

AGREEMENT

on frequency coordination of digital terrestrial television (DTT) in the frequency band 470-694 MHz between Administration of Bulgaria and Administration of the Republic of Serbia

Preamble

Article 1

This document describes a bilateral coordination agreement between Administration of Bulgaria and Administration of the Republic of Serbia (hereinafter: Agreement). Furthermore, it expresses in particular the convergence of will between both parties, indicating an intended common course of action.

Background

Article 2

In relation with decisions of the WRC-15 about usage of radio frequency band 694-790 MHz (allocation of this band on co-primary base to the Broadcasting and the Mobile Service) following provisions of the Decision (EU) 2017/899 of the European Parliament and of the Council of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union (hereinafter: Decision (EU) 2017/899), Administration of Bulgaria and Administration of the Republic of Serbia decided to perform the re-planning of the frequency band 470-694 MHz in order to enable future use of digital terrestrial television (hereinafter: DTT) networks and to facilitate the re-farming of the frequency band 694-790 MHz for terrestrial systems capable of providing wireless broadband electronic communications services and for flexible national use.

Objectives

Article 3

Administration of Bulgaria and Administration of the Republic of Serbia successfully facilitated bilateral frequency coordination activities in order to implement the relevant broadcasting spectrum reallocation, with a view to:

- achieve mutual compatibility of the DTT spectrum resources to be used in the UHF band and avoid mutual harmful interference;

- facilitate any consequential modifications to the Geneva 2006 (hereinafter: GE06) Plan.

Distribution of channels

Article 4

Administration of Bulgaria and Administration of the Republic of Serbia agreed on distribution of channels, where respective areas and their assigned channels are specified in the Annex 1 and the Annex 2 of this Agreement.

Technical parameters of assignments

Article 5

Administration of Bulgaria and Administration of the Republic of Serbia agreed on the new allotments and the use of radio-frequencies for the assignments with technical parameters given in the Annex 3 - for Administration of the Republic of Serbia and the Annex 4 – for Administration of Bulgaria of this Agreement.

The detailed technical parameters for these assignments are recorded on the CD, one for each Administration, in electronic format (Terrasys notices) in the files:

for Administration of Bulgaria:

- “BUL_Plan_2017_New_allotments.txt “ for the new allotments;
- “BUL_Plan_2017_New_assignments.txt“ for the new assignments.,

for Administration of the Republic of Serbia:

- “SRB_Allotment_NEW_06112017.txt“,
- “SRB Plan_2017_new_assignments.txt“,

which are given in the Annex 5 of this Agreement.

ITU coordination and notification

Article 6

Administration of Bulgaria and Administration of the Republic of Serbia agree that they will not object to coordination requests for addition of the new allotments and radio-frequencies (assignments) subject of the Annex 3 and the Annex 4 of this Agreement, submitted to the ITU in the application of the Article 4 of GE06 Agreement.

Transition period

Article 7

The implementation of the agreed DTT requirements will be done gradually in the transition period which will start on the date of signing the Agreement.

As the Republic of Serbia has not yet officially decided about the usage of the 694-790 MHz frequency bands for terrestrial systems capable of providing wireless broadband electronic communications services, and noting the request of Bulgaria in the light of the Decision of the European Parliament and the Council (Decision (EU) 2017/899) regarding the use of the 470-790 MHz frequency band in the EU, both Parties should additionally agree, before June 30th, 2020, on a final date of the transition period.

All the DTT assignments of signing Administrations above 694 MHz within the territories of the Republic of Bulgaria and the Republic of Serbia shall not be used after the end of the transition period.

Revision of the Agreement

Article 8

With the consent of the other signing 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.

Language of the Agreement

Article 9

This Agreement exists in two original versions in English. Each Administration holds one original.

