

TECHNICAL CRITERIA and PRINCIPLES

**concerning the use of the frequency bands
880-915/925-960 MHz for terrestrial systems**

between

**the Office of Electronic Communications of the Republic of Poland and the State
Supervisory Department for Telecommunications of the Ministry of
Telecommunications and Informatization of the Republic of Belarus**

November 2017

Preamble

According to Article 6 of ITU Radio Regulations, representatives of the Office of Electronic Communications of the Republic of Poland and the State Supervisory Department for Telecommunications of the Ministry of Telecommunications and Informatization of the Republic of Belarus (hereinafter referred to as the Parties) have agreed the present Technical Criteria and Principles concerning the use of the paired frequency bands 880-915/925-960 MHz for terrestrial systems with the purpose of avoiding mutual interference and optimising the use of the above-stated frequency bands on a mutually coordinated basis (hereinafter referred to as the Document).

This Document cancels and replaces:

- 1) “Протокол встречи между представителями Администраций Беларуси и Польши по распределению радиоканалов в полосах 890-915 МГц и 935-960 МГц для сетей связи сухопутной подвижной службы GSM” (г. Минск, 12-15 Декабря 1995 г.).
- 2) “Пункт 4.5 протокола встречи между представителями Администраций Беларуси и Польши по координации частотных присвоений станциям радиовещательной и сухопутной подвижной служб” (г. Варшава, 16-20 ноября 1998 г.).

1. Principles

- 1.1. This Document is based on the concept of coordination field strength levels for base stations, allocation of preferential and non-preferential channels for GSM systems, code groups for UMTS systems and Physical Cell Identifiers¹ (PCI) for LTE systems. This is in conformity with the ECC Recommendation (05)08 of 3rd February 2017 “Frequency planning and cross-border coordination between GSM Land Mobile Systems (GSM 900, GSM 1800 and GSM-R)” and ECC Recommendation (08)02 of 27th April 2012 “Frequency planning and frequency coordination for GSM/UMTS/LTE/WiMAX Land Mobile systems operating within the 900 and 1800 MHz bands” (hereinafter referred to as ECC Recommendation (08)02).
- 1.2. This Document covers the coordination² between terrestrial systems capable of providing electronic communication services in the frequency bands 880-915/925-960 MHz.
- 1.3. The FDD³ frequency arrangement is presumed: mobile stations (user equipment or terminals) transmit and receive in the frequency bands 880-915/925-960 MHz respectively, base stations transmit and receive in the frequency bands 925-960/880-915 MHz respectively.
- 1.4. The Parties agreed to use channel plan for GSM systems based on a 200 kHz grid. Carrier frequencies (radio frequency channels) and channel numbers shall be derived according to the latest version of ETSI standard EN 301 087⁴.
- 1.5. This Document covers coordination of base stations.
- 1.6. Field strength values in this Document are based on a receiving antenna height of 3 m above ground for 10% of time and 50% of locations.
- 1.7. This Document applies to stations of terrestrial systems brought into use after the date mentioned in Section 6 in this Document.

¹ Coordination of the 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.

² The term «coordination» should be understood as bilateral coordination between Parties without involving ITU BR in this process. The document given under this bilateral coordination shall be considered by Parties as agreed under relevant RR procedure.

³ FDD – Frequency Division Duplex

⁴ Digital cellular telecommunications system (Phase 2 & Phase 2+); Base Station System (BSS) equipment specification; Radio aspects

- 1.8. In accordance with paragraph 5.3323 of the ITU Radio Regulations on the territory of the Republic of Belarus, the frequency bands 926.9-932.9 / 881.9-887.9 MHz and 949.9-952.7 / 904.9-907.7 MHz were also allocated to the aeronautical radionavigation service on a primary basis.

