

**ARRANGEMENT**

**between  
the Electronic Communications Office of the Republic of Latvia  
and the Administration of the Russian Federation  
concerning the use of the frequency band 2500-2690 MHz by  
stations in the land mobile and fixed services in border areas**

**Riga, 2013**

## Preamble

According to Article 6 of the ITU Radio Regulations, representatives of the Electronic Communications Office of the Republic of Latvia and the Administration of the Russian Federation (hereinafter referred to as the Parties) have concluded this Arrangement concerning the use of the 2500-2690 MHz frequency band by stations in the land mobile and fixed services in border<sup>1</sup> areas (hereinafter referred to as the Arrangement) with the aim of optimizing the use of the frequency band and avoiding mutual interference in on a mutually coordinated basis.

### 1. Principles

- 1.1. This Arrangement is based on the concept of coordination threshold levels for base stations and preferential / non-preferential Physical Cell Identifiers<sup>2</sup> (PCI) for LTE systems as described in ECC Recommendation (11)05 "Frequency planning and frequency coordination for terrestrial systems for Mobile/Fixed Communication Networks (MFCN) capable of providing electronic communications services in the frequency band 2500-2690 MHz" (hereinafter referred to as ECC/REC(11)05) and on the principle of equal access to spectrum by both Parties.
- 1.2. The following frequency arrangement for land mobile and fixed services systems presumes: FDD<sup>3</sup> mobile stations (user equipment or terminals) transmit and receive respectively in the bands 2500-2570 MHz / 2620-2690 MHz, FDD base stations transmit and receive respectively in the bands 2620-2690 MHz / 2500-2570 MHz and TDD<sup>4</sup> mode is used in the frequency band 2570-2620 MHz. This conforms to Recommendation ITU-R M.1036 "Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications (IMT) in the bands identified for IMT in the Radio Regulations (RR)".
- 1.3. This Arrangement covers coordination of base stations.

### 2. Use of frequencies and PCI

- 2.1. In case LTE FDD systems are deployed on both sides of the border each Party may use the 2500-2570 MHz / 2620-2690 MHz frequency bands without coordination with the other Party if the predicted mean field strength produced by the cell (all transmitters within the sector) does not exceed the value of 65 dB $\mu$ V/m/5MHz at the border and does not exceed the value of 49 dB $\mu$ V/m/5MHz at a distance of 6 km from the border inside the neighbouring country.
- 2.2. In case systems other than LTE FDD are implemented on opposite sides of the border each Party may use the 2500-2570 MHz / 2620-2690 MHz frequency bands for stations in the FDD mode without coordination with the other Party if the predicted mean field strength produced by the cell (all transmitters within the sector) does not exceed the value of 65 dB $\mu$ V/m/5MHz at the border and does not exceed the value of 37 dB $\mu$ V/m/5MHz at a distance of 6 km from the border inside the neighbouring country.
- 2.3. Each Party may use the 2570-2620 MHz frequency band for stations in the TDD mode without coordination with the other Party if the predicted mean field strength produced

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<sup>1</sup> In the context of this Arrangement the term "border" is understood as the international borderline between the countries of the Parties

<sup>2</sup> 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

<sup>3</sup> FDD - Frequency Division Duplex

<sup>4</sup> TDD - Time Division Duplex

by the cell (all transmitters within the sector) does not exceed the value of 21 dB $\mu$ V/m/5MHz at the border.

- 2.4. For LTE FDD systems each Party may use all PCI available if the predicted mean field strength produced by the cell (all transmitters within the sector) does not exceed the value of 37 dB $\mu$ V/m/5MHz at the border. If the predicted mean field strength produced by the cell (all transmitters within the sector) for LTE FDD systems exceeds the value of 37 dB $\mu$ V/m/5MHz at the border each Party shall use only their own preferential PCI according to the Annex to this Arrangement.
- 2.5. If frequency block size is wider than 5 MHz, a correction, calculated by the formula  $10 \times \lg(\text{frequency block size, MHz} / 5)$ , dB, shall be added to the field strength values indicated in items 2.1, 2.2, 2.3 and 2.4.
- 2.6. Each Party shall notify the other Party if systems other than LTE FDD are implemented in border areas indicating the channels concerned in the 2500-2570 MHz / 2620-2690 MHz frequency bands.
- 2.7. The field strength values in this Arrangement are defined for a receiving antenna height of 3 m above ground for 10% of time and 50% of locations.

### **3. Procedure**

- 3.1. If the predicted mean field strength values produced by the cell (all transmitters within the sector) exceed the levels indicated in items 2.1, 2.2 and 2.3 the frequency assignment shall be coordinated with the other Party.
- 3.2. The period of coordination shall not exceed 65 days from the date of receiving the request and 20 days after the reminder. If no reply is received within 85 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 4 of ECC/REC/(11)05 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.
- 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 up in two identical copies, one for the Republic of Latvia and one for the Russian Federation.

Riga, 17 May 2013

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

On behalf of the Administration of  
the Russian Federation

**Allocation of preferential Physical Cell Identifiers (PCI)  
in the 2500-2690 MHz frequency band  
between the Republic of Latvia and the Russian Federation<sup>5</sup>**

<b>Set</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
<b>PCI</b>	0...83	84...167	168...251	252...335	336...419	420...503
<b>Set preferential to</b>	LVA <sup>6</sup>	LVA	RUS <sup>7</sup>	LVA	RUS	RUS

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<sup>5</sup> According to Annex 5 of ECC/REC(11)05

<sup>6</sup> LVA - the Republic of Latvia

<sup>7</sup> RUS - the Russian Federation