Entry into force

Article 10

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

Attachments:

- Annex 1: Channel distribution of the new DTT plan of Administration of the Republic of Serbia.
- Annex 2: Channel distribution of the new DTT plan of Administration of Bulgaria

- Annex 3: Technical parameters of new allotments and assignments of Administration of the Republic of Serbia
- Annex 4: Technical parameters of new allotments and assignments of Administration of Bulgaria
- Annex 5: CD with BUL and SRB TerraSys files

Budapest

Date 05 December 2017

for the **Administration of Bulgaria**



Miroslava Todorova

Director of Authorization and Frequency Planning
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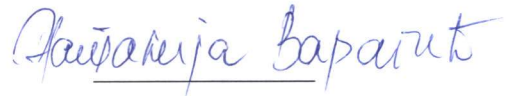
Communications Regulation Commission

for the **Administration of the Republic of Serbia**



Zoran Branković

Head of Radiocommunication Department



Natalija Varagić

Group Coordinator

Regulatory Agency for Electronic Communications and
Postal Services

Layer	AVALA	BESNA KOBILA	CER-MALIEN	COT-VENAC	DELI JOVAN	JASTREBAC	KIKINDA	KOPAONIK	RUDNIK-CRNI VRH(I)	SOMBOR	SUBOTICA	TORNIK-OVCAR	TUPIZNICA-CRNI VRH(P)	VRSAC	KOSOVO I METOHIIJA	KOSOVO I METOHIIJA C	KOSOVO I METOHIIJA G
MUX1	22	35	39	24	43	25	24	34	43	24	24	39	25	25	21		
MUX2	28	39	32	30	23	27	30	32	26	43	43	36	22	31	31		
MUX3	33	29	34	34	29	45	46	22	29	34	46	30	31	33	46		
MUX4	37	33	37	40	39	33	40	41	46	40	40	41	37	37	48		
MUX5	45	43	47	41	41	42	29	24	47	39	29	24	28	45	44		
MUX6	42	38	42	48	24	38	32	28	35	48	48	23	44	42	47		37

GEO6D channels
New channels

RS AB

LAYER	VIDIN	PLEVEN	RUSE	SHUMEN	VARNA	BURGAS	ST.ZAGORA	KARDJALI	PLOVDIV	SMOLYANI	SOFIA	BLAGOEVGRAD	PLOVDIV-city	VARNA-city	SOFIA-CITY	Strandja	
1	45	29	27	24	29	42	34	26	35	34	23	33	33	33	26	21	27
2	26	24	26	41	35	32	31	45	43	38	26	29	27	32	32	27	27
3	30	41	48	39	27	30	47	21	39	21	36	45		39	39	24	21
4	46	46	21	28	22	48	22	29	32	28	47	46		45	45	41	29
5	32	40	45	40	33	44	37	44	30	48	48	25		46	46	32	
		38		38	43	25	23	48	25	29	34	31				35	
		22					42	34	24	45	40	42				39	
							21	42	41	42	30	28				43	
									34								

GE06D channels
New channels

RS 4/B

Technical parameters of new allotments and assignments of the Republic of Serbia

1. List of new allotments of the Republic of Serbia.

No	Channel	t_freq_assign	t_adm_ref_id	t_sfn_id	t_allot_name	t_typ_ref_network	t_ref_plan_cfg	t_polar	t_etry
1	42	642	SRB AV CVex 1	AV CVex 1	AVALA	RN1	RPC2	H	SRB
2	37	602	SRB AV CMex 2	AV CMex 2	AVALA	RN1	RPC2	H	SRB
3	29	538	SRB BK 3	BK 3	BESNA KOBILA	RN1	RPC2	H	SRB
4	33	570	SRB BK JSex 4	BK JSex 4	BESNA KOBILA	RN1	RPC2	H	SRB
5	38	610	SRB BK JSex 5	BK JSex 5	BESNA KOBILA	RN1	RPC2	H	SRB
6	39	618	SRB CM OTex 6	CM OTex 6	CER-MALJEN	RN1	RPC2	H	SRB
7	40	626	SRB CC SOSUex 7	CC SOSUex 7	COT-VENAC	RN1	RPC2	H	SRB
8	34	578	SRB CC CMSOex 8	CC CMSOex 8	COT-VENAC	RN1	RPC2	H	SRB
9	29	538	SRB DJ CVex 9	DJ CVex 9	DELI JOVAN	RN1	RPC2	H	SRB
10	39	618	SRB DJ 10	DJ 10	DELI JOVAN	RN1	RPC2	H	SRB
11	25	506	SRB JS TPex 11	JS TPex 11	JASTREBAC	RN1	RPC2	H	SRB
12	24	498	SRB KI CCex 12	KI CCex 12	KIKINDA	RN1	RPC2	H	SRB
13	30	546	SRB KI CCex 13	KI CCex 13	KIKINDA	RN1	RPC2	H	SRB
14	46	674	SRB KI 14	KI 14	KIKINDA	RN1	RPC2	H	SRB
15	40	626	SRB KI SOSUex 15	KI SOSUex 15	KIKINDA	RN1	RPC2	H	SRB
16	43	650	SRB CV 16	CV 16	RUDNIK-CRNI VRH(J)	RN1	RPC2	H	SRB
17	47	682	SRB CV CMex 17	CV CMex 17	RUDNIK-CRNI VRH(J)	RN1	RPC2	H	SRB
18	24	498	SRB SO CCex 18	SO CCex 18	SOMBOR	RN1	RPC2	H	SRB
19	48	690	SRB SO CCex 19	SO CCex 19	SOMBOR	RN1	RPC2	H	SRB
20	46	674	SRB SU SOex 20	SU SOex 20	SUBOTICA	RN1	RPC2	H	SRB
21	24	498	SRB SU CCex 21	SU CCex 21	SUBOTICA	RN1	RPC2	H	SRB

