ELECTRONIC COMMUNICATIONS COMMITTEE

ECC Decision
of 19 March 2004
on the availability of frequency bands
for the introduction of Wide Band Digital Land Mobile
PMR/PAMR
in the 400 MHz and 800/900 MHz bands

(ECC/DEC/(04)06)

Amended the Annex to the Decision 27 June 2008

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 subbands 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 subbands 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 subbands 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. 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. 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. This Decision covers the PMR/PAMR systems for which the compatibility and sharing studies are referenced in Annex to this Decision and which are using different channel bandwidths. It is intended that this Decision provides for the frequency availability according to the market demand additional to the frequency bands already made available for Digital Land Mobile PMR/PAMR.

In line with the development of 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. In response, industry has already developed a number of systems, including for example TETRA TAPS using 200 kHz channel bandwidth and CDMA─PAMR using 1.25 MHz channel bandwidth.

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 according to the market demand. 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. 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 beneficial to identify these frequency bands for Wide Band Digital Land Mobile PMR/PAMR according to market demand. Only the real indication of the 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.

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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 bands designated in this Decision on wide band systems have also been designated for narrow band systems according to ERC Decision (96)04 and ECC Decision (02)03;

c) that narrow band systems are widely used in CEPT;

d) that wide band digital systems can provide higher data rates than narrow band PMR/PAMR systems;

e) that availability of frequency bands for public land mobile networks (cellular systems) is not covered in this decision;

f) that PAMR operators aim to provide radio services to a large variety of closed user groups as opposed to Public Land Mobile Networks that are available to all subscribers;

g) that multilateral/bilateral agreements on frequency coordination in border areas can have an influence on the availability of radio spectrum;

h) that the duplex frequency band 870-876/915-921 MHz is also designated for defence systems in ERC Report 25 (revised version of 2004): "*The European table of frequency allocations and utilisations covering the frequency range 9 kHz to 275 GHz*";

i) that ECC Report 25 on the Strategic Plan for PMR/PAMR also provides definitions and descriptions of PMR and PAMR;

j) that bi- or multilateral arrangements may be necessary for the coordination of frequencies for Wide Band Digital Land Mobile PMR/PAMR;

k) that guard bands and frequency management constraints around the duplex transition frequencies, as mentioned in the ECC Reports listed in Annex, may require other mitigation techniques such as geographical distance, frequency separation and/or additional filtering;

l) that administrations have the right to decide which of the Wide Band Digital Land Mobile PMR/PAMR systems contained in the Annex to this Decision can be introduced in their national territories, with due respect to their international trade obligations and to European Community legislation as far as EU Member States are concerned;

m) 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;

n) 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 without prejudice to possible use of such frequency bands for other systems with similar performance capabilities;

o) that Europe-wide harmonised use of frequencies would ease the implementation of the Directive 1999/5/EC (the R&TTE Directive);

DECIDES

1. that this Decision covers Wide Band Digital Land Mobile PMR/PAMR systems using different channel bandwidths;

2. that the frequency requirements for Wide Band Digital Land Mobile PMR/PAMR systems referred to in the Annex to this Decision shall be met within the bands;
   a. 410-430 MHz and/or 450-470 MHz with 10 MHz duplex spacing between the transmit frequencies of mobile stations (410-420 MHz and 450-460 MHz) and the transmit frequencies of base stations (420-430 MHz and 460-470 MHz), and/or
   b. 870-876 MHz paired with 915-921 MHz with 45 MHz duplex spacing between the transmit frequencies of mobile stations (870-876 MHz) and the transmit frequencies of bases stations (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 additional systems can be added to the Annex to this Decision;

5. that possible further spectrum requirements and dates of availability should be considered once Wide Band Digital Land Mobile PMR/PAMR systems have been introduced and some experience has been gained on practical operational requirements;

6. that this Decision replaces previous ECC Decision (03)01;

7. that this Decision will enter into force on 19 March 2004;

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 web site (http://www.ero.dk) for the up to date position on the implementation of this and other ECC/ERC decisions.

ANNEX

List of wide band digital PMR/PAMR systems and related sharing and compatibility reports

TETRA TAPS and other equivalent 200 kHz systems

i. 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;

ii. 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;

iii. ECC Report 14 on "*Adjacent band compatibility of UIC[1] Direct Mode with TETRA Advanced Packet Data Service (TAPS)*" investigates adjacent band compatibility between TAPS and UIC DMO around 876 MHz;

iv. ECC Report 22 on "The technical impact of introducing TAPS on 12.5/25 kHz PMR/PAMR technologies in 380-400 MHz, 410-430 MHz and 450-470 MHz bands"

CDMA-PAMR and other equivalent 1.25 MHz systems

i. ECC Report 38 on "*Adjacent band compatibility of UIC[2] Direct Mode with CDMA-PAMR*" investigates adjacent band compatibility between CDMA-PAMR and UIC DMO around 876 MHz;

ii. ECC Report 39 on the "*Technical impact of introducing CDMA-PAMR on 12.5 /25 kHz PMR/PAMR technologies in the 410-430 and 450-470 MHz bands*" investigates adjacent band compatibility between CDMA-PAMR and narrow band PMR/PAMR in the 400 MHz bands;

iii. ECC Report 40 on "*Adjacent band compatibility between CDMA-PAMR mobile services at 870 MHz*" is concerned with adjacent band compatibility issues relating to CDMA-PAMR above 870 MHz and Short Range Devices below 870 MHz;

iv. ECC Report 41 on "*Adjacent band compatibility between GSM and CDMA-PAMR mobile services at 915 MHz*" is concerned with adjacent band compatibility issues relating to CDMA-PAMR and GSM at the frequency boundary at 915 MHz;

TETRA TEDS and other equivalent systems

i. ECC Report 99 on "*TETRA Enhanced Data Services (TEDS): Impact on existing PMR/PAMR and Air Ground Air (AGA) systems in the 400 MHz band*" (February 2007) provides information on the impact of TEDS on existing PMR/PAMR systems in the frequency range 380-470 MHz and on military radio applications below 400 MHz.

[1] UIC: "Union Internationale des Chemins de Fer" (the world wide association of railways)
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