

## **PROCEDURE**

**concerning the use of the frequency band  
790-862 MHz for terrestrial systems  
in the border area of Poland and Ukraine**

**Bratislava, 28 October 2011**

## **Preamble**

The representatives of Telecommunications Administrations of Poland and Ukraine have concluded the present Procedure concerning the use of the frequency band 790 - 862 MHz with the purpose of avoiding mutual interference and optimising the use of the above-stated frequency band on a mutually coordinated basis.

## **1 PRINCIPLES**

- 1.1 This Procedure is based on the concept of coordination threshold and the idea of symmetrical conditions for both administrations.
- 1.2 This Procedure covers the bilateral coordination of frequency assignments of land mobile service and aeronautical radio navigation service (ARNS) of Poland and frequency assignments of ARNS of Ukraine.

## **2 USE OF FREQUENCIES**

- 2.1 Technical characteristics of existing ARNS frequency assignments of Poland, requiring the protection, are given in the Annex 4.1. The frequency bands 791-821 MHz and 832-862 MHz are used in Poland for land mobile service in FDD mode with transmission parameters for base and terminal stations in accordance with ECC/DEC(09)03.
- 2.2 Technical characteristics of existing ARNS frequency assignments of Ukraine, requiring the protection, are given in the Annex 4.2. The frequency bands 791-821 MHz and 832-862 MHz are not currently used in Ukraine for land mobile service in FDD mode with transmission parameters for base and terminal stations in accordance with ECC/DEC(09)03.
- 2.3 Poland may use the frequency band 791-821 MHz for base stations of land mobile service without coordination with Ukraine:
  - a) if the predicted field strength produced by the new base station does not exceed 50 dB( $\mu$ V/m)/1 MHz at a height of 10 m above the border line, and
  - b) if the base stations are located at a distance from the border not less than 15 km.
- 2.4 Poland may use the frequency band 832-862 MHz for terminals of land mobile service without coordination with Ukraine, if compliance with Item 2.3 is ensured.
- 2.5 The ARNS stations mentioned in Annex 4.1 and Annex 4.2 use the frequency band 790-862 MHz with technical characteristics indicated in Rec.ITU-R M.1830.

## **3 GENERAL**

- 3.1 A new frequency assignment exceeding the above-mentioned coordination threshold values shall be coordinated.
- 3.2 The coordination procedure shall be performed in accordance with Article 4 of this Procedure.
- 3.3 In the presence of interference produced by a station covered by this Procedure, the Report of harmful interference shall be presented in accordance with Appendix 10 of the Radio Regulations. The parties shall take all possible measures in order to eliminate the interference in due time.
- 3.4 The field strength specified in the Report of harmful interference (see Item 3.3) shall be based on the median values of measurements of field strength performed at antenna height

as stipulated in Article 2 at least in two different points over a range of at least 100 m along the border.

- 3.5 The field strength values in this Procedure are calculated in accordance with the Recommendation ITU-R P.1546-4 and based on antenna heights corresponding to those in Article 2 in this Procedure with 10% of the time and 50% of the locations.
- 3.6 The Recommendation ITU-R P.1546-4 "Method for point-to-area predictions for terrestrial services in the frequency range 30 MHz to 3000 MHz" shall be used for calculations of the field strength value produced by terrestrial stations. The use of updated versions of this Recommendation is to be mutually agreed.