No	Channel	t_freq_assgn	t_adm_ref_id	t_sfn_id	t_allot_name	t_typ_ref_netwk	t_ref_plan_cfg	t_polar	t_ctry
22	48	690	SRB SU CCex 22	SU CCex 22	SUBOTICA	RN1	RPC2	H	SRB
23	30	546	SRB OT 23	OT 23	TORNIK-OVCAR	RN1	RPC2	H	SRB
24	41	634	SRB OT KPex 24	OT KPex 24	TORNIK-OVCAR	RN1	RPC2	H	SRB
25	24	498	SRB OT KOex 25	OT KOex 25	TORNIK-OVCAR	RN1	RPC2	H	SRB
26	33	570	SRB VR AVex 26	VR AVex 26	VR SAC	RN1	RPC2	H	SRB
27	46	666	SRB VR AVex 27	VR AVex 27	VR SAC	RN1	RPC2	H	SRB
28	47	682	SRB KIM C 28	KIM C 28	KOSOVO I METOHIJA C	RN1	RPC2	H	SRB
29	37	602	SRB KIM G 29	KIM G 29	KOSOVO I METOHIJA G	RN1	RPC2	H	SRB

2. List of the assignments of the Republic of Serbia.

Station #	Site name	Adm	Allotment name	t_adm_ref_id	Geo coordinates	ERP [W]	Hant [m]	Heff [m]	Freq [MHz]	Channel No.	Pol
1	AVALA	SRB	AVALA	AVALA 5 new	20°31'12.0"E 44°41'47.0"N	200000	160	500	602	37	H
2	AVALA	SRB	AVALA	AVALA 6 new	20°31'12.0"E 44°41'47.0"N	200000	160	500	642	42	H
3	B VISNJICEVO	SRB	KIKINDA	B VISNJICEVO 2 new	20°40'45.0"E 45°26'59.0"N	10000	110	109	498	24	H
4	B VISNJICEVO	SRB	KIKINDA	B VISNJICEVO 3 new	20°40'45.0"E 45°26'59.0"N	10000	110	109	546	30	H
5	B VISNJICEVO	SRB	KIKINDA	B VISNJICEVO 5 new	20°40'45.0"E 45°26'59.0"N	10000	110	109	674	46	H
6	B VISNJICEVO	SRB	KIKINDA	B VISNJICEVO 7 new	20°40'45.0"E 45°26'59.0"N	10000	110	109	626	40	H
7	BAJINA BASTA	SRB	TORNIK-OVCAR	BAJINA BASTA 2 new	19°26'36.0"E 43°56'32.0"N	2000	30	835	546	30	H
8	BAJINA BASTA	SRB	TORNIK-OVCAR	BAJINA BASTA 3 new	19°26'36.0"E 43°56'32.0"N	2000	30	835	634	41	H
9	BAJINA BASTA	SRB	TORNIK-OVCAR	BAJINA BASTA 5 new	19°26'36.0"E 43°56'32.0"N	2000	30	835	498	24	H
10	BESNA KOBILA	SRB	BESNA KOBILA	BESNA KOBILA 2 new	22°14'05.0"E 42°31'44.0"N	50000	25	976	538	29	H

