

ARRANGEMENT

**between the Estonian National Communications Board and
the Electronic Communications Office of Latvia
on the coordinated use of the frequency bands
3410 – 3600 MHz and 3600 – 3800 MHz
by the Wireless Access Systems in the border areas**

Galway, Ireland
July 2006

1. Preamble

The Estonian National Communications Board and the Electronic Communications Office of Latvia (hereinafter as Parties) have concluded the present Arrangement on the coordinated use of the frequency bands 3410 – 3600 MHz (3.5 GHz band) and 3600 – 3800 MHz (3.7 GHz band) by the Wireless Access Systems (WAS) in the border areas to reduce the risk of harmful interference and develop appropriate frequency planning criteria.

2. Principles – Background

2.1. The Parties concluded the Arrangement in conformity with following Recommendations and Reports:

2.1.1. CEPT/ERC/REC 14-03 Harmonized radio frequency channel arrangements and block allocations for low and medium capacity systems in the band 3400 MHz to 3600 MHz, Annex B, 100 MHz Arrangements;

2.1.2. CEPT/ERC/REC 12-08 Harmonized radio frequency channel arrangements and block allocations for low, medium and high capacity systems in the band 3600 MHz to 4200 MHz, Annex B, Part 2.2. 100 MHz arrangements;

2.1.3. ECC/REC/(04)05 Guidelines for accommodation and assignment of Multipoint Fixed Wireless Systems in frequency bands 3.4-3.6 GHz and 3.6-3.8 GHz;

2.1.4. ECC Report 33 The analysis of the coexistence of Point-to-Multipoint FWS cells in the 3.4-3.8 GHz band;

2.1.5. ITU-R Recommendation P.452 Prediction procedure for the evaluation of microwave interference between stations on the surface of the Earth at frequencies above about 0.7 GHz.

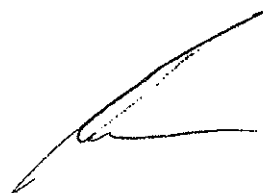
2.2. The power flux density (PFD) and distance (km) values established in this Arrangement are obtained with reference technical characteristics indicated in Table 1.

Frequency band, GHz	EIRP, dBW/MHz	Tx antenna gain, dBi	Rx antenna gain, dBi	Tx antenna height, m	Rx antenna height, m	Permissible interference level, dBW/MHz	Noise factor, dB
3.5 and 3.7	12.5	18	18	50	50	-136	8

Table1: Reference technical characteristics

2.3. The prediction procedure used to evaluate the interference PFD should be based on the method laid down in ITU-R Recommendation P.452 for time percentage 50 %.

2.4. Whenever border line is mentioned in the Arrangement then in the regions where border does not have the mainland line, specified PFD limit and distance values apply to any point of the coast line of neighbouring country.



3. Conditions on the use of frequencies

3.1 The Parties decided to divide the frequency bands 3410 – 3600 MHz and 3600 – 3800 MHz into preferential, non-preferential and common-use frequency channels based on 3.5 MHz channel spacing, as indicated in Appendix 1 and Appendix 2. Preferential channels of one Party must be considered as non-preferential to other.

3.2 When using channel with channel spacing or bandwidth different from 3.5 MHz, the channel is considered as preferential if it completely falls within edges of 3.5 MHz channel block defined as preferential for the same Party. The edges of channel block are considered as 1.75 MHz lower and upper than centre frequency of first and last channel of the block respectively. The Parties shall ensure that edges corresponding to 3.5 MHz channel are not exceeded.

3.3 Preferential frequency channels

3.3.1 Latvia may use the frequency channels marked with LVA if the PFD does not exceed a value of -122 dBW/MHz/m² at a distance of 37 km inside Estonia at the same receiving antenna height above ground level as transmitting antenna height if latter exceeds 50 m or at the receiving antenna height of 50 m if transmitting antenna height is equal to or less than 50 m above ground level.

3.3.2 Estonia may use the frequency channels marked with EST if the PFD does not exceed a value of -122 dBW/MHz/m² at a distance of 37 km inside Latvia at the same receiving antenna height above ground level as transmitting antenna height if latter exceeds 50 m or at the receiving antenna height of 50 m if transmitting antenna height is equal to or less than 50 m above ground level.

3.4 Non-preferential frequency channels

3.4.1 Latvia may use the frequency channels marked with EST if the PFD does not exceed a value of -122 dBW/MHz/m² at the borderline with Estonia at the same receiving antenna height above ground level as transmitting antenna height if latter exceeds 50 m or at the receiving antenna height of 50 m if transmitting antenna height is equal to or less than 50 m above ground level. The station must be located at a distance more than 37 km from the borderline.

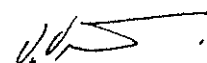
3.4.2 Estonia may use the frequency channels marked with LVA if the PFD does not exceed a value of -122 dBW/MHz/m² at the borderline with Latvia at the same receiving antenna height above ground level as transmitting antenna height if latter exceeds 50 m or at the receiving antenna height of 50 m if transmitting antenna height is equal to or less than 50 m above ground level. The station must be located at a distance more than 37 km from the borderline.

