TECHNICAL CRITERIA and PRINCIPLES

concerning the use of the frequency band 3400-3800 MHz for terrestrial Mobile/Fixed Communications Networks (MFCN) in border areas

between the Communications Regulatory Authority of the Republic of Lithuania and the Office of Electronic Communications of the Republic of Poland

Warsaw, 20 December 2018

Preamble

According to Article 6 of the ITU Radio Regulations, representatives of the Communications Regulatory Authority of the Republic of Lithuania and the Office of Electronic Communications of the Republic of Poland (hereinafter referred to as the Parties) have concluded these Technical Criteria and Principles concerning the use of the 3400-3800 MHz frequency band for terrestrial mobile/fixed communications networks (MFCN)[1] in border[2] areas (hereinafter referred to as the Technical Criteria and Principles) with the aim of optimizing the use of this frequency band and avoiding mutual interference on a mutually coordinated basis.

These Technical Criteria and Principles cancel and replace the "Agreement between the Communications Regulatory Authority of the Republic of Lithuania and the Telecommunication Administration the Republic of Poland on the frequency coordination for the broadband wireless access (BWA) systems in the 3410-3600 MHz and 3600-3800 MHz frequency band" (Vilnius, 2008).

1. Principles

1.1. These Technical Criteria and Principles are based on the concept of coordination field strength levels for base stations as described in ECC Recommendation (15)01 of 13th February 2015 (Amended 5 February 2016) "Cross-border coordination for mobile/fixed communications networks (MFCN) in the frequency bands: 694-790 MHz, 1452-1492 MHz, 3400-3600 MHz and 3600-3800 MHz" (hereinafter referred to as ECC/REC/(15)01), on the principle of the equal access to spectrum by both Parties and preferential and non-preferential Physical Cell Identifiers[3] (PCI) for LTE systems.

1.2. The frequency arrangement for terrestrial MFCN systems presumes Time Division Duplex (TDD) mode is used in the frequency band 3400-3800 MHz. This arrangement confirm to ECC Decision (11)06 of 9th December 2011 (amended in 26th October 2018) "Harmonised frequency arrangements and least restrictive technical conditions (LRTC) for mobile/fixed communications networks (MFCN) operating in the band 3400-3800 MHz".

1.3. Field strength values in these Technical Criteria and Principles are based on a receiving antenna height of 3 m above ground for 10 % of time and 50 % of locations.

1.4. These Technical Criteria and Principles cover coordination of base stations. Parties agree that coordination is not required for terminal stations in mobile and fixed services since that is covered by coordination of base stations.

2. Use of frequencies and PCI

2.1. Each Party may use the 3400-3800 MHz frequency band for MFCN systems without coordination with the other Party if the predicted mean field strength produced by the cell (all transmitters within the base station sector) does not exceed field strength levels given in Annex 1.

2.2. For LTE systems in border areas each Party shall use PCI sets according to the Annex 2 to this Technical Criteria and Principles.

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[1] Mobile/fixed communications networks (MFCN) includes IMT and other communications networks in the mobile and fixed services.

[2] In the context of these Technical Criteria and Principles the term "border" is understood as the international borderline between the countries of the Parties.

[3] Coordination of the Physical Cell Identifiers (PCI) is only needed in case of use of the LTE systems by both Parties when the channel centre frequencies are aligned independently of the channel bandwidth.

2.3. If frequency block size is other than 5 MHz, a correction, calculated by the formula 10 × log (frequency block size, MHz / 5) dB, shall be added to the field strength values indicated in item 2.1.

2.4. Each Party shall notify the other Party concerning the beginning or cancellation of use of MFCN systems in frequency band 3400-3800 MHz located at a distance less than 15 km from border indicating the frequency bands or channels concerned.

3. 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,
- 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.

4. Procedure

4.1. If the predicted mean field strength value of any cell produced by the base station exceeds the levels indicated in item 2.1 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 3 of ECC/REC/(15)01 in the HCM electronic format for mobile service.

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 above ground 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. The Parties shall take all possible measures in order to eliminate harmful interference.

4.6. For the field strength calculations the HCM Program for the Mobile Service based on ITU-R Recommendation P.1546 shall be applied (using appropriate calculation mode). The Parties may apply other calculation tools. In case of any differences in results of calculations the official version of HCM Program shall be used as a reference.

5. Revision and cancellation

5.1. These Technical Criteria and Principles may be revised at any time on the initiative of any Party with the consent of the other Party.

5.2. These Technical Criteria and Principles may be cancelled by a mutual decision of both Parties on terms and conditions adopted by the Parties or by a decision of one Party notifying the other Party on its intention at least one year before.

6. Entry into force

6.1. These Technical Criteria and Principles will come into force on the date of signing it by both Parties.

6.2. These Technical Criteria and Principles have been drawn in two identical copies, one for the Republic of Lithuania and one for the Republic of Poland.

Warsaw, 20 December 2018

On behalf of the Office of Electronic Communications of the Republic of Poland	On behalf of the Communications Regulatory Authority of the Republic of Lithuania
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Annex 1

Coordination field strength levels for MFCN base stations in the 3400-3800 MHz frequency bands between the Republic of Poland and the Republic of Lithuania

Predicted mean field strength level, dBµV/m	LTE vs. LTE case (channel bandwidth 5 MHz[4])		
	Centre frequencies aligned		Centre frequencies not aligned
	Preferential PCI's used	Non-preferential PCI's used	
at the border	32	21	32

Predicted mean field strength level, dBµV/m	All other cases (channel bandwidth 5 MHz[4])
at the border	32

[4] If the bandwidth of the signal is other than 5 MHz the field strength should be corrected in accordance with item 2.3 of this Arrangement.

Annex 2

**Allocation of preferential Physical Cell Identifiers (PCI)
in the 3400-3800 MHz frequency band
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[5]	LTU	LTU	POL[6]	POL	POL

[5] LTU – Republic of Lithuania
[6] POL – Republic of Poland