

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**

880-915 MHz and 925-960 MHz

1 November 2013

1. Introduction

According to the Article 6 of ITU Radio Regulations and in the framework of the "HCM Agreement"¹ the representatives of the Administrations of the Republic of Lithuania and Republic of Poland have concluded the present Agreement concerning the use of the 880-915 MHz / 925-960 MHz frequency bands with the aim to avoid harmful interference, ensure equal access to the spectrum 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 bands 880-915 MHz / 925-960 MHz are designated for terrestrial systems capable of providing electronic communications services according to *Commission Implementing Decision of 18th April 2011 amending Decision 2009/766/EC on the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community (2011/251/UE)*.

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

- 2.1. This Agreement is based on the concept of coordination field strength levels for base stations, allocation of preferential and non-preferential codes for UMTS system, allocation of preferential and non-preferential Physical Cell Identifiers (PCI) for LTE system. This is in conformity with the ECC Recommendation (08)02 of 27th April 2012 "Frequency planning and frequency coordination for GSM/UMTS/LTE/WiMAX Land Mobile systems operating within the 900 and 1800 MHz bands" (hereinafter referred to as ECC/REC/(08)/02).
- 2.2. The following frequency arrangement is presumed: FDD mobile stations (user equipment or terminals) transmit and receive in the frequency bands 880-915 MHz / 925-960 MHz respectively, FDD base stations transmit and receive in the frequency bands 925-960 MHz / 880-915 MHz respectively.
- 2.3. Agreements previously concluded between Parties and covering coordination of the frequency bands 880-915 MHz / 925-960 MHz by GSM systems stay in force.^{2, 3, 4} Relevant provisions of these Agreements are also applicable for stations using GSM technology in case of GSM system deployed on one side and other system deployed on another side of the borderline.

3. Technical provisions

- 3.1. Field strength values in this Agreement are based on a receiving antenna height of 3 m above ground for 10 % of time and 50 % of locations.
- 3.2. Each Party may use the frequency bands 880-915 MHz / 925-960 MHz without coordination with the other Party if the predicted mean field strength of each carrier

¹ 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. Agreed by correspondence in 2013.

² "Protocol of the meeting between the Representatives of Lithuania and Poland on the coordination of frequencies for GSM" (Minsk, 11-15 December 1995).

³ "Arrangement between the Office of Electronic Communications of the Republic of Poland and the Communications Regulatory Authority of the Republic of Lithuania concerning the use of the frequency bands 880-890 MHz / 925-935 MHz for GSM systems in border areas" (Vilnius, October 24, 2008).

⁴ "Agreement between the Office of Electronic Communications of the Republic of Poland and the Communications Regulatory Authority of the Republic of Lithuania concerning the use of channels 120-124 of GSM system the frequency range 913.900-914.900 MHz / 958.900-959.900 MHz in border areas" (Warsaw, 29 April 2010).

produced by a base station at the border and at a distance of 9 km from the border inside the neighbouring country does not exceed the field strength levels given in Annex 1.

- 3.3. For UMTS systems in border areas each Party shall use code sets according to the Annex 2 to this Agreement.
- 3.4. For LTE systems in border areas each Party shall use PCI's sets according to the Annex 3 to this Agreement.
- 3.5. If frequency block size is wider than 5 MHz, a correction, calculated by the formula $10 \times \lg(\text{frequency block size} / 5 \text{ MHz})$, dB, shall be added to the field strength values indicated in item 3.2.
- 3.6. Each Party shall notify the other Party concerning the beginning or cancellation of the use of UMTS FDD, LTE FDD or WiMAX FDD systems in border areas indicating the frequency bands or channels concerned.