#### **4 COORDINATION PROCEDURE**

- 4.1 The Administration wishing to initiate the use of frequency assignment to the station covered by this Procedure that does not correspond to the terms specified in Article 2 of this Procedure shall send to the other Administration a request to coordinate such frequency assignment. A request can be sent by mail, fax or e-mail. In case if a request is sent by e-mail the requesting Administration shall send by fax a covering letter to the affected Administration and receive a confirmation of its receipt.
- 4.2 The affected Administration shall provide a feedback in respect of the request to coordinate assignments within 10 weeks from the date of the request receipt. If no feedback was received, an urgent reminder shall be sent. Administrations that failed to respond within 2 weeks from the date of an urgent reminder receipt shall be considered as agreed, if the administration, a consent of which was sought, did not ask for extra time needed to evaluate the coordination request.
- 4.3 In case of a refusal of the affected Administration to satisfy a request for coordination the requesting administration shall provide to the affected administration results of its calculations or any new technical characteristics of the assignment.
- 4.4 If no response from the affected Administration to the proposals provided in Item 4.3 was received within 10 weeks from the date of proposals receipt, an urgent reminder shall be sent. Administrations that failed to respond within 2 weeks from the date of receipt of an urgent reminder shall be deemed as agreed to the provided proposals on coordination.
- 4.5 The Administration having objections to the received request for coordination provided in Item 4.3 shall provide 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 application of this document, the Administrations shall be governed by provisions and procedures of the Radio Regulations, as well as applicable international and bilateral agreements.

#### **5 REVISION AND CANCELLATION**

- 5.1 This Procedure may be cancelled as desired by one of the Administrations with a notice of at least one year. This does not affect the operation of stations already brought into use or coordinated under this Procedure.
- 5.2 After such cancellation Administrations will exchange the list of stations already brought into use or coordinated under this Procedure.
- 5.3 This Procedure may be revised or cancelled without previous notice, if mutual understanding is reached between the Administrations.
- 5.4 This procedure may be revised after Ukraine decides to implement the LTE system.



## 6 COMING INTO FORCE

6.1 This Procedure shall come into force from the date of signing.

This Procedure has been drawn up in two identical copies, one for Poland and one for Ukraine.

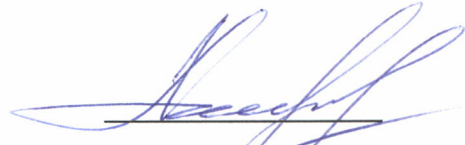
Done at Bratislava, 28 October 2011

On behalf of the Telecommunications  
Administration of Poland



Wiktor Segal

On behalf of the Telecommunications  
Administration of Ukraine



Ievgen Khalrov

The frequency assignments  
to aeronautical radionavigation service of Poland

Notice type	Assigned frequency, MHz	Name of station	Admini- stration	Geographical coordinates		Class of station	System type code	Service	Code of Emission	ERP max (dBW)	Antenna directivity
				longitude, ddmmss	latitude, ddmmss						
T12	835	CEWICE	POL	174544	542503	AL	AB	OT	3M00P0N--	53	D
T12	835	DEBLIN	POL	215327	513300	AL	AB	OT	3M00P0N--	53	D
T12	835	INOWROCLAW	POL	181845	525035	AL	AB	OT	3M00P0N--	53	D
T12	835	MALBORK	POL	190803	540137	AL	AB	OT	3M00P0N--	53	D
T12	835	MIROSLAWIEC	POL	160533	532322	AL	AB	OT	3M00P0N--	53	D
T12	835	OKSYWIE	POL	183110	543449	AL	AB	OT	3M00P0N--	53	D
T12	835	RADOM	POL	211241	512319	AL	AB	OT	3M00P0N--	53	D
T12	835	SWIDWIN	POL	154934	534726	AL	AB	OT	3M00P0N--	53	D
T12	837,5	DARLOWEK	POL	162040	542352	AL	AB	OT	3M00P0N--	53	D

