COORDINATION of CHANNEL ARRANGEMENT

relating to DTT in the band 470 – 790 MHz

between
the Office of Electronic Communications of the Republic of Poland and the State Supervisory Department for Telecommunications of the Ministry of Telecommunications and Informatization of the Republic of Belarus

Nida, 24 August 2017

1.Background

In light of the Decision of the European Parliament and of the Council (EU) 2017/899 of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union (Official Journal of the European Union L138/131 of 25 May 2017), by 30 June 2020, Poland shall allow the use of the 694-790 MHz (700 MHz) frequency band for terrestrial systems capable of providing wireless broadband electronic communications services.

The 700 MHz band is used in Belarus and Poland in broadcasting service on a primary basis, for the purposes of providing terrestrial digital television (DTT) services intensively. Decision about perspective use of the 694-790 MHz band for land mobile service has not been taken in Belarus yet.

Negotiations have been launched in order to find a common final planning solution enabling use of up to six/seven layers in each country, depending on chosen SFN-sizes, network structure etc.

As a result, both Administrations have agreed to conclude the present arrangement for the future use of DTT in order to be able to use the frequency band 694 – 790 MHz for land mobile service.

2.Changes to the GE06 Plan

In order to replan the band 470-694 MHz a number of changes have to be done to the existing GE06 Plan.

2.1 Additions

In the following section all entries having a channel number and section ADD after, that are not underlined, may be implemented from the day of entry into force of the present agreement. Entries having an underlined channel number may only be implemented when agreed by the concerned party (incompatible allotment is given in comments to index behind each new, underlined entry). Status of the channels with section GE06 remains unchanged, they are in GE06 plan and they are still valid.

The following Allotments are accepted by the above mentioned Administrations as additions (ADD) to the GE06 Plan:

Belarus

allotment	L1	L2	L3	L4	L5	L6	L7[1]
BLR07 (GRODNO)	34 (GE06)	37 (GE06)	39 (GE06)	42 (GE06)	31 (ADD)	28 (ADD)	41 (ADD)
BLR08 (GERANENY)	28 (GE06)	29 (GE06)	32 (GE06)	33 (GE06)	35 (GE06)	24 (ADD)	46 (ADD)[2]
BLR13 (SVISLOCH)	21 (GE06)	25 (GE06)	27 (GE06)	36 (GE06)	44 (GE06)	45 (GE06)	48 (GE06)
BLR14 (NOVAYA STRAZHA)	26 (GE06)	31 (GE06)	38 (GE06)	41 (GE06)	42 (ADD)	27 (ADD)	48 (ADD)
BLR19 (RAKITNITSA)	24 (GE06)	30 (GE06)	34 (GE06)	40 (GE06)	42 (GE06)	47 (GE06)	29 (ADD)
BLR20 (DROGICHIN)	23 (GE06)	29 (GE06)	35 (GE06)	37 (GE06)	46 (GE06)	30 (ADD)	33 (ADD)

[1] L7 layer can be finally considered agreed upon coordination six layers by all countries involved

[2] will not demand protection at converting frequency allotment BIALYSTOK 46 ch. and SUWALKI 46 ch.

Poland

Allotment	L1	L2	L3 REG	L4	L5	L6
SUWALKI	36 (GE06)	24 (GE06)	29 (GE06)	22 (ADD)	43 (GE06)	46 (ADD)
GIZYCKO	36 (GE06)	24 (GE06)	48(GE06)	22 (ADD)	26 (ADD)	46 (ADD)
BIALYSTOK	38 (GE06)	32 (GE06)	35 (GE06)	22 (GE06)	43 (ADD)	46 (GE06)
SIEDLCE (North)	36 (GE06)	32 (ADD)	31 (ADD)	39 (ADD)	43 (GE06)	37 (GE06)
SIEDLCE (south)	36 (GE06)	32 (ADD)	33 (ADD)	39 (ADD)	43 (GE06)	37 (GE06)
LUBLIN	25 (GE06)	21 (GE06)	23 (GE06)	39 (GE06)	35 (GE06)	38 (ADD)
OSTROLEKA	40 (GE06)	28 (ADD)	42 (GE06)	21 (GE06)	26 (ADD)	41 (GE06)
WARSZAWA	29 (GE06)	48 (GE06)	27 (GE06)	34 (GE06)	43 (ADD)	41 (ADD)
DEBLIN	22 (GE06)	32 (GE06)	40 (ADD)	24 (GE06)	44 (GE06)	38 (GE06)

