



*Ministero dello Sviluppo Economico
Comunicazioni*



**AGREEMENT BETWEEN THE ADMINISTRATIONS OF
ITALY AND FRANCE CONCERNING THE SPECTRUM
COORDINATION OF LAND MOBILE
RADIOCOMMUNICATION NETWORKS IN THE FREQUENCY
RANGE 790 MHz to 2690 MHz**



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1 INTRODUCTION

The representatives of the Administrations of Italy (I) and France (F), taking into account the recommendations of the International Telecommunication Union, have concluded this actual Agreement, under Article 6 of the Radio Regulations, on the coordination of frequencies used by land mobile radio communication networks in the spectrum range 790 MHz to 2690 MHz.

This Agreement covers frequency coordination for **GSM/UMTS/LTE systems following the spectrum arrangements below:**

Frequency Band	Base receive	Base transmit
FDD 800 MHz	832-862 MHz	791-821 MHz
FDD 900 MHz	880-915 MHz	925-960 MHz
FDD 1800 MHz	1710-1785 MHz	1805-1880 MHz
FDD 2100 MHz	1920-1980 MHz	2110-2170 MHz
FDD 2600 MHz	2500-2570 MHz	2620-2690 MHz
TDD 2100 MHz	1900-1920 MHz	1900-1920 MHz
TDD 2600 MHz	2570-2620 MHz	2570-2620 MHz

The provisions of this Agreement add to the mandatory requirements of the ITU Constitution and the ITU Radio Regulations, which have both the status of an International Treaty, and in particular:

- No.°197 of the ITU Constitution: *"All stations, whatever their purpose, must be established and operated in such a manner as not to cause harmful interference to the radio services or communications of other Member States or of recognized operating agencies, or of other duly authorized operating agencies which carry on a radio service, and which operate in accordance with the provisions of the Radio Regulations."* (This exact disposition is repeated in Article°0.4 of the ITU Radio Regulations.)
- No.°198 of the ITU Constitution: *"Each Member State undertakes to require the operating agencies which it recognizes and the other operating agencies duly authorized for this purpose to observe the provisions of No. 197 above."*
- No.°199 of the ITU Constitution: *"Further, the Member States recognize the necessity of taking all practicable steps to prevent the operation of electrical apparatus and installations of all kinds from causing harmful interference to the radio services or communications mentioned in No. 197 above."*
- Article°15.2 of the ITU Radio Regulations: *"Transmitting stations shall radiate only as much power as is necessary to ensure a satisfactory service"*
- Articles°15.3, 15.4 & 15.5 of the ITU Radio Regulations: *"In order to avoid interference [...], a) locations of transmitting stations and, where the nature of the service permits, locations of receiving stations shall be selected with particular care; b) radiation in and reception from unnecessary directions shall be minimized by taking the maximum practical advantage of the properties of directional antennae whenever the nature of the service permits"*

This actual frequency coordination Agreement has been established with a view to:

- reducing problems of harmful interference¹ between land mobile radio communication systems operating in neighbouring countries;
- Optimising the use of spectrum resources in the border areas.

¹ Article°1.169 of the ITU Radio Regulations

In particular, this Agreement has been established with a view to finding a balanced solution between:

- on the one hand, minimising harmful emissions coming from the neighbouring territories. These harmful emissions may cause harmful interference, harmful coverage (international roaming issues) or may prevent an Administration from utilising / allocating portions of its national spectrum.
- on the other hand, defining satisfactory frequency-usage conditions for land mobile operators to operate their networks while maintaining a good quality of service and good coverage upon the national territory.

This leads Administrations to accept and agree upon a certain level of interference (as defined in Article°1.168 of the ITU Radio Regulations²) and/or a certain level of coverage from neighbouring countries.

2 SPECTRUM COORDINATION FOR GSM 900 AND GSM 1800 SYSTEMS

This part of the Agreement is not formally agreed between the Administrations but should be used as a guideline for the coordination between operators.

The coordination procedure shall be based on the concept of preferential frequencies. The GSM 900 and GSM 1800 frequency bands shall be split into groups of frequencies which shall be assigned between the two countries as "preferential frequencies".

2.1 Preferential / Non-preferential division

From 1st January 2014:

GSM900 Channels	COUNTRY
975-986	FRANCE
987-1007	ITALY
1008-1009	TO BE DEFINED
1010-1021	FRANCE
1022-1023	TO BE DEFINED
0-14	ITALY
15-38	FRANCE
39	TO BE DEFINED
40-62	ITALY
63	TO BE DEFINED
64-74	FRANCE
75	ITALY
76	TO BE DEFINED
77-99	ITALY
100	TO BE DEFINED
101-124	FRANCE

The allocation of preferential frequencies for GSM1800 will be defined in 2013.