2. Use of frequencies, codes and PCI

- 2.1. Each Party may use the frequency bands 880-915/925-960 MHz for GSM systems preferential channels without coordination with the other Party if the predicted mean field strength level of each carrier produced by the base station does not exceed a value of 19 dB μ V/m/200 kHz at a distance of 15 km inside the territory of the other Party.
- 2.2. Each Party may use the frequency bands 880-915/925-960 MHz for GSM systems non-preferential channels without coordination with the other Party if the predicted mean field strength level of each carrier produced by the base station does not exceed a value of 19 dB μ V/m/200 kHz at the border.
- 2.3. Allocation of preferential and non-preferential GSM channels between Parties is given in Annex 1.
- 2.4. Channels denoted by letter "C" in Annex 1 may be used without coordination with the other Party observing the conditions set for the usage of non-preferential GSM channels in item 2.2.
- 2.5. Each Party may use GSM channels 984-991, 75-77 without coordination with the other Party if the antenna downtilt of base station located in the area of 50 km from the border does not exceed a value of 0 degree in the azimuth of the other country.
- 2.6. For UMTS and LTE systems each Party may use the frequency bands 880-915/925-960 MHz without coordination with the other Party if the predicted mean field strength level of each carrier produced by a base station does not exceed the values given in Annex 2 at the border and at a distance of 9 km from the border inside the territory of the other Party respectively, except for the case indicated in item 2.7.
- 2.7. In the border area from 52°29'7.33"N 23°22'36.30"E to 52°49'51.90"N 23°55'28.76"E each Party may use the frequency bands 880.0-887.7/925.0-932.7 MHz and 905.1-907.7/950.1-952.7 MHz for UMTS and LTE systems without coordination with the other Party if the predicted mean field strength level of each carrier produced by a base station does not exceed the value of 35 dB μ V/m/5 MHz at the border.
- 2.8. For UMTS systems each Party shall use code sets according to the Annex 3 to this Document.
- 2.9. For LTE systems each Party may use all PCI available if the predicted mean field strength level of each carrier produced by a base station does not exceed the value of 35 dB μ V/m/5 MHz at the border. If the predicted mean field strength level of each carrier produced by a base station exceeds the value of 35 dB μ V/m/5 MHz at the border each Party shall use only their own preferential PCI according to the Annex 4 to this Document.
- 2.10. If frequency block size of UMTS and LTE systems is other than 5 MHz, a correction, calculated by the formula $10 \times \lg(\text{frequency block size} / 5 \text{ MHz})$, dB, shall be added to the field strength values indicated in items 2.6, 2.7 and 2.9.
- 2.11. Each Party shall notify the other Party concerning the beginning or cancellation of use of UMTS and LTE systems located in the area of 15 km from the border indicating the frequency bands or channels concerned.

3. General

- 3.1. If the predicted mean field strength value of any carrier produced by the base station exceeds the levels indicated in items 0, 2.2, 2.6, 2.7 and antenna down tilt exceeds the level indicated in item 2.5 the frequency assignment shall be coordinated with the other Party.
- 3.2. The coordination procedure shall be performed in accordance with Section 4 of this Document.

- 3.3. In the presence of interference produced by a station covered by this Document, the Report of harmful interference shall be presented in accordance to Appendix 10 of the ITU Radio Regulations. The field strength specified in the interference report shall be based on the median values of measurements of field strength performed at antenna height of 3 m at least in two different points over a range of at least 100 m along the border. The Parties shall take all possible measures in order to eliminate the interference as soon as possible.
- 3.4. For field strength calculations the Parties shall use the latest version of ITU-R Recommendation P.1546 "Method for point-to-area predictions for terrestrial services in the frequency range 30 MHz to 3 000 MHz".
- 3.5. In case of harmful interference to GSM systems and aeronautical radionavigation service from other systems covered by this Document the Parties shall consider reducing field strength levels produced by their systems compared to those permitted in Annex 2 to this Document in order to eliminate harmful interference.

4. Coordination procedure

- 4.1. Coordination requests shall be drawn up according to Annex 4 of the ECC Recommendation (08)02. 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.
- 4.2. The affected Party shall provide a feedback in respect of the request to coordinate assignments within 60 days from the date of the request receipt. If no feedback was received, an urgent reminder shall be sent. Parties that failed to respond within 30 days 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 the request for coordination the affected Party shall inform the requesting Party about its disagreement and provide appropriate information regarding its frequency assignments justified given disagreement. 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 by requesting Party in item 4.3 was received within 30 days from the date of proposals receipt, an urgent reminder shall be sent. Parties that failed to respond within 15 days 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 applying of this Document Parties shall be governed by provisions and procedures of the ITU Radio Regulations, as well as applicable International and bilateral Agreements.

