Annex 5

**Technical Criteria and Principles** 

between the State Supervisory Department for Telecommunications of the Ministry of Telecommunications and Informatization of the Republic of Belarus and the Electronic Communications Office of the Republic of Latvia concerning the use of the frequency band 790-862 MHz for terrestrial systems

Minsk, 26th May 2016

### Preamble

According to Article 6 of the Radio Regulations, the representatives of the State Supervisory Department for Telecommunications of the Ministry of Telecommunications and Informatization of the Republic of Belarus and the Electronic Communications Office of the Republic of Latvia (hereinafter referred to as Parties) have agreed the present Technical criteria and principles (hereinafter referred to as Document) concerning the use of the frequency band 790-862 MHz with the purpose of avoiding mutual interference and optimising the use of the above-stated frequency band on a mutually coordinated basis.

This Document cancels and replaces the "Technical Criteria and Principles concerning the use of the frequency band 790-862 MHz for terrestrial systemsagreed by the Electronic Communications Office of the Republic of Latvia and the State Supervisory Department for Telecommunications of the Ministry of Telecommunications and Informatization of the Republic of Belarus" (Minsk, October 2011).

### 1 Principles

- 1.1 This Document is based on the concept of coordination threshold and the idea of symmetrical conditions for both Parties.
- 1.2 This Document covers the coordination<sup>1</sup> of land mobile service and aeronautical radionavigation service of both Parties.
- 1.3 The frequency arrangement for land mobile service conforms to the FDD<sup>2</sup> frequency arrangement and parameters of transmission for base and user equipment in accordance with ECC/DEC(09)03.
- 1.4 This Document applies to stations of the services listed in item 1.2 and brought into use after the date mentioned in Section 6 of the Document.
- 1.5 This Document does not abrogate the fulfillment of the protection requirements for broadcasting service stipulated in GE-06 Regional Agreement until TV broadcasting is canceled in the frequency band 790-862 MHz and the respective Party informs about it.
- 1.6 The frequency arrangement contains a guard band of 1 MHz (790-791 MHz) intended for protection of broadcasting service.
- 1.7 For coordination of LTE FDD systems this Document is based on the concept of coordination threshold levels for base stations as described in ECC Recommendation (11)04 "Frequency planning and frequency coordination for terrestrial systems for Mobile/Fixed Communication Networks (MFCN) capable of providing electronic communications services in the frequency band 790-862 MHz" (hereinafter referred to as the Recommendation ECC/REC(11)04), preferential and

<sup>&</sup>lt;sup>1</sup> The term «coordination» should be understood as bilateral coordination between Parties without involving BR in this process. The document given under this bilateral coordination shall be considered by Parties as an agreed under relevant RR procedure.

<sup>&</sup>lt;sup>2</sup> FDD - Frequency Division Duplex.

non-preferential Physical Cell Identifiers<sup>3</sup> (PCI) for LTE systems and on the principle of equitable access to spectrum by Parties.

# 2 Use of frequencies

- 2.1 Each Party may use the frequency band 791-821 MHz for base stations of the land mobile service without coordination if compliance with item 2.4 is ensured.
- 2.2 Each Party may use the frequency band 832-862 MHz for user equipment of the land mobile service without coordination if compliance with item 2.4 is ensured.
- 2.3 Aeronautical radionavigation stations of the Republic of Belarus may use the frequency bands 832-862 MHz MHz without coordination with the Republic of Latvia provided that technical characteristics except carrier frequency of the stations coordinated and brought into use before the date of signing of this Document (see item 1.5) are kept unchanged and the frequency change does not adversely affect the other Party. In case carrier frequency of aeronautical radio navigation station in the above-mentioned frequency band is changed the State Supervisory Department Telecommunications Informatization of the Ministry of and for Telecommunications of the Republic of Belarus shall inform the Electronic Communications Office of the Republic of Latvia indicating new carrier frequency not later than 10 weeks before this assignments are modified.
- 2.4 Each Party may use the 791-821 MHz / 832-862 MHz frequency band for LTE FDD systems 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 48 dB $\mu$ V/m/5MHz at a receiving antenna height of 3 m above ground at the border and does not exceed the value of 29 dB $\mu$ V/m/5MHz at a receiving antenna height of 3 m above ground at a distance of 9 km from the border inside the neighbouring country.
- 2.5 For LTE 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 29 dB $\mu$ V/m/5MHz at a receiving antenna height of 3 m above ground at the border. If the predicted mean field strength produced by the cell (all transmitters within the sector) for LTE systems exceeds the value of 29 dB $\mu$ V/m/5MHz at a receiving antenna height of 3 m above ground at the border antenna height of 3 m above ground at the border each Party shall use only their own preferential PCI according to the Annex to this Document.
- 2.6 If frequency block size is wider than 5 MHz, a correction, calculated by the formula  $10 \times \log$  (frequency block size / 5 MHz), dB, shall be added to the field strength values indicated in items 2.4 and 2.5.
- 2.7 Each Party shall notify the other Party concerning the beginning or cancellation of use of LTE FDD systems in frequency bands 791-821 MHz / 832-862 MHz located at a distance less than 30 km from border indicating the frequency bands or channels concerned.

<sup>&</sup>lt;sup>3</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.