² Accepted interference: Interference at a higher level than that defined as permissible interference and which has been agreed upon between two or more administrations without prejudice to other administrations.

2.2 Technical and operational requirements applicable to the use of preferential / non-preferential frequencies

- GSM 900 (resp GSM1800) preferential frequencies 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 53 dB μ V/m (resp. 59 dB μ V/m) at a height of 1,5 m above ground at the border line or the coastline of the neighbouring country.
- GSM 900 (resp GSM1800) non preferential frequencies 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 38 dB μ V/m (resp. 44 dB μ V/m) at a height of 1,5 m above ground at border line or the coastline of the neighbouring country.

Country A base stations using non-preferential frequencies shall not cause harmful interference to the neighbouring country B to which these frequencies are preferential frequencies.

Country A base stations using non-preferential frequencies cannot claim protection from harmful interference from the neighbouring country B base stations to which these frequencies are preferential frequencies, if technical and operational requirements applicable to the use of preferential frequencies specified in the paragraph 2.1.2 above are correctly respected by these neighbouring country B base stations.

3 SPECTRUM COORDINATION FOR UMTS/LTE SYSTEMS IN THE 800 MHz, 900 MHz, 1800 MHz, 2100 MHz and 2600 MHz frequency bands

Base stations may be operated without coordination if the predicted mean field strength of each carrier produced by the base station does not exceed the following values at a height of 1,5 m above ground at the border line or the coastline of the neighbouring country.

Frequency Band	Coordination threshold at the border or coastline
FDD 800 MHz	55 dB μ V/m/5 MHz
FDD 900 MHz	55 dB μ V/m/5 MHz
FDD 1800 MHz	61 dB μ V/m/5 MHz
FDD 2100 MHz	61 dB μ V/m/5 MHz
FDD 2600 MHz	61 dB μ V/m/5 MHz
TDD 2100 MHz	33 dB μ V/m/5 MHz
TDD 2600 MHz	33 dB μ V/m/5 MHz

In order to ensure the optimum network performance for UMTS and LTE systems deployed in the border areas, the administrations shall encourage operators to coordinate the use of

scrambling codes for UMTS, PCI code groups for LTE and other radio parameters, in accordance with CEPT Recommendation (01)01, (08)02, 11(04) and (11)05 for UMTS and LTE signals using the same centre frequency in border areas.

UMTS:

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

CODES	11-42	0-10 + 43-63
ITALY	PREFERENTIAL	NON PREFERENTIAL
FRANCE	NON PREFERENTIAL	PREFERENTIAL

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

CODES	5-20	0-4 + 21-31
ITALY	PREFERENTIAL	NON PREFERENTIAL
FRANCE	NON PREFERENTIAL	PREFERENTIAL

LTE:

3GPP TS 36.211 defines 168 "unique physical-layer cell-identity groups" in §6.11, numbered 0...167, hereafter called "PCI groups". Within each PCI group there are three separate PCIs giving 504 PCIs in total. Administrations should agree on a repartition of these 504 PCI on an equitable basis when channel centre frequencies are aligned as shown in the Table below. It has to be noted that dividing the PCI groups or PCI's is equivalent. Each country can use all PCI groups away from the border areas.

CODES	84-335	0-83 + 336-503
ITALY	PREFERENTIAL	NON PREFERENTIAL
FRANCE	NON PREFERENTIAL	PREFERENTIAL

4 ARRANGEMENT FOR PLANNING AT AN OPERATIONNAL LEVEL

Further cooperation between the operators sharing overlapping frequency assignments should be encouraged to promote local solutions and coordination efforts as long as it stays with the legal framework of French and Italian laws.

Administrations should encourage and facilitate the establishment of arrangements between operators of different countries with the aim to enhance the efficient use of the spectrum and the national coverage in the border areas. Those arrangements will be subject to approval by the Administrations concerned.

5 HARMFUL INTERFERENCE

If an operator suffers from harmful interference and/or notices a degradation of the quality of service on its network - due to the rise of the field strength coming from a neighbouring Administration for example - it should immediately inform its Administration, which will contact its counterparts.

A list of contact points for each Administration, including the operators shall be exchanged regularly.

6 REVIEW AND FOLLOW UP OF THE AGREEMENT

Any signatory Administration may request a review of this Agreement. Any part of this Agreement may be revised in the light of future developments, i.e. introduction of new technologies and experience in the operation of the networks covered by the Agreement.

The coordination thresholds for the LTE, UMTS900 could be revised on a yearly basis.

7 TERMINATION OF THE AGREEMENT

Any signatory Administration may withdraw from this Agreement subject to 6 months notice.

8 Date of entry into force

This Agreement will enter into force 15th July 2012.

Signed in Roma, 15th June 2012

For the Administration of Italy



Giorgio Crescenzi

For the Administration of France



Antoine Rigole