DRAFT

**Memorandum of Understanding on
Frequency Co-ordination between Eastern Partnership countries - Armenia, Georgia, Azerbaijan, Belarus, Moldova and Ukraine concerning the spectrum coordination**

**OF**

**Land Mobile Radiocommunication Networks in the Frequency Bands 694-790 MHz and 3400-3800 MHz**

1. Introduction

Taking into account the recommendations of the International Telecommunication Union, Eastern Partnership countries have concluded this MoU, under Article 6 of the Radio Regulations, on the coordination of frequencies used by land mobile radio communication networks in the 694-790 MHz and 3400-3800 MHz frequency bands.

1. Common Aspects

This MoU covers frequency coordination for Land Mobile Radiocommunication networks following the spectrum arrangements below:

|  |  |  |
| --- | --- | --- |
| **Frequency Band[[1]](#footnote-1)** | **Base receive** | **Base transmit** |
| FDD 700 MHz | 703-733 MHz | 758-788 MHz |
| TDD 3500 MHz | 3400-3600 MHz | 3400-3600 MHz |
| TDD 3800 MHz | 3600-3800 MHz | 3600-3800 MHz |

The provisions of this MoU add to the mandatory requirements of the ITU Constitution and the ITU Radio Regulations, which have both the status of an International Treaty, and in particular:

* Article 15.2 of the ITU Radio Regulations: “Transmitting stations shall radiate only as much power as is necessary to ensure a satisfactory service”;
* Articles 15.4 & 15.5 of the ITU Radio Regulations:
	+ Locations of transmitting stations and, where the nature of the service permits, locations of receiving stations shall be selected with particular care;
	+ Radiation in and reception from unnecessary directions shall be minimized by taking the maximum practical advantage of the properties of directional antennae whenever the nature of the service permits.

This frequency coordination MoU has been established with a view to:

* Reducing problems of harmful interference between land mobile radio communication systems operating in neighboring countries;
* Optimizing the use of spectrum resources in the border areas.

In particular, this MoU has been established with a view to finding a balanced solution between:

* Minimizing harmful emissions coming from the neighboring territories. These harmful emissions may cause harmful interference, or excessive coverage, which cause undesirable roaming and may prevent an Administration from utilizing / allocating portions of its national spectrum;
* Defining satisfactory frequency-usage conditions for land mobile operators to operate their networks while maintaining a good quality of service and good coverage upon the national territory.

This leads Administrations to accept and agree upon a certain level of interference (as defined in Article 1.168 of the ITU Radio Regulations[[2]](#footnote-2)) and/or loose certain part of coverage.

This MoU applies to base stations and fixed terminal stations in coordination areas of all 6 EaP countries. The co-ordination procedure is based on the principle of equitable access to the spectrum resources.

Where all or part of a licensees spectrum is not awarded/licensed in the other nation then the thresholds may be exceeded in that spectrum i.e. the trigger values in section 5 only need apply to spectrum which is used in both nations. Where the spectrum is, or subsequently becomes, awarded/licensed in both nations then the licensees will need to comply with the trigger values.

1. Individual starting points

In respect to individual starting positions, with respect to sovereign interest of each EaP country, all member countries realize that the current usage of 700 MHz and 3400-3800 MHz frequency ranges might be different. On the other hand, all the countries recognize that 700MHz and 3400-3800MHz range are the best candidates for 5G implementation and have met a mutual agreement that these ranges will be used for IMT technologies, so the work vector is pointing towards enabling each other’s technological growth in implementation of advanced technologies.

According to ITU, ECC and CEPT decisions and reccomendations, with respect to countries geopolitical borders, all members agree to start the implementation at the point when the sovereign interests and individual goals are met, thus to follow the own Roadmap with respect to the common approach.

Possible combinations of options can be used with each other and/or with the usage of a number of MFCN SDL blocks in 700MHz band in order to provide flexibility for administrations depending on their needs:



Downlink

Uplink

1. Commitment of Administrations

Administrations are committed to ensuring that the radio-communications stations, operating in the bands listed above, respect the limits for the establishment of base stations without coordination as outlined in this MoU, unless the stations are specifically planned for outside the co-ordination zones.

1. IMT Systems and corresponding frequency bands

Base stations may be put into operation without coordination if the predicted mean field strength of each carrier produced by the base station does not exceed the following values at the given height above ground at the borderline of the neighboring country.

|  |  |
| --- | --- |
| **Frequency****Band** | Parameters based on |
| FDD 700 MHz | Based on **ECC DEC (15) 01, ECC REC (15) 01** |
| TDD 3400-3600 MHz | ITU-R Recommendation **P.452** |
| TDD 3600-3800 MHz |

In order to ensure the optimum network performance for IMT systems deployed in the border areas, Administrations shall encourage operators to coordinate the use of physical-layer cell-identity groups and other radio parameters, in accordance with ECC Recommendations 14(04) and (15)01 for signals using the same center frequency in border areas.

1. Harmful Interferences

If an operator suffers from harmful interference and/or notices a degradation of the quality of service on its network - due to the rise of the field strength coming from a neighboring territory for example - it should immediately inform the affected Administration(s).

1. Review and follow up of the MoU

Signatories may request a review of this MoU. Any part of this MoU may be revised in the light of future developments, i.e. introduction of new technologies and experience in the operation of the networks covered by the MoU.

1. Date of entry into force

This MoU will enter into force on the date of signature.

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| **Armenia:**Ministry of Transport, Communication and Information TechnologiesRepresented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **Georgia:**Georgian National Communications CommissionRepresented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Belarus:**Ministry of Communication and InformatizationRepresented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **Azerbaijan:**Ministry of Transport, Communication and High TechnologiesRepresented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Moldova:**ANRCETIRepresented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **Ukraine**Ukrainian State Centre of Radio FrequenciesRepresented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Supervisor Members:**

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| **EaPeReg - Electronic Communications Regulators Network, SEWG Chair:**Roman KurdadzeGEORGIA, GNCC |
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1. In case of other than stated Division Duplex scheme, the relevant recommendations has to be taken into account [↑](#footnote-ref-1)
2. Accepted interference: Interference at a higher level than that defined as permissible interference and which has been agreed upon between two or more administrations without prejudice to other administrations. [↑](#footnote-ref-2)