

Agreement between the Administrations of Spain and Italy concerning frequency coordination of Digital Terrestrial Television in the band 470-694 MHz

1. Introduction

This Agreement facilitates the mutual clearance of the terrestrial broadcasting services from the 694 MHz – 790 MHz band ("700 MHz band") by defining an agreed frequency plan for Digital Terrestrial Television (DTT) in the 470-694 MHz band.

This Agreement is made in the framework of the Decision (UE) 2017/899 of the European Parliament and of the Council of 17th of May 2017 on the use of the 470-790 MHz frequency band in the Union.

2. Frequency plan for Digital Terrestrial Television (DTT) in the 470-694 MHz band.

Spain and Italy agree on the technical criteria of annex 1 for the coordination of Digital Terrestrial Television stations.

The coordination zone between Spain and Italy is as follow:

- Italy: Sardinia region
- Spain: Barcelona province, Girona province, Mallorca island and Menorca island.

This Agreement describes the new rights in the coordination zone in terms of assignments and allotments between Spain and Italy for the implementation of the DTT plan within the band 470-694 MHz.

Spain and Italy agree on the characteristics of the assignments described in annex 2 (Italian transmitters), 3 (Spanish transmitters) and 4 (Italian and Spanish transmitters specifications in ITU format) and evaluated with technical parameters of annex 1. The annex 2 and 3 include the stations with an e.r.p. equal or higher than 5kW. In these specific conditions all the channels between 21 and 48 can be used and register to the GE06 Plan, and would be considered as mutual agreed.

The annex 2 and 3 include the stations with an e.r.p. equal or higher than 5kW, because, according to the parameters mentioned in the annex 1, a lower e.r.p. shouldn't cause any interference to any stations of Italy and Spain. The stations with an e.r.p. lower than 5kW would be considered as mutual agreed.

Spain and Italy agree that any additional assignments in the coordination zone with an e.r.p. equal or higher than 5kW, with different technical characteristic than those included in annex 2 and 3 and that could increase the field strength in the other country, must be formally coordinated, by using the technical parameters of annex 1.



Spain and Italy agree that any additional assignments out of the coordination zone between channels 21 and 48, with technical characteristic similar to those already registered in GE06, would be considered as mutual agreed.

The two countries will inform each other two months before any roll out of agreed assignments.

3. Transitory period

Both administrations recognize the necessity for a transition period and will agree on the final date of the implementation within the coordination zone which must be before 30th of June 2022 taking into account what is established in the Decision (UE) 2017/899 of the European Parliament and of the Council of 17th of May 2017 on the use of the 470-790 MHz frequency band in the Union.

The two countries will inform each other two months before any change takes place.

4. Review of the Agreement

With the consent of the other administration, this Agreement may be modified at the request of one of the signatory administration where such a modification becomes necessary in the light of administrative, regulatory or technical developments. An administration cannot withdraw unilaterally from this Agreement.

5. Language of the Agreement

This Agreement exists in two original versions in English. Each Administration has one of the versions.

6. Entry into force

This Agreement will enter into force on the date of the signature.

Done in Madrid, 21st September 2017

For Spain



Antonio Fernández-Paniagua Diaz-Flores
Deputy Director Planning and Management of
Radio Spectrum
Ministry of Energy, Tourism and Digital Agenda

For Italy

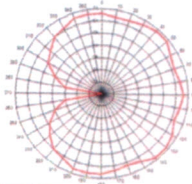
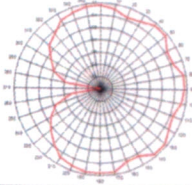
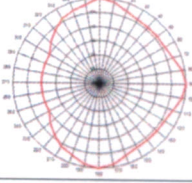
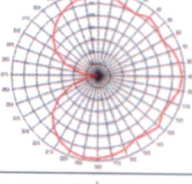
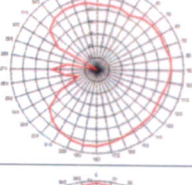
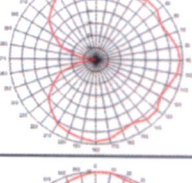
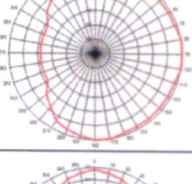
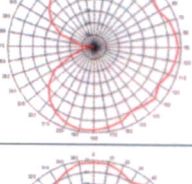
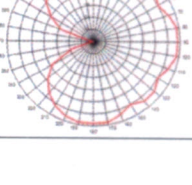


