

## COMMISSION DECISION

of 21 May 2008

**on the harmonisation of the 3 400-3 800 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community**

(notified under document number C(2008) 1873)

(Text with EEA relevance)

(2008/411/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

communications service in one Member State could also gain access to equivalent services in any other Member State.

Having regard to the Treaty establishing the European Community,

Having regard to Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision) <sup>(1)</sup>, and in particular Article 4(3) thereof,

Whereas:

(1) The Commission has supported a more flexible use of spectrum in its Communication on 'Rapid access to spectrum for wireless electronic communications services through more flexibility' <sup>(2)</sup>, which, *inter alia*, addresses the 3 400-3 800 MHz band. Technological neutrality and service neutrality have been underlined by Member States in the Radio Spectrum Policy Group (RSPG) opinion on Wireless Access Policy for Electronic Communications Services (WAPECS) of 23 November 2005 as important policy goals to achieve a more flexible use of spectrum. Moreover, according to this opinion, these policy goals should not be introduced abruptly, but in a gradual manner to avoid disruption of the market.

(2) The designation of the 3 400-3 800 MHz band for fixed, nomadic and mobile applications is an important element addressing the convergence of the mobile, fixed and broadcasting sectors and reflecting technical innovation. The services provided in this frequency band should mainly target end-user access to broadband communications.

(3) It is expected that the wireless broadband electronic communications services for which the 3 400-3 800 MHz band is to be designated will to a large extent be pan-European in the sense that users of such electronic

(4) Pursuant to Article 4(2) of Decision No 676/2002/EC, the Commission gave a mandate dated 4 January 2006 to the European Conference of Postal and Telecommunications Administrations (hereinafter the CEPT) to identify the conditions relating to the provision of harmonised radio frequency bands in the EU for Broadband Wireless Access (BWA) applications.

(5) In response to that Mandate, the CEPT issued a report (CEPT Report 15) on BWA, which concludes that the deployment of fixed, nomadic and mobile networks is technically feasible within the 3 400-3 800 MHz frequency band under the technical conditions described in the Electronic Communications Committee's Decision ECC/DEC/(07)02 and Recommendation ECC/REC/(04)05.

(6) The results of the Mandate to the CEPT should be made applicable in the Community and implemented by the Member States without delay given the market demand for the introduction of terrestrial electronic communication services providing broadband access in these bands. Taking into account the differences in current use and in market demand for the 3 400-3 600 MHz and 3 600-3 800 MHz sub-bands at national level a different deadline should be established for the designation and availability of the two sub-bands.

(7) The designation and making available of the 3 400-3 800 MHz band in accordance with the results of the Mandate on BWA recognises the fact that there are other existing applications within these bands and does not preclude the future use of these bands by other systems and services to which these bands are allocated in accordance with the ITU Radio Regulations (designation on a non-exclusive basis). Appropriate sharing criteria for coexistence with other systems and services in the same and adjacent bands have been developed in ECC Report 100. This report confirms, *inter alia*, that sharing with satellite services is often feasible considering the extent of their deployment in Europe, geographical separation requirements and case-by-case evaluation of actual terrain topography.

<sup>(1)</sup> OJ L 108, 24.4.2002, p. 1.

<sup>(2)</sup> COM(2007) 50.

- (8) Block Edge Masks (BEM) are technical parameters that apply to the entire block of spectrum of a specific user, irrespective of the number of channels occupied by the user's chosen technology. These masks are intended to form part of the authorisation regime for spectrum usage. They cover both emissions within the block of spectrum (i.e. in-block power) as well as emissions outside the block (i.e. out-of-block emission). They are regulatory requirements aimed at managing the risk of harmful interference between neighbouring networks and are without prejudice to limits set in equipment standards under Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity <sup>(1)</sup> (the R&TTE Directive).
- (9) Harmonisation of technical conditions for the availability and efficient use of spectrum does not cover assignment, licensing procedures and timing, nor the decision whether to use competitive selection procedures for the assignment of radio frequencies, which will be organised by Member States in line with Community law.
- (10) Differences in the national legacy situations could result in competitive distortions. The existing regulatory framework gives Member States the tools to deal with these problems in a proportionate, non-discriminatory and objective manner, subject to Community law including Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services (Authorisation Directive) <sup>(2)</sup> and Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive) <sup>(3)</sup>.
- (11) The use of the 3 400-3 800 MHz band by other existing applications in third countries can limit the introduction and use of this band by electronic communications networks in several Member States. Information on such limitations should be notified to the Commission pursuant to Articles 7 and 6(2) of Decision No 676/2002/EC and published in accordance with Article 5 of Decision No 676/2002/EC.
- (12) In order to ensure effective use of the 3 400-3 800 MHz band also in the longer term, administrations should continue with studies that may increase efficiency and innovative use, such as meshed network architectures. Such studies should be taken into account when considering a review of this Decision.
- (13) The measures provided for in this Decision are in accordance with the opinion of the Radio Spectrum Committee,