RS AB

Annex 3

Station #	Site name	Adm	Allotment name	t_adm_ref_id	Geo coordinates		ERP [W]	Hant [m]	Heff [m]	Freq [MHz]	Channel No.	Pol
11	BESNA KOBILA	SRB	BESNA KOBILA	BESNA KOBILA 3 new	22°14'05.0"E	42°31'44.0"N	50000	25	976	570	33	H
12	BESNA KOBILA	SRB	BESNA KOBILA	BESNA KOBILA 5 new	22°14'05.0"E	42°31'44.0"N	50000	25	976	610	38	H
13	BITOVIK	SRB	TORNIK-OVCAR	BITOVIK 2 new	19°41'33.0"E	43°26'55.0"N	2000	25	892	546	30	H
14	BITOVIK	SRB	TORNIK-OVCAR	BITOVIK 3 new	19°41'33.0"E	43°26'55.0"N	2000	25	892	634	41	H
15	BITOVIK	SRB	TORNIK-OVCAR	BITOVIK 5 new	19°41'33.0"E	43°26'55.0"N	2000	25	892	498	24	H
16	CER	SRB	CER-MALJEN	CER 5 new	19°29'54.0"E	44°36'12.0"N	10000	51	616	618	39	H
17	CRNI VRH J	SRB	RUDNIK-CRNI VRH(J)	CRNI VRH J 4 new	21°06'58.0"E	44°00'35.0"N	100000	60	583	650	43	H
18	CRNI VRH J	SRB	RUDNIK-CRNI VRH(J)	CRNI VRH J 5 new	21°06'58.0"E	44°00'35.0"N	100000	60	583	682	47	H
19	CRVENI COT	SRB	COT-VENAC	CRVENI COT 5 new	19°42'30.0"E	45°09'06.0"N	200000	110	536	626	40	H
20	CRVENI COT	SRB	COT-VENAC	CRVENI COT 8 new	19°42'30.0"E	45°09'06.0"N	200000	110	536	578	34	H
21	CVILJEN	SRB	KOSOVO I METOHIJA C	CVILJEN 6 new	20°44'54.0"E	42°10'20.0"N	10000	76	1091	682	47	H
22	DELI JOVAN	SRB	DELI JOVAN	DELI JOVAN 3 new	22°13'39.0"E	44°13'35.0"N	20000	60	888	538	29	H
23	DELI JOVAN	SRB	DELI JOVAN	DELI JOVAN 5 new	22°13'39.0"E	44°13'35.0"N	20000	60	888	618	39	H
24	GOC	SRB	JASTREBAC	GOC 5 new	20°52'42.0"E	43°33'45.0"N	5000	30	833	506	25	H
25	GOLES	SRB	KOSOVO I METOHIJA G	GOLES 6 new	20°58'59.0"E	42°34'07.0"N	10000	90	560	602	37	H
26	GUCEVO	SRB	CER-MALJEN	GUCEVO 5 new	19°10'54.0"E	44°29'16.0"N	2000	25	679	618	39	H
27	JADOVNIK	SRB	TORNIK-OVCAR	JADOVNIK 2 new	19°49'52.0"E	43°16'08.0"N	5000	30	899	546	30	H
28	JADOVNIK	SRB	TORNIK-OVCAR	JADOVNIK 3 new	19°49'52.0"E	43°16'08.0"N	5000	30	899	634	41	H
29	JADOVNIK	SRB	TORNIK-OVCAR	JADOVNIK 5 new	19°49'52.0"E	43°16'08.0"N	5000	30	899	498	24	H
30	JASTREBAC	SRB	JASTREBAC	JASTREBAC 5 new	21°28'14.0"E	43°22'56.0"N	100000	40	1063	506	25	H
31	KIKINDA	SRB	KIKINDA	KIKINDA 2 new	20°27'08.0"E	45°51'42.0"N	100000	150	150	498	24	H

