



# ECC Decision (05)02

A harmonised frequency plan for the use of the band  
169.4-169.8125 MHz<sup>1</sup>

**Approved 18 March 2005**

**Amended 5 July 2019**

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<sup>1</sup> Comparable technical specifications to those given in this ECC Decision are given in the amended EC Decision 2006/771/EC on SRD. EU Member States and, if so approved by the EEA Joint Committee, Iceland, Liechtenstein and Norway are obliged to implement the EC Decision.

## 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 and follows modification proposals resulting from the work performed in the ECC under the 169 MHz Mandate to CEPT in 2011/2012 to undertake the necessary technical studies in support of a possible review of EC Decision 2005/928/EC as set out in CEPT Report 43 and the permanent SRD Mandate as set out in CEPT Report 44. This includes the reinforcement of the harmonisation approach for SRD, clarification of the categorisation of SRD in the 169.4-169.8125 MHz frequency range as well as backward compatible modification of the harmonisation conditions.

### 2 BACKGROUND

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 169.4-169.8125 MHz, and many applications have been proposed for this frequency band. Based on information from administrations and interested parties, as set out in CEPT Report 43, it has been agreed that the following existing and new applications should be implemented in this band:

- **Non-specific Short Range Devices**

This Decision includes the harmonisation of predictable and reliable sharing arrangements for all SRD sharing the 169.4-169.8125 MHz frequency range. This also includes applications such as tracing and asset tracking systems and social alarms operating in this frequency range and explicitly mentioned in previous versions of this ECC Decision. All limitations (duty cycle and application restrictions) to ensure a proper coexistence with existing users (e.g. assistive listening devices) while at the same time noting that some time limited interference in this frequency band occurs anyway due to the position of the 169 MHz frequency band inside of the PMR band from 146-174 MHz. The Non-specific SRD application category is restricted by a lower duty cycle of 1% and cannot have the same parameters as meter reading devices (500 mW, 10% duty cycle), as this would lead to severe interference problems.

- **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. Recent investigations have indicated that wireless metering devices may appear in very high deployment numbers in the market in the future. Estimates go up to about 25,000 devices per square kilometre in urban environments. It is therefore proposed to keep this category in the 169 MHz range for the existing regulation for meter reading where limited propagation attenuation exists compared with higher frequency ranges.

- **Assistive Listening Devices (ALDs) for hearing impaired people**

For alleviation of hearing impairment the traditionally employed ALDs 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 ALD systems acceptable for aids for hearing impaired people for this use:

- Personal ALD 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 ALD 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.

The reconsiderations performed in ECC under the 169 MHz Mandate to CEPT in 2011/2012 to undertake the necessary technical studies in support of a possible review of EC Decision 2005/928/EC are set out in CEPT Report 43. CEPT Report 43 came to the conclusion that there was the possibility to repeal the EC Decision 2005/928/EC and to include the regulations for the 169 MHz ALDs for hearing impaired people in the technical annex of the amended EC Decision for SRD (EC Decision 2006/771/EC). A proposal was made in CEPT Report 44 and this CEPT Report does not identify the necessity to distinguish between personal and public ALD systems as far as the spectrum co-existence with primary services is concerned, i.e. to restrict the radiated power of handheld equipment. Due to battery life considerations and multiple channel use, it is seen unlikely that such personal ALD applications would use power levels up to 500 mW e.r.p.

Prior to this Decision, 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. Since ALDs are used nearly always during the day or evening at locations such as schools or theatres, day/night sharing is considered possible in this case. This allows in the frequency range 169.4875-169.5875 MHz a higher duty cycle during the night for non-specific SRD applications. Night in this context is understood to be from 0h to 6h local time when ALD are hardly ever in use. For enforcement reasons, it is important that such duty cycle mechanisms must be automatic and not subject to manual use, disabling or altering.

This amendment follows modification proposals resulting from the work performed in the ECC under the 169 MHz Mandate to CEPT in 2011/2012 to undertake the necessary technical studies in support of a possible review of EC Decision 2005/928/EC as set out in CEPT Report 43 and the permanent SRD Mandate as set out in CEPT Report 44. This includes the reinforcement of the harmonisation approach for SRD, clarification of the categorisation of SRD in the 169.4-169.8125 MHz frequency range as well as backward compatible modification of the harmonisation conditions.

