

**Technical Agreement
between
the Telecommunication Administration of Romania and the
Telecommunication Administration of Ukraine
on coordination of DVB-T frequency assignments in the band 470-
790 MHz and on technical criteria for the coordination of the
broadcasting service of UKR in the frequency band 790-862 MHz
with respect of the land mobile service in ROU**

Geneva, February 2012

Preamble

According to the relevant provisions of the GE-06 Agreement and of the Article 6 of the Radio Regulations, the representatives of the Telecommunication Administration of Romania and of the Telecommunication Administration of Ukraine (hereinafter referred to as Parties) have agreed the present Technical Agreement concerning the use of the DVB-T frequency assignments in the band 470-790 MHz and the use of broadcasting and land mobile services in the band 790-862 MHz, with the purpose of avoiding mutual interference and optimising the use of the above-stated frequency bands on a mutually coordinated basis.

1. Object of the agreement

The objectives of the present agreement are:

- the mutual coordination of DVB-T frequency assignments, proposed by both Parties, which are not included in the GE-06 Plan;
- the technical criteria for the coordination of the broadcasting service of UKR with respect to the land mobile service of ROU in the frequency band 790-862 MHz.

2. Mutual coordination of DVB-T assignments

The parties have agreed to consider as coordinated the stations included in Annex 1 and Annex 2.

For the sites of which the channels proposed by ROU were refused by UKR (Birlad ch. 59, Negresti-Oas ch. 59 and Tulcea ch. 45 and ch. 51), the process of coordination shall continue between both Parties. In this respect, ROU will send to UKR a request for coordination with new technical parameters for these remaining stations after the date of signing of this agreement.

3. Technical criteria for the use of UKR DVB-T assignments in the 790-862 MHz band

3.1. Based on the EU Decision 2010/267/EU, the Romanian Administration intends to introduce the mobile service in the band 790-862 MHz before 2015. Therefore Romanian Administration initiated that its name be added to the footnote 5.316A, which ensures the usage of 790-862 MHz band by the mobile service.

3.2. In order to ensure the unconstrained deployment of mobile service in ROU, the UKR DVB-T allotments and assignments on channels 61-69 (both planned and new), the following conditions shall apply at the border line ROU-UKR:

- UKR may use the channels 61 to 64 only if the predicted mean field strength produced by the stations of the broadcasting service does not exceed 49 dB μ V/m/8 MHz at the borderline, at a height of 10 m above ground level;
- UKR may use the channel 65 without causing harmful interference to the adjacent channels which will be used by the mobile systems;
- UKR may use the channels 66 to 69 only if the predicted mean field strength produced by the stations of the broadcasting service does not exceed 12 dB μ V/m/8 MHz at the borderline, at a height of 10 m above ground level.

3.3. The DVB-T transmitters operating on channel 61 in the locations KHUST and RAKHIV, in conformity with the GE-06 Plan, are the only exceptions to the rules prescribed under item 3.2. above. In this respect, Ukraine will make the best efforts to change this TV channel in future with a channel below 61. The technical characteristics of these transmitters are:

Name	TV channel	Coordinates	ASL (m)	AGL (m)	ERP max (dBW)	Polarisation	H eff max (m)	Directivity	System
KHUST	61	23°E14'33" / 48°N13'24"	800	110	42	V	749	D	C2
RAKHIV	61	24°E12'30" / 48°N06'32"	1360	100	42	V	845	ND	C2

3.4. The ITU-R Recommendation P.1546-4 "Method for point-to-area predictions for terrestrial services in the frequency range 30-3000 MHz" shall be used for calculations of the field strength value produced by the UKR DVB-T stations referred to in item 3.2 above. The use of updated versions of this Recommendation is to be mutually agreed.

3.5. In the presence of interference produced by the DVB-T stations of UKR covered under item 3.2., the Report of harmful interference shall be presented in accordance with Appendix 10 of the Radio Regulations. The Parties shall take all possible measures in order to eliminate the interference in due time.

3.6. The field strength specified in the Report of harmful interference (see item 3.5) shall be based on the median values of the measured field strength performed at antenna height stipulated in item 3.2 of this Technical Agreement in different test points along the border.

