



ECC Decision (06)13

Designation of the bands 880-915 MHz,
925-960 MHz, 1710-1785 MHz and 1805-1880 MHz
for terrestrial UMTS, LTE and WiMAX systems¹

Approved 01 December 2006

Amended 21 June 2013

¹ Comparable technical specifications to those given in this ECC Decision are given in Commission Decision 2009/766/EC amended by Commission Decision 2011/251/EU. EU Member States and, if so approved by the EEA Joint Committee, Iceland, Liechtenstein and Norway are obliged to implement the EC Decision.

EXPLANATORY MEMORANDUM

1 INTRODUCTION

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

- ERC/DEC/(97)07 on frequency bands for the introduction of UMTS;
- ERC Report 060 on global circulation of IMT-2000 terminals;
- ERC Report 065 adjacent band compatibility between UMTS and other services in the 2 GHz band;
- ERC/DEC/(00)01 extending ERC/DEC/(97)07 on the frequency bands for introduction of terrestrial Universal Mobile Telecommunications System (UMTS);
- ECC/DEC/(02)06 on the designation of the band 2500-2690 MHz to IMT-2000/UMTS;
- ECC/DEC/(05)05 on the harmonised utilisation of spectrum for IMT-2000/UMTS within the band 2500-2690 MHz ;
- ECC Report 045 on sharing and adjacent band compatibility between UMTS/IMT-2000 in the band 2500-2690 MHz and other services;
- ECC/DEC/(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 082 on the compatibility study for UMTS operating within the GSM 900 and GSM 1800 frequency bands;
- ECC Report 096 on the compatibility study between UMTS900/1800 and systems operating in adjacent bands;
- CEPT Report 042 on compatibility between UMTS and existing and planned aeronautical systems above 960 MHz.

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/DEC/(94)01 on the frequency bands to be designated for the coordinated introduction of the GSM digital pan-European communications system;
- ERC/DEC/(95)03 on the frequency bands to be designated for the introduction of DCS 1800;
- ERC/DEC/(97)02 on the extended frequency bands to be used for the GSM Digital Pan-European Communication System

In 2009, Directive 2009/114/EC of the European Parliament and of the Council amending Council Directive 87/372/EEC was approved opening the 880-915 MHz and 925-960 MHz frequency bands (the 900 MHz band) to the Universal Mobile Telecommunications System (UMTS) and to other terrestrial systems capable of providing electronic communications services that can co-exist with the Global System for Mobile communications (GSM).

During 2009, the European Commission issued a mandate to CEPT on the technical conditions for allowing LTE and possibly other technologies within the bands 880-915 MHz / 925-960 MHz and 1710-1785 MHz / 1805-1880 MHz (900 MHz and 1800 MHz bands). It was verified that WiMAX is another

technology besides LTE showing interest for the 900 MHz and 1800 MHz bands. Compatibility studies were done and the technical conditions under which LTE and WiMAX technologies can be deployed in the 900/1800 MHz bands are identified in the following CEPT Reports approved by the ECC in 2010:

- CEPT Report 040 on compatibility study for LTE and WiMAX operating within the bands 880-915 MHz / 925-960 MHz and 1710-1785 MHz / 1805-1880 MHz (900 MHz and 1800 MHz bands); and
- CEPT Report 041 on compatibility between LTE and WiMAX operating within the bands 880-915 MHz / 925-960 MHz and 1710-1785 MHz / 1805-1880 MHz (900 MHz and 1800 MHz bands) and systems operating in adjacent bands.

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.

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 UMTS networks in 900 MHz and 1800 MHz bands, and particularly in the 900 MHz band, provides an opportunity for operators to increase significantly the cell size and therefore extending the UMTS network coverage in rural areas at a reasonable cost and facilitating indoor coverage in urban and suburban areas. These bands could also be used for LTE and WiMAX technologies.

At this stage, CEPT noted that in Europe, UMTS networks are mainly rolled out in the 900 MHz frequency band and LTE networks in 1800 MHz frequency band. In addition, currently WiMAX systems are not deployed in either of the bands.

CEPT Reports 040 and 041 concluded that LTE and WiMAX systems can be introduced in the 900 MHz and 1800 MHz bands using appropriate values for the separation between the channel edges of the respective carriers. It is also recognised that there is a wide range of licensing situations for both GSM and UMTS networks which have to be addressed on a national level to enable the progressive transition from GSM networks to UMTS, LTE and WiMAX networks.

3 REQUIREMENT FOR AN ECC DECISION

The ECC recognises that a harmonised implementation of UMTS, LTE and WiMAX will be of greatest benefit to operators, manufacturers as well as users and will facilitate the successful deployment of UMTS, LTE and WiMAX.

UMTS networks have already been successfully introduced in CEPT countries in the 2 GHz frequency band and ECC has already decided about the designation and harmonised conditions of use of the band 2500-2690 MHz in line with ECC Decision (05)05 in order to accommodate the rapid increase of users and bit rate in mobile communications networks.

