EUROPEAN
COMMISSION

Brussels, 22.4.2014
COM(2014) 228 final

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the implementation of the Radio Spectrum Policy Programme

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the implementation of the Radio Spectrum Policy Programme

Contents

1. INTRODUCTION 3
2. THE EU'S RADIO SPECTRUM POLICY PROGRAMME 3
   - 2.1. Spectrum inventory 4
   - 2.2. Wireless broadband services 4
     - 2.2.1. Implementation of the 800 MHz band 5
   - 2.3. Shared use 6
     - 2.3.1. Unlicensed spectrum 7
     - 2.3.2. Licenced shared access (LSA) 7
   - 2.4. Other EU policies 8
3. THE RADIO SPECTRUM DECISION 8
4. CONCLUSIONS 9

1. INTRODUCTION

This report responds to the requirements of Article 15 of Decision 243/2012/EU[1] of the European Parliament and of the Council establishing a multiannual radio spectrum policy programme (the RSPP), which provides that the Commission has to report on the activities developed and the measures adopted under the RSPP by April 2014. Reporting obligations on the harmonised use of radio spectrum are also contained in Article 9 of Decision 676/2002/EC[2] of the European Parliament and of the Council on a regulatory framework for radio spectrum policy in the European Community (the Radio Spectrum Decision) this report therefore merges these obligations into one concise report.

Radio spectrum is the basis for wireless communications such as Wi-Fi and mobile phones, and a key resource to other sectors including broadcasting, manufacturing and transport, and non-commercial essential services such as defence, emergency services, and environmental protection. Radio spectrum is a finite natural and reusable resource in high demand, and the devices that use it can easily cross borders. Using spectrum as efficiently as possible throughout the internal market, including spectrum sharing between different applications and users, requires coordination at international level and at European level, taking into account its impact on EU policies.

2. THE EU'S RADIO SPECTRUM POLICY PROGRAMME

The RSPP defines key policy objectives and sets out general principles for the strategic planning and harmonisation of the use of spectrum to ensure the functioning of the internal market. Based on these principles, the RSPP identifies priorities for action in the area of wireless broadband communications, and audio-visual media, as well as other EU policy areas such as the Galileo programme, the European Earth Observation Programme Copernicus, transport, health, research, civil protection and disaster relief, environment and energy-saving applications.

Pursuant to the Radio Spectrum Decision and the RSPP, the Commission has adopted implementing decisions supporting specific EU Policy areas. The specific EU policy areas include:

Digital Agenda for Europe: Harmonisation of spectrum for wireless broadband as well as for short-range devices to facilitate "internet of things" applications.

Single European Sky: Harmonisation of spectrum for mobile communications on board aircrafts

Maritime and Land Transport: Harmonisation of spectrum use for, among others, intelligent transport systems including electronic tolling systems and automotive short-range radars.

The European Commission is continuing its work on spectrum policy in collaboration with the Radio Spectrum Committee (RSC), the Radio Spectrum Policy Group (RSPG)[3]

---

1 OJ L 81, 21.3.2012, p. 7–17

2 OJ L 108, 24.4.2002, pp. 1–6

3 The Radio Spectrum Policy Group is an advisory group to the Commission established under Decision 2002/622/EC

and with the European Conference of Postal and Telecommunications Administrations (CEPT)[4].

The Commission is concentrating its efforts on several spectrum-related priorities detailed in the sections below.

2.1. Spectrum inventory

Article 9 of the RSPP provided for the spectrum inventory in order to analyse the various types of spectrum use by both private and public users with the aim of obtaining better knowledge of current spectrum use. This should enable the Commission to propose measures for more efficient spectrum use to ensure sustainable wireless connectivity. This could include sharing opportunities in bands with existing users or identifying bands which could be allocated or reallocated, in order to improve efficiency, promote innovation and enhance competition. This work will help the Commission to identify sufficient and appropriate spectrum for wireless broadband with the objective of designating the additional 210 MHz required to achieve the RSPP target of 1200 MHz of harmonised bands for wireless broadband.

Pursuant to Article 9(2) of the RSPP, in April 2013 the Commission adopted Implementing Decision 2013/195/EU[5] which defines practical arrangements, uniform formats and a methodology for the radio spectrum inventory. This decision requires Member States to continue uploading data on the European Frequency Information System (EFIS),[6] and to provide all additional available data, i.e. data not collected in EFIS, to the Commission in machine readable format in the 2013-2015 timeframe.

