



Stato Città del Vaticano



Agreement

*between the competent administrations of
France, Italy, Monaco and Vatican City State*

*concerning the frequency co-ordination
of Digital Terrestrial Television and Digital Sound Broadcasting*

in

the frequency band 174-230 MHz

(VHF Band III)

Rome, 31 January 2020

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0. INTRODUCTION

The purpose of this Agreement is to deal with the **frequency plan** for the terrestrial broadcasting band **174-230 MHz** (also called **VHF Band III**) between the administrations of France, Italy, Monaco and Vatican City State.

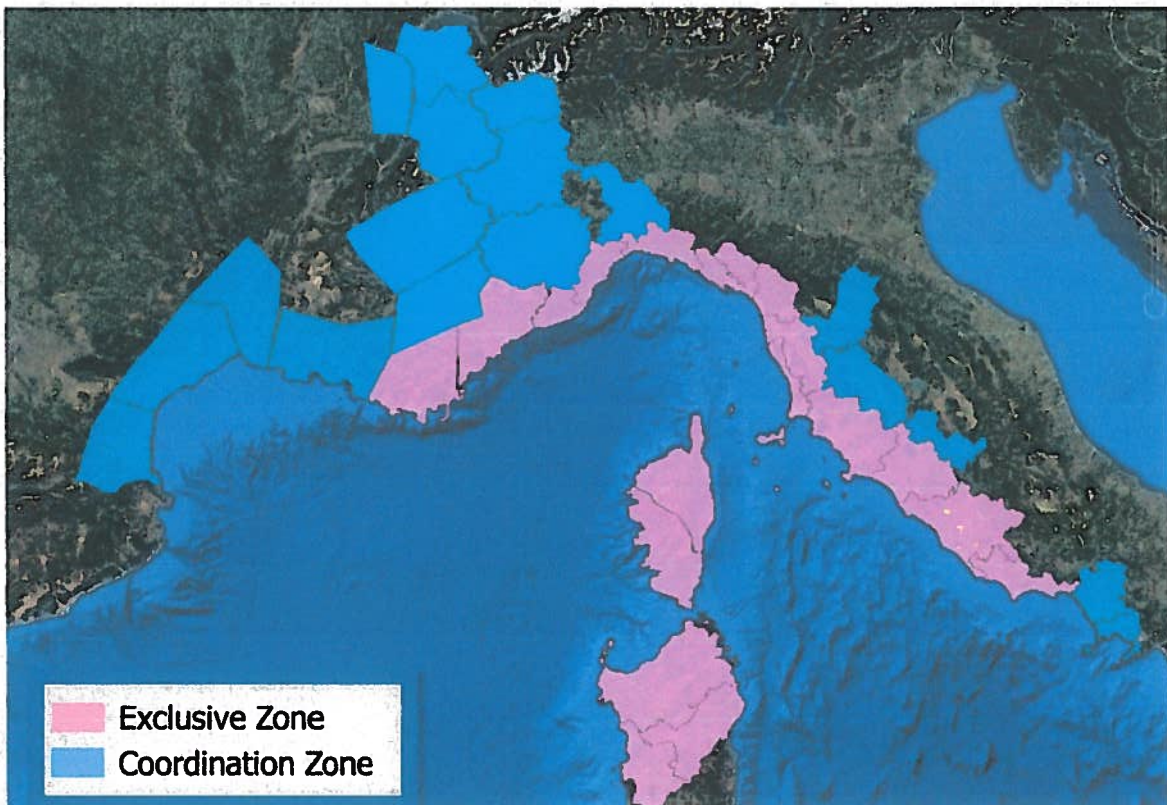
VHF Band III is used for digital sound broadcasting applying the DAB or DAB+ standards by all the signatory administrations. In addition, Italy and Vatican City State expressed the intention to use part of this band for digital terrestrial television (applying the DVB-T/DVB-T2 standards). The Signatories also agreed that the assignments in the VHF band III of Vatican City State registered in the GE06 plan at the date of signature of this Agreement will remain in force with all the relevant rights. Furthermore, France has a specific usage of the upper part of this band (225-230 MHz) allocated nationally to military services.

