



INSTITUT LUXEMBOURGEOIS  
DE RÉGULATION



# Agreement

## Between the administrations of France and Luxembourg

Concerning the frequency coordination of  
Terrestrial Digital Audio Broadcasting (T-DAB)

In the frequency band 174-230 MHz

(VHF Broadcasting Band III)

By correspondence, December 2024

## 1. Introduction

The purpose of this bilateral Agreement between the administrations of France and Luxembourg (*hereinafter referred to as "the Agreement"*) is to deal with the frequency plan on the band 174-230 MHz (also known as "Band III") mainly used for terrestrial digital audio broadcasting.

The administrations of France and Luxembourg (*hereinafter referred together as "the Administrations"*) have worked together to arrange an optimization of the GE06 Plan which allows them to implement networks according to their up-to-date broadcasting requirements.

## 2. Frequency allocation and usage of Band III (174-230 MHz)

### 2.1. France

France has allocated blocks 5A to 12A (174-224.8 MHz) primarily to terrestrial radio broadcasting using the T-DAB standard. A secondary allocation of this sub band is furthermore dedicated to land mobile services and more specifically to PMSE (*Programme Making and Special Events*) usages.

Upper part of VHF Band III (i.e. blocks 12B, 12C and 12D, from 224.8 to 230 MHz) is nationally and exclusively assigned to military services.

### 2.2. Luxembourg

Luxembourg has allocated blocks 5D, 7A, 7B, 7C, 7D and 12C primarily to terrestrial radio broadcasting using the T-DAB standard.

The blocks 5A to 11A (174 – 216 MHz) is also allocated to PMSE in Luxembourg.

## 3. Buffer Zones

In order to simplify frequency coordination, reduce associated efforts as well as planning dependencies, the Administrations agreed on Buffer Zones in France and Luxembourg.

The shape of the Buffer Zone in France was defined by the area in which co-block compatibility issues between both Administrations are considered as likely to occur and within a distance of 170km from the border with Luxembourg. In this zone, individual transmitters or single frequency networks (SFN) can potentially generate harmful interference field strengths at the neighbouring country under realistic conditions.

The shape of the Buffer Zone in Luxembourg was defined by the whole country.

The Buffer Zones are pictured descriptively in **Annex 1**.

Those agreed are introduced hereafter in **section 4**.

Coordination rules applying inside and outside this Buffer Zone are detailed hereafter in **section 5**.

## 4. Assignment and allotment plans

### 4.1. Allotments

France and Luxembourg have shared the allotments for co-channel block within the Buffer Zone as described in **Annex 2**.

These allotments serve the purpose to describe the geographical area which is covered by the corresponding assignments and require protection.

### 4.2. Assignments

France and Luxembourg agree on the assignments within the Buffer Zone as described in **Annex 3**.

The reference network shared by France and Luxembourg cover all T-DAB assignment within the buffer zone.

## 5. Coordination rules

The threshold methodology and the conditions described in the "Agreement on supplementary conditions to be observed at the stage of implementation of allotments contained in the digital plan of the GE06 Agreement as of 16<sup>th</sup> June 2006" are still in force.

However, both Administrations agree that:

- The field strength prediction model to be used to calculate the cumulative interfering field strength is Fresnel-Deygout (which is identified in the ITU-R P.526) with a resolution of 100 m.
- For the VHF Band III, only T-DAB services are to be considered.
- Allotments or assignments outside the Buffer Zone are not taken into account in the threshold methodology.

### 5.1. Allotments

Allotments that are partially or totally inside the Buffer Zone must preliminary be coordinated with the other administration prior to any recording in the GE06 Plan.

Consent of the other administration is not required for allotments completely outside the boundaries of the Buffer Zone.

Allotments where no consent of the other administration is required are regarded as agreed and can be submitted straightaway to the GE06 Plan.

### 5.2. Assignments

Co-channel assignments located inside the Buffer Zone must preliminary be coordinated with the other administration prior to any official roll-out and/or recording in the GE06 Plan, except assignments:

- for which no consent is required according to the suitable ITU rules (GE06 coordination trigger field-strength of 12 dB $\mu$ V/m – ITU-R P.1546), or
- defined in **Annex 3**, or
- in conformity with the assignments of **Annex 3**, as per the methodology defined in Section II of Annex 4 to the GE06 Final Acts "Examination of conformity with the digital Plan entry", or
- of the other blocks 5A, 5B, 5C, 6A, 6B, 6C, 6D, 8A, 8B, 8C, 8D, 9A, 9B, 9C, 9D, 10A, 10B, 10C, 10D, 11A, 11B, 11C, 11D, 12A 12B and 12D allocated with allotments defined in **section 4.1**, if the ERP of the assignments is equal or below 20 kW (43 dBW) .