In accordance with Article 9(4) of the RSPP, the Commission will report to the European Parliament and Council on the results of the analysis of technology trends, future needs and demand for spectrum in a separate report on the inventory, which is planned for mid-2014.

2.2. Wireless broadband services

Article 3(b) of the RSPP calls upon the Member States and the Commission to cooperate in allocating at least 1200 MHz of spectrum by 2015 to meet the increasing demand from wireless data traffic. To date, through Commission Decisions adopted under the Radio Spectrum Decision, a total of 990 MHz for wireless broadband has been harmonised. Member States, on average, have assigned around 600 MHz on the basis of these implementation measures.

In order to achieve the 1200 MHz target, studies are being carried out in cooperation with the Member States. Of particular political importance is the future of the UHF band (470-790 MHz) for which different services are in competition: audio-visual and broadband services, wireless microphones, networks for public protection and disaster relief and white space devices. The Commission is seeking the strategic advice of the RSPG[7] and has set-up a High Level Group of stakeholders[8] on the potential future use of the UHF

---

4 CEPT is a technical cooperation platform where Members from 48 European countries cooperate in the area of posts, radio spectrum and telecommunication networks

5 OJ L 113, 25.4.2013, pp. 18-21

6 EFIS is an online database to fulfil EC Decision 2007/344/EC on the harmonised availability of information regarding spectrum use in Europe which is managed by the European Communications Office (ECO) in Copenhagen.

7 Document RSPG13-543 (Annex 1): Work Programme public consultation 2014, p.2

8 High Level Group press release, IP/14/14 of 13 January 2014

spectrum. Commission wishes to find a win-win situation for the broadcasting and wireless broadband sectors.

Work is also progressing to achieve a sustainable solution for audio Programme Making and Special Events (PMSE) equipment (e.g. wireless microphones), in accordance with Article 6(6) of the RSPP and anticipating more efficient UHF band use. It is appropriate and timely to give certainty to the PMSE community as to the continued availability of spectrum for wireless microphones. The Commission has started discussions with Member States in the Radio Spectrum Committee on a draft Commission Decision harmonising spectrum for audio PMSE planned for adoption in the second half of 2014.

As part of the inventory process, technical studies are underway and analysis is ongoing to ascertain whether the coexistence of wireless broadband with existing services could be envisaged in other bands.

Article 6(2) of the RSPP required Member States to authorise, by 2012, the use of the frequency bands already harmonised at EU level[9]. The Commission has been working to ensure the timely implementation of Member States' obligations under Article 6(2), using all means at its disposal, including pilot letters which were sent to 23 Member States and the launch of one infringement procedure.

2.2.1. Implementation of the 800 MHz band

Article 6(4) of the RSPP required Member States to carry out an authorisation process in order to allow the 800 MHz band, the so-called 'digital dividend band', to be used to provide electronic communications services by 1 January 2013. On the basis of duly substantiated requests, the Commission has granted specific derogations for Member States where exceptional national or local circumstances or cross-border frequency coordination problems prevented the availability of the band (**Table 1**).

Fourteen Member States sought derogations; two were refused in their entirety as they did not meet the conditions of Article 6(4). The Commission limited the duration of the derogations for the remaining 12 countries to the minimum time necessary, taking each specific circumstance into consideration. Two derogation requests were only partially granted and four others were granted for a shorter duration than requested. While seeking to avoid negative consequences for neighbouring Member States, derogations were mainly justified by difficulties in switching off analogue TV due to specific geographical or economic situations, or coordination problems between Member States and with third countries. The availability of the 800 MHz spectrum will be delayed in Bulgaria as, in accordance with Article 1(3) of the RSPP, it notified the continued use of the 800 MHz band by the military until the equipment in use is phased out. During the past two years the RSPG offered 'good offices' to help Member States with cross-border coordination issues within the Union; however this valuable mediation has been hampered by the lack of clear enforcement powers.

