

Questionnaire on cross-border coordination issues regarding 700 MHz spectrum clearance and migration of broadcasting service below 694 MHz

5th release of the questionnaire

Background

The 694-790 MHz frequency band ('700 MHz band') has been technically harmonised in Europe through an EU implementing decision¹ pursuant to the Spectrum Decision. A Decision² of the European Parliament and of the Council has defined a timetable to make available the 700 MHz band in Europe for wireless broadband electronic communications services ('ECS').

The Good Offices programme of the RSPG is focusing on 700 MHz band re-planning and clearance, particularly to identify at an early stage where there are potential issues of cross-border co-ordination.

A questionnaire issued first in November 2016, second in February 2017, third in July 2017 and fourth in December 2017 enabled to get information from all EU countries as well as from countries outside EU but bordering EU, about:

- current status of national roadmap for clearance and details of the plan at a high level,
- up-to-date information on bilateral/multilateral negotiations with regard to re-planning of broadcasting frequencies below 694 MHz.

The responses have been published on the RSPG website (<http://rspg-spectrum.eu/2017/02/responses-to-the-questionnaire-on-cross-border-coordination-regarding-700-mhz/>).

Some results of the questionnaire have been summarized in several statistics and maps shown in the attached document. **You are invited to check this information and correct any error or ambiguity.**

The deadline for cross-border agreement between EU countries was 31st December 2017. At this date, all cross-border agreement between EU countries were signed except around Belgium.

In addition, there were cases where there were inconsistencies between the responses. In most cases, this was due to the absence of response of one of the two countries. For example, there are cases where interference is not expected because countries have large geographical separation (eg, MT-EL), however, one of the 2 administrations wishes to formalize that through a bilateral agreement. This case has not been considered as an issue since it has no impact on the replanning of TV below 694 MHz and on making available the 700 MHz for

¹ Commission Implementing Decision (EU) 2016/687 of 28 April 2016 on the harmonisation of the 694-790 MHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services and for flexible national use in the Union

² Decision (EU) 2017/899 of the European Parliament and of the Council of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union

mobile service. **The list of inconsistencies which are not considered as problematic are shown in Annex 1. The concerned administrations are invited to check this table and to confirm the comment made by the working group or to provide further clarification.**

The questionnaire is reissued for response before 7th May 2018 in order to enable each country to update the information and to report progress on 700 MHz band re-planning and clearance.

You are invited:

- **To confirm that the signature of the few remaining necessary cross-border agreements have been signed with other EU countries or to respond carefully to question n°9, and to check the Table in Annex 1.**
- **To pay attention, in relation with Question 1, to the obligation, in accordance with the article 5.1 of the 700 MHz decision, to draw up a national roadmap before 30th June 2018.**
- **To specify clearly the expected target date for the end of migration of television below 694 MHz even in the absence of a formal decision**, in order to avoid any "chicken and egg" for deciding such date taking into account the migration in neighbouring countries and to identify any risk of domino effect.
- **To provide any additional relevant information on the expected target date for the end of migration in neighbouring countries outside EU**, in case they do not respond by themselves to the questionnaire and given the importance of such information to assess the risk of a domino effect.
- **To specify clearly the start of migration** (often not specified in the previous responses to the questionnaire) taking into account that the time for migration should not be underestimated, in particular when there is a need to change transmission/coding broadcasting technology.
- **To consider transition plans facilitating the migration of television below 694 MHz and the deployment of 700 MHz for mobile in case there are diverging dates of migration with some of your neighbours (see question 10).** For example, one may consider the transitional use of TV Channels in the 700MHz band by the country where migration to mobile is occurring later than their neighbor. Such transitional use could occur outside the 2x30 MHz or preferentially in the terminal receive band rather than in the base station receive band.

You are invited to highlight the changes to the responses, compared to 4th release, through relevant means (ie, revision mark or highlighting the modified text) in order to simplify the treatment of the responses.

Questions

1. What is the status of developing a national roadmap (in accordance with article 5.1 of the 700 MHz decision setting a deadline to 30th June 2018 for drawing up a "national roadmap") for the clearance of the 700 MHz band:
 - a. Agreed
 - b. At the final stage of adoption

- c. Under development
 - d. Under preliminary discussion
 - e. Not started
2. What is the expected or agreed timetable for the migration of television below 694 MHz and for the awards of the 700 MHz band?
 - a. Date of starting the migration :
 - b. Date of the end of migration :
 - c. date of the awards of the 700 MHz band :
 3. Do you expect the 700 MHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services to be available by the date specified in the European Parliament and Council decision on the 700 MHz band? If not, please, explain.
 4. What is the total number of DVB-T/T2 multiplexes in operation / licensed ? What are the expiration dates of current DVB-T/T2 licences?
 5. What DTT transmission technology and video coding standard are used in your country and do you expect an evolution of the DTT platform in order to allow the release of the 700 MHz band? If yes, do you expect:
 - a. an evolution of the technology (transmission and/or video coding standard)?
 - b. an evolution in the total number of programs and in the number of programs/ per mux ?
 - c. HD or UHD transmissions in future DTT platforms? Changing coverage of population/territory ?
 - d. an evolution in coverage by single SFN (e.g. SFN extension or SFNs merging)?