The frequency assignments  
to aeronautical radionavigation service of Ukraine

Notice type	Assigned frequency, MHz	Name of station	Administration	Geographical coordinates		Class of station	System type code	Service	Code of Emission	ERP max (dBW)	Antenna directivity
				longitude, ddmms	latitude, ddmms						
<b>G12</b>	844, 847,853, 859	STENZHARYCHI RLS1_2	UKR	240600	505600	AL	AB	OT	3M00P0N	82	D
<b>G12</b>	844, 847,853, 859	RICHKY RLS1_2	UKR	240600	505600	AL	AB	OT	3M00P0N	82	D
	837,5	RICHKY RLS2_2	UKR	240600	505600	AL	BC	OT	3M00M1X	69,5	ND
<b>G12</b>	844, 847,853, 859	ZAGORBY RLS1_2	UKR	233800	501600	AL	AB	OT	3M00P0N	82	D
<b>G12</b>	844, 847,853, 859	STARY SAMBIR RLS1_2	UKR	225900	492600	AL	AB	OT	3M00P0N	82	D
<b>G12</b>	837,5	STARY SAMBIR RLS2_2	UKR	225900	492600	AL	BC	OT	3M00M1X	69,5	ND
<b>G12</b>	844, 847,853, 859	LYUBOML' RLS1_2	UKR	223800	480900	AL	AB	OT	3M00P0N	82	D
<b>G12</b>	837,5	LYUBOML' RLS2_2	UKR	240200	511400	AL	BC	OT	3M00M1X	69,5	ND
<b>G12</b>	844, 847,853, 859	ZHABOLOT'E RLS1_2	UKR	241500	513800	AL	AB	OT	3M00P0N	82	D
<b>G12</b>	837,5	ZHABOLOT'E RLS2_2	UKR	241500	513800	AL	AB	OT	3M00P0N	82	ND
<b>G13</b>	800	POVORSK RSBN	UKR	250700	511600	AM	AA8	OT	3M00P0X	30,5	D
<b>G13</b>	808	L'VIV RSBN	UKR	235700	494800	AM	AA8	OT	3M00P0X	30,5	D
<b>G13</b>	796	LUTSK RSBN	UKR	252000	504700	AM	AA8	OT	3M00P0X	30,5	D



**Minutes of the meeting of technical experts of telecommunications administrations of the  
Slovak Republic, Poland and Ukraine concerning the use of the frequency band  
790-862 MHz for terrestrial systems in the border area**

*Bratislava, 26<sup>th</sup> – 28<sup>th</sup> October 2011*

AI 1:

On behalf of Telecommunications Regulatory Authority of the Slovak Republic Mr. Mizera, head of Frequency planning management department, opened the meeting and welcomed all participants. The list of participants is provided in the Annex 2.

AI 2:

Mr. Mizera defined the scope of the meeting and introduced the draft Agenda which was adopted by the meeting. Agenda is provided in Annex 1.

AI 3:

In Ukraine the frequency band 790-862 MHz is used by three services:

- Limited number of DVB-T channels (61-64) and limited number of stations (1-2) in each channel on the temporary bases and on the limited territory (only in some regions);
- ARNS systems according to the RR footnotes 5.312 and 5.316A until the finishing of full reforming process for this frequency band. The number of RSBNs and radars are defined by bilateral agreements and were requested to the MIFR notification before GE-06. All ARNS facilities operate with parameters defined in Rec. ITU-R M.1830. Further usage of frequency band 790-862 MHz by ARNS is the matter of the whole conversion of this band. For the time being there is no Government decision on this matter. RSBN and radars protection criteria were proposed by Ukraine and agreed with Slovak Republic and Poland by correspondence;
- CDMA system (including CDMA 1x EV-DO) in the band 824-843 MHz by uplink channel (mobile stations). This system will be operating until the 1<sup>st</sup> January 2016 according to the National frequency usage plan. The future usage of this sub-band by CDMA or by another system (LTE) with additional sub-band for LTE BS depends on the operator's intention and Government decision on this matter.

Poland has decided to assign the band 790 – 862 MHz exclusively for Electronic Communications Systems (ECS, eg. LTE) in accordance with ECC Decision (09)03 and European Commission Decision (2010/267/EU). Current use of the band is as presented below:

- TV channels 61, 62 and 64 are used by DVB-T temporarily until the switching off of analog television, it is expected that DVB-T will be switched off not later than in July 2013;

- a part of channel 65 (824 – 830 MHz) is used by CDMA 2000 system (uplink), radio licence is valid to 2018;
- in a part of 832 – 860 MHz range the RSP 10 aeronautical radionavigation system (RLS 1) operates as only type of ARNS in this band. It is expected to switch off this system by the end of 2012 or – in case of difficulties concerning supplies of the new equipment – by the end of 2013.

