



Agreement Between the administrations of France and Germany

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

In the frequency band 174-230 MHz
(VHF Broadcasting Band III)

Copenhagen, 10th May 2023

1. Introduction

The purpose of this bilateral Agreement between the administrations of France and Germany (*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 Germany (*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.

This Agreement is the result of numerous meetings conducted in a cooperative spirit in order to define an acceptable solution for each country. The used compatibility assessment methodology is described in **Annex 4**.

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 the mobile service.

2.2. Germany

Germany has allocated blocks 5A to 12D (174-230 MHz) primarily to terrestrial radio broadcasting using the T-DAB standard. A secondary allocation of this band is furthermore dedicated to mobile services for PMSE/wireless microphones and ALDs (*Assistive listening device*).

3. Coordination Zone

In order to simplify frequency coordination, reduce associated efforts as well as planning dependencies, the Administrations agreed on a Coordination Zone (also known as "Buffer Zone").

The shape of the Coordination Zone was defined by the area in which co-block compatibility issues between both Administrations are considered as likely to occur. 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 Coordination Zone is pictured descriptively in **Annex 1**.

Allotments and assignments rolled-out and/or planned within this area were thus the prime subject of discussions during the negotiation process leading to this Agreement.

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

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

4. Assignment and allotment plans

4.1. Allotments

France and Germany agree on the allotments within the Coordination 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 Germany agree on the assignments within the Coordination Zone as described in **Annex 3**.

For allotments defined in **section 4.1** and detailed in **Annex 2** allocated assignments were defined that meet coverage requirements of the corresponding allotment contour and build the reference network for the related SFN layer. For the exclusive blocks 5C, 6B, 7D, 9B, 10A, 10B, 10C, 11A, 12B and 12C, no reference network is required.

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 16th 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 ITU-R P.526 or IRT2D Version 2007 with a resolution of 100 m.
- For the VHF Band III, only T-DAB services are to be considered, DVB-T is no longer foreseen as interfering or affected service.
- Allotments or parts of allotments outside the Coordination Zone are not taken into account in the threshold methodology.
- Assignments outside the Coordination Zone are not taken into account for SFN-calculations.

5.1. Allotments

Allotments that are partially or totally inside the Coordination 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 Coordination 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

Assignments located inside the Coordination 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 μ 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

- for exclusive blocks 5C, 6B, 7D, 9B, 10A, 10B, 10C, 11A, 12B and 12C allocated with allotments defined in **section 4.1** and with an ERP equal or below 10 kW (40 dBW).

Assignments located outside the Coordination 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 μ V/m – ITU-R P.1546), or
- which are already finally coordinated, or
- with an ERP equal or below 10 kW (40 dBW) for blocks 5A to 12C or
- with an ERP equal or below 1 kW (30 dBW) for block 12D.

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

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 Germany in the frequency band 174 to 230 MHz remains in force.

The “Agreement between France, Germany and Switzerland of the 5th of December 2011” is no longer applicable between France and Germany as relevant parts have been included in this one. Unless otherwise agreed by the affected administrations, it will stay applicable between Germany and Switzerland as well as between France and Switzerland.

7. Update of the GE06 Plan

With respect to the assignments and allotments recorded in the GE06 Plan and in effect at the date of the signature, following rules should apply:

Both administrations agree to modify, add or delete their entries in the GE06 Plan according to this Agreement and its associated annexes in accordance with procedures in Article 4 of the GE06 Agreement. This means that all rights (GE06 plan entries or coordinated) which are not in line with this Agreement will be replaced by the new plan.

The formal deletion shall be done no later than a year following the successful recording of the new allotments. The timeframes result from reaching agreements with other affected neighbouring countries and the GE06 plan modification procedures. Therefore, the deletion can only take place when the new allotments have been successfully registered.

¹ 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

8. 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.

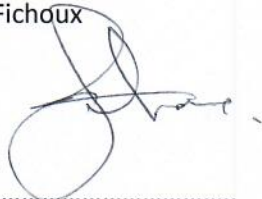
9. Entry into force

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

On the behalf of the Administration of
France (ANFR)
Pierre Fichoux

10/03/23

Date

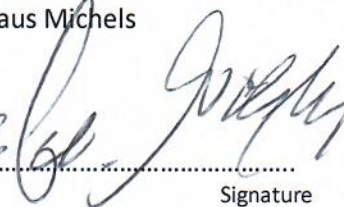


Signature

On the behalf of the Administration of
Germany (BNETZA)
By direction
Klaus Michels

10/31/23

Date



Signature

Annex 1 – Detail and map of the Coordination Zone

The Coordination Zone defined in this Agreement is the area, on a light grey ground in the map opposite, composed of:

On French side:

- The departments : Ardennes, Bas-Rhin, Doubs, Haut-Rhin, Haute-Saône, Meurthe-et-Moselle, Meuse, Moselle, Territoire-de-Belfort, Vosges.

On German side:

- The whole state (Land) of Saarland
- The state of Rheinland-Pfalz except the northernmost districts (Landkreise) of Ahrweiler, Neuwied, Altenkirchen and Westerwald
- Within the state of Baden-Württemberg:
 - The administrative regions (Regierungsbezirke) of Karlsruhe, Stuttgart and Freiburg, except the districts of Main-Tauber and Konstanz.
 - Within the administrative region of Tübingen the districts of Tübingen, Reutlingen and Zollernalb.
- Within the state of Hessen:
 - The whole administrative region of Darmstadt
 - The districts of Vogelsbergkreis and Limburg-Weilburg
- Within the state of Bayern, in the administrative region of Unterfranken the districts of Aschaffenburg and Miltenberg
 - Within the state of Nordrhein-Westfalen, the district of Euskirchen

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





F-D VHF Coordination Zone.kml



Annex 2 – Allotment Plan

This annex contains the different allotments for each of the 32 blocks on Band III from 174 to 230 MHz.

France and Germany agree on the following allotments within the Coordination Zone:

	France	Germany
File name	allotments_F_2023-04-21.txt	allotments_D_2023-04-27.txt
Date of exchange	27/04/2023	27/04/2023
Embedded ITU file	 allotments_F_2023-04-21.txt	 allotments_D_2023-04-27.txt



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



Blocks map.pdf

Annex 3 – Assignment Plan

France and Germany agree on the following assignments within the Coordination Zone:

	France	Germany
File name	assignments_F_2023-02-13.txt	assignments_D_2023-04-21.txt
Date of exchange	27/04/2023	27/04/2023
Embedded ITU file	 assignments_F_2023-02-13.txt	 assignments_D_2023-04-21.txt

Annex 4 – Compatibility assessment methodology

Compatibility of co-block assignments was assessed using threshold methodology and C/I methodology. Only assignments inside the Coordination 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 16th June 2006” between France and Germany 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 25m and downsampled to 200 m.
- Field strength calculations are defined using deterministic propagation model with diffraction method compliant with ITU-R P.526-9 recommendation.
- All values related to the altitude of the transmitter are determined by the DTM used and not extracted from the SGML notice file.
- Portable indoor reception is sought. Following settings for calculations stemming from RRC-06 Final Acts are thus considered:
 - Wanted Field Strength threshold: 66 dB μ 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.