HAS ADOPTED THIS DECISION:

#### Article 1

This Decision aims at harmonising, without prejudice to the protection and continued operation of other existing use in this band, the conditions for the availability and efficient use of the 3 400-3 800 MHz band for terrestrial systems capable of providing electronic communications services.

#### Article 2

1. No later than six months after entry into force of this Decision Member States shall designate and make available, on a non-exclusive basis, the 3 400-3 600 MHz band for terrestrial electronic communications networks, in compliance with the parameters set out in the Annex to this Decision.

2. By 1 January 2012 Member States shall designate and subsequently make available, on a non-exclusive basis, the 3 600-3 800 MHz band for terrestrial electronic communications networks, in compliance with the parameters set out in the Annex to this Decision.

3. Member States shall ensure that networks referred to in paragraphs 1 and 2 give appropriate protection to systems in adjacent bands.

4. Member States shall not be bound to implement the obligations under this Decision in geographical areas where coordination with third countries requires a deviation from the parameters in the Annex to this Decision.

Member States shall make all practicable efforts to solve such deviations, which they shall notify to the Commission, including the affected geographical areas, and publish the relevant information pursuant to Decision No 676/2002/EC.

#### Article 3

Member States shall allow the use of the 3 400-3 800 MHz band in accordance with Article 2 for fixed, nomadic and mobile electronic communications networks.

<sup>(1)</sup> OJ L 91, 7.4.1999, p. 10. Directive as amended by Regulation (EC) No 1882/2003 (OJ L 284, 31.10.2003, p. 1).

<sup>(2)</sup> OJ L 108, 24.4.2002, p. 21.

<sup>(3)</sup> OJ L 108, 24.4.2002, p. 33. Directive as amended by Regulation (EC) No 717/2007 (OJ L 171, 29.6.2007, p. 32).

*Article 4*

Member States shall keep the use of the 3 400-3 800 MHz band under scrutiny and report their findings to the Commission to allow regular and timely review of the Decision.

*Article 5*

This Decision is addressed to the Member States.

Done at Brussels, 21 May 2008.

*For the Commission*  
Viviane REDING  
*Member of the Commission*

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## ANNEX

## PARAMETERS REFERRED TO IN ARTICLE 2

The following technical parameters called block edge mask (BEM) are an essential component of conditions necessary to ensure coexistence in the absence of bilateral or multilateral agreements between neighbouring networks. Less stringent technical parameters, if agreed among the operators of such networks, can also be used. Equipment operating in this band may also make use of e.i.r.p. <sup>(1)</sup> limits other than those set out below provided that appropriate mitigation techniques are applied which comply with Directive 1999/5/EC and which offer at least an equivalent level of protection to that provided by these technical parameters <sup>(2)</sup>.

## A) LIMITS FOR IN-BLOCK EMISSIONS

Table 1

**E.i.r.p. spectral density limits for fixed and nomadic deployments between 3 400 and 3 800 MHz**

Station type	Maximum e.i.r.p. spectral density (dBm/MHz) (including tolerances and automatic transmitter power control (ATPC) range)
Central station (and repeater station downlinks)	+ 53 <sup>(1)</sup>
Terminal station outdoor (and repeater station uplinks)	+ 50
Terminal station (indoor)	+ 42

<sup>(1)</sup> The central station e.i.r.p. spectral density value given in the table is considered suitable for conventional 90 degrees sectorial antennas.

