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|  | | | **FM PT50, 1st meeting** | | | | **FM50(11)008** |
| **27 – 29 July 2011, Copenhagen, Denmark** | | | | | | | |
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| **Summary**  This document provides background information on the L-band study to determine the most appropriate use of this band in CEPT, including the regulatory framework in the L-band and the recent evolution of this framework, description of the current use within CEPT, current regulation and use outside CEPT. This document provides also a description of the issue under study. |
| **Proposal**  It is proposed to include the text provided thereafter in the Section 1 (Description of the context of the study) of the outline of the ECC Report on L-band as proposed in document FM50(11)005 (subject to the endorsement of this outline by the project team). |
| **Background**  The FM 50 has been tasked to develop an ECC Report on the study aiming at determining the most appropriate use of the L-band for CEPT. |

Proposal for inclusion in the draft ECC Report:

**1. Description of the context of the study**

* 1. **Background information on the L band**

**1.1.1 Evolution of the regulation up to the current one within CEPT**

The ITU Radio Regulations allocate the band 1452 – 1492 MHz to the Fixed, Mobile, Broadcasting and Broadcasting Satellite Service on a co-primary basis in all Regions with the exception of the mobile aeronautical service in Region 1. Several footnotes apply to the band. The extract from Article 5 of the Radio Regulations is given in Annex I.

The use of the band 1452 - 1492 MHz by the broadcasting satellite service, and by the broadcasting service, is limited to digital audio broadcasting. The band is subject to the provisions of Resolution 528 (WARC-92).

In some European countries, the use of the 1452 - 1492 MHz band is subject to footnote No. 5.342 related to the use by aeronautical mobile service on a primary basis exclusively for the purposes of aeronautical telemetry within the national territory.

In CEPT, the Maastricht Special Arrangement, 2002, as revised in Constanţa in 2007 MA02revCO07 Special Arrangement provides the technical and regulatory framework and the associated frequency plan for the introduction of terrestrial digital audio broadcasting (T-DAB) services in the frequency band 1452 - 1479.5 MHz. The MA02revCO07agreement as revised in Constanta in 2007 provides also flexibility to administrations to deploy terrestrial mobile multimedia in this band at a national basis. The ECC Decision ECC/DEC/(03)02 designates the frequency band 1479.5 - 1492 MHz for use by satellite DAB systems. This Decision shall be reviewed inter alia on the basis of market demand at least every 10 years according to Decides 2 of ECC Decision (03)02.

1.1.2 Description of the current use within CEPT

In most European countries, the 1452-1492 MHz band is currently identified for the use by terrestrial and satellite digital audio broadcasting (T-DAB and S-DAB) applications. None of these have actually grown in the band as it has been shown by the Radio Spectrum Policy Group survey and Report on the future of digital audio broadcasting[[1]](#footnote-1).

There are some other systems in operation in few countries. In nine countries, the band is currently used by applications operated in services different from audio broadcasting: Fixed Service (6 countries), Mobile Service (3 countries), Ground and Wall probing Radar (1 country), Radio Astronomy (1 country), Aeronautical Mobile Service (aeronautical telemetry) (1 country). These uses are generally limited to sub-parts only of the 1452-1492 MHz band. Some of the countries indicated in their response to the ECC survey[[2]](#footnote-2) carried out in the late 2010 – early 2011 on the future use of the 1452-1492 MHz band that those mentioned different uses will continue until an already fixed date (1 country) or once digital radio will be implemented (2 countries) or until the band is used by multimedia services (1 country).

1.1.3 Current regulation and use outside CEPT

Many countries globally have aligned their plans on Europe by allocating the L-band to DAB services. As in Europe, there are currently no commercial terrestrial or satellite DAB services and the band remains largely unused. A number of countries have therefore been investigating the future use of the L-band. As examples:

* In Canada, Industry Canada’s ‘*Consultation on the Spectrum Allocations and Spectrum Utilization Policies for the Frequency Range 1435-1525 MHz (L-Band)*’ (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09751.html>) considered that “with the convergence of fixed, broadcasting and mobile services over digital wireless platforms, a regulatory approach promoting flexible use of spectrum is increasingly important […]. Several countries that initially considered the band 1452-1492 MHz for DAB services have recently begun to re-farm the spectrum for a range of broadcasting and multimedia applications within the international regulations and allocations […]. The prospect of a wide range of services in the band 1452-1492 MHz being allowed by industrialized countries in Europe and elsewhere further underlines the risk for Canada of pursuing only the conventional DAB service in this band. Consequently, the current allotment plan developed for the DAB implementation may not be appropriate given the new technologies that could be deployed in this band. Broadband wireless technologies, which support multimedia applications, are developed based on a 5 MHz channel width”. The department proposed to “adopt a spectrum utilization policy allowing for flexible use of the spectrum to support a variety of services and technologies for subscription broadcasting, multimedia, fixed and mobile broadband applications.” […] to streamline the Canadian frequency allocations in the band 1452-1492 MHz and to give full flexibility and priority to terrestrial services [… and] to elevate the status of mobile service to co-primary with broadcasting and fixed services in the band 1452-1492 MHz”.
* In Africa, CRASA, which groups together the 14 Southern African Development Community (SADC) countries, highlighted in its latest *Frequency Allocation Plan (FAP)* ([www.crasa.org/download.php?doc=doc\_pub\_eng64.pdf](http://www.crasa.org/download.php?doc=doc_pub_eng64.pdf)), itsframework for the harmonisation across SADC on the use of the radio frequency spectrum, that: “T-DAB in the 1452-1492 MHz to be reconsidered: whereas this band was used for testing of T-DAB it was felt by the majority that this allocation is no longer required. The use of this band in the future should be further investigated and clarified.”
  1. Description of the issue under study