Mr. Mizera described the situation in the Slovak Republic in the 800 MHz band. In 2009 a temporary DVB-T multiplex MUX1 was launched. At the beginning of 2011 negotiations have begun with the operator of this multiplex in order to the earlier release of the digital dividend. Band is released and it can be used for broadcasting until the licenses for mobile service will be assigned.

Slovakia intends to tender or auction about this band at the end of 2011 or beginning of 2012. In the case of the auction, the changes in legislation are required. The Slovak Republic is planning an auction for the 800 MHz and 2600 MHz bands at the same time and possibly for 1800 MHz band.

The Slovak Republic is ready to reform the GSM 900 band in case when the mobile operators ask for it. Operators have expressed interest in refarming in the future but not at present time.

In the Slovak Republic there are three mobile operators and they provide mobile services in 900 MHz, 1800 MHz and 2.1 GHz bands.

The operation of ARNS systems in the 800 MHz band was ended in 2006.

E-GSM band is used in Slovakia. Only 14 channels in the lower part of the band are not in use.

AI 4:

#### ***Bilateral discussion SVK – UKR***

The main part of negotiation was the approving of coordination distance not less than 15 km to ensure the radars protection from LTE terminals. Also this distance should protect LTE base stations from the impact of radars. This document may be revised after Ukraine adopts a decision about implementation of LTE in band 800 MHz.

The boundary values of some subbands inside of band 800 MHz were clarified and agreed. The Procedure concerning the use of the frequency band 790-862 MHz for terrestrial systems in the border area of the Slovak Republic and Ukraine was accepted and signed by representatives of both Administrations. The Procedure is attached in Annex 3.



AI 5:

***Bilateral discussion POL-UKR***

Ukrainian and Polish parties discussed on a draft of the Procedure concerning the use of the band 790 – 862 MHz for terrestrial systems in the border area of Poland and Ukraine. The draft text was prepared by Ukrainian party, it was consulted before the meeting by correspondence. The Parties introduced small editorial amendments to the document. Polish party provided a list of operating ARNS stations. The draft of the Procedure was accepted and signed by representatives of both Administrations. The Procedure is attached in Annex 4.

Because of the planned use of the channels 61 – 69 by Ukraine, the Polish party asked for detailed information concerning this subject. Channels in subband 790 – 862 MHz will be used by Ukraine in accordance with GE06 and additional bilateral coordination. After switching off the analog television the usage of these channels may be reconsidered. The Ukrainian party informed that channels 65 – 69 are not planned to be used because of ARNS operating in this subband.

AI 6: AOB

Expert meeting participants were asked to describe the situation in their country.

Slovakia has implemented Decision 2008/477/EC of the European Commission. In the 2600 MHz band Slovakia plans in late 2011 or early 2012 for tender or auction for the provision of mobile broadband while maintaining the principle of technological neutrality. The band is currently used by MMDS operators. Permits shall be valid until the end of 2011. The problem is that some operators do not want to release the band for other services and take all legal steps to extend the authorization. The theme is very important for Slovakia and certainly we are interested to start negotiation with neighboring countries for the signature of agreements on use of 2600 MHz band.

The Polish Party raised an issue of the use of the 880 – 890 MHz band in Poland and Ukraine. A part of this band is used in Ukraine as a downlink of the CDMA 2000 system, Poland uses it as an uplink of the E-GSM and UMTS/HSPA+ systems. The Poland and Ukraine have no bilateral agreement related to the common use of this band by CDMA and E-GSM. For a long time some Polish mobile operators have been reporting really serious interferences produced by the Ukrainian CDMA transmitters, large number of interfered E-GSM base stations must have been switched off. In order to solve the problems both sides exchanged their proposals concerning technical basis for coordination procedures.

Because of the fact that approaches proposed by the both Parties are different the Parties agreed on further actions. It was decided that Parties will exchange information concerning

detailed technical parameters of the stations located on distance up to 80 km inside the territory from the border. The information should be sent not later than 1 December 2011. The Parties agreed to carry out intensive actions aimed at solving the problem of interference and, in order to avoid conflicts in the future, signing a procedure concerning the use of the 880 – 890 MHz band in border areas.