Station #	Site name	Adm	Allotment name	t_adm_ref_id	Geo coordinates		ERP [W]	Hant [m]	Heff [m]	Freq [MHz]	Channel No.	Pol
32	KIKINDA	SRB	KIKINDA	KIKINDA 3 new	20°27'08.0"E	45°51'42.0"N	100000	150	150	546	30	H
33	KIKINDA	SRB	KIKINDA	KIKINDA 5 new	20°27'08.0"E	45°51'42.0"N	100000	150	150	674	46	H
34	KIKINDA	SRB	KIKINDA	KIKINDA 7 new	20°27'08.0"E	45°51'42.0"N	100000	150	150	626	40	H
35	KLADOVO	SRB	DELI JOVAN	KLADOVO 3 new	22°30'55.0"E	44°39'21.0"N	2000	25	408	538	29	H
36	KLADOVO	SRB	DELI JOVAN	KLADOVO 5 new	22°30'55.0"E	44°39'21.0"N	2000	25	408	618	39	H
37	KOSMAJ	SRB	AVALA	KOSMAJ 5 new	20°34'58.0"E	44°28'34.0"N	2000	20	386	602	37	H
38	KOSMAJ	SRB	AVALA	KOSMAJ 6 new	20°34'58.0"E	44°28'34.0"N	2000	20	386	642	42	H
39	JAGODNJA	SRB	CER-MALJEN	KRUPANJ JAGODNJA 5n	19°17'51.0"E	44°20'34.0"N	500	25	644	618	39	H
40	LJUBOVIJA NEMIC	SRB	CER-MALJEN	LJUBOVIJA NEMIC 5n	19°26'02.0"E	44°10'42.0"N	500	35	611	618	39	H
41	MAJDANPEK-STARICA	SRB	DELI JOVAN	MAJDANPEK-ST 3 new	21°55'51.0"E	44°26'19.0"N	1000	25	314	538	29	H
42	MAJDANPEK-STARICA	SRB	DELI JOVAN	MAJDANPEK-ST 5 new	21°55'51.0"E	44°26'19.0"N	1000	25	314	618	39	H
43	MALJEN	SRB	CER-MALJEN	MALJEN 5 new	20°00'50.0"E	44°08'27.0"N	10000	22	757	618	39	H
44	OVCAR	SRB	TORNIK-OVCAR	OVCAR 2 new	20°13'19.0"E	43°53'47.0"N	100000	40	773	546	30	H
45	OVCAR	SRB	TORNIK-OVCAR	OVCAR 3 new	20°13'19.0"E	43°53'47.0"N	100000	40	773	634	41	H
46	OVCAR	SRB	TORNIK-OVCAR	OVCAR 5 new	20°13'19.0"E	43°53'47.0"N	100000	40	773	498	24	H
47	RUDNIK	SRB	RUDNIK-CRNI VRH(J)	RUDNIK 4 new	20°32'43.0"E	44°07'53.0"N	20000	50	802	650	43	H
48	RUDNIK	SRB	RUDNIK-CRNI VRH(J)	RUDNIK 5 new	20°32'43.0"E	44°07'53.0"N	20000	50	802	682	47	H
49	SID	SRB	COT-VENAC	SID 5 new	19°23'18.0"E	45°09'21.0"N	1000	100	200	626	40	H
50	SID	SRB	COT-VENAC	SID 8 new	19°23'18.0"E	45°09'21.0"N	1000	100	200	578	34	H
51	SOMBOR	SRB	SOMBOR	SOMBOR 4 new	19°09'02.0"E	45°46'50.0"N	50000	150	150	690	48	H
52	SOMBOR	SRB	SOMBOR	SOMBOR 5 new	19°09'02.0"E	45°46'50.0"N	50000	150	150	498	24	H
53	SUBOTICA	SRB	SUBOTICA	SUBOTICA 5 new	19°38'10.0"E	46°04'40.0"N	200000	210	214	674	46	H
54	SUBOTICA	SRB	SUBOTICA	SUBOTICA 6 new	19°38'10.0"E	46°04'40.0"N	200000	210	214	498	24	H

