ARRANGEMENT

between the Electronic Communications Office of the Republic of Latvia and the Consumer Protection and Technical Regulatory Authority of the Republic of Estonia concerning the use of the frequency band 3400-3800 MHz for terrestrial Mobile/Fixed Communications Networks (MFCN) in border areas

Palanga, 9 September 2022

Preamble

According to Article 6 of the ITU Radio Regulations, representatives of the Electronic Communications Office of the Republic of Latvia and the Consumer Protection and Technical Regulatory Authority of the Republic of Estonia (hereinafter referred to as the Parties) have concluded this Arrangement concerning the use of the 3400-3800 MHz frequency band for terrestrial mobile/fixed communications networks (MFCN)[1] in border areas (hereinafter referred to as the Arrangement) with the aim of optimizing the use of the frequency band 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 Estonian Technical Regulatory Authority concerning the use of the frequency band 3400-3800 MHz for terrestrial Mobile/Fixed Communications Networks (MFCN) in border areas" (Bucharest, 17 November 2017).

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 Physical Cell Identifiers (PCIs) for LTE and NR systems as described in ECC Recommendation (15)01 of 13 February 2015 "Cross-border coordination for mobile / fixed communications networks (MFCN) in the frequency bands: 694-790 MHz, 1427-1518 MHz, 3400-3800 MHz" (amended 10 June 2022) (hereinafter referred to as ECC/REC/(15)01) and on the principle of the equal access to spectrum by both Parties.

1.2. The following frequency arrangement for terrestrial MFCN systems presumes: TDD[2] mode is used in the frequency band 3400-3800 MHz. The frequency arrangements conform to ECC Decision (11)06 of 9 December 2011 (amended 26 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. The agreed frame structure for NR TDD systems and related parameters given in Annex 2 of this Arrangement conform to the "frame structure A" of ECC Recommendation (20)03 "Frame structures to facilitate cross-border coordination of TDD MFCN in the frequency band 3400-3800 MHz" (approved 23 October 2020) (hereinafter referred to as ECC/REC/(20)03).

1.4. Allocation of preferential and non-preferential Physical Cell Identifiers (PCIs) for LTE and NR systems between Parties is given in Annex 1 of 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] Mobile/fixed communications networks (MFCN) includes IMT and other communications networks in the mobile and fixed services.

[2] TDD - Time Division Duplex.

1.6. This Arrangement covers coordination of base stations. Parties agree that coordination of mobile stations in mobile and fixed services is not necessary for 3400-3800 MHz frequency band.

1.7. In the context of this Arrangement the term "border" is understood as the international borderline between the countries of the Parties.

2. Use of frequencies

2.1. Latvian Party may use the frequency band 3400-3800 MHz for base stations of unsynchronised MFCN TDD systems without coordination with Estonian Party if the predicted mean field strength produced by the base station cell does not exceed the value of 32 dBμV/m/5 MHz at a height of 3 m above ground at the border.

2.2. Latvian Party may use the frequency band 3400-3800 MHz for base stations of unsynchronised LTE or NR systems for all PCIs available if the predicted mean field strength produced by the base station cell does not exceed the value of 21 dBμV/m/5 MHz at a height of 3 m above ground at the border. If the predicted mean field strength produced by the base station cell of LTE or NR systems exceeds the value of 21 dBμV/m/5 MHz at a height of 3 m above ground at the border Latvian Party shall use only their own preferential PCIs according to the Annex 1 to this Arrangement.

2.3. Each Party may use the frequency band 3400-3800 MHz for AAS[3] and non-AAS[4] base stations of NR TDD systems synchronised according to frame structure and values of related parameters given in Annex 2 of this Arrangement using its own preferential PCIs without coordination with the other Party if the predicted mean field strength produced by the base station cell does not exceed the value of 79 dBμV/m/5 MHz at a height of 3 m above ground at the border and 61 dBμV/m/5 MHz at a height of 3 m above ground at a distance of 6 km inside the neighbouring country.

2.4. For NR TDD systems synchronised according to frame structure and values of related parameters given in Annex 2 of this Arrangement, 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 61 dBμV/m/5 MHz at the border. If the predicted mean field strength produced by the base station cell of NR systems exceeds the value of 61 dBμV/m/5 MHz at the border each Party shall use only their own preferential PCIs according to the Annex 1 to this Arrangement.

2.5. If frequency block size is other than 5 MHz, a correction, calculated by the formula $10 \times \log_{10}$ (frequency block size, MHz / 5), dB, shall be added to the field strength values indicated in items 2.1, 2.2, 2.3, 2.4.

[3] AAS – Active Antenna System.
[4] Non-AAS – non Active Antenna System.

3. Procedure

3.1. If the predicted mean field strength value produced by the base station exceeds the levels indicated in items 2.1, 2.3 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 3 of ECC/REC/(15)01 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 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 with 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 4000 MHz".

4. Operators arrangement

4.1. Operators concerned may agree to deviate from field strength level in item 2.3 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 the other Party.

5.2. 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 twelve 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 the Republic of Latvia and one for the Republic of Estonia.

On behalf of the Electronic Communications Office of the Republic of Latvia	On behalf of the Consumer Protection and Technical Regulatory Authority of the Republic of Estonia
.....	.....
Jānis Bārda	Kristi Talving
Place: Palanga	Place: Palanga
Date: 09.09.2022.	Date: 09.09.2022.

Annex 1

Allocation of preferential Physical Cell Identifiers (PCI) for LTE and NR systems in the 3400-3800 MHz frequency band between the Republic of Latvia and the Republic of Estonia[5]

Set	**A**	**B**	**C**	**D**	**E**	**F**
PCI for LTE	0 to 83	84 to 167	168 to 251	252 to 335	336 to 419	420 to 503
PCI for NR	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
Set preferential to	LVA[6]	LVA	EST[7]	EST	LVA	EST

[5] According to Annex 4 of ECC/REC/(15)01.
[6] LVA – the Republic of Latvia.
[7] EST – the Republic of Estonia.

Annex 2

Frame structure and values of related parameters for NR systems in the 3400-3800 MHz frequency band agreed between Republic of Latvia and Republic of Estonia[8]

Parameter	**Frame structure**		
DL/UL slot pattern	DDDSU DDDSU DDDSU DDDSU		
Frame duration	10 ms		
Slot duration	0.5 ms		
Slot pattern periodicity	2.5 ms		
Special slot "S" configuration (i.e., DL:GP:UL symbols)	Downlink (DL)	Guard period (GP)	Uplink (UL)
	10	2	2
SCS (sub-carrier spacing)	30 kHz		
Time base (accuracy of synchronisation)	+/- 1.5 µs		

[8] According to Annex 1 of ECC/REC/(20)03.