TECHNICAL ARRANGEMENT

between
the Communications Regulatory Authority of the Republic of Lithuania and the Office of Electronic Communications of the Republic of Poland

concerning the use of terrestrial systems capable of providing electronic communications services in the frequency band 2500-2690 MHz in border areas

2022

Preamble

According to the Article 6 of ITU Radio Regulations and in the framework of the "*HCM Agreement*"[1] the representatives of the Communications Regulatory Authority of the Republic of Lithuania and the Office of Electronic Communications of the Republic of Poland (hereinafter referred to as the Parties) have concluded this Technical Arrangement concerning the use of the 2500-2690 MHz frequency band for terrestrial mobile/fixed communications networks (MFCN)[2] with the aim to avoid mutual interference and optimize the use of the above-stated frequency band in the border areas[3] on the mutually agreed basis (hereinafter referred to as the Arrangement).

The frequency band 2500-2690 MHz is designated for terrestrial systems capable of providing electronic communications services according to Commission Decision (2008/477/EC) of 13th June 2008 *on the harmonisation of the 2500-2690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community* and Commission Implementing Decision (EU) 2020/636 of 8 May 2020 *amending Decision 2008/477/EC as regards an update of relevant technical conditions applicable to the 2500-2690 MHz frequency band.*

This Arrangement supersedes the *"Agreement between administrations of the Republic of Lithuania and the Republic of Poland on frequency planning and frequency usage at border areas for terrestrial systems capable of providing electronic communication services in the frequency band 2500-2690 MHz"* (Nida, 22 June 2012) and *"Supplement No. 1"* to this Agreement (signed by correspondence in 2017). Frequency assignments made on the basis of abovementioned documents remain valid.

1. Principles

1.1. This Arrangement is based on the concept of field strength levels for base stations, distribution of preferential and non-preferential Physical-layer Cell Identities (PCI) for LTE and NR[4] systems as described in the ECC Recommendation (11)05 of 26th May 2011 (amended 3rd February 2017) "Cross-border Coordination for Mobile/Fixed Communications Networks (MFCN) in the frequency band 2500-2690 MHz" and principle of the equal access to spectrum by both Parties.

1.2. The frequency arrangement and parameters of transmission for base and mobile stations (user equipment or terminals) conform to the ECC Decision (05)05 of 18th March 2005 (amended 5th July 2019) „Harmonised utilization of spectrum for Mobile/Fixed Communications Networks (MFCN) operating within the band 2500-2690 MHz".

1.3. The following operational modes are used: in FDD[5] mode mobile stations transmit and receive in the frequency bands 2500-2570 MHz and 2620-2690 MHz respectively, base stations transmit and receive in the frequency bands 2620-2690 MHz and 2500-2570 MHz

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[1] Agreement between the Administrations of Austria, Belgium, the Czech Republic, Germany, France, Hungary, the Netherlands, Croatia, Italy, Liechtenstein, Lithuania, Luxembourg, Poland, Romania, the Slovak Republic, Slovenia and Switzerland on the Coordination of frequencies between 29.7 MHz and 43.5 GHz for fixed service and land mobile service (HCM Agreement), done by correspondence (date of entry into force: 01 July 2021)

[2] Mobile/fixed communications networks (MFCN) includes IMT and other communications networks in the mobile and fixed services.

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

[4] Distribution of preferential and non-preferential Physical-layer Cell Identities (PCI) for NR systems is based on ECC Recommendation (15)01

[5] FDD - Frequency Division Duplex

respectively, in TDD[6] mode base stations and mobile stations transmit and receive in the frequency band 2570-2620 MHz.

1.4. This Arrangement covers coordination of base stations only. Coordination for mobile stations is not required since that is covered by coordination of base stations.

2. Use of frequencies and PCIs

2.1. Each Party may use the 2500-2570/2620-2690 MHz frequency bands for MFCN FDD systems without coordination with the other Party if the predicted mean field strength produced by the cell (all transmitters within the sector) at a height of 3 m above ground does not exceed field strength levels given in Annex 1 to this Arrangement.