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Annex 3

Station #	Site name	Adm	Allotment name	t_adm_ref_id	Geo coordinates		ERP [W]	Hant [m]	Heff [m]	Freq [MHz]	Channel No.	Pol
55	SUBOTICA	SRB	SUBOTICA	SUBOTICA 7 new	19°38'10.0"E	46°04'40.0"N	200000	210	214	690	48	H
56	TORNIK	SRB	TORNIK-OVCAR	TORNIK 2 new	19°38'44.0"E	43°39'12.0"N	10000	45	783	546	30	H
57	TORNIK	SRB	TORNIK-OVCAR	TORNIK 3 new	19°38'44.0"E	43°39'12.0"N	10000	45	783	634	41	H
58	TORNIK	SRB	TORNIK-OVCAR	TORNIK 5 new	19°38'44.0"E	43°39'12.0"N	10000	45	783	498	24	H
59	VRANJE SV ILIJA SV	SRB	BESNA KOBILA	VRANJE SV ILIJA 2 n	21°48'35.0"E	42°34'25.0"N	2000	30	788	538	29	H
60	VRANJE SV ILIJA	SRB	BESNA KOBILA	VRANJE SV ILIJA 3 n	21°48'35.0"E	42°34'25.0"N	2000	30	788	570	33	H
61	VRANJE SV ILIJA	SRB	BESNA KOBILA	VRANJE SV ILIJA 5 n	21°48'35.0"E	42°34'25.0"N	2000	30	788	610	38	H
62	VRSAC	SRB	VRSAC	VRSAC 2 new	21°19'54.0"E	45°07'30.0"N	100000	40	350	570	33	H
63	VRSAC	SRB	VRSAC	VRSAC 4 new	21°19'54.0"E	45°07'30.0"N	100000	40	350	666	45	H
64	ZRENJANIN	SRB	COT-VENAC	ZRENJANIN 5 new	20°23'34.0"E	45°22'40.0"N	10000	150	156	626	40	H
65	ZRENJANIN	SRB	COT-VENAC	ZRENJANIN 8 new	20°23'34.0"E	45°22'40.0"N	10000	150	156	578	34	H

Technical parameters of new allotments and assignments of Administration of Bulgaria

1. List of new allotments

No	CHANNEL	ADM_REF_ID	TYP_REF_NTWK	REF_PLAN_CFG	SFN_ID	ALLOT_NAME	POLAR
1	21	BUL16-SMOLIAN-21	RN1	RPC2	SMOLYAN-21	SMOLYAN	U
2	21	BUL16-SOFIA-21	RN1	RPC2	SOFIA_CITY-21	SOFIA_CITY	U
3	21	BUL17-ST-Z-21	RN1	RPC2	STARA_ZAGORA-21	STARA_ZAGORA	U
4	27	BUL16-SOFIA-27	RN1	RPC2	SOFIA_CITY-27	SOFIA_CITY	U
5	29	BUL17-SM-29	RN1	RPC2	SMOLYAN-29	SMOLYAN	U
6	30	BUL17-SF-30	RN1	RPC2	SOFIA-30	SOFIA	U
7	34	BUL17-KJ-34	RN1	RPC2	KARDJALI-34	KARDJALI	U
8	34	BUL17-PL-34	RN1	RPC2	PLOVDIV-34	PLOVDIV	U
9	42	BUL17-SM-42	RN1	RPC2	SMOLYAN-42	SMOLYAN	U
10	42	BUL17-ST-Z-42	RN1	RPC2	STARA_ZAGORA-42	STARA_ZAGORA	U
11	45	BUL17-SM-45	RN1	RPC2	SMOLYAN-45	SMOLYAN	U
12	46	BUL17-PLEVEN-46	RN1	RPC2	PLEVEN-46	PLEVEN	U
13	48	BUL16-RUSE-48	RN1	RPC2	RUSE-48	RUSE	U
14	48	BUL16-SMOLIAN-48	RN1	RPC2	SMOLYAN-48	SMOLYAN	U