[9] *OJ L 144, 4.6.2008, pp. 77–81; OJ L 163, 24.6.2008, pp. 37–41; OJ L 274, 20.10.2009, pp. 32–35*

Table 1 — Assignment and derogations of the 800 MHz harmonised band

Status	Member States	Number of MS
Assignment in 2012 or before	ES*, DK, DE, IE, FR, IT, LU, NL, PT, SE, HR	11
Assignment in 2013**	LT, AT, SK, FI, CZ, BE, UK, EE***	8
Derogation until 1.1.2014	ES	1
Derogation until 5.4.2014	RO	1
Derogation until 30.6.2014	HU	1
Derogation until 30.10.2014	EL	1
Derogation until 31.12.2014	MT	1
Derogation until 30.6.2015	LV	1
Derogation until end 2015	CY	1
Not yet assigned	BG (military use notified pursuant to Art.1(3)); PL (derogation until end of 2013, but late), SI.	3

* Despite being assigned in 2011, derogation until 1.1.2014.
** Including derogations until 1 January 2014
*** Only 40 MHz assigned (20 MHz assigned in January 2014)

With regard to Electronic Communication Services (ECS) the RSPP requires the Commission, in cooperation with Member States, to address the possible risk of fragmentation of the internal market due to divergent selection criteria and procedures for harmonised spectrum. This is to be done by facilitating the identification and sharing of best practices on authorisation conditions and procedures, and by encouraging the sharing of information in order to increase consistency across the Union. However, initial experience gained in implementing the RSPP's wireless broadband provisions and in monitoring national authorisation conditions and procedures over the last two years, shows that the RSPP has not sufficiently stimulated a single market that leads to a convergence of licensing conditions, the integration of networks or the investment in and rollout of wireless broadband at rates comparable to those of other regions or needed for achieving the DAE target of 30 Mbps for all by 2020.

2.3. Shared use

Article 4 of the RSPP states that Member States and the Commission shall, where appropriate, take measures to enhance efficiency and flexibility in particular through collective and shared use of spectrum in order to promote innovation and investment. In September 2012, the European Commission published its views on 'Promoting the shared use of radio spectrum resources in the EU'[10]. As the first follow-up document to the priorities set by the RSPP, this communication highlights the importance of technologies to share radio frequencies, as well as the need to create incentives and legal certainty for innovators. It proposes ways to promote more efficient sharing of the spectrum by means of wireless innovations.

In terms of concrete measures on the shared use of spectrum the Commission is aiding innovation by harmonising frequency bands that are subject to general authorisations (unlicensed spectrum) or individual rights of use (licensed shared access) as outlined in

[10] Promoting the shared use of radio spectrum resources in the EU

the following sections, as well as requesting related standards to the European Standards Organisations[11].

2.3.1. Unlicensed spectrum

Short-range devices (SRDs) are usually only subject to general authorisations for applications such as radio frequency identification devices (RFID) that support supply chain automation and machine-to-machine (M2M) applications; emerging intelligent transport systems (ITS) including electronic tolling and automotive short-range radars (SRR); and applications used by citizens such as alarms, medical devices and Wi-Fi routers. European Commission Decision 2006/771/EC[12] on harmonisation of the radio spectrum for use by short-range devices sets out the harmonised frequency bands and technical usage conditions under which SRDs can be used across Europe. Applications that rely on the licence-exempt SRDs bands benefit from easy access to the radio spectrum because no spectrum licences are required in the European Union. Harmonisation of SRDs bands throughout the internal market also supports economies of scale for equipment manufacturers.

Due to growing demand for harmonised SRDs bands for various applications, the European Commission regularly updates spectrum harmonisation conditions for SRDs. As part of this regular update process, the technical annex of Commission Decision 2006/771/EC has been updated five times since it was first adopted in 2006, most recently in 2013 (Commission Decision 2013/752/EU[13]). The latest update introduces broader SRDs categories as a basis for harmonised sharing environments, with the aim of facilitating easier access, innovation and technology and service neutrality – all important principles contained in the RSPP.

As part of the Connected Continent proposal, the Commission proposed to create a favourable environment and administrative regime for the deployment of small cells in order to respond to the future capacity demand for broadband connectivity, as well as for the provision of Radio LAN (RLAN or WiFi) connectivity and the pooling of different users' RLAN resources.