This Agreement is the result of several meetings conducted in a cooperative spirit in order to define an acceptable solution for the four administrations hereafter referred to together as the "*Signatories*" or individually as "*Signatory*".

I. BUFFER ZONE

The Buffer Zone is defined as the union of the Exclusive Zone defined in Annex 1 and the Coordination Zone defined in Annex 2. The Signatories have together approved the boundaries of the Coordination and Exclusive Zones as follows:

Coordination and Exclusive Zones



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II. ALLOTMENTS

Allotment shapes of the Exclusive and Coordination Zones are set out in Annex 5, and represent the service area of the assignments. They do not provide rights for new assignments but define areas where protection is needed according to rules defined below.

III. EXCLUSIVE ZONE

During the negotiation process, the Signatories have sought to maximize the number of Exclusive blocks and to reduce the number of Shared blocks in the Exclusive Zone between the stakeholders. This approach was approved in order to guarantee the flexibility of the roll-out implementation for the benefit of all Signatories.

a. Exclusive blocks

An Exclusive block, identified with the letter "E" in Table 1, Annex 3, gives the right to use one specific frequency for a specific allotment as set out in Annex 5 in an exclusive way, according to the following rule:

- The block is used only by a single administration in the Exclusive Zone (e.g. all the blocks of channel 5 for Italy).

b. Shared blocks

A Shared block, identified with the letter "P" in Table 1, Annex 3, is defined as a block used simultaneously by at least two administrations for specific allotments set out in Annex 5 and for which co-block interference is likely, but gives right to protection, see paragraph V.

IV. COORDINATION ZONE

The Coordination Zone is defined as the area beyond the Exclusive Zone where a given transmitter is still likely to affect the service area of another administration operating on the same frequency.

It should be noted that the Coordination Zone only refers to French and Italian allotments as the Principality of Monaco and Vatican City State are fully located within the Exclusive Zone.

a. Shared blocks

A Shared block, identified with the letter "P" or "x" in Table 2 (Alps area) and Table 3 (Mediterranean area), Annex 4, is defined as a block used simultaneously by the Signatories in the Buffer Zone and for which co-block interference is likely. A Shared block, identified with the letter "P" gives right for protection (which is not the case for the "x" blocks), see paragraph V.

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V. ASSIGNMENTS COORDINATION RULES

For any assignment, associated to an allotment defined in Annex 5, the rules defined in paragraph a) and b) must be respected.

For any assignment not in conformity with this Agreement, derogations may be granted (by a formal request for coordination addressed to the concerned administrations) after approval by the involved parties.

A formal request for coordination shall be addressed to the concerned administrations in the above two cases.

For France, in order to protect military services, the blocks 12C and 12D shall be protected in case of new requested assignments not already registered in the GE06 plan with a cumulative interfering field strength level below or equal to $\text{Threshold}_{\text{Max}} = 27 \text{ dB}\mu\text{V/m}/1.75 \text{ MHz}$, at 10 m above the ground.

a) Exclusive Zone:

Blocks identified with a letter "E", in Table 1:

Assignments may be operated without coordination if the cumulative field strength of all the assignments associated to an Exclusive block, identified with the letter "E" in Table 1 does not exceed outside the Buffer zone the $\text{Threshold}_{\text{Max}}$ value, defined paragraph VI.

Blocks identified with a letter "P", in Table 1:

Assignments may be operated without coordination if the cumulative field strength of all the assignments associated to a "P" block, identified with the letter "P" in Table 1 does not exceed in the relevant co-block allotment of the Exclusive Zone the $\text{Threshold}_{\text{Max}}$ value, defined in paragraph VI.

b) Coordination Zone:

For Italy, assignments using a block 6A, 8A, 8B, 12A, 12B or 12C in the Alps (see Table 2) may be operated without coordination if the cumulative field strength of all the assignments associated to these blocks:

- (i) does not exceed outside the Buffer zone the $\text{Threshold}_{\text{Max}}$ value, defined in paragraph VI;
- (ii) respects the condition defined hereafter in this Coordination Zone paragraph (see blocks identified with a letter "P", "X").