4. Revision

Chapter 3 of this Technical Agreement will be revised after UKR decides to implement LTE systems in the 790-862 MHz band. UKR will inform in due time ROU about the above stated decision.

5. Coming into force

This Technical Agreement shall come into force on the date of the signing.

This document has been drawn up in two identical copies, one for Romania and one for Ukraine.

Done at Geneva on 14 February 2012

For the Telecommunication Administration
of Romania

For the Telecommunication Administration
of Ukraine

Bogdan Cristian IANA

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List of DVB-T frequency assignments of Ukraine coordinated with Romania

No	Name of site	TV ch.	ERP, dBW	ERP reduction	Longitude	Latitude	H site	H ant	Directivity	System	Polarization	Type of reception
1	MUKACHEVO	55	26.6		22°E 45' 41"	48°N 25' 34"	201	30	ND	C2	H	FX
2	RAKHIV	33	22.8		24°E 12' 30"	48°N 06' 32"	1360	99	ND	C2	H	FX
3	RAKHIV	55	22.8		24°E 12' 30"	48°N 06' 32"	1360	99	ND	C2	H	FX
4	RAKHIV	60	22.8		24°E 12' 30"	48°N 06' 32"	1360	99	ND	C2	H	FX
5	SVALIAVA	40	26.2		22°E 56' 27"	48°N 30' 58"	720	48	ND	C2	H	FX
6	SVALIAVA	44	26.2		22°E 56' 27"	48°N 30' 58"	720	48	ND	C2	H	FX
7	VELYKYI BEREZNYI	55	23.4		22°E 33' 31"	48°N 54' 16"	1000	37	D	B5	H	FX
8	ROKYTA VELYKA-0	35	29		24°E 42' 18"	48°N 25' 05"	1080	53	D	B5	H	FX
9	ROKYTA VELYKA-0	39	29		24°E 42' 18"	48°N 25' 05"	1080	53	D	B5	H	FX
10	ROKYTA VELYKA-0	49	29		24°E 42' 18"	48°N 25' 05"	1080	53	D	B5	H	FX
11	EVPATORYIA-0	23	29.1		33°E 23' 58"	45°N 12' 45"	11	79	D	B5	H	FX
12	EVPATORYIA-0	32	29.1		33°E 23' 58"	45°N 12' 45"	11	79	D	B5	H	FX
13	EVPATORYIA-0	35	29.1		33°E 23' 58"	45°N 12' 45"	11	79	D	B5	H	FX
14	KIROVSKE	24	28.8		33°E 04' 08"	45°N 32' 32"	60	102	ND	C2	H	FX
15	KIROVSKE	40	28.8		33°E 04' 08"	45°N 32' 32"	60	102	ND	B5	H	FX
16	SEVASTOPOL-0	30	25.1		33°E 34' 05"	44°N 34' 45"	178	203	ND	B5	H	FX
17	SEVASTOPOL-0	40	25.1		33°E 34' 05"	44°N 34' 45"	178	203	ND	B5	H	FX
18	SEVASTOPOL-0	47	25.1	3 dB/250-280*	33°E 34' 05"	44°N 34' 45"	178	203	ND	B5	H	FX
19	IZMAIL-02	21	30.7		28°E 52' 22"	45°N 20' 01"	20	110	D	B5	H	FX
20	IZMAIL-02	23	30.7		28°E 52' 22"	45°N 20' 01"	20	110	D	B5	H	FX
21	IZMAIL-02	39	30.7		28°E 52' 22"	45°N 20' 01"	20	110	D	B5	H	FX
22	KAMIANSKE-0	55	30.4		29°E 17' 23"	45°N 49' 19"	79	180	ND	C2	H	FX
23	KULCHYIVTSI-1	22	30.6	7 dB/160-220*	26°E 45' 32"	48°N 40' 30"	310	250	ND	B5	H	FX
24	KULCHYIVTSI-1	29	30.6		26°E 45' 32"	48°N 40' 30"	310	250	ND	B5	H	FX
25	CHERNIVTSI	40	34.7		25°E 50' 39"	48°N 17' 47"	520	108	ND	B5	H	FX
26	CHERNIVTSI	43	34.7		25°E 50' 39"	48°N 17' 47"	520	108	ND	C2	H	FX
27	CHERNIVTSI	49	34.7		25°E 50' 39"	48°N 17' 47"	520	108	ND	B5	H	FX
28	NOVODNISTROVSK	25	34.4		27°E 24' 11"	48°N 39' 22"	227	205	ND	B5	H	FX
29	NOVODNISTROVSK	64	34.4		27°E 24' 11"	48°N 39' 22"	227	205	ND	B5	H	FX
30	CHERNIVTSI-0	59	35	3 dB/120-160*	25°E 50' 32"	48°N 17' 44"	532	108	ND	C2	H	FX