In addition, a mandate has been issued to the CEPT regarding a possible extension of RLANs in the 5 GHz band, subject to the technical feasibility of being able to maintain other important services (GMES and ITS) which are also priorities under the RSPP. The Commission is also working on a measure to facilitate ultra-wide band (UWB) technology, which transmits low-power radio signals across a wide range of frequencies, and supports short-range applications such as high-data communications, location tracking and ground-penetration radar.

2.3.2. Licenced shared access (LSA)

Under the LSA concept spectrum rights on a shared basis are granted to licensees subject to terms defined by the regulator making it possible to ensure a predictable quality of service. Each user needs an individual (but not exclusive) right of use to access a particular frequency band and the setting of authorisation conditions is the responsibility of the spectrum management authority, which defines the access parameters through regulation and licence conditions.

---

[11] M 512 standardisation mandate to CEN, CENELEC AND ETSI for reconfigurable radio systems

[12] OJ L312, 11.11.2006, pp. 66-70

[13] OJ L 334, 13.12.2013, pp. 17-36

The recent Opinion of the RSPG on LSA can be seen as the starting point for a more generic application of the concept. Both the CEPT and the RSPG have identified the 2.3 GHz band as a possible candidate band for use by wireless broadband services in the EU. Such use is being considered in the context of LSA, since this would ensure the long-term incumbent use of the band in those Member States that wish to maintain existing use, while providing legal certainty for additional licensees.

2.4. Other EU policies

Article 8 (2) of the RSPP requires the Commission in cooperation with Member States, to identify possibilities for the use of spectrum in order to contribute to a low-carbon economy. They must also consider making spectrum available for wireless technologies with a potential for improving energy-saving and the efficiency of smart energy distribution grids and smart metering systems. In April 2012 the Commission conducted a 'Public Consultation on Use of Spectrum for more efficient energy production and distribution', which showed that there was no common position on the use of ICT infrastructure for smart grids and smart meters nor on dedicated or shared spectrum use, on a licenced or unlicensed basis.

Moreover, there is no common opinion on how mission-critical services should be provided. To this end, the Commission has launched a study on the 'Use of commercial mobile networks and equipment for 'mission-critical' high-speed broadband communications in specific sectors'. Its goal is to explore the potential role of commercial mobile networks to ensure the provision of 'mission-critical' communications services, including smart energy grids. The study should provide recommendations on infrastructure and spectrum use for these applications.

3. THE RADIO SPECTRUM DECISION

The Radio Spectrum Decision provided for regulatory tools in order to ensure the coordination of policy approaches and harmonised conditions for the availability and efficient use of radio spectrum necessary for the functioning of the internal market. It also established the Radio Spectrum Committee (RSC), whose role is to assist the Commission in the exercise of implementing powers which build on mandates to the CEPT to achieve the above mentioned policy objectives. Successful implementation of the RSD has built upon fostering good working relationships between the Commission and Member States represented in the RSC. This collaboration has been continued in the current implementation of the RSPP. All measures proposed to the RSC for voting have received a positive opinion. A list of decisions adopted between 2006 and 2013 is provided in Annex 1.

The Radio Spectrum Decision has proven successful in making available harmonised spectrum resources for strategic sectors in the internal market and is a positive example of cooperation with the Member States. Furthermore, the RSPP represents an important strategic framework for implementing Union spectrum policy using the mechanisms established by the RSD.

4. CONCLUSIONS

The RSPP has contributed to a more efficient use of spectrum by promoting spectrum sharing approaches e.g. by setting the goal of 1200 MHz for wireless broadband, and by initiating the process of the spectrum inventory which will be a tool to enable the Commission and Member States to define more fact-based policy. It has also helped to foster innovation and competition through more efficient spectrum use, thus making

spectrum available for innovative services. The harmonisation of spectrum creates the potential for economies of scale, and allowing the widest possible spectrum usage conditions allows access to as many new applications as possible while respecting existing usage.

On the other hand, the RSPP has shown limitations due to the general character of some of the regulatory principles it established, which need to be more precise for effective implementation. While each Member State continues to set the authorisation conditions and procedures for spectrum, the large differences in these conditions and procedures contribute to the fragmentation of the internal market with a negative impact on integration of networks across borders, on available handset capabilities and to other disadvantages for consumers[14]. The mere exchange of information and best practices based on the general principles and conditions of the current framework does not appear to be sufficient to remove these barriers to the single market. Legal certainty on well-established common principles and criteria that are applied by Member States in a coordinated way throughout the Union appear to be the minimum necessary.