For France, assignments using a block 6B, 6C, 6D, 7A, 7B, 7C, 8D, 11A, 11B, 11C or 11D in the Alps (see Table 2) may be operated without coordination if the cumulative field strength of all the assignments associated to these blocks:

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- (i) does not exceed outside the Buffer zone the **Threshold_{Max}** value, defined in paragraph VI;
- (ii) respects the condition defined hereafter in this Coordination Zone paragraph (see blocks identified with a letter "P", "X").

Blocks identified with a letter "P", "X", in Table 2 and Table 3:

In the case of a co-block situation the cumulative field strength of assignments associated to a "P" or "X" block shall not exceed in the relevant co-block allotment inside the Buffer Zone (Exclusive and coordination Zones) the **Threshold_{Max}** value, defined in paragraph VI.

c) Outside the Buffer Zone:

Assignments outside the Buffer Zone will be coordinated under the GE06 Agreement and shall be agreed by the concerned administrations.

VI. THRESHOLD VALUE AND POWER SUM

The following threshold defines the reference to take into account in the coordination process for an altitude in reception below 2100 meters over sea level, for DAB assignments or DVB-T assignments, at 10 m above the ground:

- **Threshold_{Max}** = $36,56 \text{ dB}\mu\text{V}/\text{MHz} + 10 \log (\text{Bandwidth}/1\text{MHz}) + f_{\text{corr}}$

With:

- **Bandwidth** = 7 MHz for a TV channel (DVB-T/DVB-T2)
- **Bandwidth** = 1.75 MHz for a radio block (DAB/DAB+)
- **f_{corr}** = $30 * \log (F/200 \text{ MHz})$
- **F** = central frequency of the radio block or the TV channel in MHz

VII. PROPAGATION MODELS

The field strength prediction model used to calculate the field strength, is defined in ITU-R 526 or ITU-R 1812, 1% of time, (free-space path loss with diffraction criteria) with a resolution of DTM (Digital Terrain Model) of 100 m for the terrestrial path or is defined in ITU-R 1546, 1% of time for the maritime path.

If the results of the different studies show discrepancies or the measured values of transmitters on air do not respect the **Threshold_{Max}** specified in the paragraph VI, the concerned administrations commit themselves to find a specific solution with the aim to be compliant with the **Threshold_{Max}**.

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The calculation methods used for the cumulative interference of a single or multiple transmitters should follow the methods defined in Annex 4 Section 2 Part 3.1 ("field strength calculations") in GE06 Regional Agreement.

VIII. UPDATE OF THE GE06 PLAN

This Agreement and its associated frequency plan aim to modify and extend the existing GE06 plan with assignments associated to "E" or "P" allotments which are compliant with this Agreement and formally authorized by written approval of the signing administrations.

IX. REVIEW OF THE AGREEMENT

With the prior approval of the other Signatories, this Agreement may be reviewed upon request of one of the Signatories when such amendment becomes necessary due to administrative, regulatory or technical changes. A Signatory cannot withdraw unilaterally from this Agreement.

X. LANGUAGE OF THE AGREEMENT

This Agreement shall be signed in four originals in the English language, each of which having equal standing. One counter-signed original shall be delivered to each Signatory.

XI. ENTRY INTO FORCE

This Agreement shall enter into force on the date of the last signature.