* the mentioned restriction to the power is in force till the end of transition period in Romania

List of DVB-T frequency assignments of Romania coordinated with Ukraine

Nº	Name of station	TV ch.	ERP dBW	Long.	Lat.	H site	H ant	Polarization	Type of reception	System	Directivity	Note
1	BIRLAD	22	33	27°E 39' 46"	46°N 12' 57"	80	12	V	MO	C2	ND	UKR220074*
2	BIRLAD	34	33	27°E 39' 46"	46°N 12' 57"	80	12	V	MO	C2	ND	UKR340074*
3	BOTOSANI	51	30	26°E 39' 43"	47°N 44' 42"	161	34	V	MO	C2	ND	UKR510042*
4	CONSTANTA	24	33	28°E 38' 40"	44°N 11' 07"	40	42	V	MO	C2	ND	
5	CONSTANTA	28	33	28°E 38' 40"	44°N 11' 07"	40	42	V	MO	C2	ND	
6	CONSTANTA	34	33	28°E 38' 40"	44°N 11' 07"	40	42	V	MO	C2	ND	
7	GALATI	30	33	28°E 01' 09"	45°N 25' 07"	49	52	V	MO	C2	ND	
8	GALATI	31	33	28°E 01' 09"	45°N 25' 07"	49	52	V	MO	C2	ND	
9	GALATI	42	33	28°E 01' 09"	45°N 25' 07"	49	52	V	MO	C2	ND	
10	IASI	36	33	27°E 35' 18"	47°N 09' 35"	61	65	V	MO	C2	ND	
11	IASI	40	37	27°E 35' 18"	47°N 09' 35"	61	65	V	MO	C2	ND	
12	IASI	44	33	27°E 35' 18"	47°N 09' 35"	61	65	V	MO	C2	ND	
13	MANGALIA	26	33	28°E 34' 42"	43°N 48' 56"	18	50	V	MO	C2	ND	
14	MANGALIA	38	33	28°E 34' 42"	43°N 48' 56"	18	50	V	MO	C2	ND	
15	MANGALIA	49	33	28°E 34' 42"	43°N 48' 56"	18	50	V	MO	C2	ND	
16	NEGRESTI-OAS	57	33	23°E 15' 52"	47°N 53' 10"	414	33	V	MO	C2	ND	UKR570040*
17	SUCEAVA	21	33	26°E 17' 07"	47°N 41' 12"	382	30	V	MO	C2	ND	
18	SUCEAVA	22	33	26°E 17' 07"	47°N 41' 12"	382	30	V	MO	C2	ND	
19	SUCEAVA	37	30	26°E 17' 07"	47°N 41' 12"	382	30	V	MO	C2	ND	
20	TULCEA	54	33	28°E 47' 09"	45°N 09' 40"	80	35	V	MO	C2	ND	330-360/15 dB
21	VASLUI	27	33	27°E 43' 48"	46°N 38' 57"	134	29	V	MO	C2	ND	UKR270074*
22	VASLUI	37	33	27°E 43' 48"	46°N 38' 57"	134	29	V	MO	C2	ND	UKR370074*
23	VASLUI	38	33	27°E 43' 48"	46°N 38' 57"	134	29	V	MO	C2	ND	

* under condition that Romania will not object to the conversion of the indicated allotment of Ukraine