

# **AGREEMENT**

**between the Administrations of**

**CROATIA,  
HUNGARY,  
ROMANIA  
and SERBIA**

**concerning**

**the frequency coordination  
and preferential frequency distribution  
for fixed wireless systems  
in the bands**

**27940.5 – 28444.5 MHz and 28948.5 – 29452.5 MHz**

Budapest, 27 October 2006

## **1 Preamble**

The representatives of the Administrations of Croatia, Hungary, Romania and Serbia have concluded the present special Agreement under Article 6 of RR and within the framework of the bi- or multilateral agreements relating to the frequency co-ordination and preferential frequency distribution for the fixed wireless systems in the frequency bands 27940.5 – 28444.5 MHz paired with 28948.5 – 29452.5 MHz. The relevant provisions of the general bi- or multilateral agreements dealing with frequency coordination (e.g. HCM 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 fixed wireless systems using FDD technology only. The channel arrangement used in the Agreement is in conformity with CEPT Recommendation T/R 13-02 Annex C. The band 27940.5 – 28444.5 MHz paired with 28948.5 – 29452.5 MHz is designated for fixed service in ECC/DEC/(05)01. The use of the frequency bands shall be in accordance with ERC Recommendation (01)03 for FDD systems. These frequency bands may also be used for point-to-point systems as deemed appropriate by each Administration.
- 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 or 3.3 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 3.4 or 3.5 of this Agreement are fulfilled.
- 2.4 All other cases shall be coordinated.
- 2.5 Notifications for assignments are not necessary unless required by the procedure mentioned in Paragraph 4.
- 2.6 The entire band 27940.5 – 28444.5 MHz paired with 28948.5 – 29452.5 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 of point-to-multipoint\* systems using preferential frequencies may produce a spectral power flux density (pfd) not exceeding  $-105$  dBW/(MHz.m<sup>2</sup>) at a distance of 15 km inside the neighbouring country.
  - 3.3 Transmitters in point-to-point links using preferential frequencies may produce a spectral power flux density (pfd) not exceeding  $-115$  dBW/(MHz.m<sup>2</sup>) at a distance of 25 km inside the neighbouring country.
  - 3.4 Transmitters of point-to-multipoint\* systems using non-preferential frequencies may produce a spectral power flux density (pfd) not exceeding  $-105$  dBW/(MHz.m<sup>2</sup>) at the border line.
  - 3.5 Transmitters in point-to-point links using non-preferential frequencies may produce a spectral power flux density (pfd) not exceeding  $-115$  dBW/(MHz.m<sup>2</sup>) at the border line .
  - 3.6 The calculation of the interfering spectral pfd shall be based on the Recommendation ITU-R P.452-12 on the basis of free space propagation and an atmospheric attenuation of 0.21 dB/km.
  - 3.7 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.
  - 3.8 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.
- \* Point-to-multipoint systems do not refer to a set of point-to-point links concentrating in the same node.

### **4 Procedure in case of harmful interference**

- 4.1 In cases of harmful interference the Administrations affected shall inform each other and endeavour to mutually find solutions.
- 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 Languages of the Agreement

This Agreement has been concluded in English in four originals.

## 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

This Agreement enters into force for each Administration not subject to confirmation at the date of signature. Administrations subject to confirmation shall confirm the Agreement by correspondence.

Budapest, 27 October 2006

For the Administration of Croatia

(Ivančica SAKAL)

For the Administration of Hungary  
(subject to confirmation)

(Gábor PARRAG)

For the Administration of Romania  
(subject to confirmation)

(Adrian IONESCU)

For the Administration of Serbia  
(subject to confirmation)

(Petar STEFANOVIĆ)

## PREFERENTIAL FREQUENCY DISTRIBUTION IN THE 28 GHz BAND

28 MHz channels		Zone							
Channel number	Center Frequency		HNG-ROU*	ROU-SRB	HNG-ROU-SRB	HNG-SRB	HNG-SRB-HRV	HRV-SRB	HNG-HRV*
	lower band [MHz]	upper band [MHz]							
15	27954.5	28962.5	ROU	ROU	ROU	SRB	SRB	SRB	HNG
16	27982.5	28990.5	HNG	SRB	HNG	HNG	HNG	HRV	HNG
17	28010.5	29018.5	HNG	SRB	SRB	SRB	HRV	HRV	HRV
18	28038.5	29046.5	ROU	SRB	SRB	SRB	SRB	SRB	HRV
19	28066.5	29074.5	HNG	ROU	HNG	HNG	HNG	SRB	HNG
20	28094.5	29102.5	ROU	ROU	ROU	HNG	HRV	HRV	HRV
21	28122.5	29130.5	ROU	ROU	ROU	SRB	SRB	SRB	HNG
22	28150.5	29158.5	HNG	ROU	HNG	HNG	HNG	HRV	HNG
23	28178.5	29186.5	HNG	SRB	SRB	SRB	HRV	HRV	HRV
24	28206.5	29214.5	ROU	SRB	SRB	SRB	SRB	SRB	HRV
25	28234.5	29242.5	ROU	ROU	ROU	HNG	HNG	SRB	HNG
26	28262.5	29270.5	HNG	SRB	HNG	HNG	HRV	HRV	HRV
27	28290.5	29298.5	ROU	SRB	SRB	SRB	SRB	SRB	HNG
28	28318.5	29326.5	HNG	ROU	HNG	HNG	HNG	HRV	HNG
29	28346.5	29354.5	ROU	ROU	ROU	SRB	HRV	HRV	HRV
30	28374.5	29382.5	HNG	SRB	SRB	SRB	SRB	SRB	HRV
31	28402.5	29410.5	HNG	SRB	HNG	HNG	HNG	SRB	HNG
32	28430.5	29438.5	ROU	ROU	ROU	HNG	HRV	HRV	HRV

\* Existing agreement