For France

Date : 31/01/2020

Raphaël LE HEGARAT



For Monaco

Date : 02/05/2020

Christophe PIERRE



For Italy

Date : 31/1/2020

Eva SPINA



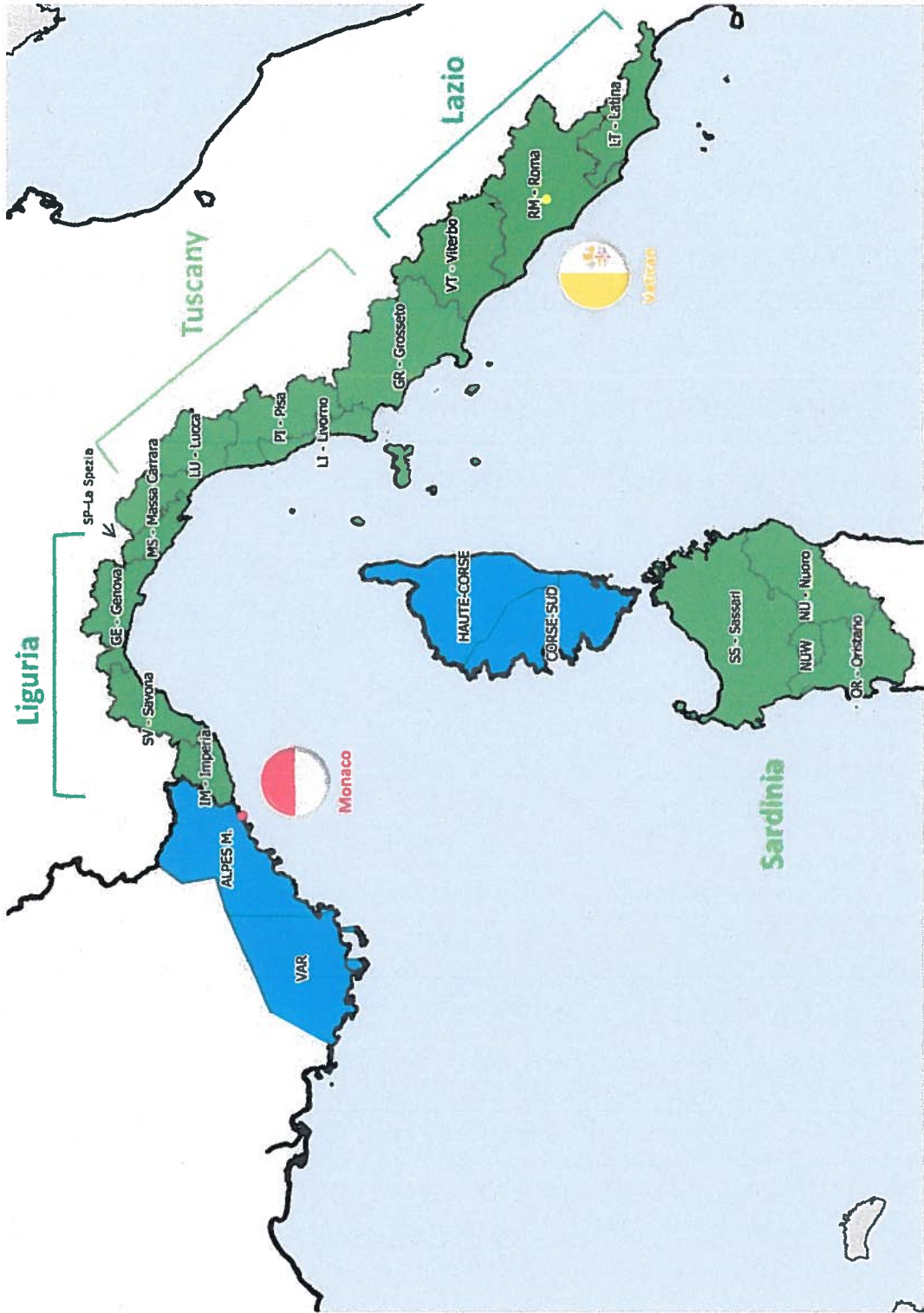
For Vatican City State

Date : 31/01/2020

H.E. Fernando VERGEZ ALZAGA, L.C.



