

## **ARRANGEMENT**

**between the Consumer Protection and Technical Regulatory Authority of the Republic of Estonia and the Electronic Communications Office of the Republic of Latvia concerning use of the frequency bands 1710-1785 MHz / 1805-1880 MHz for terrestrial Narrowband and Wideband systems in border areas**

Riga, 24 April 2019

## **Preamble**

According to Article 6 of ITU Radio Regulations, representatives of the Consumer Protection and Technical Regulatory Authority of the Republic of Estonia and the Electronic Communications Office of the Republic of Latvia (hereinafter referred to as the Parties) have concluded this Arrangement for mutually advantageous shared use of the 1710-1785 MHz / 1805-1880 MHz frequency bands in the area of the international border between the Republic of Estonia and the Republic of Latvia for terrestrial Narrowband and Wideband systems (hereinafter referred to as the Arrangement).

This Arrangement cancels and replaces the „Arrangement between the Estonian Technical Regulatory Authority and the Electronic Communications Office of the Republic of Latvia concerning use of the frequency bands 1710-1785 MHz / 1805-1880 MHz for terrestrial systems with bandwidths wider than 200 kHz in border areas” (Tallinn, 19<sup>th</sup> December 2014).

## **1. Principles**

- 1.1. This Arrangement is based on the concept of coordination field strength threshold levels for base stations (given in Annex 1), allocation of preferential and non-preferential codes for UMTS systems (given in Annex 2), allocation of preferential and non-preferential Physical Cell Identifiers (PCI) for LTE or NR systems (given in Annex 3). This is in conformity with the ECC Recommendation (08)02 of 21 February 2008 “Cross-border coordination for Mobile/Fixed Communications Networks (MFCN) in the frequency bands 900 MHz and 1800 MHz excluding GSM vs. GSM systems” (amended 8 February 2019) (hereinafter referred to as ECC/REC/(08)02).
- 1.2. This Arrangement covers land mobile Narrowband (NB) and Wideband (WB) systems according to ECC/REC/(08)02.
- 1.3. The following frequency arrangement is presumed: FDD mobile stations (user equipment or terminals) transmit and receive in the frequency bands 1710-1785 MHz / 1805-1880 MHz respectively, FDD base stations transmit and receive in the frequency bands 1805-1880 MHz / 1710-1785 MHz respectively.
- 1.4. This Arrangement covers coordination of base stations.
- 1.5. The use of GSM systems in the 1710-1785 MHz / 1805-1880 MHz frequency bands is covered by the “Agreement between the Telecommunications Administrations of Estonia and Latvia concerning use of the frequency band 1805-1880 / 1710-1785 MHz for the Land Mobile Service in the border area” (Tallinn, 17th May 2007).
- 1.6. 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.
- 1.7. In the context of this Arrangement the term “border” is understood as the international border line between the countries of the Parties.

## **2. Use of frequencies, codes and PCI**

- 2.1. Each Party may use the frequency bands 1710-1785 MHz / 1805-1880 MHz without coordination with the other Party if the predicted mean field strength produced by the base station cell does not exceed the field strength levels given in Annex 1 at the border and at a distance of 6 km from the border inside the neighboring country respectively.
- 2.2. For UMTS systems in border areas each Party shall use code sets according to the Annex 2 to this Arrangement.

- 2.3. For LTE and NR systems each Party may use all PCIs available if the predicted mean field strength produced by the base station cell does not exceed the value of 47 dB $\mu$ V/m/ 5MHz at the border. If the predicted mean field strength produced by the base station cell of LTE and NR systems exceeds the value of 47 dB $\mu$ V/m/ 5MHz at the border each Party shall use only their own preferential PCIs according to the Annex 3 to this Arrangement.
- 2.4. If the frequency block size is other than 5 MHz, a correction calculated by the formula  $10 \times \log_{10}(\text{channel bandwidth} / 5 \text{ MHz})$ , dB, shall be added to the field strength values indicated in items 2.1 and 2.3.

### **3. Procedure**

- 3.1. If the predicted mean field strength value produced by the base station exceeds the levels stated in item 2.1 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 4 of the ECC/REC/(08)02 in the appropriate ITU electronic format.
- 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 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 ITU Radio Regulations and processed according to Article 15 of 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".
- 3.7. In case of harmful interference to GSM from other networks covered by the Arrangement the Parties shall consider reducing field strength levels produced by their systems compared to those permitted in Annex 1 to this Arrangement.