2.2.Suppressions

The following allotments and related assignments will not be used after 01.01.2021 and should be deleted from the GE06 Plan:

Belarus

allotment	L1	L2
BLR07 (GRODNO)		56
BLR14 (NOVAYA STRAZHA)	54	60

Remark: It is planned that decision on replacing the channels BLR07 (GRODNO) ch. 51, BLR08 (GERANENY) ch. 49, BLR19 (RAKITNITSA) ch. 51, BLR19 (RAKITNITSA) ch. 53, BLR20 (DROGICHIN) ch. 57, BLR20 (DROGICHIN) ch. 58 will be taken until the end of 2018.

Poland

allotment	L1	L2	L3
SUWALKI	58	53	
GIZYCKO	50	53	
BIALYSTOK	49		
SIEDLCE (North)	52	56[1]	60
SIEDLCE (south)	52	50	60
LUBLIN	33		
OSTROLEKA	30	31	
WARSZAWA	51	58	
DEBLIN	59		

[1] ch. 56 has been moved from original GE06 allotment OSTROLEKA to allotment SIEDLCE (North)

3.The principles concerning the use of the 470-694 MHz band

Both Administrations agreed on the following:

1. Unless there is other provision, for unlinked assignments which are located inside, or not further than 25 km from the co-channel allotment they belong to, only protection of the allotment can be claimed. The coverage of the assignment outside the allotment area will not be protected.
2. In the case that two or more assignments are operating in an SFN the basis for calculation of interference shall be the power sum of all transmitters in the relevant SFN.
3. Any other future implementation of an allotment shall be coordinated if the cumulative interfering field strength exceeds the values listed in Annex 1 on the area of any existing co-channel allotment.

4.Revision

Revision to this agreement can only be made by mutual written consent.

5.Entry into force

This agreement will enter into force upon the signature of two Administrations.

Nida, 24 August 2017

On behalf of
the Office of Electronic
Communications of the Republic of
Poland

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Wiktor Sega

On behalf of
the State Supervisory Department for
Telecommunications of the Ministry of
Telecommunications and
Informatization of the Republic of
Belarus

.....

Yury Siamashka

Annex 1 Implementation conditions

Interfering field strength requiring coordination

If the cumulative interfering field strength exceeds the values listed in Table 1 below on the boundary of any co-channel allotment in the GE06 Plan, coordination with the other party is needed.

For affected DVB-T allotments the $E_{max\,int}$ in Table 1 should be used (irrespective of the technical characteristics of the plan entry).

DVB-T interfered by DVB-T for 650 MHz respectively

Reference planning configuration	**RPC2**
Reference location probability	95%
Reference C/N [dB]	19
Reference (Emed)ref [dBμV/m]	78
CF	12.8
$E_{max\,int}$ [dBμV/m]	**46**

Table 1 $E_{max\,int}$ for DVB-T interfered by DVB-T

Derivation maximum allowable interfering field strength

The maximum allowable interfering field strength, $E_{max\,int}$, at any test point given by the input requirement is calculated as follows:

$$E_{max\,int} = E_{med} - CF - PR$$

where

E_{med} is the minimum median equivalent field strength (in dBμV/m) for 650 MHz, respectively;

CF is the combined location correction factor: CF = $q\sqrt{(\sigma_w^2 + \sigma_i^2)}$;

q is the distribution factor;

σ_w is the standard deviation of the lognormal distribution of the wanted signal (in dB);

σ_i is the standard deviation of the lognormal distribution of the interfering signal (in dB);

PR is the appropriate protection ratio;

When the interfering system is of the same type as the wanted one, PR is equal to C/N for the wanted system's RPC. PR and C/N are taken from Addendum 12 to Document 7-E, input from CEPT to RRC-06.