

Technical criteria and principles
concerning the coordination of the frequency band 470 – 694 MHz
for Digital Terrestrial Television
between the Communications Regulatory Authority of the Republic of Lithuania
and the Swedish Post and Telecom Authority

Preamble

According to 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 the Communications Regulatory Authority of the Republic of Lithuania and the Swedish Post and Telecom Authority (hereinafter referred to as the Parties) have concluded these Technical criteria and principles in order to allow the use the frequency band 694–790 MHz for terrestrial systems capable of providing wireless broadband electronic communications services (MFCN) and at the same time ensuring the availability of necessary frequency resources for provision of terrestrial broadcasting services (DTT) in the frequency band 470–694 MHz.

The objective of these Technical criteria and principles is to establish conditions for the use of the frequency band 470–694 MHz for DTT after releasing the frequency range 694–790 MHz for its use for MFCN. The intention during the negotiations has been to find a common planning solution enabling at least six DTT layers in each country.

Swedish Party has decided to use the frequency band 694 – 790 MHz for electronic communication services other than broadcasting from 1 June 2018.

Lithuanian Party will make all practicable efforts to minimise the duration of unresolved coordination with non-EU countries in order to allow the use of the frequency band 694–790 MHz pursuant to the terms of the Decision (EU) 2017/899 of the European Parliament and of the Council.

General conditions of use after modification of the GE06D Plan

Allotments listed in Table 1 and Table 2 may be implemented and the implementation notified to the ITU without bilateral coordination as long as the implementation fulfils the GE06 conformity check.

Allotments listed in Table 3 and Table 4 must not be implemented without bilateral coordination and the implementation must not be notified to the ITU without bilateral coordination. The implementation should normally be accepted if the cumulative interfering field strength from it towards the other party's co-channel allotments does not exceed 40 dBµV/m@650 MHz. The value for other frequencies should be adjusted by $30 \log(f/650)$, f in MHz.

Allotments listed in Table 1, Table 2, Table 3 and Table 4 acquire the right for protection against the entries of GE06D Plan recorded prior to these Technical criteria and principles only after the end of transition period or from July 1st 2022 at the latest. Such protection shall be secured according to the relevant provisions of the "Agreement between Lithuania and Sweden concerning the use of the broadcasting band planned at the RRC 2006 conference" Geneva, 1 June 2006. The transition period ends when the frequency band 694–790 MHz is released form DTT in the countries of both Parties. Each Party shall inform the other Party upon the end of the release process in its country.



Any number of contiguous allotments shall be treated as one single (consolidated) allotment with one (representative) reference network associated with it for each individual test point. The representative reference network of the consolidated allotment for the particular test point is the one which creates the highest interference on that test point. For calculation of interference potential of the consolidated allotment with linked assignments see Figure 1.

