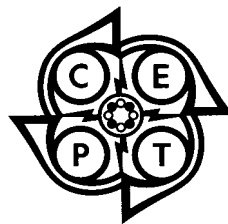


# ELECTRONIC COMMUNICATIONS COMMITTEE

ECC Decision  
of 18 March 2005  
on a harmonised frequency plan for the use of the  
band 169.4 - 169.8125 MHz

(ECC/DEC/(05)02)  
amended 5 September 2007  
amended 12 November 2010



## EXPLANATORY MEMORANDUM

### 1 INTRODUCTION

This ECC Decision addresses the frequency band 169.4 - 169.8125 MHz. This particular band has previously been designated for the European Radio Messaging System (ERMES) by the ERC/DEC(94)02, as well as by the EU Council Directive 90/544/EEC of 9 October 1990. In most European countries the paging systems have not reached the expected market penetration, and in some countries the demand for paging systems is actually decreasing. Therefore this Decision identifies additional applications for this frequency band.

### 2 BACKGROUND

The ERC/DEC/(94)02 designated the frequency band 169.4125 - 169.8125 MHz for ERMES and divides the band into 16 frequency channels for these systems. The EU Council Directive 90/544/EEC also designated the band 169.4 - 169.8 MHz for the same purpose and states that these systems should have priority over and protection from other systems in the same band. The EU Directive also listed four preferred frequency channels for ERMES. Since the adoption of the ERC Decision and EU Directive the requirement for paging systems within Europe has changed. Therefore the ERO and the Frequency Management Working Group of the ECC collected information on the deployment of ERMES and other paging systems (in 1999 the European Commission recommended the end of exclusive use of the ERMES standard in the 169 MHz channels) in the frequency band 169.4 - 169.8125 MHz within Europe as well as the use of this band by other radio applications..

The information obtained showed (as of January 2002) that ERMES systems only remained operational in a few European countries. However, there were some countries in which paging systems were in operation, or licences were still in force. In some cases these licences cannot be withdrawn for legal reasons. On the other hand the information showed that in most countries some channels were available for other applications, and in several countries all 16 channels were available.

In recent years more emphasis has been put on the question of designation of harmonised frequency bands for several existing or new services, and therefore the ECC has agreed to reconsider the use of the band 169.4 - 169.8 MHz, and many applications have been proposed for this frequency band. Based on information from administrations and interested parties it has been agreed that the following existing and new applications should be implemented in this band:

- **Meter reading systems**

There is an increasing demand from utility companies among others for remote reading of meters for water usage, electricity etc. Since such meters are often installed in buildings or underground the upper part of the VHF band is particularly useful for this purpose. Meter reading equipment includes facilities for remote status monitoring and service commands.

- **Tracing and asset tracking systems**

In the beginning 1998 the ERO prepared, following a Work Requirement (no.48400) in accordance with the "EC-ERO Framework Contract", the "Report on Alarm Systems for Tracing Lost or Stolen Items" This report among other things describes various tracing and tracking systems operating in different frequency bands. One of the recommendations in this report is that some frequencies should be designated in the VHF band alarm systems used for tracing lost or stolen items. The WG FM has previously made an unsuccessful attempt to harmonise frequencies for this purpose. There is a growing demand for systems for tracing lost or stolen (such as vehicles, car, boat, valuables, etc.), and the trade in stolen items has become an international problem.

- **Social alarms**

The social alarm application is intended to assist persons, in particular elderly or disabled people summon assistance, when they are in a distress situation. This application requires reliable telecommunication systems and networks. A number of measures are taken in order to ensure the highest level of reliability, as is practically feasible, when designing and operating these systems. In 1997 the ERC adopted ERC/DEC(97)06 that designates the frequency band 869.20 - 869.25 MHz for the use of social alarm systems in accordance with CEPT Recommendation ERC/REC 70-03 on SRDs. However, at that time it was pointed out that a lower frequency range would have been better suited for this purpose because of wider coverage and better penetration in buildings, but no such harmonised frequency band within CEPT

could be found. Parts of the band 169.4 - 169.8125 MHz would be well suited for some types of social alarm systems.