### **4. Operators arrangement**

- 4.1. Operators concerned may agree to deviate from field strength levels in item 2.1 by mutual consent, concluding an arrangement between operators with the consent of the Parties concerned. Such operator arrangement shall only be valid as long as all participating operators hold exclusive rights of use of concerned frequencies.

### **5. Revision and cancellation**

- 5.1. This Arrangement may be revised at any time on the initiative of any Party with the consent of other Party.
- 5.2. This Arrangement may be cancelled by a mutual decision of both Parties on terms and conditions adopted by these Parties or by a decision of one Party notifying the other Party on its intention at least six months before.

**6. Entry into force**

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

Riga, 24 April 2019.

For the Consumer Protection and  
Technical Regulatory Authority of  
the Republic of Estonia

For the Electronic Communications  
Office of the Republic of Latvia

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Arvo Rammus

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**Coordination field strength threshold levels for land mobile base stations in the  
1710-1785 MHz / 1805-1880 MHz frequency bands between Estonia and Latvia**

	UMTS (channel bandwidth 5 MHz)		All other cases <sup>1,2</sup>	
	Centre frequencies aligned / Centre frequencies not aligned		Channel bandwidth (BW), MHz	
Coordination field strength level, dB $\mu$ V/m	Preferential codes used	Non-preferential codes used	Other than 5	5
At the border	65	47	$65+10 \times \log_{10}(BW / 5)$	65
At a distance of 6 km inside the territory of the other Party	47	<47	$47+10 \times \log_{10}(BW / 5)$	47

<sup>1</sup> For the case GSM vs. WB system (UMTS/LTE/LTE-MTC/LTE-eMTC/LTE in-band NB-IoT/LTE guard-band (GB) NB-IoT/NR) and GSM vs. NB system (EC-GSM-IoT/stand-alone (SA) NB-IoT) the coordination field strength level for GSM shall be used according to item 1.5 to this Arrangement.

<sup>2</sup> The "All other cases" refers to the land mobile systems and utilization described in the Introduction part of the ECC/REC/(08)02:

- WB system vs. WB system (between UMTS, LTE, LTE-MTC, LTE-eMTC, LTE in-band NB-IoT, LTE guard-band (GB) NB-IoT and NR). Corresponding country preferential codes or PCIs shall be used for UMTS, LTE and NR.
- NB system vs. WB system (EC-GSM-IoT/stand-alone (SA) NB-IoT vs. UMTS/LTE/LTE-MTC/LTE-eMTC/LTE in-band NB-IoT/LTE guard-band (GB) NB-IoT/NR).
- NB system vs. NB system (between EC-GSM-IoT, stand-alone (SA) NB-IoT).
- WB system vs. GSM.

**Allocation of preferential codes for UMTS (UTRA FDD) systems  
in the 1710-1785 MHz / 1805-1880 MHz frequency bands to Estonia and Latvia<sup>3</sup>**

Each Party shall use codes sets for UMTS systems in border areas in accordance with the allocation presented in the table.

<b>Set</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
<b>Code set</b>	0 to10	11 to 20	21 to 31	32 to 42	43 to 52	53 to 63
<b>Set preferential to</b>	LVA <sup>4</sup>	LVA	EST <sup>5</sup>	EST	LVA	EST

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<sup>3</sup> According to Annex 3 of ECC/REC/(08)02.

<sup>4</sup> LVA – the Republic of Latvia.

<sup>5</sup> EST – the Republic of Estonia.

**Allocation of preferential Physical Cell Identifiers (PCI) for LTE and NR systems  
in the 1710-1785 MHz / 1805-1880 MHz frequency bands to Estonia and Latvia<sup>6</sup>**

Each Party shall use PCI sets for LTE and NR systems in border areas in accordance with the allocation presented in the table.

<b>Set</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
<b>PCI for LTE</b>	0 to 83	84 to 167	168 to 251	252 to 335	336 to 419	420 to 503
<b>PCI for NR</b>	0 to 83 504 to 587	84 to 167 588 to 671	168 to 251 672 to 755	252 to 335 756 to 839	336 to 419 840 to 923	420 to 503 924 to 1007
<b>Set preferential to</b>	LVA	LVA	EST	EST	LVA	EST

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<sup>6</sup> According to Annex 5 of ECC/REC/(08)02.