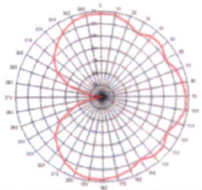
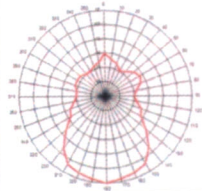
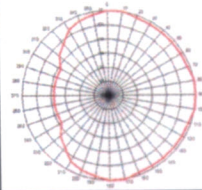
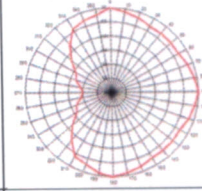
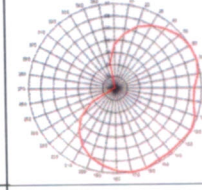
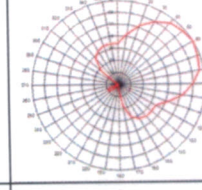
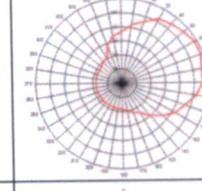
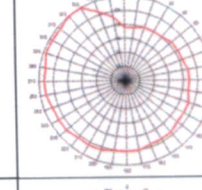
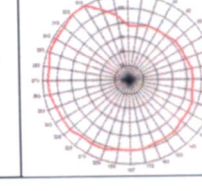
Eva Spina
General Director Planning and Management of Radio
Spectrum
Ministry of Economic Development

Annex 1 - CALCULATION PARAMETERS

Evaluation of compatibility radioelectric between DTT stations	Criteria
Protection area	Service area (Administrative border)
Estimated field strength of wanted signal	Rec. ITU-R P.526 (Deygout model)
Estimated field strength of interfering signal (sea path)	Rec. ITU-R P.1546-5
Interpolation in mixed land-sea paths (Rec. ITU-R P.1546)	Parabolic
Consideration of terrain clearance angle (Rec. ITU-R P.1546)	Yes
Time percentage of interference	1%
Location percentage of interference	50%
Type of terrain (clutter)	No
Protection ratios	Rec. ITU-R BT.1368 (20 dB as protection ratio for co-channel)
Discrimination of receive antennas	No
Cross-polarisation discrimination	No
Protection margin C/I	0dB
Receive antenna height	10m
Minimum field strength fixed antenna reception	55dB μ V/m
Digital model of the terrain/Resolution	1:200m/200mx200m



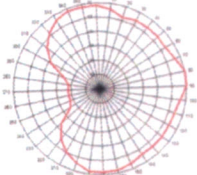
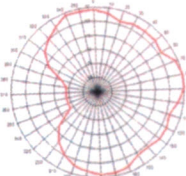
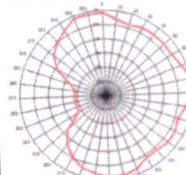
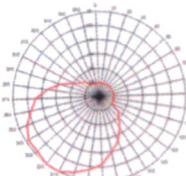
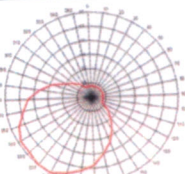

Acción	Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Hef Ant	dBW Pol. Dir.	Diagrama	Comentarios
ADD	I	BADDE URBARA	482	22	008E3759 40N0931 955	null 43	40 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	538	29	008E3800 40N0931 955	null 47	38 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	474	21	008E3754 40N0928 950	null 33	40 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	722	52	008E3800 40N0931 955	null 47	39 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	570	33	008E3756 40N0934 950	null 30	38 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	778	59	008E3803 40N0935 955	null 47	40 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	594	36	008E3800 40N0935 960	null 25	44 H D		Any channel in BADDE URBARA with these characteristics and an extra attenuation of 3dB in sector 255-265 could be a provisional agreement
ADD	I	BADDE URBARA	706	50	008E3800 40N0931 955	null 47	39 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	674	46	008E3800 40N0931 955	null 47	39 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement

Acción	Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Hef Ant	dBW Pol. Dir.	Diagrama	Comentarios
ADD	I	BADDE URBARA	642	42	008E3800 40N0931 955	null 47	39 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	506	25	008E3800 40N0935 960	null 30	37 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	586	35	008E3800 40N0935 960	null 25	44 H D		Any channel in BADDE URBARA with these characteristics and an extra attenuation of 3dB in sector 255-265 could be a provisional agreement
ADD	I	BADDE URBARA	626	40	008E3751 40N0930 963	null 20	38 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	BADDE URBARA	658	44	008E3800 40N0930 955	null 47	45 H D		Any channel in BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	CAPOTERRA	658	44	008E5730 39N1013 110	null 25	37 V D		Any channel in CAPOTERRA with these characteristics could be a provisional agreement
ADD	I	CAPOTERRA	490	23	008E5816 39N0911 140	null 6	37 V D		
ADD	I	LIMBARA	746	55	009E1034 40N5115 1313	null 25	45 H D		Any channel in LIMBARA with these characteristics could be a provisional agreement
ADD	I	LIMBARA	594	36	009E1034 40N5115 1313	null 25	45 H D		

Acción	Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Hef Ant	dBW Pol. Dir.	Diagrama	Comentarios
ADD	I	M.LIMBARA	762	57	009E1031 40N5113 1350	null 30	41 H D		Any channel in M. LIMBARA with these characteristics could be a provisional agreement
ADD	I	M.ORO	562	32	008E3043 40N4337 225	null 43	37 V D		Any channel in M. ORO with these characteristics could be a provisional agreement
ADD	I	M.ORO	522	27	008E3043 40N4337 225	null 43	37 V D		
ADD	I	M.ORTOBENE	650	43	009E2219 40N1919 955	null 38	37 V D		Any channel in M. ORTOBENE with these characteristics could be a provisional agreement
ADD	I	M.SERPEDI'	698	49	009E1746 39N2156 1060	null 122	39 H D		Any channel in M. SERPEDI' with these characteristics could be a provisional agreement
ADD	I	M.SERPEDI'	682	47	009E1746 39N2156 1060	null 122	40 H D		
ADD	I	M.SERPEDI'	634	41	009E1746 39N2156 1060	null 122	41 H D		
ADD	I	M.SERPEDI'	650	43	009E1746 39N2156 1060	null 122	40 H D		
ADD	I	M.SERPEDI'	650	43	009E1746 39N2156 1060	null 122	40 H D		
ADD	I	M.TE SERPEDI	762	57	009E1752 39N2159 1050	null 21	41 H D		

Acción	Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Hef Ant	dBW Pol. Dir.	Diagrama	Comentarios
ADD	I	M.TE SERPEDDI'	538	29	009E1748 39N2153 1050	null 47	40 H D		Any channel in MTE. SERPEDDI' with these characteristics could be a provisional agreement
ADD	I	M.TE SERPEDDI'	482	22	009E1748 39N2153 1050	null 47	42 H D		
ADD	I	MONTE LIMBARA	626	40	009E1115 40N5116 1336	null 15	40 H D		Any channel in MONTE LIMBARA with these characteristics could be a provisional agreement
ADD	I	MONTE LIMBARA	546	30	009E1034 40N5115 1327	null 15	39 H D		
ADD	I	MONTE ORO	586	35	008E3036 40N4327 220	null 27	45 V ND		Any channel in MONTE ORO with these characteristics and an extra attenuation of 7dB in sector 245-255 and an extra attenuation of 3dB in sector 275-290 could be a provisional agreement
ADD	I	MONTE ORO	626	40	008E3015 40N4013 230	null 15	37 V ND		Any channel in MONTE ORO with these characteristics could be a provisional agreement
ADD	I	MONTE ORO	546	30	008E3044 40N4341 212	null 16	38 V ND		Any channel in MONTE ORO with these characteristics could be a provisional agreement
ADD	I	MONTE SERPEDDI	594	36	009E1751 39N2205 1069	null 32	48 H D		
ADD	I	MONTE SERPEDDI	490	23	009E1751 39N2205 1069	null 25	41 H D		