2.2. Each Party may use the 2570-2620 MHz frequency band for MFCN TDD systems without coordination with the other Party if the predicted mean field strength produced by the cell (all transmitters within the sector) at a height of 3 m above ground does not exceed field strength levels given in Annex 2 to this Arrangement.

2.3. Each Party shall use PCIs for LTE and NR systems according to the Annex 3 to this Arrangement.

2.4. If frequency block size is other than 5 MHz, a correction factor, calculated by the formula 10 × lg (frequency block size / 5 MHz), dB, shall be added to the field strength values indicated in items 2.1 and 2.2.

2.5. For the field strength calculations the tool of the HCM Agreement shall be applied (using appropriate calculation mode). The Parties may apply other calculation tools using 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" for 10 % of time and 50 % of locations. In case of any differences in results of calculations the official version of HCM Program shall be used as a reference.

3. Coordination procedure and harmful interference

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 and 2.2 the frequency assignment shall be sent for coordination 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 2 of the HCM Agreement in the electronic format for mobile service.

3.4. Reports on harmful interference shall be presented in accordance with Annex 7 of the HCM Agreement. The Parties shall take all possible measures in order to eliminate harmful interference.

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[6] TDD - Time Division Duplex

3.5. Complaints on 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.

4. Operators' arrangements

4.1. Operators concerned may agree on preferential frequency distribution, network synchronisation and to deviate from field strength levels in Section 2 by mutual consent concluding an arrangement between operators (hereinafter referred to as the AbO) with the written mutual consent of the Parties concerned.

4.2. AbO shall only be valid as long as all participating operators hold exclusive rights of use of the common part of the frequency bands.

4.3. Operators should inform relevant Parties on the cancellation of the AbO. This will not affect the operation of stations already brought into use under the AbO. After such cancellation, Parties will exchange the list of stations already brought into use under the AbO.

4.4. Operators shall take all possible measures in order to eliminate harmful interference originating from station brought into use under the AbO.

4.5. In case interference cannot be eliminated by mutual consent between Operators concerned provisions in accordance with Section 2 apply to base station causing interference. In case interference persist, the concerned base station should be switched off.

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 six months before. This does not affect the operation of stations already brought into use or coordinated under this Arrangement. After such cancellation, Parties will exchange the list of stations already brought into use or coordinated under this Arrangement.

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 English in two identical copies, one for the Republic of Lithuania and one for the Republic of Poland.

Done by correspondence

On behalf of the Communications Regulatory Authority of the Republic of Lithuania	On behalf of the Office of Electronic Communications of the Republic of Poland
Vilnius, 19.04.2022	Warszawa, 29.03.2022r.
/Place, Date/	/Place, Date/
Augutis Čėsna	Paweł Krzymiński

Predicted mean field strength levels for MFCN FDD base stations

	Predicted mean field strength level, dBµV/m / 5 MHz		
	Centre frequencies aligned		Centre frequencies not aligned
	Preferential PCI used	Non-preferential PCI used	All PCIs used
at the border	65	49	65
at a distance of 6 km inside the territory of the other Party	49	-	49

Predicted mean field strength levels for unsynchronized MFCN TDD base stations

	Predicted mean field strength level, dBµV/m / 5 MHz	
	Centre frequencies aligned	Centre frequencies not aligned
	All PCIs used	All PCIs used
at the border	30	

Predicted mean field strength levels for synchronized MFCN TDD base stations

	Predicted mean field strength level, dBµV/m / 5 MHz		
	Centre frequencies aligned		Centre frequencies not aligned
	Preferential PCI used	Non-preferential PCI used	All PCIs used
at the border	65	49	65
at a distance of 6 km inside the territory of the other Party	49	-	49

Distribution of preferential Physical-layer Cell Identities (PCI) for LTE and NR systems

Set	A	B	C	D	E	F
PCI for LTE	0..83	84..167	168..251	252..335	336..419	420..503
PCI for NR	0..83 504..587	84..167 588..671	168..251 672..755	252..335 756..839	336..419 840..922	420..503 923..1007
Set preferential to	LTU[7]	LTU	LTU	POL[8]	POL	POL

[7] LTU – Republic of Lithuania
[8] POL – Republic of Poland