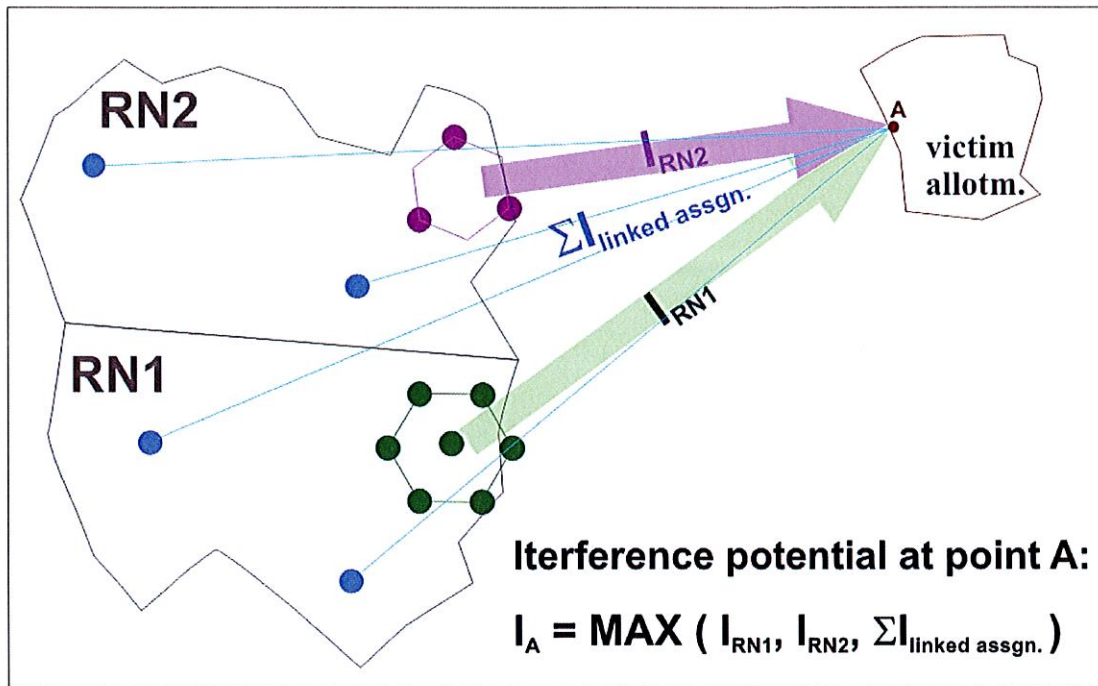


Figure 1 Interference potential of consolidated allotment

Modifications to the GE06D Plan

In order to release the band 694–790 MHz, a number of modifications have to be done to the existing GE06D Plan in the band 470–694 MHz.

Additions

The allotments in Table 1 and Table 2, with the associated reference network (RN), are accepted by the Parties as additions to the GE06D Plan.

Any allotment of Lithuania Party in the area depicted in grey in Figure 2 originated from re-planning solutions with other neighbouring countries is considered to be coordinated by Swedish Party and can be added to the GE06D Plan. If such allotment has linked assignments the interference potential arising from such entry shall not be greater than interference potential from reference network of type 1 (RN1) associated with such allotment. Such allotment cannot claim more protection than that afforded by any allotment of type 1 (RN1) of Swedish party.

Table 1 Added allotments in **LITHUANIA**, no need for bilateral coordination

Ch	Allotment	RPC	RN
26	RASEINIAI	RPC2	RN2
32	SIAULIAI	RPC2	RN2
36	TELSIAI	RPC2	RN2
37	SIAULIAI	RPC2	RN2

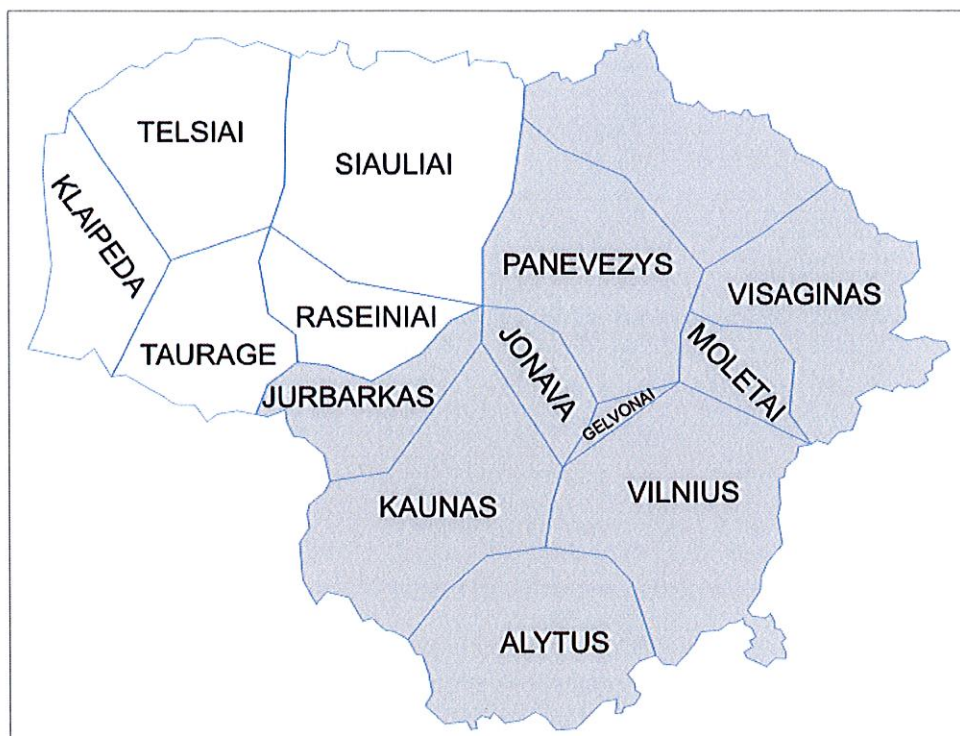


Figure 2 Allotments in **LITHUANIA**

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Any allotment of Swedish Party in the area depicted in grey in Figure 3 originated from re-planning solutions with other neighbouring countries is considered to be coordinated by Lithuanian Party and can be added to the GE06D Plan. If such allotment has linked assignments the interference potential arising from such entry shall not be greater than interference potential from reference network of type 1 (RN1) associated with such allotment. Such allotment cannot claim more protection than that afforded by any allotment of type 1 (RN1) of Lithuanian party.