Acción	Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Hef Ant	dBW Pol. Dir.	Diagrama	Comentarios
ADD	I	MONTE SERPEDDI	546	30	009E1744 39N2159 1050	null 25	42 H D		Any channel in MONTE SERPEDDI with these characteristics could be a provisional agreement
ADD	I	MONTE SERPEDDI	618	39	009E1747 39N2156 1069	null 25	44 H D		
ADD	I	MONTE SERPEDDI	586	35	009E1751 39N2205 1069	null 32	48 H D		
ADD	I	MONTE SERPEDDI	506	25	009E1751 39N2205 1069	null 25	40 H D		
ADD	I	POGGIO DEI PINI	506	25	008E5819 39N0914 128	null 6	37 V D		Any channel in POGGIO DEI PINI with these characteristics could be a provisional agreement
ADD	I	POGGIO DEI PINI	594	36	008E5819 39N0914 128	null 10	38 V D		
ADD	I	POGGIO DEI PINI	586	35	008E5819 39N0914 128	null 10	38 V D		
ADD	I	PUNTA BADDE URBARA	634	41	008E3744 40N0923 965	null 126	45 H D		
ADD	I	PUNTA BADDE URBARA	666	45	008E3744 40N0923 965	null 126	44 H D		

Acción	Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Hef Ant	dBW Pol. Dir.	Diagrama	Comentarios
ADD	I	PUNTA BADDE URBARA	650	43	008E3744 40N0923 965	null 126	45 H D		Any channel in PUNTA BADDE URBARA with these characteristics could be a provisional agreement
ADD	I	PUNTA BADDE URBARA	698	49	008E3744 40N0923 965	null 126	45 H D		
ADD	I	PUNTA BADDE URBARA	682	47	008E3744 40N0923 965	null 126	45 H D		
ADD	I	SAN MICHELE	746	55	008E3618 39N2024 906	null 15	38 H D		Any channel in SAN MICHELE with these characteristics could be a provisional agreement
ADD	I	SAN MICHELE	594	36	008E3618 39N2024 906	null 15	38 H D		

Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Ant	dBW Pol. Dir.	Diagrama	Comentarios
E	ALFABIA	586	35	002E4301 39N4411 990	76	41 H D		Any channel in ALFABIA with these characteristics could be a provisional agreement
E	ALFABIA	650	43	002E4301 39N4410 980	63	41 H D		
E	ALFABIA	514	26	002E4300 39N4411 993	76	41 H D		
E	ALFABIA	690	48	002E4301 39N4411 990	76	41 H D		
E	ALFABIA	642	42	002E4301 39N4410 980	63	41 H D		
E	ALFABIA	618	39	002E4301 39N4411 990	76	41 H D		
E	ALFABIA	546	30	002E4301 39N4410 980	63	41 H D		
E	ALFABIA	682	47	002E4301 39N4411 990	76	41 H D		