Assignments located outside the Buffer Zone must preliminary be coordinated with the other administration prior to any official roll-out and/or recording in the GE06 Plan, except assignments:

- for which an ERP equal or below 20kW (43 dBW)
- for which no consent is required according to the suitable ITU rules (GE06 coordination trigger field-strength of 12 dB $\mu$ V/m – ITU-R P.1546), or
- for those already finally coordinated

Assignments where no consent of the other administration is required are regarded as agreed and can be submitted straightaway to the GE06 Plan.<sup>1</sup>

## 6. Alignment with former agreements

The “Agreement on supplementary conditions to be observed at the stage of implementation of allotments contained in the digital plan of the GE06 Agreement as of 16th June 2006” between France and Luxembourg in the frequency band 174 to 230 MHz remains in force for the coordination of the bloc 12C.

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<sup>1</sup> The administration proposing to modify the Plans can indicate thus to the BR the agreement of the other administration according to Article 4.1.2.5 of GE06

## 7. Revision or withdrawal of the Agreement

The Agreement may be reviewed upon request of one of the Administration when such amendment becomes necessary due to administrative, regulatory or technical changes.

With the consent of the other Administration, this Agreement may be modified at the request of one of the signatory Administration.

An Administration cannot withdraw unilaterally from this Agreement.

## 8. Entry into force

This Agreement will enter into force with the signature of both Administrations.

