

**MEMORANDUM OF UNDERSTANDING ON
FREQUENCY CO-ORDINATION BETWEEN
FRANCE
AND
THE UNITED KINGDOM
IN THE FREQUENCY BANDS
1900 - 1980 MHz, 2010 - 2025 MHz
AND 2110 -2170 MHz**

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1. INTRODUCTION

- 1.1. This Memorandum of Understanding (MoU) describes the procedures for the coordination of radio services between France and the United Kingdom (UK) in the frequency band 1900 - 1980 MHz, 2010 - 2025 MHz and 2110 - 2170 MHz.
- 1.2. The frequency bands 1900 - 1980 MHz, 2010 - 2025 MHz and 2110 - 2170 MHz are designated for terrestrial IMT-2000/UMTS according to ECC/DEC/(06)011
- 1.3. The Administration of France has licensed 4 network operators to operate UMTS/IMT-2000 in France and the Administration of the United Kingdom has licensed 5 network operators to operate UMTS/IMT-2000 in the United Kingdom.
- 1.4. In order to facilitate the deployment of systems operating in neighbouring countries, it is necessary to establish, by agreement, regulatory and technical procedures for frequency co-ordination. Moreover, this agreement is designed to reduce the administrative procedures in the frequency bands in the countries concerned.
- 1.5. This MoU does not apply to the Channel Islands.
- 1.6. This MoU does not apply to the Channel Tunnel.
- 1.7. Accordingly, the Administrations of the UK and France have agreed the co-ordination procedures in this MoU.
- 1.8. The co-ordination procedure is based on the principle of equitable access to the spectrum resource.
- 1.9. Ofcom is the Administration of the United Kingdom responsible for all relations with France concerning this MoU.
- 1.10. The Agence Nationale des Fréquences (ANFR) is the Administration of France responsible for all relations with the UK concerning this MoU.
- 1.11. This MoU is based on the principles for coordination given in ECC Recommendation 01-01², revised at Dublin 2003 and Helsinki 2007
- 1.12. This MoU abrogates the previous MOU for frequency concluded between France and the United Kingdom on co-ordination in the 1900 - 1980 MHz, 2010 - 2025 MHz and 2110 -2170 MHz frequency bands, done at Maisons-Alfort on 8th January 2003.



¹ ECC Decision of 24 March 2006 on the harmonised utilisation of spectrum for terrestrial IMT-2000/UMTS systems operating within the bands 1900 - 1980 MHz, 2010 - 2025 MHz and 2110 - 2170 MHz (ECC/DEC/(06)01)

² Electronic Communications Committee (ECC), ERC Recommendation 01-01 (revised Dublin 2003, Helsinki 2007), Border Coordination of UMTS

2. COMMITMENT OF THE ADMINISTRATIONS

- 2.1. The Administration of France and the UK are committed to ensuring that the radio-communication stations operating in the bands 1900 - 1980 MHz, 2010 - 2025 MHz and 2110 - 2170 MHz, respect the limits for establishment of base stations without co-ordination given at section 3, unless the stations are specifically exempt from the coordination procedure in accordance with paragraph 4.

3. CRITERIA FOR COORDINATION

- 3.1. Frequencies for UMTS FDD systems using preferential codes with centre frequencies aligned, or where centre frequencies are not aligned, or not using a IMT-2000/UMTS radio interface³ may be used without coordination with a neighbouring country if the predicted mean field strength of each carrier produced by the base station does not exceed a value of 37 dB μ V/m/5MHz at a height of 3 m above ground at a distance of 6 km inside the neighbouring country (measured from the coastline of the neighbour country) and a value of 65 dB μ V/m/5MHz at a height of 3 m above ground at the coastline of the neighbour country.

- 3.2. Frequencies used at the border for UMTS FDD systems using non preferential codes with centre frequencies aligned may be used without coordination with a neighbouring country if the predicted mean field strength of each carrier produced by the base station does not exceed a value of 37 dB μ V/m/5MHz at a height of 3 m above ground at and beyond the coastline of the neighbour country .

3.3. Preferential codes for FDD

For the FDD mode; 3GPP TS 25.213 defines 64 “ scrambling code groups “ in par 5.2.3, numbered {0 to 63}, called “ code groups “

	Code Groups					
	Set A	Set B	Set C	Set D	Set E	Set F
	0 - 10	11 - 20	21 - 31	32 - 42	43 - 52	53 - 63
Preferential Administration	France	UK	UK	UK	France	France
Non Preferential Administration	UK	France	France	France	UK	UK

- 3.4. UMTS TDD systems using preferential codes with centre frequencies aligned, or where centre frequencies are not aligned, may be used without coordination with a neighbouring country if the predicted mean field strength of each carrier produced by the base station does not exceed a value of 37 dB μ V/m/5MHz at a height of 3 m above ground at and beyond the coastline of the neighbour country.