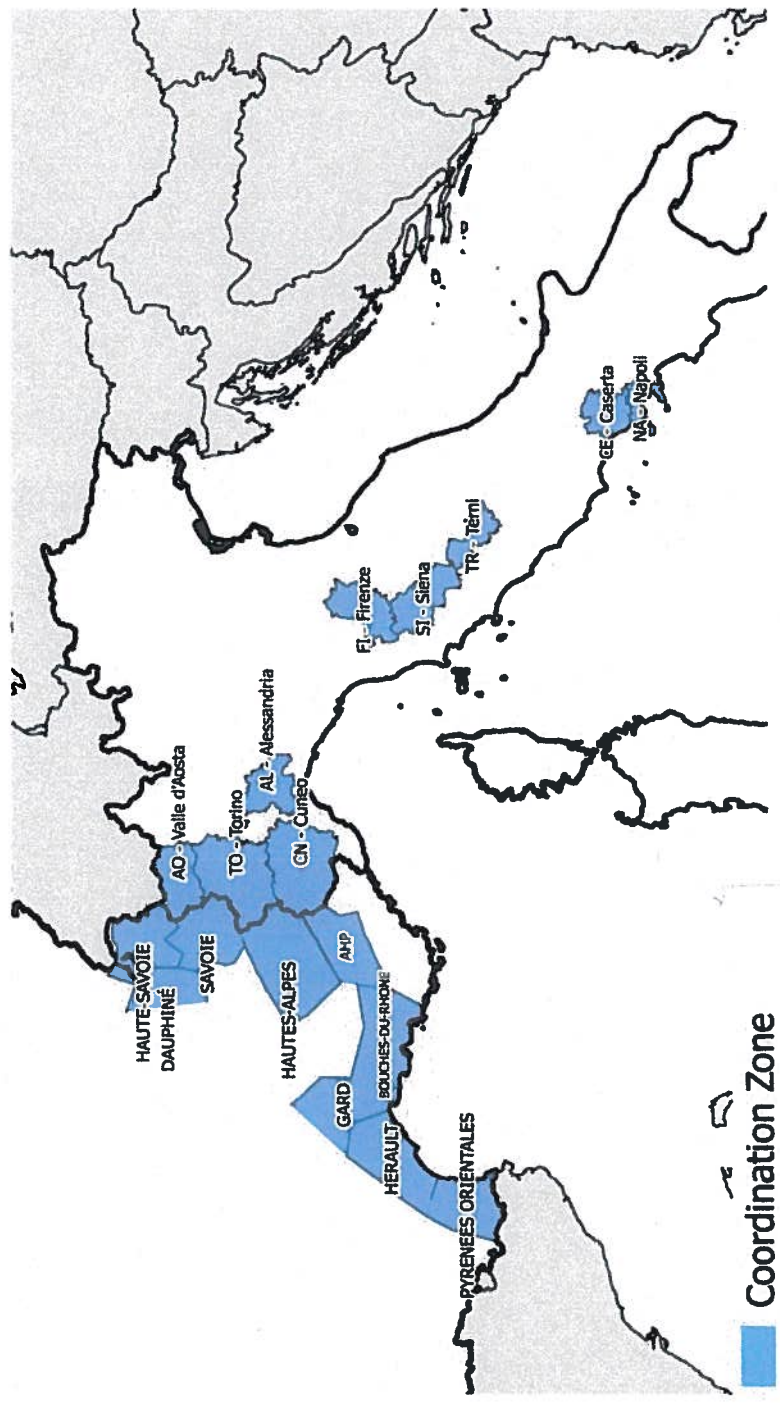
Annex 1 – Exclusive Zone



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Annex 2 – Coordination Zone



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Annex 3 – Distribution of the 32 DAB blocks inside the Exclusive Zone

The tab below details the distribution of the 32 DAB blocks in the Exclusive Zone agreed as a result of the negotiation work between the Signatories.