2. List of the assignments stemming from new allotments.

No	Channel No.	Site name	Adm	t_sfn_id	Allotment name	t_adm_ref_id	Geo coordinates		ERP_H [dBW]	ERP_V [dBW]	Hant [m]	Heff [m]	Pol
1	21	MADAN	BUL	SMOLYAN-21	SMOLYAN	MADAN-1-21	24° E56'00"	41° E30'00"	34,0	34,0	25	95	M
2	21	SMOLYAN	BUL	SMOLYAN-21	SMOLYAN	SMOLYAN-21	24° E40'50"	41° E38'17"	41,0	41,0	130	986	M
3	21	TRIGRAD	BUL	SMOLYAN-21	SMOLYAN	TRIGRAD-21	24° E24'00"	41° E38'00"	40,0	40,0	12	291	M
4	21	ZLATOGRAD	BUL	SMOLYAN-21	SMOLYAN	ZLATOGRAD-21	25° E06'25"	41° E22'45"	41,0	41,0	30	176	M
5	21	SOFIJA	BUL	SOFIA_CITY-21	SOFIA_CITY	SOFIJA-K-21	23° E14'42"	42° E38'15"	32,4	32,4	131	844	V
6	21	BOLJAROVO	BUL	STARA_ZAGORA-21	STARA_ZAGORA	BOLJAROVO-21	26° E48'00"	42° E09'00"	30,8	30,8	28	63	M
7	21	IZGREV-ELHOVO	BUL	STARA_ZAGORA-21	STARA_ZAGORA	IZGREV-ELHOVO-21	26° E31'20"	42° E10'10"	30,0	30,0	25	54	M
8	21	SLIVEN	BUL	STARA_ZAGORA-21	STARA_ZAGORA	SLIVEN-21	26° E21'52"	42° E42'54"	42,1	42,1	73	917	M
9	21	STARA ZAGORA	BUL	STARA_ZAGORA-21	STARA_ZAGORA	STARA_ZAGORA-21	25° E40'05"	42° E28'25"	36,1	36,1	36	419	M
10	27	SOFIJA	BUL	SOFIA_CITY-27	SOFIA_CITY	SOFIJA-K-27	23° E14'42"	42° E38'15"	32,4	32,4	131	844	V
11	29	MADAN-1	BUL	SMOLYAN-29	SMOLYAN	MADAN-1-29	24° E56'00"	41° E30'00"	34,3	34,3	25	95	M
12	29	SMOLYAN	BUL	SMOLYAN-29	SMOLYAN	SMOLYAN-29	24° E40'50"	41° E38'17"	42,6	42,6	130	986	M
13	29	TRIGRAD	BUL	SMOLYAN-29	SMOLYAN	TRIGRAD-29	24° E24'00"	41° E38'00"	41,3	41,3	12	291	M
14	29	ZLATOGRAD	BUL	SMOLYAN-29	SMOLYAN	ZLATOGRAD-29	25° E06'25"	41° E22'45"	41,3	41,3	30	176	M
15	30	GJUECHEVO	BUL	SOFIA-30	SOFIA	GJUECHEVO-30	22° E27'53"	42° E13'34"	33,0	33,0	20	342	M
16	30	KYUSTENDIL	BUL	SOFIA-30	SOFIA	KYUSTENDIL-30	22° E51'00"	42° E17'00"	43,0	43,0	68	135	M
17	30	SOFIA TK	BUL	SOFIA-30	SOFIA	SOFIA-30TK	23° E20'31"	42° E40'36"	33,7	33,7	115	206	M
18	30	SOFIJA	BUL	SOFIA-30	SOFIA	SOFIJA-30	23° E14'42"	42° E38'15"	40,0	40,0	131	844	M
19	30	TRAN	BUL	SOFIA-30	SOFIA	TRAN-30	22° E39'20"	42° E50'10"	33,0	33,0	21	-10	M
20	34	IVAJLOVGRAD	BUL	KARDJALI-34	KARDJALI	IVAJLOVGRAD-34	26° E06'00"	41° E31'00"	33,9	33,9	30	292	M
21	34	KARDJALI	BUL	KARDJALI-34	KARDJALI	KARDJALI-34	25° E22'00"	41° E28'00"	46,0	46,0	90	64	M
22	34	MAKAZA	BUL	KARDJALI-34	KARDJALI	MAKAZA-34	25° E25'00"	41° E17'00"	34,7	34,7	13	400	M
23	34	SVILENGRAD	BUL	KARDJALI-34	KARDJALI	SVILENGRAD-34	26° E02'00"	41° E43'00"	40,0	40,0	90	509	M
24	34	BRATIJA	BUL	PLOVDIV-34	PLOVDIV	BRATIJA-34	24° E09'00"	42° E36'00"	38,1	38,1	30	815	M
25	34	KAZANLAK	BUL	PLOVDIV-34	PLOVDIV	KAZANLAK-34	25° E22'10"	42° E36'40"	35,0	35,0	24	53	M
26	34	PAZARDJIK	BUL	PLOVDIV-34	PLOVDIV	PAZARDJIK-34	24° E20'00"	42° E12'00"	34,7	34,7	28	46	M
27	34	PLOVDIV	BUL	PLOVDIV-34	PLOVDIV	PLOVDIV-34	24° E42'00"	42° E08'00"	42,1	42,1	15	21	M
28	34	ZDRAVETS	BUL	PLOVDIV-34	PLOVDIV	ZDRAVETS-34	24° E43'13"	41° E59'48"	38,0	38,0	60	1105	M