### **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 amended ECC Decision.

**ECC DECISION OF 18 MARCH 2005 ON A HARMONISED FREQUENCY PLAN FOR THE USE OF THE BAND 169.4-169.8125 MHZ, AMENDED 8 NOVEMBER 2013, UPDATED 17 NOVEMBER 2017 AND AMENDED 05 JULY 2019**

“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 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;
- c) that existing paging systems cannot be re-allocated due to great technical problems or heavy cost implications;
- d) that new paging systems in particular could preferentially use PMR/PAMR bands as identified in ERC Report 25;
- e) 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 55;
- f) that the designation of spectrum to non-specific SRD or specific types of SRD applications should be done on a technological and application neutral basis as far as possible;
- g) 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;
- h) that the frequency band 169.4-169.8125 MHz was reviewed in 2011/2012 under the EC Mandates to CEPT to undertake the necessary technical studies in support of a possible review of EC Decision 2005/928/EC as set out in CEPT Report 43 and the permanent SRD Mandate as set out in CEPT Report 44;
- i) that the Decision 2005/928/EC was repealed during the 5<sup>th</sup> update of the Decision 2006/771/EC (by Decision 2013/752/EU) in accordance with CEPT Reports 43 and 44 and technical parameters for short-range devices in the 169 MHz band were incorporated in the technical Annex to Decision 2006/771/EC on SRD;
- j) that ETSI has published the Harmonised European Standards EN 300 220 (parts 2 and 4), EN 303 406 and EN 300 422-4;
- k) that in EU/EFTA countries the radio equipment that is under the scope of this Decision shall comply with the Radio Equipment Directive (2014/53/EU). Conformity with the essential requirements of the 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 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 spectrum for non-specific SRD, meter reading and assistive listening device for hearing impaired people applications in accordance with the frequency plan for the use of the band 169.4-169.8125 MHz shown in the Annex to this Decision;
3. that existing paging systems and PMR systems in the band 169.4-169.8125 MHz are not included within the frequency plan in the Annex, but may be allowed to remain in operation as long as required or as long as the licences for these services are valid;
4. that this Decision enters into force on 8 November 2013;
5. that the preferred date for implementation of this Decision shall be 8 May 2014;
6. that CEPT administrations shall communicate the national measures implementing this Decision to the ECC Chairman and the Office when this ECC Decision is nationally implemented.”

*Note:*

Please check the Office documentation database <https://www.ecodocdb.dk> for the up to date position on the implementation of this and other ECC Decisions.

**ANNEX 1: FREQUENCY PLAN FOR THE 169.4-169.8125 MHz BAND**

Type of Short Range Device	Frequency Band	Maximum e.r.p.	Additional Requirements
Non-specific short-range devices	169.400-169.475 MHz	500 mW e.r.p.	Channel spacing: max 50 kHz Duty cycle limit: 1.0% (note 1)
Assistive Listening Devices (ALD) for hearing impaired people	169.400-169.475 MHz	500 mW e.r.p.	Channel spacing: max 50 kHz
Meter Reading	169.400-169.475 MHz	500 mW e.r.p.	Channel spacing: max 50 kHz Duty cycle limit: 10.0% (note 1)
Non-specific short-range devices	169.400-169.4875 MHz	10 mW e.r.p.	Duty cycle limit: 0.1% (note 1)
Non-specific short-range devices	169.4875-169.5875 MHz	10 mW e.r.p.	Duty cycle limit: 0.001%; a duty cycle limit of 0.1% can be used between 00:00h to 06:00h local time (note 1)
Assistive Listening Devices (ALD) for hearing impaired people	169.4875-169.5875 MHz	500 mW e.r.p.	Channel spacing: max 50 kHz
Non-specific short-range devices	169.5875-169.8125 MHz	10 mW e.r.p.	Duty cycle limit: 0.1% (note 1)

Note 1: Duty cycle controls (hardware or software) related to the duty cycle requirements shall not be accessible to the user. The duty cycle shall not be capable of being disabled or altered and shall be implemented as an automatic feature in the equipment.