"P": refers to a block that can be used with a right of protection

"E": refers to an Exclusive block

Table 1

Country	Block/Allotment	5A	5B	5C	5D	6A	6B	6C	6D	7A	7B	7C	7D	8A	8B	8C	8D	9A	9B	9C	9D	10A	10B	10C	10D	11A	11B	11C	11D	12A	12B	12C	12D				
Italy	Milanaco					P	P	P																													
	Liguria	E	E	E	E				P																												
	Tuscany without Grosseto	E	E	E	E		P				P																										
	Tuscany Grosseto only	E	E	E	E		P																														
	Lazio	E	E	E	E														P	P	P	P	E	E	E	E											
France	Sardinia (SS-OR-NUM)	E	E	E	E																																
	Sardinia (MUE)	E	E	E	E	P	P	P	P																												
	Corse Nord									E	E	E	E	E	E	E	E																				
France	Corse Sud									E	P	E	E	P	E	E	E																				
	Var									E	P	E	E		E	E	E	P	P	P	P					P	P	P	P								
	Alpes Maritimes									E	P	E	E		E	E	E	P	P	P	P					P	P	P	P								
Verdun																																					
						P	P	P	P																												

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Annex 4 – Distribution of the 32 DAB blocks inside the Coordination Zone

Table 2: Alps area

Block	Italy				France						Shared or I/F
	VDA	PRE			DAUPHINE	HAUTE-SAVOIE	SAVOIE	HAUTES-ALPES	ALPES-HTE-PROVENCE		
		AD	TD	ON						AL	
5A	P	P	P	P							S
5B	P	P	P	P							S
5C	P	P	P	P							S
5D	P	P	P	P							S
6A	P	P	P	P							Italy
8B					P	P	P	P	P		France
8C					P	P	P	P	P		France
8D					P	P	P	P	P		France
7A					P	P	P	P	P		France
7B					P	P	P	P	P		France
7C					P	P	P	P	P		France
7D					P	P	P	P	P		S
8A	P	P	P	P							Italy
8B	P	P	P	P							Italy
8C	P	P	P	P							S
8D					P	P	P	P	P		France
9A	P	P	P	P							S
9B	P	P	P	P							S
9C	P	P	P	P							S
9D	P	P	P	P							S
10A					P	P	P	P	P		S
10B					P	P	P	P	P		S
10C					P	P	P	P	P		S
10D					P	P	P	P	P		S
11A											France
11B											France
11C											France
11D											France
12A	P	P	P	P							Italy
12B	P	P	P	P							Italy
12C	P	P	P	P							Italy
12D					P	P	P	P	P		France

: refers to a block that can be used without protection right

"P": refers to a block that can be used with a right of protection

"X": it is equivalent to "P" in the Coordination Zone of Alps area, but is equivalent to "X" with respect to the exclusive zone.

Table 3: Mediterranean area

Pays	Block/Allotment	5A	5B	5C	5D	5A	5B	5C	5D	5E	5F	5G	5H	5I	5J	5K	5L	5M	5N	5O	5P	5Q	5R	5S	5T	5U	5V	5W	5X	5Y	5Z		
Italy	NA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	CE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	TR	P ₂	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
France	SI	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	FI	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	Bouches du Rhône	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	Gard	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Rhône	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Pyrenées Orientales	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

■: refers to a block that can be used without protection right

■P: refers to a block that can be used with a right of protection

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Annex 5 – Definition of the Allotments for the Signatories in the Buffer Zone



Coordination and
Exclusive Zones.kmz

Allotments for France

The allotments for France are composed of the following geographical GE06 allotments:

- A) GE06 allotments included in the Exclusive Zone:**
Var, Alpes-Maritimes, Haute-Corse, Corse du Sud.

- B) GE06 allotments included in the Coordination Zone:**
Alps area: Alpes-de-Haute-Provence, Hautes-Alpes, Savoie, Dauphiné, Haute-Savoie.
Mediterranean area: Pyrénées-Orientales, Hérault, Gard, Bouches-du-Rhône.

Allotments for Italy

The allotments for Italy are composed of the geographical areas related to the following administrative provinces:

- C) Provinces included in the Exclusive Zone:**
Imperia, Savona, Genova, La Spezia, Massa, Lucca, Livorno, Pisa, Grosseto, Viterbo, Roma, Latina, Oristano, Sassari and Nuoro.

- D) Provinces included in the Coordination Zone :**
Alps area: Aosta, Torino, Cuneo, Alessandria
Mediterranean area: Firenze, Siena, Terni, Napoli, Caserta.