Annex 4

No	Channel No.	Site name	Adm	t_sfn_id	Allotment name	t_adm_ref_id	Geo coordinates		ERP_H [dBW]	ERP_V [dBW]	Hant [m]	Heff [m]	Pol
29	42	MADAN	BUL	SMOLYAN-42	SMOLYAN	MADAN-1-42	24° E56'00"	41° E30'00"	34,3	34,3	25	95	M
30	42	SMOLYAN	BUL	SMOLYAN-42	SMOLYAN	SMOLYAN-42	24° E40'50"	41° E38'17"	42,6	42,6	130	986	M
31	42	TRIGRAD	BUL	SMOLYAN-42	SMOLYAN	TRIGRAD-42	24° E24'00"	41° E38'00"	41,3	41,3	12	291	M
32	42	ZLATOGRAD	BUL	SMOLYAN-42	SMOLYAN	ZLATOGRAD-42	25° E06'25"	41° E22'45"	41,3	41,3	30	176	M
33	42	BOLJAROVO	BUL	STARA_ZAGORA-42	STARA_ZAGORA	BOLJAROVO-42	26° E48'00"	42° E09'00"	33,6	33,6	28	63	M
34	42	IZGREV-ELHOVO	BUL	STARA_ZAGORA-42	STARA_ZAGORA	IZGREV-ELHOVO-42	26° E31'20"	42° E10'10"	32,8	32,8	25	54	M
35	42	SLIVEN	BUL	STARA_ZAGORA-42	STARA_ZAGORA	SLIVEN-42	26° E21'52"	42° E42'54"	44,9	44,9	73	917	M
36	42	STARA ZAGORA	BUL	STARA_ZAGORA-42	STARA_ZAGORA	STARA ZAGORA-42	25° E40'05"	42° E28'25"	38,9	38,9	36	419	M
37	45	MADAN	BUL	SMOLYAN-45	SMOLYAN	MADAN-1-45	24° E56'00"	41° E30'00"	34,3	34,3	25	95	M
38	45	SMOLYAN	BUL	SMOLYAN-45	SMOLYAN	SMOLYAN-45	24° E40'50"	41° E38'17"	41,0	41,0	130	986	M
39	45	TRIGRAD	BUL	SMOLYAN-45	SMOLYAN	TRIGRAD-45	24° E24'00"	41° E38'00"	41,0	41,0	12	291	M
40	45	ZLATOGRAD	BUL	SMOLYAN-45	SMOLYAN	ZLATOGRAD-45	25° E06'25"	41° E22'45"	41,0	41,0	30	176	M
41	46	BAJKAL	BUL	PLEVEN-46	PLEVEN	BAJKAL-46	24° E25'00"	43° E42'30"	34,8	34,8	25	107	M
42	46	BOTEV VRAH	BUL	PLEVEN-46	PLEVEN	BOTEV VRAH-46	24° E55'01"	42° E43'03"		40,0	69	1676	V
43	46	NIKOPOL	BUL	PLEVEN-46	PLEVEN	NIKOPOL-46	24° E54'00"	43° E42'00"	34,8	34,8	25	124	M
44	46	PLEVEN	BUL	PLEVEN-46	PLEVEN	PLEVEN-1-46	24° E37'50"	43° E24'50"	41,0	41,0	25	88	M
45	46	PRAVETZ	BUL	PLEVEN-46	PLEVEN	PRAVETZ-46	23° E54'00"	42° E55'00"	44,0	44,0	50	202	M
46	48	RUSSE	BUL	RUSE-48	RUSE	BUL-RUSE-48	25° E57'30"	43° E49'30"		30,0	171	298	V
47	48	MADAN	BUL	SMOLYAN-48	SMOLYAN	MADAN-1-48	24° E56'00"	41° E30'00"	34,0	34,0	25	95	M
48	48	SMOLYAN	BUL	SMOLYAN-48	SMOLYAN	SMOLYAN-48	24° E40'50"	41° E38'17"	41,0	41,0	130	986	M
49	48	TRIGRAD	BUL	SMOLYAN-48	SMOLYAN	TRIGRAD-48	24° E24'00"	41° E38'00"	41,0	41,0	12	291	M
50	48	ZLATOGRAD	BUL	SMOLYAN-48	SMOLYAN	ZLATOGRAD-48	25° E06'25"	41° E22'45"	41,0	41,0	30	176	M

PH AB