# 3 General

- 3.1 A new frequency assignment exceeding the above-mentioned coordination threshold values shall be coordinated with the other Party.
- 3.2 The coordination procedure shall be performed in accordance with Article 4 of the Document.
- 3.3 Preliminary coordination may take place between the land mobile service operators concerned. The results of such preliminary coordination must be approved by the Parties.
- 3.4 In the presence of harmful interference produced by a station covered by this Document, the Report of harmful interference shall be presented in accordance with Appendix 10 of the Radio Regulations. The parties shall take all possible measures in order to eliminate the interference in due time.
- 3.5 The field strength specified in the interference report (see Item 3.4) shall be based on median values of field strength measured during transmission at antenna height stipulated in Article 2 at least in two different points over a range of at least 100 m along the border.
- 3.6 The field strength values in this agreement are calculated according to ITU-R Recommendation P.1546 for 10% time and 50% locations.
- 3.7 ITU-R Recommendation P.1546 "Method for point-to-area predictions for terrestrial services in the frequency range 30-3000 MHz" shall be used for calculations of the field strength value produced by ground station. The latest version of the Recommendation applies.
- 3.8 ITU-R Recommendation P.525 "Calculation of free space attenuation" shall be used for calculations of the field strength value produced by or to airborne station. The latest version of the Recommendation applies.

## 4 Coordination procedure

- 4.1 The Party wishing to initiate the use of a frequency assignment to the station covered by this Document that does not correspond to the terms specified in Article 2 of this Document shall send to the other Party a request to coordinate such frequency assignment. A request can be sent by mail, fax or e-mail. In case if a request is sent by e-mail the requesting Party shall send by fax a covering letter to the affected Party and to receive a confirmation of its receipt by e-mail.
- 4.2 The affected Party shall provide a feedback in respect of the request to coordinate assignments within 10 weeks from the date of the request receipt. If no feedback was received, an urgent reminder shall be sent. Parties that failed to respond within 2 weeks from the date of an urgent reminder receipt shall be deemed agreeing if the Party, a consent of which is sought, did not ask for extra time needed to coordinate the request review.
- 4.3 In case of a refusal of the affected Party to satisfy a request for coordination the requesting Party shall provide to the affected Party results of its calculations, or any new technical characteristics of the assignment.

- 4.4 If no response from the affected Party to the proposals provided in Item 4.3 was received within 10 weeks from the date of proposals receipt, an urgent reminder shall be sent. Parties that failed to respond within 2 weeks from the date of receipt of an urgent reminder shall be deemed agreed to the provided proposals on coordination.
- 4.5 The Party objecting to the received request for coordination shall provide results of its calculations and a proposal for reasonable changing of the request that shall not only provide for adequate protection for its available and planned services, but to the maximal possible extent shall preserve an initial objective of the request for coordination.
- 4.6 In case of controversies originating from this Document applying Parties shall be governed by provisions and procedures of the Radio Regulations, as well as applicable International and bilateral Agreements.
- 4.7 If the field strength value produced by the cell (all transmitters within the sector) exceeds levels indicated in items 2.4, 2.5 the frequency assignment shall be coordinated with the other Party. In this case coordination requests for LTE FDD systems shall be drawn up according to Annex 4 of the Recommendation ECC/REC/(11)04.

### 5 Revision and cancellation

- 5.1 This Document may be cancelled as desired by one of the Parties with a notice of at least one year. This does not affect the operation of stations already brought into use or coordinated under this Document.
- 5.2 After such cancellation, Parties will exchange the list of stations already brought into use or coordinated under this Document.
- 5.3 This Document may be revised or cancelled without previous notice, if mutual understanding is reached between the Parties.
- 5.4 This Document is subject to be revised in case one of the Parties decides to suspend the use of the frequency band 790-862 MHz in the border area by any service indicated in item 1.2.
- 5.5 In case the current procedures and frequency allocations of the Radio Regulations for the frequency band 790-862 MHz are changed this Document shall be confirmed or revised.
- 5.6 In case the study results on the usage of the frequency band 790-862 MHz by radio services indicated in item 1.2 are obtained and agreed by both Parties this Document can be confirmed or revised taking into account these results.

#### 6 Coming into force

6.1 This Document shall come into force from the date of signing.

6.2 This Document has been drawn up in two identical copies, one for the Republic of Latvia and one for the Republic of Belarus.

Minsk, 26th May 2016.

For the State Supervisory Department for Telecommunications of the Ministry of Telecommunications and Informatization of the Republic of Belarus

For the Electronic Communications Office of the Republic of Latvia

## Allocation of preferential Physical Cell Identifiers (PCI) for LTE systems in the 791-821 MHz / 832-862 MHz frequency bands between the Republic of Latvia and the Republic of Belarus<sup>4</sup>

Set	A	В	C	D	Е	F
PCI	083	84167	168251	252335	336419	420503
Set preferential to	LVA <sup>5</sup>	LVA	BLR <sup>6</sup>	BLR	LVA	BLR

<sup>&</sup>lt;sup>4</sup> According to Annex 5 of the Recommendation ERC/REC 01-01.

<sup>&</sup>lt;sup>5</sup> LVA – the Republic of Latvia.

<sup>&</sup>lt;sup>6</sup> BLR – the Republic of Belarus.