³ Here it is assumed that the non-IMT-2000 air interface is broadband, in approximately 5 MHz

- 3.5. UMTS TDD systems using non preferential codes and with centre frequencies aligned may be used without coordination with a neighbouring country if the predicted mean field strength of each carrier produced by the base station does not exceed a value of 21 dB μ V/m/5MHz at a height of 3 m above ground at and beyond the coastline of the neighbour country
- 3.6. In the case of non continuous transmission the interference power shall be the power, during the active part of the signal, in the stated bandwidth.
- 3.7. Preferential codes for TDD

For the TDD mode, 3GPP TS 25.223 defines 32 "scrambling code groups" in par 7.3, numbered {0 to 31}.

	Code Groups					
	Set A	Set B	Set C	Set D	Set E	Set F
	0 - 4	5 - 10	11 - 15	16 - 20	21 - 26	27 - 31
Preferential Administration	France	UK	UK	UK	France	France
Non Preferential Administration	UK	France	France	France	UK	UK

- 3.8. All codes are available in areas away from the border where the field strengths into the neighbouring country are below the relevant trigger levels.
- 3.9. Radio-communication stations for which the predicted field strength exceeds the criteria given in Paras. 3.1 and 3.2 to must be co-ordinated in accordance with paragraph 6, except where an arrangement exists between operators as described in paragraph 4.
- 3.10. To establish the predicted field strength produced by a station, the methodology set out at paragraph 5 shall be employed.

4. ARRANGEMENTS BETWEEN OPERATORS

- 4.1. A "Framework" MoU between the administrations of France and the United Kingdom, which enables planning arrangements between mobile operators, subject to agreement of the Administrations, was signed on 13 October 1999⁴. The administrations of France and the United Kingdom agree to extend the applicability of this MoU to all operators of systems in the frequency bands 1900 - 1980 MHz, 2010 - 2025 MHz and 2110 - 2170 MHz subject of the present MoU.
- 4.2. To facilitate reasonable and timely development of their systems, licensees are encouraged to develop Arrangements in accordance with the Framework MoU of 13 October 1999.

⁴ Agreement between the administrations of France and the United Kingdom concerning the approval of planning arrangements between mobile radio communications network operators. 13 October 1999

- 4.3. Operators may only negotiate Arrangements concerning the common part of those frequency bands for which they have been licensed by the National Administration. The provisions in the Arrangements shall not result in an impairment of the authorised use of radio frequencies by third parties not involved in the Arrangements.
- 4.4. In order to facilitate Arrangements between operators, each Administration will provide names and point of contact information for the relevant licensees, subject to the agreement of the licensees.

5. PREDICTION OF PROPAGATION

The field prediction method shall be according to the latest version of Recommendation ITU-R P. 1546⁵

With parameters:

- 10% of the time
- 50% of locations
- Height of the receiver antenna 3m

Taking account of:

- Terrain profile for the base station in all main directions
- Type of terrain (e.g. land, sea, mixed path)
- Effective radiated field strength
- Antenna tilt and azimuth

Including model components:

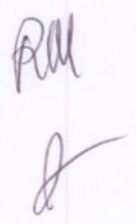
- Mixed land/sea paths
- Receiving/mobile antenna height
- Terrain clearance angle

And standard values:

- $\Delta N = 40$ (N0m-N1000m)

6. CO-ORDINATION PROCEDURE

- 6.1. Exchanges of information for coordination/notification purposes shall be in the format set out in the HCM agreement⁶.



⁵ Recommendation ITU-R P.1546, Method for point-to-area predictions for terrestrial services in the Frequency range 30 MHz to 3 000 MHz

- 6.2. A coordination request must be sent by the licensee through the Administration responsible for its authorisation.
- 6.3. The coordination procedure shall follow the one described in the HCM Agreement.
- 6.4. In the event of interference between authorised users of the bands 1900 - 1980 MHz, 2010 - 2025 MHz and 2110 - 2170 MHz in France and the UK, the affected users shall exchange information between themselves with a view to resolving the interference by mutual agreement. A report of the interference and the details of the information exchanged shall be sent to both Administrations. The Administrations of France and the UK agree to facilitate the exchange of information between authorised users of the band.

7. REVIEW OF MoU

- 7.1. This MoU may be reviewed in the light of experience of operation of networks in both countries and future prediction developments.

8. TERMINATION OF THE MEMORANDUM OF UNDERSTANDING

Either Administration may withdraw from this Memorandum of Understanding subject to 6 months notice.

9. DATE OF ENTRY INTO FORCE

This Memorandum of Understanding shall enter into force on 1st December 2010.

For the administration of FRANCE

Antoine Rigole



Signed at Paris on 4th November 2010

For the UNITED KINGDOM administration

Ray McConnell



Signed at London on 9 NOV 2010

⁶ Agreement between the Administrations of ... on the Coordination of frequencies between 29.7 MHz and 43.5 GHz for fixed service and land mobile service (HCM Agreement)
http://hcm.bundesnetzagentur.de/http/englisch/verwaltung/index_europakarte.htm