

EBU – Recommendation R 136



# Spectrum Requirements for Broadcasting Services in preparation for WRC-15

**Source: EBU Technical Committee**

Geneva  
June 2012



## **EBU Recommendation concerning Spectrum Requirements for Broadcasting Services, in preparation for WRC-15**

### **The EBU, considering that:**

- a) Spectrum is a finite natural resource of great cultural and economic importance that needs to be used efficiently for the benefit of Europeans;
- b) WRC-07 assigned the 800 MHz band (790 - 862 MHz) to broadcasting and IMT services;
- c) WRC-12 assigned the 700 MHz band on a co-primary basis to broadcasting and IMT to take effect following WRC-15;
- d) Uncertainties resulting from decisions at WRC-07 and WRC-12 may undermine the success and future viability of terrestrial broadcast networks;
- e) Digital and analogue terrestrial broadcasting services currently occupy the UHF band in European countries (470 - 862 MHz)<sup>1</sup>;
- f) Europe comprises diverse television markets with very different terrestrial broadcasting scenarios at national and regional levels;
- g) A vibrant terrestrial platform addresses current and future needs of viewers, who increasingly expect better quality and innovative services; it is vital that adequate spectrum be available for this;
- h) Public service media companies have worked to deploy technologies such as DVB-T2 and H.264 that maximise terrestrial spectrum efficiency;
- i) There are many stakeholders and users of the UHF band including public service and commercial broadcasters, PMSE (Programme Making and Special Events), cable operators and consumer electronics vendors;
- j) In the future innovative solutions must be found to ensure economically and technically viable terrestrial broadcasting whilst addressing the increasing demand for wireless broadband services.

### **Recommends that:**

- 1) The EBU and its Members emphasize to the national, European and International authorities, the importance and the diversity of terrestrial broadcasting markets and services;
- 2) The frequency band 470 - 790 MHz should be retained for the delivery of broadcasting services (both linear and non linear), taking into account future service and technology developments. This would provide certainty to broadcasters and the industry alike, and encourage further standardisation work and investments;
- 3) The EBU and its Members work to ensure close integration between the linear and non-linear services they deliver to mobile devices, PCs, tablets and hybrid television sets. This includes requiring the use of the 470 - 790 MHz band for these services.

---

<sup>1</sup> In the EU, the 790 - 862 MHz has been harmonised for IMT services; a few countries have already released this band from broadcasting services and the rest will do so in the coming years.

## The EBU notes that:

If an Administration decides to release the band from broadcasting services, it should ensure that any costs of a potential re-organisation of the 700 MHz band are not borne by the incumbents, including those related to domestic installations. Such costs may be related to simulcasting and migration of existing services.

## The EBU further recommends that:

- 4) All EBU Members approach their national Administrations to encourage them to complete the ITU-R Questionnaire on Spectrum Requirements, using guidelines prepared by the Strategic Programme on Spectrum Management. The deadline for completing the questionnaire is 31st July 2012.
- 5) The EBU and its Members work to ensure the most efficient use of spectrum taking into account replacement cycles of consumer equipment, the associated social and economic implications.
- 6) The mobile telecommunications sector should be encouraged to optimise their use of spectrum.
- 7) Studies should be carried out to evaluate the extent to which co-existence between broadcasting and mobile services in the 700 MHz band is realistically possible. These studies should cover network architectures, standardisation work and receiver performance.
- 8) The EBU and its Members engage with other stakeholders, including BNE, APWPT, Cable Europe, ACT, DVB and DigiTAG, to raise their awareness of spectrum management issues.

## Background

The WRC-12 allocated, on a co-primary basis, the 700 MHz band (between 694 MHz<sup>1</sup> and 790 MHz) in Region 1<sup>2</sup> to Mobile Services, effective immediately after the next Conference scheduled in 2015 (WRC-15). Further, this band has been identified for use by the International Mobile Telecommunication (IMT)<sup>3</sup> family of applications. This band is currently allocated on a co-primary basis (broadcasting and mobile services) in North America (Region 2) and Asia (Region 3) and identified for IMT in North America and in some countries of Region 3. On the surface, this harmonisation between the regions seems logical, addressing in part the appetite for additional spectrum resources for IMT services.

Terrestrial broadcasting is an important means of distributing television services in Europe and is the most important means of delivering free-to-air television in many countries. With European consumers purchasing ever-bigger TV sets, broadcasters face demands to deliver higher quality to safeguard their viewers' engagement with their services. Improvements in source and channel coding technology are being outstripped by the demand for higher quality, 3DTV etc.

Against this backdrop, media content constitutes the majority of broadband wireless data being delivered over IMT networks, and its volume continues to grow.

In preparation for the next WRC-15 conference, all stakeholders need to address the requirements to ensure vibrant terrestrial platforms in European countries whilst addressing the demands of the mobile broadband services.

---

<sup>1</sup> This lower limit is still subject to confirmation or modification on the basis of ITU-R studies to be carried out before WRC-15.

<sup>2</sup> Region 1 comprises Europe, Africa, the Middle East west of the Persian Gulf including Iraq, the former Soviet Union and Mongolia.

<sup>3</sup> IMT is the ITU's generic name for 3G and 4G cellular mobile systems.