

**ELECTRONIC COMMUNICATIONS COMMITTEE**

ECC Decision  
of 15 March 2002  
on the availability of frequency bands for  
the introduction of Narrow Band Digital Land Mobile  
PMR/PAMR  
in the 400 MHz band  
(ECC/DEC/(02)03)



WITHDRAWN

## **EXPLANATORY MEMORANDUM**

### **1 INTRODUCTION**

This ECC Decision addresses the future use of the bands 406.1-430 MHz and 440-470 MHz, which are planned for applications within the land mobile service. The term Narrow Band Digital Land Mobile PMR/PAMR is intended to cover digital systems such as digital single or duplex frequency systems with and without base stations, radio trunked mode systems which offer fast set-up calls, many services such as single, group, priority and emergency calls, data, etc. 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. The split between the privately operated and the operator driven networks is around 90/10 %. 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 approximately 90 % of the new delivered equipment will be digital across all market segments. This ECC Decision has been 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. It is intended that the Decision provides for the initial frequency availability as required by the market demand additional to the frequency bands already made available for digital land mobile PMR/PAMR .

The CEPT/ERC Recommendation T/R 25-08 gives the planning criteria and coordination of frequencies for Narrow Band Digital Land Mobile PMR/PAMR using frequency spacing equal or less than 25 kHz. Those technologies do not refer to a special standard or specification. This ECC Decision covers both duplex operation and single frequency operation in which the latter one includes e.g. simplex operation and TDD (Time Division Duplex) operation. Due to national regulations and multilateral/bilateral agreements on frequency coordination in border areas deviations from the channel arrangements as given in the Decision should be possible in a transitional period until the relevant regulations and agreements will have been revised. The frequency band 445.2-445.3 MHz has already been harmonised for civil DMO (Direct Mode Operation) by ERC Decision (01)21.

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. Definitions regarding PMR/PAMR can be found in the CEPT/ERC Recommendation (00)03 and the ERC Report 73.

### **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 Narrow 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 this 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 digital land mobile systems in accordance with this ECC Decision.

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**(ECC/DEC/(02)03)**

“The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that there is a need to harmonise spectrum for the introduction of the digital land mobile PMR/PAMR in Europe;
- b) that the band 406.1-410 MHz is allocated to both the mobile service (except aeronautical mobile service) and the radio astronomy service on a primary basis in the Radio Regulations whereas footnote 5.149 urges administrations to take all practicable steps to protect the radio astronomy service from harmful interference;
- c) that the frequency planning and channel spacing 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";
- d) that the systems covered by this ECC Decision operate in 10 kHz, 12.5 kHz or 25 kHz channel spacing;
- e) that multilateral/bilateral agreements on frequency coordination in border areas can have an influence on the availability of radio spectrum;
- f) that European-wide harmonised use of frequencies would ease the implementation of the Directive 1999/5/EC (the R&TTE Directive);
- g) that the equipment referred to in this ECC Decision should comply with the relevant European Telecommunication Standards (ETS/EN 300 113, ETS/EN 300 392 and ETS/EN 300 396) or equivalent technical specifications;
- h) that the CEPT Recommendation ERC/REC 74-01 defines spurious emission limits for radio communication equipment;
- i) that software controlled radio equipment offers flexibility with regard to different frequency availability situations within the CEPT member countries;
- j) 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;
- k) 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 Narrow Band Digital Land Mobile PMR/PAMR using channel spacing of 10 kHz, 12.5 kHz or 25 kHz;
2. that the frequency requirements for Narrow Band Digital Land Mobile PMR/PAMR shall be met within the bands
  - 406.1-410 MHz (by taking into account RR footnote 5.149) and/or 440-450 MHz for single frequency operation,
  - 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);
3. that 1 MHz of spectrum within the bands 406.1-410 MHz and/or 440-450 MHz shall be made available for Narrow Band Digital Land Mobile PMR/PAMR as soon as possible, but at least by the end of 2004, subject to market demand;
4. that 2 x 2 MHz of spectrum, additional to that provided for in the ERC/DEC/(96)04 and within the duplex bands 410-430 MHz and/or 450-470 MHz, shall be made available for Narrow Band Digital Land Mobile PMR/PAMR as soon as possible, but at least by the end of 2004, subject to market demand.
5. that possible further spectrum requirements and dates of availability should be considered once Narrow Band Digital Land Mobile PMR/PAMR have been introduced and some experience has been gained on practical operational requirements;
6. that the centre frequencies of the channels within the available bands shall be derived as follows:
 
$$F_{CH} = \text{Band Edge} - (a \times 0.00125 \text{ MHz}) + (n \times \text{Channel Spacing MHz}),$$
 where:
  - a = constant, depending on the required channel spacing,
    - a = 10, in the case of 25 kHz channel spacing
    - a = 5, in the case of 12.5 kHz channel spacing
    - a = 4, in the case of 10 kHz channel spacing
  - n = channel number,
    - n = 1, 2, 3, ...
  - Band Edge: lower edge of allocated frequency band, i.e. 406.1 MHz, 410 MHz, 440 MHz, 450 MHz,
7. that this Decision will enter into force on 15 March 2002;
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 CEPT web site(<http://www.CEPT.org>) for the up to date position on the implementation of this and other ECC Decisions.*