Table 2 Added allotments in **SWEDEN**, no need for bilateral coordination

Ch	Allotment	RPC	RN
21	STOCKHOLM	2	1
23	KISA	2	1
24	OESTHAMMAR	2	1
24	UPPSALA	2	1
26	EMMABODA	2	1
26	MOTALA	2	1
26	UPPSALA	2	1
30	KISA	2	1
30	OESTHAMMAR	2	1
30	UPPSALA	2	1
31	KARLSHAMN-KARLSKRONA	2	1
31	NAESSJOE	2	1
31	VISBY	2	1
32	STOCKHOLM	2	1
34	NORRKOEPING	2	1
35	VAESTERAAS	2	1
36	VAESTERAAS	2	1
41	KARLSHAMN-KARLSKRONA	2	1
41	MOTALA	2	1
42	KISA	2	1
43	KISA	2	1
43	MOTALA	2	1
44	MOTALA	2	1
45	MOTALA	2	1
45	STOCKHOLM	2	1
47	NORRKOEPING	2	1
48	JOENKOEPING-NAESSJOE	2	1

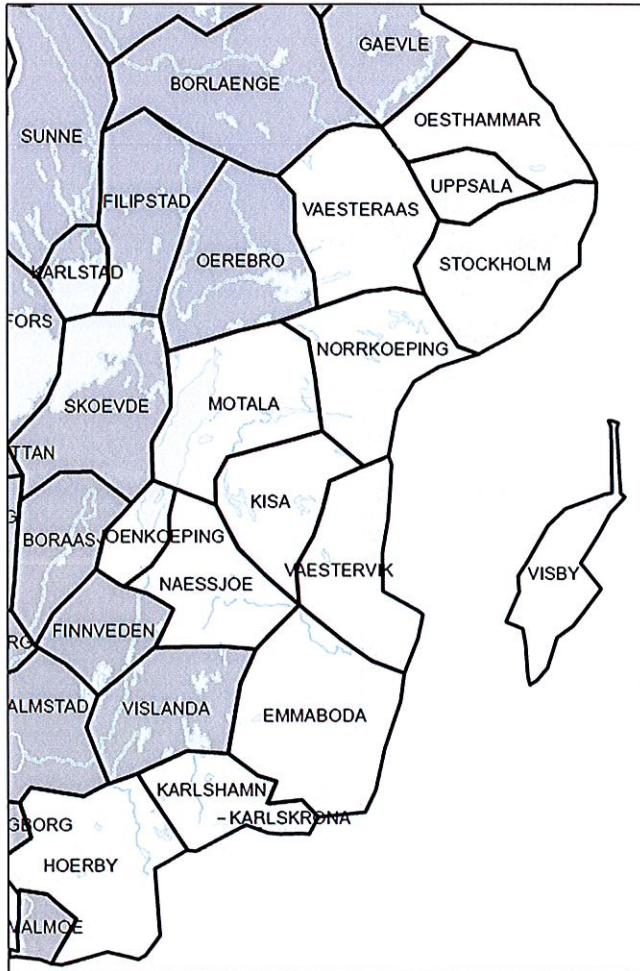


Figure 3 Allotments in **SWEDEN** (south eastern part)

The names and the structure of the added allotments in Sweden are the same as in the current GE06D Plan.

The allotments in Table 3 and Table 4 are accepted by the Parties as additions to the GE06D Plan. However, implementation of these allotments requires coordination with the other Party before implementation or notification to the ITU. When notifying these allotments the t_remarks field should include "Implementation shall be coordinated with LTU/S" respectively.

Table 3 Added allotments in **LITHUANIA**, bilateral coordination required

Ch	Allotment	RPC	RN
24	TELSIAI	RPC2	RN2
28	KLAIPEDA	RPC2	RN2
43	KLAIPEDA	RPC2	RN2
43	TAURAGE	RPC2	RN2

Table 4 Added allotments **SWEDEN**, bilateral coordination required

Ch	Allotment	RPC	RN
22	VISBY	2	1
27	VAESTERVIK	2	1
27	HOERBY	2	1
29	UPPSALA	2	1
36	EMMABODA	2	1
38	KISA	2	1
38	VAESTERVIK	2	1
43	KARLSHAMN-KARLSKRONA	2	1
43	NORRKOEPING	2	1

The assignments in Table 5 and Table 6 are to be treated as coordinated and are accepted by the Parties as implementations of allotments and additions to the GEO6D Plan.