On the behalf of the Administration of  
France (ANFR)  
Keite DYVRANDE



.....  
Date: 01/08/2025

On the behalf of the Administration of  
Luxembourg (ILR)  
Claude Rischette

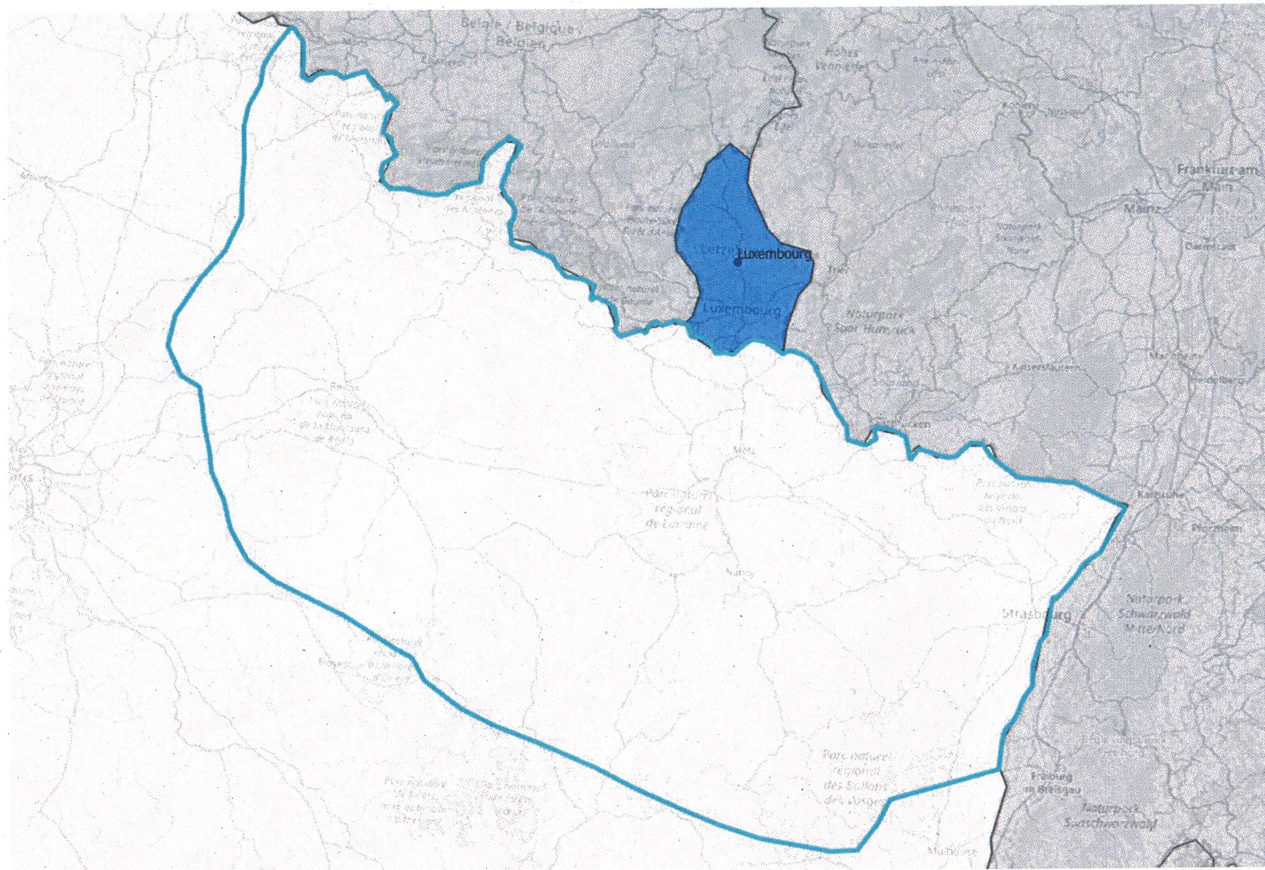


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Date: 17.01.2025



# Annex 1 – Detail and map of the Buffer Zones

In this agreement, the Buffer Zones are defined as follow:

- In France, the area is represented with a polygon in a cyan color
- In Luxembourg, the area is represented by the whole country in blue




The Buffer Zone can be displayed on Google Earth via the following kml file:

Buffer Zone identified in France	Buffer Zone identified in Luxembourg
 France_Buffer_Zone_VHF_Band_III.kml	 Luxembourg_Buffer_Zone_VHF_Band_III

## Annex 2 – Allotment Plan

This annex contains the different allotments for co-blocks within the coordination area.



France and Luxembourg agree on the following allotments within the Buffer Zone:

	France	Luxembourg
File name	GE06 allotment rights within the Buffer Zone	whole country
Date of exchange		
Embedded ITU file	 Allotissements_GE06_blocs_communs_Franc	

The following file illustrates the frequency distribution within the Buffer Zone by block maps:

## Annex 3 – Assignment Plan

France and Luxembourg agree on the following assignments within the Buffer Zone:

	France	Luxembourg
File name	France_reference_network_within_BZ	Luxembourg_DAB_reference_Network
Date of exchange	26/06/2024	9/02/2024
Embedded ITU file	 Réseau Ref F buffer zone_rev1.txt	 Nouvelles données DAB LUX Mod 12C F

## Annex 4 – Compatibility assessment methodology

Compatibility of co-block assignments was assessed using threshold methodology and C/I methodology. Only assignments inside the Buffer Zone are considered for SFN-calculations.

### Threshold methodology

The threshold methodology is described in the “Agreement on supplementary conditions to be observed at the stage of implementation of allotments contained in the digital plan of the GE06 Agreement as of 16<sup>th</sup> June 2006” between France and Luxembourg in the frequency band 174 to 230 MHz.

### C/I methodology

Through the negotiation process and for the purpose of this agreement, both administrations agreed on the following common methodology based on a C/I criterion for interference assessments between DAB co-block relations:

- Calculations are carried out by both administrations using appropriate radio simulations software.
- Digital terrain model for the calculations was originally defined at a resolution step of 100m.
- Field strength calculations are defined using deterministic propagation model with diffraction method compliant Fresnel Deygout (with ITU-R P.526 recommendation).
- Portable indoor reception is sought. Following settings for calculations stemming from RRC-06 Final Acts are thus considered:
  - Wanted Field Strength threshold: 66 dB $\mu$ V/m (RPC5)
  - Protection ratio: 15 dB
  - Location probability: 95% (RPC5)
  - Distribution factor for 95% location:  $\mu = 1,645$
  - Standard deviation building entry loss:  $\sigma_b = 3$  dB
  - Standard deviation macro-scale:  $\sigma_m = 5,5$  dB
  - Combined factor:  $\sigma_c = \sqrt{\sigma_b^2 + \sigma_m^2} = 6,265$  dB

On C/I analysis, wanted network to protect is considered with “steady” propagation characteristics, interfering network with “tropospheric” propagation characteristics. The related equivalent earth radius factor (k) is respectively set to 4/3 and 2.5.