Concerning the possibility of implementation of the principle of technology neutrality in bands 900, 1800 and 2600 MHz Polish Party informed that licences of currently operating operators are technologically neutral. Poland is going to use the band 2600 MHz in accordance with ECC Decision (05)05 and Decision of European Commission 2008/477/EU. For the time being only one licence for operating in TDD mode in subband 2570 – 2620 MHz has been issued and the operator has started to deploy its network. It is planned to issue further licences in subbands 2500 – 2570 and 2620 – 2690 MHz for operating in FDD mode. Regarding this plans, Polish Party emphasized that a coordination procedure on using the band 2600 MHz is needed.

Ukraine informed that because of the use of the part of the band 900 MHz by ARNS, operators' frequency resources are different in different regions of Ukraine. It causes serious problems with use of this band by broadband systems (eg. UMTS, LTE). Ukrainian Party is carrying out actions aimed at solving that issue. Assignments in the band 1800 MHz are arranged as blocks and Ukraine doesn't expect problems with migration from GSM to broadband systems. The 2600 MHz band is used by few operators for MMDS. Ukrainian Party will provide detailed information concerning the use of 2600 MHz band by the end of 2011. Ukraine made a proposal to agree on division the band into preferential frequency blocks taking into account the use of this band in both countries. Polish Party proposed to base this procedure on the criteria defined in ECC Recommendation (11)05. The Parties will be working together in order to create a procedure concerning the use of this band.

In order to allow the use of 900 and 1800 MHz band by broadband systems Polish Party additionally proposed to use the technical provisions defined in ECC Recommendation (08)02 for case when GSM agreement is still valid. Ukrainian Party will inform about its decision on this matter by correspondence.

Slovakia has implemented Decision 2008/477/EC of the European Commission. In the 2600 MHz band Slovakia plans in late 2011 or early 2012 for tender or auction for the provision of mobile broadband while maintaining the principle of technological neutrality. The band is currently used by MMDS operators. Permits shall be valid until the end of 2011. The problem is that some operators do not want to release the band for other services and take all legal steps to extend the authorization. The theme is very important for Slovakia and certainly it is interested to start negotiation with neighboring countries for the signature of agreements on use of 2600 MHz band.

AI 7:

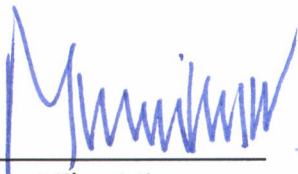
The Signing ceremony of the Procedures by the heads of delegations of all participating Administrations took place.

AI 8:

Mr. Mizera thanked for the good cooperation in reaching Procedure in the 800 MHz band and wished all delegates a safe trip home. The participating Administrations thanked for the good cooperation and the well organised meeting.

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For the Telecommunications  
Regulatory Authority of the  
the Slovak Republic

  
\_\_\_\_\_  
Milan Mizera

For the Ukrainian State  
Centre of Radio Frequencies

  
\_\_\_\_\_  
Ievgen Khairov

For the Office of Electronic  
Communications

  
\_\_\_\_\_  
Wiktor Segá



**Expert Meeting**  
**Bratislava, 26. – 28. October 2011**

## **Agenda**

1. Opening of the Meeting at 10:00 am
2. Adoption of the Agenda
3. Information on current use of the band 800 MHz
4. Discussions and finalisation of the Procedure concerning 800 MHz between Slovak and Ukraine administration
5. Discussions and finalisation of the Procedure concerning 800 MHz between Poland and Ukraine administration
6. Any other businesses
7. Signature of the Procedures
8. Closure of the Meeting

## List of participants

**Bilateral UKR - SVK and UKR - POL regarding the use of the frequency band 790.000-862.000 MHz for terrestrial systems  
in the border area of the Slovak Republic, Ukraine and Poland**

**Bratislava, Slovak Republic 26. – 28. October 2011**

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