

# **AGREEMENT**

**between administrations of**

**the Republic of Lithuania and the Republic of Poland**

**on frequency planning and frequency usage at border  
areas for terrestrial systems capable of providing  
electronic communication services in the frequency bands  
791-821 MHz and 832-862 MHz**

**Nida, 22 June 2012**

## 1. Introduction

According to the Article 6 of ITU Radio Regulations and in the framework of the "HCM Agreement"<sup>1</sup> the representatives of the administrations of the Republic of Lithuania and Republic of Poland have concluded the present Agreement concerning the use of the 791-821/832-862 MHz frequency bands with the aim to avoid mutual interference and optimize the use of the above-stated frequency band in the border areas on the mutually agreed basis (hereinafter referred to as the Agreement).

The frequency band 790-862 MHz are designated for terrestrial systems capable of providing electronic communications services according to *COMMISSION DECISION (2010/267/EC) of 6th May 2010 on harmonised technical conditions of use in the 790-862 MHz frequency band for terrestrial systems capable of providing electronic communications services in the European Union* (notified under document C(2010) 2923).

## 2. Principles of frequency planning and frequency usage at border areas

The administrations of the Republic of Lithuania and the Republic of Poland have agreed on the following frequency planning and frequency usage procedures based on the concept of equal access probability. This concept enables equitable coverage for two or more networks using the same frequency band with the same or different digital technologies in geographically adjacent areas without coordination. Operation of stations in the respective border area exceeding the specified field strength values after performing traditional frequency coordination would disturb the balance in the respective area and is therefore not desirable.

The following principles apply to frequency utilisation by terrestrial systems capable of providing electronic communications services in geographically adjacent areas in cases where concerned administrations agree to use the concept of equal access probability:

- Field strength values are defined inside a reference frequency block of 5 MHz.
- The field strength calculations shall take into account the sum of all signals radiated from the respective antenna sector within the reference frequency block. The respective field strength values for each signal should be applied by each antenna sector and can be deduced by reducing the limit proportionally to the bandwidth portions falling into the reference frequency block (reduction factor =  $10 \times \log(\text{bandwidth portion} / 5 \text{ MHz})$ ).

In order to assure equitable coverage and equal access probability to the spectrum in border areas even with different transmission technologies, and to enhance the efficiency of spectrum usage, the principles and field strength limits as given in chapter 3 of this agreement shall be respected by all network operators concerned.

## 3. Technical provisions

The frequency arrangement for terrestrial systems capable of providing electronic communications services conforms to the frequency arrangement in accordance with ECC/DEC(09)03. The frequency band 821-832 MHz is not covered by this Agreement.

The mode of operation shall be frequency division duplex (FDD) with the following arrangements: The duplex spacing shall be 41 MHz with base station transmission

---

<sup>1</sup> Agreement between the Administrations of Austria, Belgium, the Czech Republic, Germany, France, Hungary, the Netherlands, Croatia, Italy, Liechtenstein, Lithuania, Luxembourg, Poland, Romania, the Slovak Republic, Slovenia and Switzerland on the co-ordination of frequencies between 29.7 MHz and 43.5 GHz for the fixed service and the land mobile service. Zagreb, 30 September 2010

(downlink) located in the lower part of the band starting at 791 MHz and finishing at 821 MHz and terminal station transmission (uplink) located in the upper part of the band starting at 832 MHz and finishing at 862 MHz.

Base stations may be operated if the field strength produced at a height of 3 m above ground does not exceed the value of 55 dB $\mu$ V/m in the reference bandwidth of 5 MHz at the border line, and does not exceed the value of 29 dB $\mu$ V/m in the reference bandwidth of 5 MHz at a line of 9 km beyond the border.

In case LTE system is deployed on both sides of the border the field strength produced at a height of 3 m above ground does not exceed the value of 59 dB $\mu$ V/m in the reference bandwidth of 5 MHz at the border line and does not exceed the value of 41 dB $\mu$ V/m in the reference bandwidth of 5 MHz at a line of 6 km beyond the border.

#### **4. Physical Cell Identifier (PCI) coordination**

PCI coordination for LTE systems is only needed when channel centre frequencies are aligned independent of the channel bandwidth. Each Party should use PCI sets for LTE system in the border areas in accordance with Annex to this Agreement.

Each Party may use all PCI available if the field strength produced at a height of 3 m above ground does not exceed the value of 29 dB $\mu$ V/m in the reference frequency bandwidth of 5 MHz at the border line.

#### **5. Operator arrangements**

To further improve the compatibility of terrestrial systems capable of providing electronic communications services in border areas, operators may conclude additional arrangements such as:

- preferential frequency distribution arrangements,
- preferential code division arrangements (e.g. according to ERC/REC(01)01),
- frequency carrier definitions (e.g. according to ECC/REC/(11)04),
- synchronisation of concerned networks.

Such operator arrangements:

- shall only be valid as long as all participating operators hold exclusive rights for concerned frequencies,
- shall not impose disadvantages on other operators,
- should respect field strength levels and provisions given by relevant documents (e.g. ECC recommendations),
- are subject to prior consent of the administrations concerned.

#### **6. Field strength prediction**

For the field strength calculations the tool of the HCM Agreement shall be applied (calculation mode CMODE=-8). Time probability in all calculations is 10 %.

#### **7. Revision of this Agreement**

This Agreement may be modified at a request of any of the signatory administrations where such a modification becomes necessary in the light of administrative, regulatory or technical development. Modification of the Agreement shall be done by an amendment.

**8. Withdrawal from the Agreement**

Any administration may withdraw from the Agreement by the end of a calendar month by giving notice of its intention at least six months before.

**9. Language of the Agreement**

This Agreement has been concluded in English language.

**10. Date of entry into force**

The date of entry into force is 22 June 2012.

**11. Signature of the Agreement**

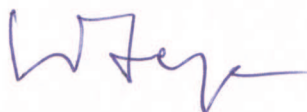
This Agreement exists in 2 equally authentic copies. The Polish administration makes notification in accordance with HCM Agreement to the managing administration.

On behalf of the Administration  
of the Republic of Lithuania



Mindaugas Žilinskas

On behalf of the Administration  
of the Republic of Poland



Wiktor Sęga



**Allocation<sup>2</sup> of preferential physical cell identifiers (PCI) in the border areas  
to the Republic of Lithuania and the Republic of Poland**

<b>Set A</b>	<b>Set B</b>	<b>Set C</b>	<b>Set D</b>	<b>Set E</b>	<b>Set F</b>
0..83	84..167	168..251	252..335	336..419	420..503
LTU	LTU	LTU	POL	POL	POL

---

<sup>2</sup> This allocation is based on the Recommendation ECC/REC/(11)05 (Annex 5)