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Allotments for Vatican City State and relevant test points

Descrizione	Ubicazione	LATITUDINE			LONGITUDINE		
		gg	mm	ss	gg	mm	ss
Città del Vaticano							
Estremo Est	Piazza S. Pietro	41	54	8	12	27	28
Estremo Ovest		41	54	6	12	26	45
Estremo Nord	Bastioni di Michelangelo	41	54	26	12	27	19
Estremo Sud	Perugino	41	54	1	12	27	5
interno 1	zecca	41	54	13	12	27	7
S. Giovanni		41	53	10	12	30	20
S.Maria Maggiore		41	53	52	12	29	52
S. Paolo	ed.1	41	51	33	12	28	29
S. Paolo	ed.2	41	51	32	12	28	40
S. Paolo	ed.3	41	51	25	12	28	37
S. Paolo	ed.4	41	51	25	12	28	26
S. Paolo	ed.5	41	51	31	12	28	16
S. Paolo	ed.6	41	51	33	12	28	27
S. Paolo	ed.7	41	51	26	12	28	25
S. Paolo	ed.8	41	51	27	12	28	16
palazzo Dataria		41	54	0	12	29	3
Palazzo della Cancelleria		41	53	48	12	28	16
Propaganda Fide		41	54	15	12	28	59
S. Calisto		41	53	19	12	28	10
Palazzo dei Convertendi		41	54	10	12	27	37
Palazzo S. Ufficio		41	54	5	12	27	24
Palazzo del Vicariato		41	53	47	12	28	41
Gianicolo	Ed. 1	41	53	54	12	27	41
Gianicolo	Ed. 2	41	54	1	12	27	23
Gianicolo	Ed. 3	41	54	5	12	27	30
Gianicolo	Ed. 4	41	53	39	12	27	34
Gregoriana	Ed. 1	41	53	59	12	28	47
Gregoriana	Ed. 2	41	53	56	12	29	3
Istituto Biblico		41	53	56	12	28	59
Palazzo SS. Apostoli		41	53	53	12	28	58
S. Andrea della Valle		41	53	45	12	28	27
S. Carlo ai Catinari		41	53	39	12	28	33
Russicum		41	53	51	12	30	0
S. Apollinare		41	54	1	12	28	24
Casa del Clero		41	53	9	12	29	41
Pontificia Accademia Ecclesistica		41	53	52	12	28	36

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Descrizione	Ubicazione	LATITUDINE			LONGITUDINE		
Castel Gandolfo							
Estremo Nord		41	44	54	12	38	56
Estremo Sud		41	43	53	12	39	30
Estremo Est		41	43	59	12	39	55
Estremo Ovest		41	44	17	12	39	12

Descrizione	Ubicazione	LATITUDINE			LONGITUDINE		
S.Maria di Galeria							
Estremo sud-ovest		42	2	12	12	18	55
Estremo Nord		42	3	36	12	19	28
Estremo Est		42	2	12	12	20	49
Estremo Nord-Est		42	3	10	12	20	28

Descrizione	Ubicazione	LATITUDINE			LONGITUDINE		
Ospedale Bambino Gesù S. Marinella							
Estremo Sud-Ovest		42	1	56	11	51	7
Estremo Nord-Ovest		42	1	59	11	51	6
Estremo Nord-Est		42	2	0	11	51	14
Estremo Sud-Est		42	1	58	11	51	14

Descrizione	Ubicazione	LATITUDINE			LONGITUDINE		
Ospedale Bambino Gesù di Palidoro							
Estremo Ovest		41	55	10	12	8	11
Estremo Nord		41	55	18	12	8	21
Estremo Est		41	54	58	12	8	47
Estremo Sud		41	54	55	12	8	37

Descrizione	Ubicazione	LATITUDINE			LONGITUDINE		
Tenuta di Castel Romano							
Estremo Nord		41	43	49	12	25	53
Estremo Sud-Ovest		41	43	5	12	25	39
Estremo Est		41	43	25	12	26	34
Estremo Sud-Est		41	43	16	12	26	19
Centro		41	43	30	12	26	8

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