4. Procedure

- 4.1. If the predicted mean field strength value of any carrier produced by the base station exceeds the levels indicated in item 3.2 the frequency assignment shall be coordinated with the other Party.
- 4.2. The period of coordination shall not exceed 45 days from the date of receiving the request and 20 days after the reminder. If no reply is received within 65 days the frequency assignment shall be considered as coordinated. The exchange of coordination information shall take place by e-mail or other electronic means.
- 4.3. Coordination requests shall be drawn up according to Annex 4 of the ECC/REC/(08)/02.
- 4.4. Complaints of harmful interference shall be based on the median value of measurements of field strength, performed at a receiving antenna height of 3 m at least in two different points over a distance of at least 100 m along the border.
- 4.5. Reports of harmful interference shall be presented in accordance to Appendix 10 of the ITU Radio Regulations and processed according to Article 15 of the ITU Radio Regulations.
- 4.6. For the field strength calculations the tool of the HCM Agreement shall be applied (using appropriate calculation mode). Time probability in all calculations is 10 %, receiving antenna height is 3 m.
- 4.7. In case of harmful interference to GSM system from other networks covered by this Agreement the Parties shall consider reducing field strength levels produced by their systems compared to those permitted in Annex 1 to this Agreement.



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,
- preferential code division,
- preferential physical-layer cell identities (PCI),
- frequency carrier definitions,
- 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. Revision of this Agreement

This Agreement may be modified at a request of any of the signatory Administration with the consent of the other Administration where such a modification becomes necessary in the light of administrative, regulatory or technical development.

7. Withdrawal from the 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 before.

8. Language of the Agreement

This Agreement has been concluded in English language.

9. Date of entry into force

The date of entry into force is 1 November 2013.

10. 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.

Done by correspondence

On behalf of the Administration
of the Republic of Lithuania




Feliksas Dobrovolskis

On behalf of the Administration
of the Republic of Poland



Wiktor Sęga


Saimonas Obrauskas
2013 10 15

Berlik 5/8


2013 10 15

**Coordination field strength levels for land mobile base stations
in the 880-915 MHz / 925-960 MHz frequency bands
between the Republic of Lithuania and the Republic of Poland**

Predicted mean field strength level, dB μ V/m	UMTS vs. UMTS case (channel bandwidth 5 MHz)		
	Centre frequencies aligned		Centre frequencies not aligned
	Preferential codes used	Non-preferential codes used	
at the border	59	35	59
at a distance of 9 km inside the territory of the other Party	35	not applicable	35

Predicted mean field strength level, dB μ V/m	LTE vs. LTE case (channel bandwidth 5 MHz ⁵)		
	Centre frequencies aligned		Centre frequencies not aligned
	Preferential PCI's used	Non-preferential PCI's used	
at the border	59	35	59
at a distance of 9 km inside the territory of the other Party	35	not applicable	35

Predicted mean field strength level, dB μ V/m	All other cases ^{6,7} (channel bandwidth 5 MHz ⁵)	
at the border	59	
at a distance of 9 km inside the territory of the other Party	35	

⁵ If the bandwidth of the signal is larger than 5 MHz the field strength should be corrected in accordance with item 3.5 of this Agreement.

⁶ For the case GSM vs. UMTS/LTE/WiMAX the coordination field strength level for GSM shall be used according to item 2.3 to this Agreement.

⁷ The following cases refer to the Land Mobile systems and utilization:

- WiMAX vs. WiMAX
- LTE vs. GSM
- LTE vs. WiMAX (and WiMAX vs. LTE)
- LTE vs. UMTS (and UMTS vs. LTE)
- UMTS vs. GSM
- UMTS vs. WiMAX (and WiMAX vs. UMTS)
- WiMAX vs. GSM

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**Allocation of preferential codes for UMTS (UTRA FDD) system
in the 880-915 MHz / 925-960 MHz frequency bands in the border areas
to the Republic of Lithuania and the Republic of Poland**

Set	A	B	C	D	E	F
Code set	0 to 10	11 to 20	21 to 31	32 to 42	43 to 52	53 to 63
Set preferential to	LTU	LTU	LTU	POL	POL	POL



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**Allocation of preferential Physical Cell Identifiers (PCI) for LTE system
in the 880-915 MHz / 925-960 MHz frequency bands in the border areas
to the Republic of Lithuania and the Republic of Poland**

Set	A	B	C	D	E	F
PCI	0..83	84..167	168..251	252..335	336..419	420..503
Set preferential to	LTU	LTU	LTU	POL	POL	POL


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