- **Aids for hearing impaired**

For alleviation of hearing impairment the traditionally employed hearing aids comprise electro acoustic amplifiers including a microphone and a loudspeaker and having frequency response and dynamic characteristics specific to each person's individual hearing loss. In various cases and environments where the level of the surrounding acoustic noise is too high, e.g. at school, in industrial areas, at conferences, big social events, etc. a wireless solution exists for additionally improving the intelligibility of the acoustic signal delivered to the ear by the hearing aid. For this purpose a radio communication system could be realised with a narrow band transmitter, used as external remote microphone in combination with one or more receivers, where each receiver can have wired or inductive connection to a hearing aid. Based on detailed sharing studies with other SRD applications in the band 169.4 - 169.8125 MHz the ECC Report 55 considered the following two types of assistive listening systems acceptable for aids for hearing impaired people for this use:

- Personal Hearing Aid System, in which transmitters with power levels  $\leq 10$  mW e.r.p. could be handheld, put on a table or around the neck of a hearing impaired person;
- Public Hearing Aid System, in which transmitters with power levels  $\leq 500$  mW e.r.p. are installed at a fixed location in a large auditorium, e.g. in a church or theatre. Public hearing aid systems are usually used in cases of big events attended by many hearing impaired people, who otherwise would experience strong interferences caused by personal hearing aid systems if used simultaneously and in a very close proximity one from another.

So far there have been no harmonised bands for these kinds of systems and frequencies have been designated according to national frequency tables with the result that these systems operate on many different frequencies throughout Europe. This again leads to segmentation of the market and more expensive equipment for the users of such systems. The increased mobility of people and equipment gives rise to an increased demand for some harmonised spectrum for aids for the hearing impaired, and a part of the band 169.4 - 169.8125 MHz band should be set aside for this purpose. Even so there would still be a need for other frequencies designated on a national basis to satisfy all the requirements for these kinds of systems.

- **Applications for temporary use**

Applications for temporary use include mostly PMR systems that are licensed for short periods from say a day or two up to about a few months to assist organisation of entertainment and other special events. The main purpose for harmonising frequencies for this is to ease the licensing procedures during international events for which it is impossible to change frequencies of the transceivers during border crossing. Especially due to the fact that there is a need to use these frequencies from high altitude for wide area distribution of information implying long interference ranges and need for strict regulations. In between such events the frequencies may be used temporarily on a national basis. This application should be an alternative to asset tracking and tracing or paging applications in the high power part of the band.

- **Paging system**

Simplex paging systems using a base station with the mobile as a receiver only using different protocols including in some case the ERMES protocol. Existing paging systems should be allowed to remain in operation as long as required or as long as the licences for these systems are valid, and develop as the technology progresses.

The European Commission issued in May 2003 a Mandate to CEPT to review the frequency band 169.4 - 169.8125 MHz in the light of the Community policy. The Mandate specified that the regulation of this band should be technology neutral and reflect European Community policies such as applications for assistance to persons with disabilities and judicial co-operation (i.e. tracking of stolen goods).

The initial version of this Decision provided a detailed channelling arrangement for the band 169.4 - 169.8125 MHz. However, following an extensive review of this Decision in 2009/2010, CEPT agreed to remove these provisions. The resulting amended Decision provides harmonized frequency plan for the use of the band 169.4 - 169.8125 MHz and leaves possible optimum channelling arrangement to be defined in relevant harmonised standard as appropriate.

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

The allocation or designation of frequency bands for use by a service or system under specified conditions in CEPT member countries is laid down by law, regulation or administration action. A commitment by CEPT member countries to implement an ECC Decision will provide a clear indication that the required frequency bands will be made available on time and on a European-wide basis. The amount of spectrum requirements and dates of availability will be reviewed from time to time. ECO should collect and make publicly available information from administrations about the implementation of this ECC Decision.