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

The 900 MHz and 1800 MHz bands are already used today intensively. This ECC Decision will enable more flexibility and increased spectrum efficiency in these bands.

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 for terrestrial UMTS, LTE and WiMAX 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 implementing 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 interference².

² This paragraph is Article 12.1.2 of the ECC Rules of Procedure, edition 13, Vilnius, 2 November 2012.

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 UMTS, LTE AND WiMAX SYSTEMS (ECC/DEC/(06)13) AMENDED 21 JUNE 2013

“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, LTE and WiMAX have been developed to meet this demand;
- c. that UMTS, LTE and WiMAX are mobile broadband systems included in the IMT-2000 family;
- 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 Communications 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 amended by Council Directive 2009/114/EC and the related Council Recommendation 87/371/EEC which came into force in 1987;
- l. the importance of facilitating the deployment of UMTS networks in rural areas and improving indoor coverage;
- m. that LTE and WiMAX technologies provide a substantial level of improvement in performance and capabilities with respect to the IMT-2000 systems initially deployed;
- n. that the introduction of UMTS, LTE and WiMAX networks would increase the spectrum efficiency in the 900 MHz and 1800 MHz bands;
- o. that GSM networks will progressively migrate to UMTS, LTE and WiMAX networks. The migration schedule and process will depend on market demand and conditions, national regulatory conditions and licensing schemes;
- p. that ECC Report 082 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;
- q. that ECC Report 096 provides conclusions on the compatibility study between UMTS 900/1800 and systems operating in adjacent bands and relevant measures to be applied by administrations;

- r. that the results of the compatibility studies to accommodate technologies other than GSM and UMTS in the frequency bands 880-915/925-960 MHz and 1710-1785/1805-1880 MHz can be found in CEPT Reports 040 and 041;
- s. that CEPT Report 041 and 042 provide information and recommendations on how to mitigate interference between UMTS, LTE and WiMAX and aeronautical systems above 960 MHz;
- t. that in EU/EFTA countries the radio equipment that is under the scope of this Decision shall comply with the R&TTE Directive (1999/5/EC). Conformity with the essential requirements of the R&TTE Directive may be demonstrated by compliance with the applicable harmonised European standard(s) or by using the other conformity assessment procedures set out in the R&TTE Directive.

DECIDES

1. that for the purpose of this Decision, UMTS, LTE and WiMAX are defined in the Annex to this Decision;
2. that administrations shall take all necessary measures to ensure the protection of the continued operation of GSM systems in the 900 MHz and 1800 MHz bands;
3. that the frequency bands 880-915 MHz, 925-960 MHz, 1710-1785 MHz and 1805-1880 MHz are designated³, in addition to GSM, for terrestrial UMTS and LTE systems and could be designated to WiMAX system⁴, subject to market demand and national licensing schemes;
4. that the frequency bands 880-915 MHz, 925-960 MHz, 1710-1785 MHz and 1805-1880 MHz may also be used by other mobile systems provided that they can coexist with GSM, UMTS, LTE and WiMAX and systems in adjacent bands subject to market demand and national licensing schemes;
5. that administrations shall take all necessary measures to ensure the coexistence of GSM, UMTS, LTE and WiMAX in the 900 MHz and 1800 MHz bands;
6. that this Decision shall enter into force on 21 June 2013;
7. that the preferred date for implementation of this Decision shall be 21 December 2013;
8. that CEPT 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 documentation database <http://www.ecodocdb.dk> for the up to date position on the implementation of this and other ECC Decisions.

³ See section 3 of the Explanatory Memorandum.

⁴ See Commission Decision 2011/251/EU amending Commission Decision 2009/766/EC.

ANNEX

Technologies described in this Decision					
	Terminology in Recommendation ITU-R M.1457	Standards Development Organisations (SDO)	Terms used by SDO	Applicable ETSI standards	Other terms commonly used
GSM		3GPP ETSI	GSM GSM/EDGE	EN 301 502 EN 301 511	GPRS, EDGE
UMTS	IMT-2000 CDMA Direct Spread	3GPP ETSI	UMTS UTRA	EN 301 908-1 EN 301 908-2 EN 301 908-3 EN 301 908-11	IMT-2000/UMTS; W-CDMA; HSPA
LTE	IMT-2000 CDMA Direct Spread (E UTRAN) ⁽¹⁾	3GPP ETSI	LTE E-UTRA	EN 301908-1 EN 301908-13 EN 301908-14 EN 301908-11	
WiMAX	IMT-2000 OFDMA TDD WMAN ⁽²⁾	IEEE	WiMAX	EN 301908-1 EN 301908-21 EN 301908-22	

(1) This radio interface now includes an option using OFDM modulation.

(2) This radio interface now supports FDD.