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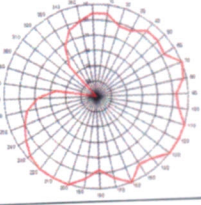
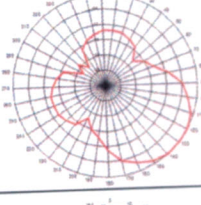
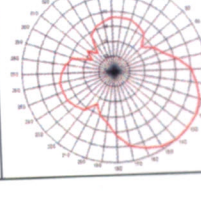
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Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Ant	dBW Pol. Dir.	Diagrama	Comentarios
E	COLLSEROLA	682	47	002E0651 41N2502 444	212	44,1 H D		Any channel in COLLSEROLA with these characteristics could be a provisional agreement
E	COLLSEROLA	658	44	002E0652 41N2502 424	195	44,1 H D		
E	COLLSEROLA	522	27	002E0651 41N2502 444	204	44,1 H D		
E	COLLSEROLA	490	23	002E0652 41N2502 424	212	44,1 H D		
E	COLLSEROLA	554	31	002E0652 41N2502 424	227	44,1 H D		
E	COLLSEROLA	634	41	002E0651 41N2502 444	216	44,1 H D		
E	COLLSEROLA	570	33	002E0652 41N2502 424	216	44,1 H D		
E	COLLSEROLA	578	34	002E0651 41N2502 444	216	44,1 H D		

Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Ant	dBW Pol. Dir.	Diagrama	Comentarios
E	COLLSEROLA	538	29	002E0652 41N2502 424	212	44,1 H D		
E	GERONA-ROCACORBA	666	45	002E4110 42N0420 978	64	39 H D		Any channel in GERONA-ROCACORBA with these characteristics could be a provisional agreement
E	GERONA-ROCACORBA	562	32	002E4110 42N0420 978	64	39,2 H D		
E	GERONA-ROCACORBA	610	38	002E4110 42N0420 978	64	39,1 H D		
E	GERONA-ROCACORBA	602	37	002E4104 42N0418 985	56	43 H D		
E	GERONA-ROCACORBA	642	42	002E4110 42N0420 978	64	39 H D		
E	GERONA-ROCACORBA	594	36	002E4111 42N0422 985	56	40,1 H D		
E	GERONA-ROCACORBA	538	29	002E4109 42N0420 985	64	38,8 H D		

Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Ant	dBW Pol. Dir.	Diagrama	Comentarios
E	GERONA-ROCACORBA	586	35	002E4110 42N0420 978	64	39,1 H D		
E	GERONA-ROCACORBA	546	30	002E4110 42N0420 978	64	43 H D		
E	MASSANET CABRENYS	642	42	002E4350 42N2520 1432	19	30 H D		Any channel in MASSANET-CABRENYS with these characteristics could be a provisional agreement
E	MASSANET CABRENYS	594	36	002E4350 42N2520 1432	19	30 H D		
E	MASSANET CABRENYS	538	29	002E4350 42N2520 1432	19	30 H D		
E	MASSANET CABRENYS	562	32	002E4350 42N2520 1432	19	30 H D		
E	MASSANET CABRENYS	610	38	002E4350 42N2520 1432	19	30 H D		
E	MASSANET CABRENYS	602	37	002E4350 42N2520 1432	19	30 H D		

Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Ant	dBW Pol. Dir.	Diagrama	Comentarios
E	MASSANET CABRENYS	586	35	002E4350 42N2520 1432	19	30 H D		
E	MASSANET CABRENYS	666	45	002E4350 42N2520 1432	19	30 H D		
E	MASSANET CABRENYS	546	30	002E4351 42N2521 1410	30	30 H D		
E	MONTE TORO	682	47	004E0646 39N5903 340	66	27 H D		Any channel in MONTE TORO with these characteristics could be a provisional agreement
E	MONTE TORO	514	26	004E0646 39N5903 340	66	27 H D		
E	MONTE TORO	554	31	004E0646 39N5904 340	70	27 H D		
E	MONTE TORO	474	21	004E0646 39N5903 340	66	27 H D		
E	MONTE TORO	626	40	004E0646 39N5903 340	66	27 H D		

Adm	Nombre estación	f MHz	cn	Longitud Latitud Cota	Ant	dBW Pol. Dir.	Diagrama	Comentarios
E	MONTE TORO	530	28	004E0646 39N5904 340	70	27 H D		
E	MONTE TORO	498	24	004E0646 39N5903 340	66	27 H D		
E	MONTE TORO	586	35	004E0646 39N5903 340	66	27 H D		

Annex 4 - Agreed assignments between Spain and Italy

 Assignments of Spain	 Assignments of Italy
For Spain	For Italy