

## **ELECTRONIC COMMUNICATIONS COMMITTEE**

ECC Decision  
of 1 December 2006  
on the designation of the bands 880-915 MHz,  
925-960 MHz, 1710-1785 MHz and 1805-1880 MHz  
for terrestrial IMT-2000/UMTS systems

(ECC/DEC/(06)13)



**EXPLANATORY MEMORANDUM****1 INTRODUCTION**

Since 1997 CEPT has adopted a series of Decisions and Reports regarding the implementation of UMTS. These CEPT deliverables concern:

- Frequency bands for the introduction of UMTS (ERC/DEC/(97)07);
- Global circulation of IMT-2000 terminals, ERC Report 60;
- Adjacent band compatibility between UMTS and other services in the 2 GHz band, ERC Report 65;
- Extending ERC/DEC/(97)07 on the frequency bands for introduction of terrestrial Universal Mobile Telecommunications System (UMTS), (ERC/DEC/(00)01);
- Designation of the band 2500-2690 MHz to IMT-2000/UMTS (ECC/DEC/(02)06);
- Harmonised utilisation of spectrum for IMT-2000/UMTS within the band 2500-2690 MHz (ECC/DEC/(05)05);
- Sharing and adjacent band compatibility between UMTS/IMT-2000 in the band 2500-2690 MHz and other services, ECC Report 45;
- ECC Decision (06)01 on the harmonised utilisation of spectrum for terrestrial IMT-2000/UMTS systems operating within the bands 1900-1980 MHz, 2010-2025 MHz and 2110-2170 MHz;
- ECC Report 82 on the compatibility study for UMTS operating within the GSM 900 and GSM 1800 frequency bands;
- Draft ECC Report 96 on the compatibility study between UMTS900/1800 and systems operating in adjacent bands<sup>1</sup>.

The GSM bands (880-915 MHz, 925-960 MHz, 1710-1785 MHz and 1805-1880 MHz) have been subject to several harmonisation measures taken at EU level or by the ECC:

- Council Directive (87/372/EEC) and the related Council Recommendation (87/371/EEC), which came into force in 1987;
- ERC Decision (94)01 on the frequency bands to be designated for the coordinated introduction of the GSM digital pan-European communications system;
- ERC Decision (95)03 on the frequency bands to be designated for the introduction of DCS 1800;
- ERC Decision (97)02 on the extended frequency bands to be used for the GSM Digital Pan-European Communication System.

Today, these GSM bands are intensively used by GSM networks while at the same time IMT-2000/UMTS networks are rapidly developing in the 2 GHz band.

**2 BACKGROUND**

In line with CEPT proposals, WRC-2000 identified for IMT-2000 the spectrum that was already used on a large scale for GSM systems having in mind that IMT-2000 would be implemented in the longer term in these frequency bands as part of the migration from 2G to 3G networks.

In the meantime, the licensing process for IMT-2000 has taken place in the “core” (2 GHz) band. IMT-2000 networks have been deployed over Europe in this frequency band and are rapidly growing. In addition, the 2.6 GHz extension band will be available for IMT-2000/UMTS as from 1 January 2008, subject to market demand and national licensing schemes.

IMT-2000/UMTS coverage in the 2 GHz band is challenging and there is a strong demand for ubiquitous access to 3G services including in rural areas. The possibility to deploy IMT-2000/UMTS networks in GSM bands, and particularly the GSM900 band, will provide an opportunity for operators to increase significantly the cell size and therefore extending the IMT-2000/UMTS network coverage in rural areas at a reasonable cost and facilitating indoor coverage in urban and suburban areas. This development will take place earlier than anticipated during the preparation of WRC-2000 for the migration of 2G to 3G networks.

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<sup>1</sup> WGSE will consider final adoption of this report in early 2007.

Special care should be taken to enable protection of GSM networks which will continue to be used for years in these frequency bands. ECC has investigated together with industry (3GPP) the possibility to insert UMTS channels in a band used for GSM without creating interference with adjacent GSM channels, in particular when they are used by another operator. Further studies have been carried out to examine potential impact to adjacent band services and systems.

It is also recognized that there is a wide range of licensing situations for both GSM and IMT-2000/UMTS networks which have to be addressed on a national level to ensure the progressive transition from GSM networks to IMT-2000/UMTS networks.

### **3 REQUIREMENT FOR AN ECC DECISION**

The ECC recognises that a harmonised implementation of IMT-2000/UMTS will be of greatest benefit to operators, manufacturers as well as users and will facilitate the successful deployment of IMT-2000/UMTS. ECC also recognizes that IMT-2000/UMTS technologies will be implemented in GSM bands.

IMT-2000/UMTS networks have already been successfully introduced in the 2 GHz frequency band across Europe and ECC has already decided about the designation and harmonised conditions of use of the band 2500-2690 MHz for IMT-2000/UMTS networks in order to accommodate the rapid increase of users and bit rate for 3G services.

The ECC recognises that the introduction of IMT-2000/UMTS systems in the bands 880-915 MHz, 925-960 MHz, 1710-1785 MHz and 1805-1880 MHz will provide opportunity for better coverage for IMT-2000/UMTS networks and, ultimately, more capacity. These frequency bands are already widely harmonised in Europe for GSM networks. The introduction of IMT/UMTS networks is expected to take place progressively.

GSM bands are already used today intensively. This ECC Decision will increase spectrum efficiency in these bands and will also enable more flexibility.