Table 5 Assignments in **LITHUANIA**, no need for bilateral coordination

Ch	Assignment	Allotment	Lat	Long	e.r.p. (dBW)	h _{effmax} (m)	Pol	Ant (D/ND)
24	Mazeikiai	TELSIAI	56N1810	022E2020	40	107	H	ND
24	Plunge	TELSIAI	55N5625	021E5227	42	160	H	ND
24	Skuodas	TELSIAI	56N1541	021E3146	39	99	H	D: 290°/-1 dB
24	Telsiai	TELSIAI	55N5846	022E1221	45	140	H	ND
26	Raseiniai	RASEINIAI	55N2157	023E0824	46	150	H	ND
28	Giruliai	KLAIPEDA	55N4606	021E0549	43	228	H	D: 260°-280°/-20 dB; 290°/-16 dB; 300°/-14 dB
36	Mazeikiai	TELSIAI	56N1810	022E2020	40	107	H	ND
36	Plunge	TELSIAI	55N5625	021E5227	45	160	H	ND
36	Skuodas	TELSIAI	56N1541	021E3146	43	99	H	ND
36	Telsiai	TELSIAI	55N5846	022E1221	45	140	H	ND
43	Giruliai	KLAIPEDA	55N4606	021E0549	39	228	H	D: 260°-280°/-20 dB; 290°/-16 dB; 300°/-14 dB; 310°/-9 dB; 320°/-7 dB
43	Taurage	KLAIPEDA	55N1556	022E1557	46	220	H	ND
48	Giruliai	-	55N4606	021E0549	29	228	H	D: 300°, 320°/-8 dB; 310°/-9.5 dB; 330°/-6 dB

Table 6 Assignments in SWEDEN, no need for bilateral coordination

Ch	Assignment	Allotment	Lat	Long	e.r.p. (dBW)	h_{effmax} (m)	Pol	Ant (D/ND)
21	Bergshamra/Vaxt	STOCKHOLM	59N3629	018E3623	33.0	117	H	D
21	Mölnbo/Tallstuga	STOCKHOLM	59N0100	017E2436	33.0	156	H	ND
21	Norrtälje	STOCKHOLM	59N4522	018E4217	30.0	73	H	D
21	Stockholm/DN	STOCKHOLM	59N1936	018E0124	27.0	115	H	ND
21	Stockholm/Nacka	STOCKHOLM	59N1754	018E1035	51.8	336	H	D: 10°-200°/-5 dB
21	Södertälje	STOCKHOLM	59N1326	017E3726	36.0	174	H	D
22	Gotland/Bunge	VISBY	57N5157	019E0022	27.0	132	H	D
22	Gotland/Havdhe	VISBY	57N0947	018E2046	27.0	87	H	D
22	Visby/Follingbo	VISBY	57N3535	018E2236	47.0	308	H	ND
23	Kisa	KISA	57N5729	015E3533	47.0	453	H	ND
24	Mölnbo/Tallstuga	–	59N0100	017E2436	33.0	156	H	ND
24	Södertälje	–	59N1326	017E3726	36.0	174	H	D
24	Uppsala/Vedyxa	UPPSALA	59N5125	017E4648	40.0	245	H	ND
24	Väddö/Elmsta	OESTHAMMAR	59N5807	018E5038	34.0	182	H	D
24	Östhammar	OESTHAMMAR	60N1550	018E0433	47.0	358	H	ND
26	Emmaboda	EMMABODA	56N4624	015E3500	47.0	376	H	ND
26	Färjestaden	EMMABODA	56N4059	016E3351	31.0	167	H	D
26	Uppsala/Vedyxa	UPPSALA	59N5125	017E4648	40.0	245	H	ND
27	Västervik	VAESTERVIK	57N4317	016E2545	47.0	385	H	ND
27	Borgholm/Böda	VAESTERVIK	57N1548	017E0020	27.0	114	H	D
27	Virserum	VAESTERVIK	57N1934	015E3812	29.0	181	H	ND
27	Hörby	HOERBY	55N4822	013E4326	47.0	399	H	ND
27	Örkelljunga	HOERBY	56N1732	013E2122	30.0	105	H	D
29	Uppsala/Vedyxa	UPPSALA	59N5125	017E4648	40.0	245	H	ND
30	Kisa	KISA	57N5729	015E3533	47.0	453	H	ND
30	Uppsala/Vedyxa	UPPSALA	59N5125	017E4648	40.0	245	H	ND
30	Väddö/Elmsta	OESTHAMMAR	59N5807	018E5038	34.0	182	H	D
30	Östhammar	OESTHAMMAR	60N1550	018E0433	47.0	358	H	ND
31	Gotland/Bunge	VISBY	57N5157	019E0022	27.0	132	H	D
31	Gotland/Havdhe	VISBY	57N0947	018E2046	27.0	87	H	D
31	Visby/Follingbo	VISBY	57N3535	018E2236	47.0	308	H	ND
31	Väddö/Elmsta	–	59N5807	018E5038	34.0	182	H	D
32	Bergshamra/Vaxt	STOCKHOLM	59N3629	018E3623	33.0	117	H	D
32	Mölnbo/Tallstuga	STOCKHOLM	59N0100	017E2436	33.0	156	H	ND
32	Norrtälje	STOCKHOLM	59N4522	018E4217	30.0	73	H	D
32	Stockholm/DN	STOCKHOLM	59N1936	018E0124	27.0	115	H	ND
32	Stockholm/Nacka	STOCKHOLM	59N1754	018E1035	51.8	336	H	D: 10°-200°/-5 dB
32	Södertälje	STOCKHOLM	59N1326	017E3726	36.0	174	H	D
34	Norrköping	NORRKOEPING	58N4037	016E2814	47.0	424	H	ND
35	Västerås	VAESTERAAS	59N3838	016E2412	47.0	344	H	ND
36	Emmaboda	EMMABODA	56N4624	015E3500	47.0	376	H	ND
36	Färjestaden	EMMABODA	56N4059	016E3351	31.0	167	H	D
36	Västerås	VAESTERAAS	59N3838	016E2412	47.0	344	H	ND