3.5 Common frequency channel(s)

Estonia and Latvia may use the frequency channels marked as common frequency channel(s) if the PFD does not exceed a value of -122 dBW/MHz/m² at their borderline at the same receiving antenna height above ground level as transmitting antenna height if latter exceeds 50 m or at the receiving antenna height of 50 m if transmitting antenna height is equal to or less than 50 m above ground level. The station must be located at a distance more than 37 km from the borderline.

3.6 The special condition applied in respect to Ruhnu island of Estonia

Estonian Party agrees that above-mentioned PFD limits on the Ruhnu island coastline might be exceeded by the stations of Latvia using preferential channels of Latvia.



4. Special agreement between operators

4.1. Operators may conclude mutual agreements on special conditions to minimize interference and to use the available spectrum more efficiently. Such agreements between operators shall be subject to confirmation by Parties involved.

4.2. In case of harmful interference or dispute between operators the provisions of this Arrangement applies.

5. Coordination procedures

5.1. Parties undertake do not perform coordination of those frequency assignments which do not comply with the provisions established by this Arrangement.

5.2. The provisions of this Arrangement are considered as the only coordination measure foreseen by Parties.

6. Procedures in case of interference

In the presence of harmful interference the claims should be submitted in accordance with the Appendix 10 of the ITU Radio Regulations.

7. Revision of the Arrangement

The present Arrangement can be revised or cancelled at any time on the initiative of any Party with the approval of other Party.

8. Coming into force

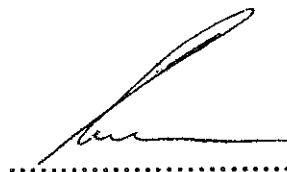
The present Arrangement will come into force from the date of its signing.

The present Arrangement has been drawn up in English in two equivalent copies – one copy for each Party.

5th of July 2006

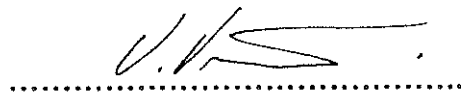
Galway, Ireland

For Estonian Party:


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Priit Soom

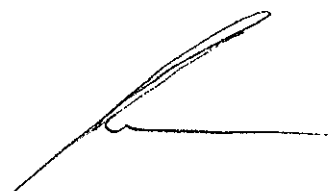
For Latvian Party:


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Vitolds Vaznis

**Division of the band 3410 – 3600 MHz into preferential channels
based on 3.5 MHz channel spacing**

	(Tx, Rx), MHz	(Tx, Rx), MHz	Pref. ch.
1	3411.75	3511.75	EST
2	3415.25	3515.25	EST
3	3418.75	3518.75	LVA
4	3422.25	3522.25	LVA
5	3425.75	3525.75	LVA
6	3429.25	3529.25	LVA
7	3432.75	3532.75	EST
8	3436.25	3536.25	EST
9	3439.75	3539.75	LVA
10	3443.25	3543.25	LVA
11	3446.75	3546.75	LVA
12	3450.25	3550.25	LVA
13	3453.75	3553.75	EST
14	3457.25	3557.25	EST
15	3460.75	3560.75	EST
16	3464.25	3564.25	EST
17	3467.75	3567.75	LVA
18	3471.25	3571.25	LVA
19	3474.75	3574.75	LVA
20	3478.25	3578.25	LVA
21	3481.75	3581.75	EST
22	3485.25	3585.25	EST
23	3488.75	3588.75	EST
24	3492.25	3592.25	EST
25	3495.75	3595.75	Comm. use




**Division of the band 3600 – 3800 MHz into preferential channels
based on 3.5 MHz channel spacing**

	(Tx, Rx) MHz	(Tx, Rx) MHz	Pref ch
1	3602.75	3702.75	LVA
2	3606.25	3706.25	LVA
3	3609.75	3709.75	EST
4	3613.25	3713.25	EST
5	3616.75	3716.75	LVA
6	3620.25	3720.25	LVA
7	3623.75	3723.75	EST
8	3627.25	3727.25	EST
9	3630.75	3730.75	LVA
10	3634.25	3734.25	LVA
11	3637.75	3737.75	LVA
12	3641.25	3741.25	LVA
13	3644.75	3744.75	EST
14	3648.25	3748.25	EST
15	3651.75	3751.75	EST
16	3655.25	3755.25	EST
17	3658.75	3758.75	LVA
18	3662.25	3762.25	LVA
19	3665.75	3765.75	EST
20	3669.25	3769.25	EST
21	3672.75	3772.75	EST
22	3676.25	3776.25	EST
23	3679.75	3779.75	EST
24	3683.25	3783.25	EST
25	3686.75	3786.75	LVA
26	3690.25	3790.25	LVA
27	3693.75	3793.75	LVA
28	3697.25	3797.25	LVA