5. Revision and cancellation

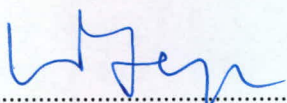
- 5.1. This Document may be revised at any time on the initiative of any Party with the consent of the other Party.
- 5.2. This Document may be cancelled by a mutual decision of both Parties on terms and conditions adopted by the Parties or by a decision of one Party notifying the other Party on its intention at least six months before. This does not affect the operation of stations already brought into use or coordinated under this Document. After such cancellation, Parties will exchange the list of stations already brought into use or coordinated under this Document.

6. Entry into force

- 6.1. This Document shall come into force 3 months after the date of signing it by both Parties.
- 6.2. This Document has been drawn in English in two identical copies, one for the Republic of Poland and one for the Republic of Belarus.

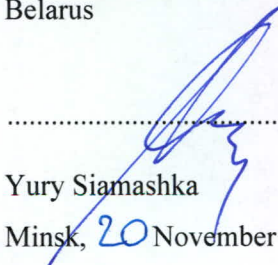
Done by correspondence.

On behalf of
the Office of Electronic
Communications of the Republic of
Poland



Wiktor Sega
Warsaw, 30 November 2017

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



Yury Siamashka
Minsk, 20 November 2017

**Allocation of preferential GSM channels
in the 880-915/925-960 MHz frequency bands
between the Republic of Poland and the Republic of Belarus**

975 BLR ⁵ (6) 980	981 POL ⁶ (7) 987	988 C(26) 1013	1014 POL(4) 1017	1018 BLR(6) 1023	1024 POL(9) 8	9 BLR(4) 12	13 POL(7) 19
20 BLR(5) 24	25 POL(12) 36	37 BLR(12) 48	49 POL(12) 60	61 BLR(5) 65	66 POL(2) 67	68 BLR(5) 72	73 POL(5) 77
78 BLR(9) 86	87 POL(14) 100	101 BLR(22) 122	123 POL(2) 124				

Summary:

POL⁵ – 74 channels

BLR⁶ – 74 channels

C – 26 channels

⁵ POL – the Republic of Poland

⁶ BLR – the Republic of Belarus

**Coordination field strength levels for land mobile base stations
in the 880-915/925-960 MHz frequency bands
between the Republic of Poland and the Republic of Belarus**

	UMTS / LTE (channel bandwidth 5 MHz)				All other cases ^{7, 8}	
	Centre frequencies aligned		Centre frequencies not aligned		Frequency block size, MHz	
Coordination field strength level, dBµV/m	Preferential codes / PCI's used	Non-preferential codes / PCI's used	Preferential codes / PCI's used	Non-preferential codes / PCI's used	5	other
at the border	59	35	59	59	59	59+10 x lg (frequency block size / 5 MHz)
at a distance of 9 km inside the territory of the other Party	35	—	35	35	35	35+10 x lg (frequency block size / 5 MHz)

⁷ For the case GSM vs. UMTS/LTE the coordination field strength level for GSM shall be used according to items 2.1 and 2.2 of this Document

⁸ The following cases refer to the Land Mobile systems and utilization:

- LTE vs. UMTS
- UMTS vs. LTE
- LTE vs. GSM
- UMTS vs. GSM

**Allocation of preferential codes for UMTS (UTRA FDD) systems
in the 880-915/925-960 MHz frequency bands
between the Republic of Poland and the Republic of Belarus**

Code set	A	B	C	D	E	F
Code groups	0 to 10	11 to 20	21 to 31	32 to 42	43 to 52	53 to 63
Set preferential to	POL	BLR	BLR	BLR	POL	POL

**Allocation of preferential Physical Cell Identifiers (PCI) for LTE systems
in the 880-915/925-960 MHz frequency bands
between the Republic of Poland and the Republic of Belarus**

Set	A	B	C	D	E	F
PCI	0 to 83	84 to 167	168 to 251	252 to 335	336 to 419	420 to 503
Set preferential to	POL	BLR	BLR	BLR	POL	POL