Explain the reasons for modifications, i.e. how does it help 700 MHz band clearance, and describe the transition period (time period, simulcast, part of the spectrum used...).

6. What are, in high-level description, your objectives for cross-border coordination in terms of planning principles for the band 470-694 MHz:
 - number of nationwide MUX/ number of local/regional MUX,
 - type of transmission / coding,
 - MFN, SFN or mixed SFN/MFN,
 - % population/territory coverage,
 - reception mode (fixed reception, portable, mobile),
 - assignment/allotment coordination and reference network,
 - others?

Please use the Table 1 to describe the objectives and provide additional elements as necessary. Table 1 can be completed with additional text, ie to cover “others”.

TABLE 1

	% of population /territory	type of reception mode	Assignment/ Allotment coordination	MFN, SFN or mixed SFN/MFN	Type of transmission / coding

	coverage, No of stations	(fixed, portable, mobile)	and reference network		
Nationwide MUX 1	90%/85%	Fixed	Assignment	Mixed	DVB-T2 (256 QAM, 32K) / MPEG-4
Nationwide MUX 2	93%/-	Mob	Allotment (RN 1)	MFN	DVB-T2 (256 QAM, 32K) / MPEG-4
Nationwide MUX 3	-/80%	Portable	Allotment (RN 2)	SFN	DVB-T2 (256 QAM, 32K) / HEVC
Regional/ Local MUXs	45 stations	Fixed	Assignment	MFN	DVB-T2 (256 QAM, 32K) / HEVC
...

7. For each country (EU and non-EU) with which coordination is necessary (please, provide names of country), what is the current coordination status for the clearance of the 700 MHz band:

- a) Not yet initiated
- b) Coordination request but no response
- c) Discussion on general principles
- d) Discussion on the new plan
- e) New plan generally agreed but further discussion on technical characteristics of transmitters
- f) Coordination completed
- g) Signed agreement

In addition, specify if the negotiation with this neighbour is covered by a regional cluster (WEDDIP, NEDDIF, SEDDIF, ...)

TABLE 2

[Name of your country]		
Name of country	Status of coordination	Regional cluster
United Kingdom	e)	WEDDIP
France	f)	WEDDIP
...		

8. Is there any cross-border difficulty which may prevent your country to sign cross-border agreements before the end of 2017
- a. In the case of an EU neighbour: does your county plan to submit a request to the 'good offices' group?
 - b. In the case of a non-EU neighbour: give the expected date for an effective agreement and indicate any need for EU-level assistance.
9. In case you did not sign the necessary cross-border agreement with an EU country, could you specify:
- The reasons why it has not been signed before 31st December 2017?

- If relevant, the detailed technical elements which have prevented reaching agreement?
 - The information about next bilateral meetings and any planned date for signature of the cross-border agreement?
10. Did you identify any significant timing discrepancy for allowing the use of the 700 MHz band for mobile with neighbouring countries which could create issues of interference from DTT to Mobile networks? Did you discuss with this neighbouring countries transition plan to alleviate this interference?
11. Could you provide any further information on the implementation of the 700 MHz band such as which 700 MHz national options (outside the 2x30 MHz) would be implemented and whether compensation mechanisms will be used to migration broadcasting below 694 MHz?

**ANNEX 1 : Inconsistency cases which are not considered as problematic in
the answers of the 4th questionnaire**

Involved countries	Status	Comment
Germany – Latvia	Not mentioned – Completed	Coordination is not considered as an issue given the geographical separation
Germany – Norway	Not mentioned – Signed	Coordination is not considered as an issue given the geographical separation
Cyprus – Greece	Signed – Not mentioned	No update from Greece – probably signed
Greece – Croatia	Not mentioned - Signed	No bilateral agreement needed according to the SEDDIF agreement
Greece – Malta	not initiated - Not mentioned	Coordination is not considered as an issue given the geographical separation
Croatia – Romania	Signed - Not mentioned	No bilateral agreement needed according to the SEDDIF agreement
Romania - Slovakia	Not mentioned - Completed	Coordination is not considered as an issue given the geographical separation
Latvia – Finland	Not mentioned – Completed	Latvia clarified that there is no need for signing agreement