

TECHNICAL ARRANGEMENT

between

**the Electronic Communications Office of the Republic of Latvia
and the Communications Regulatory Authority of the Republic
of Lithuania**

**concerning the use of the frequency bands
1920-1980 MHz / 2110-2170 MHz
for terrestrial systems for mobile/fixed communications
networks (MFCN) in border areas**

Minsk, 26th May 2016

Preamble

According to Article 6 of the ITU Radio Regulations, representatives of the Electronic Communications Office of the Republic of Latvia and the Communications Regulatory Authority of the Republic of Lithuania (hereinafter referred to as the Parties) have concluded this Technical Arrangement concerning the use of the 1920-1980 MHz / 2110-2170 MHz frequency bands for terrestrial systems for mobile/fixed communications networks (MFCN)¹ in border² areas (hereinafter referred to as the Arrangement) with the aim of optimizing the use of the frequency bands and avoiding mutual interference on a mutually coordinated basis.

This Arrangement cancels and replaces the "Arrangement between the Electronic Communications Office of the Republic of Latvia and the Communications Regulatory Authority of the Republic of Lithuania concerning the use of the frequency bands 1920-1980 MHz / 2110-2170 MHz for terrestrial systems for Mobile/Fixed Communications Networks (MFCN) in border areas" (signed by correspondence, 1 July 2014).

1. Principles

- 1.1. This Arrangement is based on the concept of coordination field strength levels for base stations, allocation of preferential and non-preferential code groups for UMTS systems, allocation of preferential and non-preferential Physical Cell Identifiers³ (PCI) for LTE systems as described in ERC Recommendation 01-01 of 5th February 2016 "Cross-border coordination for mobile/fixed communications networks (MFCN) in the frequency bands: 1920-1980 MHz and 2110-2170 MHz" (hereinafter referred to as ERC/REC 01-01), on the principle of the equal access to spectrum by both Parties.
- 1.2. The following frequency arrangement presumes: mobile stations operating in FDD⁴ mode transmit and receive respectively in the bands 1920-1980 MHz / 2110-2170 MHz, base stations operating in FDD mode transmit and receive respectively in the bands 2110-2170 MHz / 1920-1980 MHz. The frequency arrangement conforms to ECC Decision (06)01 (amended in 2nd November 2012) "The harmonised utilisation of the bands 1920-1980 MHz and 2110-2170 MHz for mobile/fixed communications networks (MFCN) including terrestrial IMT systems".
- 1.3. Allocation of preferential and non-preferential code groups for UMTS FDD systems between Parties is given in Annex 1 to this Arrangement.
- 1.4. Allocation of preferential and non-preferential Physical Cell Identifiers (PCI) for LTE systems between Parties is given in Annex 2 to this Arrangement.
- 1.5. Field strength values in this Arrangement are based on a receiving antenna height of 3 m above ground for 10 % of time and 50 % of locations.
- 1.6. This Arrangement covers coordination of base stations.

2. Use of frequencies

- 2.1. Each Party may use frequency bands 1920-1980 MHz / 2110-2170 MHz for UMTS FDD and LTE FDD systems using its preferential codes and PCI with centre

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

² In the context of this Arrangement 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.

⁴ FDD - Frequency Division Duplex.

with the other Party if the predicted mean field strength value of each carrier produced by the base station does not exceed the value of 65 dB μ V/m/5MHz at the border and does not exceed the value of 37 dB μ V/m/5MHz at a distance of 6 km from the border inside the neighbouring country.

- 2.2. Each Party may use frequency bands 1920-1980 MHz / 2110-2170 MHz for UMTS FDD and LTE FDD systems using its non-preferential codes and PCI with centre frequencies aligned without coordination with the other Party if the predicted mean field strength value of each carrier produced by the base station does not exceed the value of 37 dB μ V/m/5MHz at the border.
- 2.3. 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 items 2.1 and 2.2.
- 2.4. Each Party shall notify the other Party concerning the beginning or cancellation of use of UMTS FDD and LTE FDD systems in frequency bands 1920-1980 MHz / 2110-2170 MHz located at a distance less than 20 km from border indicating the frequency bands or channels concerned.

3. Procedure

- 3.1. If the predicted mean field strength value of any carrier produced by the base station exceeds the levels indicated in items 2.1 or 2.2, the frequency assignment shall be coordinated with the other Party.
- 3.2. 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.
- 3.3. Coordination requests shall be drawn up according to Annex 6 of ERC/REC 01-01 in the appropriate ITU electronic formats.
- 3.4. 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.
- 3.5. 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.
- 3.6. For field strength calculations the Parties shall use the latest version of Recommendation ITU-R P.1546 "Method for point-to-area predictions for terrestrial services in the frequency range 30 MHz to 3000 MHz".

4. Revision and cancellation

- 4.1. This Arrangement may be revised at any time on the initiative of any Party with the consent of the other Party.
- 4.2. This Arrangement 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 six months before.

5. Entry into force

- 5.1. This Arrangement shall come into force on the date of signing it by both Parties.
- 5.2. This Arrangement has been drawn in two identical copies, one for the Republic of Latvia and one for the Republic of Lithuania.

Minsk, 26th May 2016

On behalf of the Electronic
Communications Office of the
Republic of Latvia

On behalf of the Communications
Regulatory Authority of the
Republic of Lithuania

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**Allocation of preferential code groups for UMTS FDD systems
in the 1920-1980 MHz / 2110-2170 MHz frequency bands
between the Republic of Latvia and the Republic of Lithuania⁵**

Set	A	B	C	D	E	F
Code indices	0...10	11...20	21...31	32...42	43...52	53...63
Set preferential to	LTU ⁶	LVA ⁷	LTU	LVA	LVA	LTU

⁵ According to Annex 3 of ERC/REC 01-01.

⁶ LTU – the Republic of Lithuania.

⁷ LVA – the Republic of Latvia.

**Allocation of preferential Physical Cell Identifiers (PCI) for LTE systems
in the 1920-1980 MHz / 2110-2170 MHz frequency bands
between the Republic of Latvia and the Republic of Lithuania⁸**

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

⁸ According to Annex 5 of ERC/REC 01-01.