Ch	Assignment	Allotment	Lat	Long	e.r.p. (dBW)	h _{effmax} (m)	Pol	Ant (D/ND)
38	Borgholm/Böda	VAESTERVIK	57N1548	017E0020	27.0	114	H	D
38	Kisa	KISA	57N5729	015E3533	47.0	453	H	ND
38	Virserum	VAESTERVIK	57N1934	015E3812	29.0	181	H	ND
38	Västervik	VAESTERVIK	57N4317	016E2545	47.0	385	H	D: 120°-130°/-7 dB
42	Kisa	KISA	57N5729	015E3533	47.0	453	H	ND
43	Kisa	KISA	57N5729	015E3533	47.0	453	H	ND
43	Norrköping	NORRKOEPING	58N4037	016E2814	47.0	424	H	ND
45	Bergshamra/Vaxt	STOCKHOLM	59N3629	018E3623	33.0	117	H	D
45	Norrtälje	STOCKHOLM	59N4522	018E4217	30.0	73	H	D
45	Stockholm/DN	STOCKHOLM	59N1936	018E0124	27.0	115	H	ND
45	Stockholm/Nacka	STOCKHOLM	59N1754	018E1035	51.8	336	H	D: 10°-200°/-5 dB
47	Norrköping	NORRKOEPING	58N4037	016E2814	47.0	424	H	ND

Suppressions

The allotments and assignments in Table 7 are to be treated as deleted when starting the corresponding new implementations (which are also included in the previous chapter). That means they have no implementation rights and no protection rights. Nevertheless the entry may be kept in the GE06D Plan, but will have to be modified to carry a remark in the t_remarks field saying "Deleted: LTU-S 2017", as a reference to these Technical criteria and principles.

Table 7 Deleted allotments and assignments in SWEDEN

Ch	Deleted Allotment	Deleted assignment	New Allotment/s
26	KARLSHAMN-KARLSKRONA	KARLSHAMN KARLSKRONA RONNEBY KALLINGE JAEMJOE	EMMABODA
26	VAESTERVIK	VAESTERVIK BORGHOLM/BOEDA LOENNEBERGA	EMMABODA
31	EMMABODA	EMMABODA	KARLSHAMN-KARLSKRONA, VISBY
34	VAESTERVIK	VAESTERVIK BORGHOLM BOEDA	NORRKOEPING
43	UPPSALA-OESTHAMMAR	UPPSALA UPPSALA RICKOMBERGA OESTHAMMAR	GAEVLE
45	EMMABODA	EMMABODA BROEMSEBRO BORGHOLM RAMSAETTRA	ROE (DNK)

Entry into force

These Technical criteria and principles will enter into force upon the signature of both parties.

Place Vilnius, Lithuania

Date July 14 2017

For the Communications Regulatory Authority
of the Republic of Lithuania



Mindaugas Žilinskas
Deputy Director of the Communications
Regulatory Authority of the Republic of Lithuania

Place Stockholm, Sweden

Date June 27th 2017

For the Swedish Post and
Telecom Authority



Nina Gustafsson
Acting Head of Section for Spectrum Development
Spectrum Department, PTS