Intel believes that expediting the digital transition foster innovative wireless broadband services that will extend the reach of broadband services to rural and underserved areas as well as spark growth in the EU high-tech sector generally. We would like mainly to insist on the fact that the spectrum dividend should be used for

- Member States should allocate any dividend to such services that promote innovation and that could meet market demand
- Enable electronic communication services other than broadcasting
- Promote broadband coverage specifically in the rural areas.

We would like to insist that in the upcoming months, multimedia type services will already be available as an integral part of mobile service offerings.

Intel would also like to insist that **other bands not allocated to the broadcasting service** also offer the opportunity to provide multimedia services, specifically the bands at 2.5 GHz. These bands at the moment are designated for future cellular voice and data



technologies such as 3G. 3G stakeholders in the ITU have defined IMT-2000, which is a set of mobile wireless air interfaces that supports a particular mobile services and network model. IMT-2000 includes WCDMA, CDMA-2000, TD-SCDMA, DECT and EDGE. Unfortunately, the IMT-2000 definition does not comprehend new mobile wireless technologies such as WiMAX that were developed after 2000. Nor is there currently an easy way to include these technologies in IMT-2000 definition. Today, a mobile wireless system based upon IEEE 802.16 technology does not qualify for IMT-2000 because:

- 1) it is not an evolution of one of the current IMT-2000 air interfaces, and
- 2) it does not support legacy circuit switched voice.

Thus, even though WiMAX Forum Certified products based upon the IEEE 802.16 standard are targeting some 3G spectrum bands such as 2.5–2.69 GHz, WiMAX systems will be blocked from using these bands unless countries adopt a policy of technology-neutrality. The potential positive effect of WiMAX development for mobile multimedia services could be substantially curtailed.

In conclusion, Intel Corporation would like to insist on the importance of giving manufacturers and licensees more flexibility to innovate and meet market demands. We would like to insist on the point (highlighted also in the RSPG opinion on WAPECS) that “technology neutral” spectrum management allocates spectrum flexibly without designating the technology or technologies which can be used. We believe that a “technology neutral” approach to spectrum management is one of the best methods to promote the introduction of multimedia services but also to foster geographical coverage of broadband and addressing the social and economic digital divide.