

AGREEMENT

between the administrations of
Croatia, Hungary, Romania, Slovenia and Ukraine

on the frequency coordination for
Fixed Wireless Access (FWA) systems
in the bands
3410 – 3500 MHz and 3510 – 3600 MHz

Budapest, 21 October 2005

3.5 GHz Agreement

1. Introduction

In the framework of the bi- or multilateral agreements dealing with frequency coordination in general the Telecommunication Administrations of Croatia, Hungary, Romania, Slovenia and Ukraine concluded this Agreement for the purpose of the frequency coordination for Fixed Wireless Access (FWA) systems in the frequency bands 3410 – 3500 MHz paired with 3510 – 3600 MHz . The relevant provisions of the general bi- or multilateral agreements dealing with frequency coordination (e.g. Berlin Agreement) shall apply unless otherwise laid down in this Agreement.

2. Principles - Background

- 2.1 The Administrations mentioned above deemed it necessary to conclude an agreement on the division of preferential frequencies for FWA systems using FDD technology only. The channel arrangement used in this agreement is in conformity with CEPT/ERC/REC 14-03 Annex B1.

The final draft Recommendation ECC/REC/(04)05, currently under public consultation, recommends that systems with uplink band (terminal to central station) 3410-3500 MHz and downlink band (central station to terminal) 3510-3600 MHz should be used.

Therefore this agreement is applicable for systems with uplink band (terminal to central station) 3410-3500 MHz and downlink band (central station to terminal) 3510-3600 MHz.

- 2.2 Preferential frequencies are frequencies which can be assigned by Administrations concerned without any coordination provided that the provisions laid down in paragraph 3.2 of this Agreement are fulfilled.
- 2.3 Non-preferential frequencies are frequencies which can be assigned by Administrations concerned without any coordination provided that the provisions laid down in paragraph 3.3 of this Agreement are fulfilled.
- 2.4 All other cases shall be coordinated .
- 2.5 Notifications for the central stations are not necessary unless required by the procedure mentioned in paragraph 4.
- 2.6 The entire frequency band 3410 – 3500 MHz paired with 3510 – 3600 MHz is divided into blocks of preferential frequencies in a way that equal access to the spectrum is ensured for each Administration. The frequency partitioning as outlined in this Agreement may, however, be subject to bi- or multilateral accommodations negotiated on a case by case basis in the event that the actual frequency demand in particular border areas of the countries concerned requires modification of the frequency partitioning.
- 2.7 Operators shall have the possibility to cooperate in order to minimise interference and to achieve the most efficient use of the available

spectrum. Such agreements between operators shall be subject to confirmation by the Administrations concerned.

3. Technical provisions

- 3.1 The preferential frequency division is described in the Annex.
- 3.2 Transmitters using preferential frequencies may produce a spectral power flux density (pfd) not exceeding $-122\text{dBW}/(\text{MHz}\cdot\text{m}^2)$ at a distance of 15 km in the neighbouring country.
- 3.3 Transmitters using non-preferential frequencies may produce a spectral power flux density (pfd) not exceeding $-122\text{dBW}/(\text{MHz}\cdot\text{m}^2)$ at the border to the neighbouring country.
- 3.4 The calculation of the interfering spectral pfd shall be based on the Recommendation ITU-R P.452-12 for free space propagation taking into account an additional statistical loss of 15 dB for the calculation to consider the influence of topography and morphology.
- 3.5 The above mentioned pfd values and the calculation of interference are provisional, and should be revised in accordance with relevant ECC documents to be developed or on the basis of practical experiences of the signatory administrations.
- 3.6 In case of multiple interferers at any point of the interference contour the resulting interfering signal shall be derived by summing up the contributing pfd values.

4. Procedure in case of harmful interference

- 4.1 In cases of harmful interference the Administrations affected shall inform each other and endeavour to achieve a mutually satisfactory solution.
- 4.2 For exchange of data between Administrations the technical parameters as described in the general bi- or multilateral agreements in force shall be used.

5. Revision of this Agreement

- 5.1 The text of this Agreement can be revised in light of administrative, regulatory or technical developments at the proposal of any Signatory Administration with the agreement of all other Signatory Administrations required.
- 5.2 The revision of the preferential distribution annexed to this Agreement may be done with the agreement of the affected administrations. All the signatory administrations shall be informed about the approved changes.

6. Language of the Agreement

This Agreement has been concluded in English language.

7. Withdrawal from this Agreement

Any Administration may withdraw from this Agreement by the end of a calendar month by giving notice of its intention at least six months in advance. Frequency assignments notified within the framework of this Agreement prior to the date of entry into force of the withdrawal shall remain valid and be protected according to their status.

8. Date of entry into force of the Agreement

This Agreement enters into force for each administration at the date of its signature, pending approval within 3 months if necessary according to the national legislation.

In the border relations concerning ROU, this Agreement, in its entirety, will enter into force not later than 2 years after the entering into force of the final draft Recommendation mentioned in item 2.1, taking into account the national ongoing rearming process of the allotments in the band. This date will be announced to HNG and UKR administrations in due time by ROU.

For the Administration of Croatia



Željko TABAKOVIĆ

For the Administration of Hungary




Dr. Emilia ULELAY

For the Administration of Romania



Adrian IONESCU

For Administration of Slovenia



Meta PAVSEK TASKOV

For the Administration of Ukraine



Maryna BOLTS

**PREFERENTIAL FREQUENCY DISTRIBUTION
IN THE 3.5 GHz BAND**

7 MHz channels			Zone								
Channel number	Center frequency		HNG-UKR*	ROU-UKR	HNG-ROU-UKR	HNG-ROU	HNG-HRV	HNG-HRV-SVN	HNG-HRV-SVN	HRV-SVN	HNG-SVN*
	lower band [MHz]	upper band [MHz]									
1	3413.5	3513.5	HNG	UKR	HNG	HNG	HNG	HNG	HNG	SVN	SVN
2	3420.5	3520.5	UKR	ROU	UKR	ROU	HRV	HRV	HRV	HRV	SVN
3	3427.5	3527.5	HNG	ROU	HNG	HNG	HNG	HNG	HNG	SVN	HNG
4	3434.5	3534.5	UKR	UKR	ROU	ROU	HRV	HRV	HRV	SVN	SVN
5	3441.5	3541.5	HNG	ROU	ROU	ROU	HRV	HRV	HRV	HRV	HNG
6	3448.5	3548.5	HNG	UKR	HNG	HNG	HNG	HNG	HNG	SVN ¹	HNG
7	3455.5	3555.5	UKR	UKR	UKR	HNG	HRV	HRV	HRV	SVN	SVN
8	3462.5	3562.5	UKR	ROU	ROU	ROU	HRV	HRV	HRV	HRV	SVN
9	3469.5	3569.5	HNG	ROU	HNG	HNG	HNG	HNG	HNG	HRV ¹	HNG
10	3476.5	3576.5	UKR	UKR	UKR	ROU	HNG	HNG	HNG	SVN	SVN
11	3483.5	3583.5	HNG	ROU	ROU	ROU	HRV	HRV	HRV	HRV	HNG
12	3490.5	3590.5	UKR	UKR	UKR	HNG	HNG	HNG	HNG	HRV	HNG

* Existing agreement

1 SVN: Transition period for reassignment from channel 9 to channel 6 ends at 01.06.2006