1.2.1 Initial proposal

Following an input to Working Group FM in September 2010 proposing to harmonise the 1452-1469.5 MHz band for mobile multimedia downlink, Working Group FM[[3]](#footnote-3) concluded that *FM PT45 should:*

* *identify the existing primary users of the band which fall within the Special Arrangement (MA02revCO07);*
* *consider implications of the proposal on the current regulation;*
* *consider the value of taking a service and technology neutral harmonised approach in the band;*
* *report at the next WG FM meeting with conclusions on the above actions.*

1.2.2 Extension of the scope of the initial proposal

In November 2010, WG FM reported to the ECC on the work it intends to carry out on the L-band. The ECC[[4]](#footnote-4) decided to extend the scope of the initial proposal to cover the whole band 1452-1492 MHz and tasked WG FM to prepare a generic inventory of candidate applications for the 1452-1492 MHz band. The considerations on the possible implications on the current regulatory agreements (Maastricht Agreement and ECC/DEC(03)02) were postponed to the end of that action.

WG FM, through its Project Team FM 45, prepared a questionnaire on the generic inventory of candidate applications for the 1452–1492 MHz band and carried out a survey. Many responses were received from administrations and from the industry. The results of this survey[[5]](#footnote-5) were reviewed by WG FM in February 2011, and WG FM proposed[[6]](#footnote-6) to the ECC that a new project team under WGFM be established to carry the work on the future use and harmonisation of the L-band.

In March 11, the ECC endorsed the proposal elaborated by WG FM. As a consequence, WG FM established in May 11 the Project Team 50 on the future use of the 1452-1492 MHz band with the aim to determine which future use(s) of the 1452-1492 MHz band would be the most appropriate for CEPT and, if necessary, which associated regulatory framework may need to be developed[[7]](#footnote-7).

1.2.3 Identification and description of the issue and objective of the study

The L-band (1452-1492 MHz) is currently allocated for use by terrestrial and satellite digital audio broadcasting (DAB) services in most European countries. None of these services have developed commercially in the band and the spectrum remains today unused in most countries. The L-band has a considerable harmonisation potential across CEPT.

The objective of the study is to identify which future use(s) of the 1452-1492 MHz band would be the most appropriate for CEPT and, if necessary, which associated regulatory framework may need to be developed.

This should be done through various steps:

- identification of objective and relevant criteria to assess the impact(s) of an implementation; - assessment of the relevant candidate applications according to approved criteria;

- identification whether further regulatory measures may be required to accommodate candidate applications, including the development of the least restrictive technical conditions for the application(s) retained, if appropriate.

**ANNEX I**

**Extract of the Radio Regulations Article 5 for 1452-1492 MHz**

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| Allocation to services | | | |
| Region 1 | Region 2 | | Region 3 |
| 1 452-1 492  FIXED  MOBILE except aeronautical mobile  BROADCASTING 5.345  BROADCASTING-SATELLITE 5.208B 5.345  5.341 5.342 | | 1 452-1 492  FIXED  MOBILE 5.343  BROADCASTING 5.345  BROADCASTING-SATELLITE 5.208B 5.345  5.341 5.344 | |

5.208B**[[8]](#footnote-8)\*** In the bands:

137-138 MHz,  
 387-390 MHz,  
 400.15-401 MHz,  
 1 452-1 492 MHz,  
 1 525-1 610 MHz,  
 1 613.8-1 626.5 MHz,  
 2 655-2 690 MHz,  
 21.4-22 GHz,

Resolution **739** **(Rev.WRC-07)** applies.     (WRC-07)

5.341 In the bands 1 400-1 727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.

5.342 *Additional allocation:*in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Uzbekistan, Kyrgystan and Ukraine, the band 1 429-1 535 MHz is also allocated to the aeronautical mobile service on a primary basis exclusively for the purposes of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the band 1 452-1 492 MHz is subject to agreement between the administrations concerned. (WRC‑2000)

5.343 In Region 2, the use of the band 1 435-1 535 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.

5.344 *Alternative allocation:*in the United States, the band 1 452-1 525 MHz is allocated to the fixed and mobile services on a primary basis (see also No. **5.343**).

5.345 Use of the band 1 452-1 492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (WARC‑92)**.

1. http://rspg.groups.eu.int/consultations/consultation\_futradio/rspg10\_349\_annex.pdf [↑](#footnote-ref-1)
2. See FM(11)038 Rev2. [↑](#footnote-ref-2)
3. FM(10)140, Minutes of the 70th WG FM Meeting [↑](#footnote-ref-3)
4. ECC(10)098, Minutes of the 27th ECC Meeting [↑](#footnote-ref-4)
5. FM(11)062 Annex 18 [↑](#footnote-ref-5)
6. FM(11)062, Minutes of the 71st WG FM Meeting [↑](#footnote-ref-6)
7. <http://www.cept.org/ecc/groups/ecc/wg-fm/fm-50/page/terms-of-reference> [↑](#footnote-ref-7)
8. \* This provision was previously numbered as No. **5.347A**. It was renumbered to preserve the sequential order. [↑](#footnote-ref-8)