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Comparable technical specifications to those given in this ECC Decision are given in EC Decision no. (2005/928/EC) amended with EC Decision no. (2008/673/EC). EU Member States and, if so approved by the EEA Joint Committee, Iceland, Liechtenstein and Norway are obliged to implement the EC Decision.

“The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that harmonised spectrum can provide the best conditions for the introduction of new or emerging pan-European applications;
- b) that the use of the band 169.4 - 169.8125 MHz is to a certain extent harmonised within Europe and that this harmonisation should at least be maintained or if possible extended. Changes to the usage of this band should be made in a way that is consistent with the Mission Statement of the ECC;
- c) that when introducing new applications in the band 169.4 - 169.8125 MHz account should be taken of the existing applications in this band such as paging and PMR, and that these existing applications should be allowed to remain in operation as long as required or as long as the licences for these applications are valid;
- d) that existing paging systems cannot be re-allocated due to great technical problems or heavy cost implications;
- e) that new paging systems in particular could preferentially use PMR/PAMR bands as identified in ERC Report 25;
- f) that the compatibility studies assuming worst case conditions indicate possible areas of interference between the proposed applications, but the actual usage of these applications will alleviate the situation, see ECC Report no. 55;
- g) that the designation of spectrum to one or more particular applications should only be done on a technological neutral basis;
- h) that the Decision ECC/DEC/(05)02 was first adopted by ECC in 2005 within the frame of an EC mandate to CEPT to review the band 169.4 - 169.8125 MHz in the light of the Community policy;
- i) that the band 169.4 - 169.8125 MHz has been divided into a low power part and a high power part;
- j) that regulatory parameters for Aids for the hearing impaired, Meter reading, Asset tracking and tracing and social alarms operating in the low power part of band 169.4 - 169.8125 MHz are presented in ERC/REC 70-03;
- k) that in EU/EFTA countries the radio equipment that is under the scope of this Decision shall comply with the R&TTE Directive. 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 the purpose of the Decision is to harmonise the frequency plan for the use of the band 169.4 - 169.8125 MHz;
2. that CEPT administrations shall designate frequency bands for specific applications in accordance with the frequency plan for the use of the band 169.4 - 169.8125 MHz shown in Annex to this Decision;
3. that applications for temporary use or PMR may be implemented on a national basis in the high power part of band 169.4 - 169.8125 MHz;
4. that existing paging systems and PMR systems in the band 169.4 - 169.8125 MHz, not in accordance with the frequency plan in the Annex, may be allowed to remain in operation as long as required or as long as the licences for these services are valid;
5. that this Decision shall enter into force on 12 November 2010;
6. that the 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.

**Annex**  
**Frequency plan for the 169.4 - 169.8125 MHz band<sup>1</sup>**

	Frequency band	Applications
Low power applications	169.4000 - 169.4750 MHz	Aids for the hearing impaired Meter reading Asset tracking and tracing
	169.4750 - 169.4875 MHz	Social alarm
	169.4875 - 169.5875 MHz	Aids for the hearing impaired
	169.5875 - 169.6000 MHz	Social alarm
	169.6000 - 169.6125 MHz	"Guard band"
High power applications	169.6125 - 169.6375 MHz	Asset tracking and tracing
	169.6375 - 169.6625 MHz	Paging
	169.6625 - 169.6875 MHz	Paging
	169.6875 - 169.7125 MHz	Paging
	169.7125 - 169.7375 MHz	Asset tracking and tracing
	169.7375 - 169.7625 MHz	Asset tracking and tracing
	169.7625 - 169.7875 MHz	Paging
	169.7875 - 169.8125 MHz	Asset tracking and tracing

<sup>1</sup> The regulatory parameters such as maximum power, duty cycle, channel spacing for Aids for the hearing impaired, Meter reading, Asset tracking and tracing and Social alarms operating in the low power part of band 169.4 – 169.8125 MHz should be found in ERC/REC 70-03.