### **4 SCOPE OF THE ECC DECISION**

This ECC Decision provides the necessary provisions for the designation of the bands 880-915 MHz, 925-960 MHz, 1710-1785 MHz and 1805-1880 MHz by terrestrial IMT-2000/UMTS systems.

Decisions that "designate" a frequency band for a harmonised application are intended to foster the deployment of an application to meet a market demand in a harmonised manner throughout CEPT. Members signing the Decision commit themselves to make spectrum available for this harmonised application which includes assessing when and where there is a demand for the harmonized service/application and deciding whether that demand is great enough to exclude other services and applications from the harmonised band. Such Decisions shall not inhibit radiocommunication equipment meeting different standards from operating in an identified frequency band provided it offers the same spectrum use and application as specified in a Decision for the band and is placed on the market in conformity with the essential requirements i.e. it makes effective use of the spectrum allocated to terrestrial/space radiocommunications so as to avoid harmful interference<sup>2</sup>.

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<sup>2</sup> This paragraph is Article 12.1.1bis of the ECC Rules of Procedure, edition 4, Cascais, October 2005.

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“The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that there is a growing demand for interoperable mobile voice services and interoperable mobile data services;
- b) that UMTS Terrestrial Radio Access UTRA has been developed to meet this demand;
- c) that UMTS provides third generation mobile services, forming part of the International Mobile Telecommunications 2000 (IMT-2000) global family of standards;
- d) ECC/DEC/(06)01 on the harmonised utilisation of spectrum for terrestrial IMT-2000/UMTS systems operating in bands 1900-1980 MHz, 2010-2025 MHz and 2110-2170 MHz;
- e) ECC/DEC/(02)06 on the designation of the band 2500-2690 MHz to IMT-2000/UMTS;
- f) ECC/DEC/(05)05 on harmonised utilisation of spectrum for IMT-2000/UMTS systems operating within the band 2500-2690 MHz;
- g) ERC/DEC/(94)01 on the frequency bands to be designated for the coordinated introduction of the GSM digital pan-European communications system;
- h) ERC/DEC/(95)03 on the frequency bands to be designated for the introduction of DCS 1800;
- i) ERC/DEC/(97)02 on the extended frequency bands to be used for the GSM Digital Pan-European Communication System;
- j) ERC/DEC/(94)03 on the frequency band to be designated for the coordinated introduction of the Digital European Cordless Telecommunication system (DECT);
- k) Council Directive (87/372/EEC) and the related Council Recommendation (87/371/EEC), which came into force in 1987;
- l) the importance of facilitating the deployment of IMT-2000/UMTS networks in rural areas and improving indoor coverage;
- m) that cell coverage of IMT-2000/UMTS networks could be greatly improved by the use of lower GSM bands. This development will take place earlier than anticipated during the preparation of WRC-2000 for the migration of 2G to 3G networks;
- n) that the introduction of IMT-2000/UMTS networks would increase the spectrum efficiency in the GSM bands;
- o) that GSM networks will progressively migrate to IMT-2000/UMTS networks. The migration schedule and process will depend on market demand and conditions, national regulatory conditions and licensing schemes;
- p) that the expiry date of the GSM licenses is varying amongst CEPT countries;

- q) that ECC Report 82 provides conclusions on the compatibility study for UMTS operating within the GSM 900 and GSM 1800 frequency bands and relevant measures to be applied by administrations and/or operators;
- r) that draft ECC Report 96 provides conclusions on the compatibility study between UMTS900/1800 and systems operating in adjacent bands and relevant measures to be applied by administrations<sup>1</sup>;
- s) that this Decision supports technology evolution and may be subject to review as a result of further developments relating to WAPECS technology neutrality long term policy goal<sup>3</sup>;
- t) that in EU/EFTA countries such equipment shall comply with the R&TTE Directive. Conformity with the essential requirements in its Article 3(2) may be demonstrated by compliance with the relevant parts of the harmonised standard EN 301 908 or equivalent technical specifications;

#### DECIDES

1. that for the purpose of this Decision, IMT-2000/UMTS shall mean equipment complying with Recommendation ITU-RM 1457;
2. that the frequency bands 880-915 MHz, 925-960 MHz, 1710-1785 MHz and 1805-1880 MHz, in line with the WAPECS concept<sup>3</sup> and as a first step, are designated<sup>4</sup> for terrestrial IMT-2000/UMTS systems, subject to market demand and national licensing schemes;
3. that administrations shall take all necessary measures to ensure the protection of continuing GSM operations in these bands;
4. that this Decision shall enter into force on 1 December 2006;
5. that the preferred date for implementation of this Decision shall be 1 January 2007;
6. that CEPT Member administrations shall communicate the national measures implementing this Decision to the ECC Chairman and the Office when the Decision is nationally implemented.”

#### Note:

Please check the Office web site (<http://www.ero.dk>) for the up to date position on the implementation of this and other ECC Decisions.

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<sup>3</sup> The WAPECS concept has been developed by the RSPG and is applicable to EU Member states. “For each WAPECS frequency band, provided that the associated electronic communications network complies with the relevant spectrum technical requirements, technological neutrality and flexibility in future use of the spectrum should be ensured. For justified reasons, in line with recital 18 of the Framework Directive, certain technological requirements may be imposed by Member States or at the EU level”. (See RSPG Document 05/102 Final, 23 November 2005)

<sup>4</sup> See section 4 of the explanatory memorandum