

**ELECTRONIC COMMUNICATIONS COMMITTEE**

ECC Decision  
of 14 March 2003  
on the availability of frequency bands  
for the introduction of 200 kHz Wide Band Digital  
Land Mobile PMR/PAMR  
in the 400 MHz and 800/900 MHz bands

(ECC/DEC/(03)01)



## EXPLANATORY MEMORANDUM

### 1 INTRODUCTION

This ECC Decision addresses the future use of the bands 410-430 MHz, 450-470 MHz and 870-876/915-921 MHz, which are planned for applications within the land mobile service. Although the decision does not specifically designate particular frequency sub bands to be used in the introduction of Wide Band Digital Land Mobile PMR/PAMR systems the ECC Decision is linked to the general frequency strategies as outlined in the Strategic Plan for PMR/PAMR for the period until 2013 (ECC Report 25). This plan indicates a common long term goal to achieve European harmonisation in the use of the radio frequency spectrum for PMR&PAMR applications and has indicated sub bands which could be used for wide band applications in Europe within the above frequency bands. The introduction of such strategies is, however, still based on national possibilities and national market demands and the indicated sub bands may not be available in all CEPT countries. The term Wide Band Digital Land Mobile PMR/PAMR is intended to cover digital systems providing data rates of several hundred kilobits per second (e.g. in the range of 384-500 kbit/s). These systems may be operated self provided, self used or third party provided.

### 2 BACKGROUND

The existing PMR/PAMR market in Europe is to a large extent based on analogue technologies with 97 % analogue users in the year 2000. In 2001 around 60 % of new users, the majority being public safety and security applications are, however, based on digital technologies. Market surveys and information from industry organisations and users indicate that digital technologies should become dominant within the next 4-5 years. Although analogue equipment will still be in use it is expected that within a few years the vast majority of the new delivered equipment will be digital across all market segments. ECC Decisions have been and are being developed in order to provide confidence to industry and potential users that the necessary frequency spectrum to meet the digital requirements will be provided in CEPT countries in accordance with the market developments. Separate Decisions may be developed for other wide band PMR/PAMR systems using different technologies and/or channelling arrangements. It is intended that this Decision provides for the initial frequency availability as required by the market demand additional to the frequency bands already made available for Narrow Band Digital Land Mobile PMR/PAMR.

In line with the development of the digital land mobile PMR/PAMR the need for high-speed data and other additional services increases. Already now and especially in the PAMR sector there is an expressed requirement for services that cannot be delivered over traditional narrow band technology. It is clear that the users are looking for a delivery of services that can match the services of current cellular PSTN operators. In response, ETSI Project TETRA has already developed an adaptation of GSM, GPRS and EDGE as a supplementary service to TETRA (V+D). This service is called TAPS, operates in a 200 kHz channel raster and is covered by this ECC Decision.

This ECC Decision covers exclusively the designation and especially the availability of frequency bands. This means the relevant bands should be designated in the national frequency usage tables and should be made available by the administrations. The current software controlled radio equipment technology offers the flexibility with regard to different frequency availability situations within the CEPT member countries, which facilitates European frequency planning. Separate ECC Decisions are required to deal with the licence (service/telecommunication licence and/or radio licence) related matters and for the carriage and use of equipment throughout Europe. The harmonisation on a European basis would support the *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.*

### 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. It is considered necessary to designate and implement frequency bands for 200 kHz Wide Band Digital Land Mobile PMR/PAMR. Only the real availability of an appropriate amount of radio spectrum and not only the designation within the national frequency usage tables encourages manufacturers and operators to make the necessary investments in these radio communication technologies. 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. ERO should collect and make publicly available information from administrations about the introduction of wide band digital land mobile systems in accordance with this ECC Decision.