Table 2

**E.i.r.p. spectral density limits for mobile deployments between 3 400 and 3 800 MHz**

Station type	Maximum e.i.r.p. spectral density (dBm/MHz) (Minimum ATPC range: 15 dB)
Central station	+ 53 <sup>(1)</sup>
Terminal station	+ 25

<sup>(1)</sup> The central station e.i.r.p. spectral density value given in the table is considered suitable for conventional 90 degrees sectorial antennas.

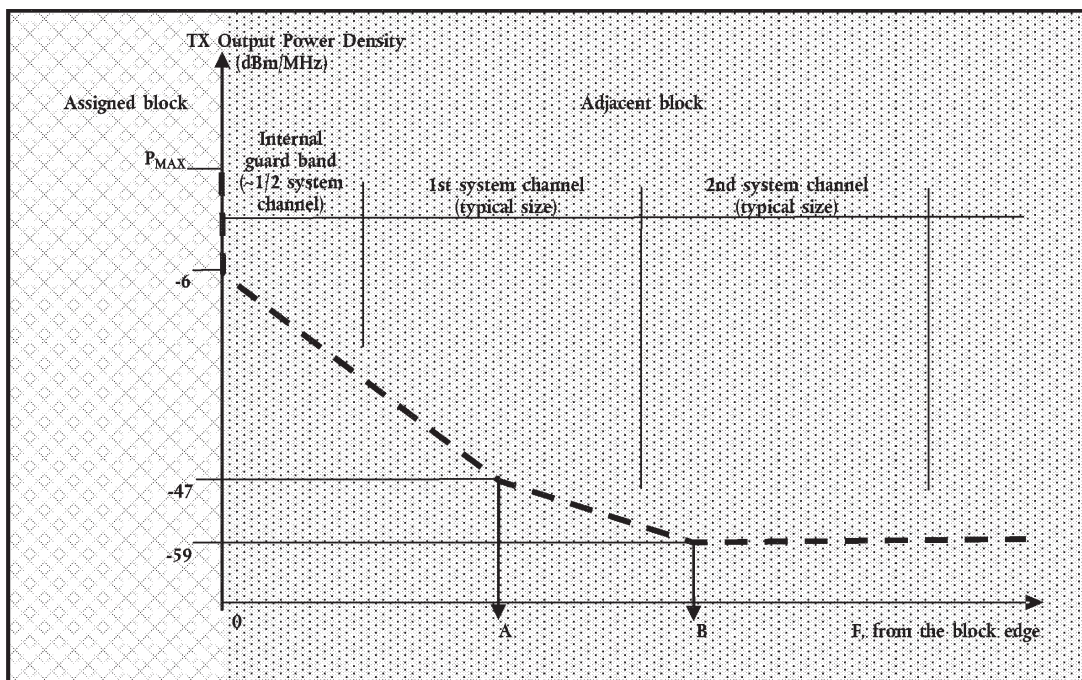
<sup>(1)</sup> Equivalent isotropically radiated power.

<sup>(2)</sup> The generic technical conditions applicable to fixed and nomadic networks are described in Harmonised Standards EN 302 326-2 and EN 302 326-3, which also include definitions for a central station and a terminal station. The term central station may be considered equivalent to the term base station in the context of mobile cellular networks.

B) LIMITS FOR OUT-OF-BLOCK EMISSIONS (BLOCK EDGE MASK FOR CENTRAL STATIONS)

Figure

Central station out-of-block emissions



Frequency offset	Definition (% of the size of the assigned block)
A	20 %
B	35 %

NB: The percentages given in the 'Definition' column refer to the smaller of adjacent blocks, if blocks are of unequal size.

Table

Tabular description of central station block edge mask

Frequency offset	Central station transmitter output power density limits (dBm/MHz)
In-band (within assigned block)	See Tables 1 and 2
$\Delta F = 0$	- 6
$0 < \Delta F < A$	$- 6 - 41 \cdot (\Delta F / A)$
A	- 47
$A < \Delta F < B$	$- 47 - 12 \cdot ((\Delta F - A) / (B - A))$
$\Delta F \geq B$	- 59