WITHDRAWN

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"The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that there is a need to harmonise spectrum for the introduction of wide band digital land mobile PMR/PAMR in Europe;
- b) that the frequency planning and channel spacing that are defined in the CEPT/ERC Recommendation T/R 25-08 (revised version of 1999) on "*Planning criteria and coordination of frequencies in the land mobile service in the range 29.7-960 MHz*" needs to be revised to incorporate Wide Band Systems;
- c) that the systems covered by this ECC Decision operate in bandwidths of 200 kHz channel spacing;
- d) that the wide band digital systems are providing higher data rates (e.g. in the range of 384-500 kbit/s) compared to narrow band PMR/PAMR systems;
- e) that the frequency bands designated for 200 kHz wide band systems have also been designated for narrow band systems according to ERC Decision (96)04 and ECC Decision (02)03;
- f) that multilateral/bilateral agreements on frequency coordination in border areas can have an influence on the availability of radio spectrum;
- g) that the duplex frequency band 870-876/915-921 MHz is also designated for defence systems in ERC Report 25 (revised version of 2002): "*The European table of frequency allocations and utilisations covering the frequency range 9 kHz to 275 GHz*";
- h) that ECC Report 5 on "*Adjacent band compatibility between GSM and TETRA mobile services at 915 MHz*" is concerned with adjacent band compatibility issues relating to TETRA, TETRA TAPS and GSM at the frequency boundary at 915 MHz;
- i) that ECC Report 13 on "*Adjacent band compatibility between TETRA TAPS mobile services at 870 MHz*" is concerned with adjacent band compatibility issues relating to TETRA TAPS above 870 MHz and Short Range Devices below 870 MHz;
- j) that ECC Report 14 on "*Adjacent band compatibility of UIC<sup>1</sup> Direct Mode with TETRA Advanced Packet Data Service (TAPS)*" investigates adjacent band compatibility between TAPS and UIC DMO around 876 MHz;
- k) ECC Report 25 on "*Strategies for the European use of frequency spectrum for PMR/PAMR applications*";
- l) ECC Report 22 on "*The technical impact of introducing TAPS on 12.5/25 GHz PMR/PAMR technologies in the 380-400, 410-430 and 450-470 MHz bands*";
- m) that bi- or multilateral arrangements may be necessary for the coordination of frequencies for Wide Band Digital Land Mobile PMR/PAMR;
- n) that the guard bands ranging from 100 kHz up to 600 kHz and other mitigation techniques, such as geographical separation distance and additional filtering, as defined in the above listed ECC Reports, are to be taken account of;

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<sup>1</sup> UIC: "Union Internationale des Chemins de Fer" (the world wide association of railways)

- o) that European-wide harmonised use of frequencies would ease the implementation of the Directive 1999/5/EC (the R&TTE Directive);
- p) that the equipment referred to in this ECC Decision should comply with the relevant European Telecommunication Standards (ES 201 962) or equivalent technical specifications;
- q) that administrations have the right to exercise spectrum/frequency management which may affect the number of service suppliers, in conformity with their international trade obligations and to European Community legislation as far as EU Member States are concerned;
- r) that allocation, assignment and technical co-ordination of frequencies must be done in an objective, timely, impartial, transparent and non-discriminatory manner, and should not be more burdensome than necessary under international rules, in particular, to ensure the efficient use of frequency spectrum.

#### DECIDES

1. that this Decision covers Wide Band Digital Land Mobile PMR/PAMR using channel spacing of 200 kHz;
2. that the frequency requirements for Wide Band Digital Land Mobile PMR/PAMR shall be met within the bands:
  - 410-430 MHz and/or 450-470 MHz with 10 MHz duplex spacing between the transmit frequencies of mobile station (410-420 MHz and 450-460 MHz) and the transmit frequencies of base station (420-430 MHz and 460-470 MHz), and/or
  - 870-876 MHz paired with 915-921 MHz with 45 MHz duplex spacing between the transmit frequencies of mobile station (870-876 MHz) and the transmit frequencies of base station (915-921 MHz);
3. that a sufficient amount of spectrum within one or more of the bands 410-430 MHz, 450-470 MHz and 870-876 MHz paired with 915-921 MHz shall be made available for Wide Band Digital Land Mobile PMR/PAMR as quickly as possible in response to market demand;
4. that possible further spectrum requirements and dates of availability should be considered once Wide Band Digital Land Mobile PMR/PAMR have been introduced and some experience has been gained on practical operational requirements;
5. that for 200 kHz wide band digital systems the centre frequency raster shall start at 200 kHz from the lower edge of the bands identified in decides 2);
6. that this Decision will enter into force on 1 July 2003;
7. 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 CEPT web site (<http://www.cept.org>) for the up to date position on the implementation of this and other ECC, ECTRA and ERC Decisions.*