Delays in assigning the 800 MHz band demonstrate the need for more nimble and flexible mechanisms for the harmonised timing of assignments throughout the Union or for categories of Member States based on the characteristics of the wireless broadband market, and for the harmonised duration of spectrum usage rights. In this regard, it is important to ensure the efficient and timely assignment of existing harmonised spectrum in order to accrue the potential socio-economic benefits through digital services provided over wireless broadband networks.

More specific provisions are urgently needed in such areas. To address these shortcomings, the Commission has proposed concrete legislative measures as part of the Connected Continent package[15]. These establish a set of common spectrum authorisation principles and criteria coupled with a formal time-limited mechanism for peer review of national plans with a view to ensure best practice.

Furthermore, legal certainty on common timing and duration of spectrum assignments for wireless broadband will be beneficial to operators in their business case evaluations and in their cross-border strategies and will allow them to have more predictable access to spectrum and conditions for investment.

To ensure that radio spectrum policy effectively contributes to EU policies, there is a need to step up the coordination efforts being made under the strategic guidance of the RSPP and the successful technical implementation through the Radio Spectrum Decision, by strengthening the coordination of authorisations within Europe. A final report on the first RSPP and progress towards the targets set is planned for the end of 2015.

---

[14] Impact Assessment accompanying the Proposal for a Regulation of the European Parliament and of the Council laying down measures concerning the European single market for electronic communications and to achieve a Connected Continent, SWD(2013) 331 final

[15] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Telecommunications Single Market - COM(2013) 634

Annex 1 – List of spectrum related decisions 2006-2013

Policy programme and definition

Date	Decision	Content
16 Dec 2009	Commission Decision 2009/978/EC	Amending Decision 2002/622/EC establishing a Radio Spectrum Policy Group
14 Mar 2012	Decision 243/2012/EU of the Parliament and the Council	Establishing a multi-annual radio spectrum policy programme (RSPP)

Wireless broadband

Date	Union Act	Content
12 Feb 2007	Commission Decision 2007/90/EC	Amending Decision 2005/513/EC on the use the 5 GHz band for the implementation of Wireless Access Systems and Radio Local Area Networks
14 Feb 2007	Commission Decision 2007/98/EC	Harmonisation of the radio spectrum in the 2 GHz band for systems providing mobile satellite services
21 May 2008	Commission Decision 2008/411/EC	Harmonisation of the 3400 - 3800 MHz band for electronic communications services
13 Jun 2008	Commission Decision 2008/477/EC	Harmonisation of the 2500-2690 MHz frequency band for electronic communications services
5 Aug 2008	Commission Decision 2008/671/EC	Harmonisation of the 5875-5905 MHz frequency bands for safety-related applications of Intelligent Transport Systems (ITS)
16 Sep 2009	Directive 2009/114/EC of the Parliament and the Council	Amending the GSM Directive to make the 900 MHz band available for any terrestrial system capable of providing electronic communications services that can coexist with GSM systems
16 Oct 2009	Commission Decision 2009/766/EC	Harmonisation of the 900 MHz and 1800 MHz bands for electronic communications services
6 May 2010	Commission Decision 2010/267/EU	Harmonisation of technical conditions of use in the 790-862 MHz band for electronic communications services

18 Apr 2011	Commission Implementing Decision 2011/251/EU	Amending Decision 2009/766/EC on the harmonisation of the 900 MHz and 1800 MHz bands for electronic communications services
5 Nov 2012	Commission Implementing Decision 2012/688/EU	Harmonisation of the 1920-1980 MHz and 2110-2170 MHz bands for electronic communications services

Information on the use of spectrum

Date	Commission Decision	Content
16 May 2007	2007/344/EC	Harmonisation availability of information regarding spectrum use within the Community
23 Apr 2013	2013/195/EU	Defining the practical arrangements, uniform formats and a methodology in relation to the radio spectrum inventory

Shared use

Date	Commission Decision	Content
9 Nov 2006	2006/771/EC	Harmonisation of the radio spectrum for use by short-range devices (SRD)
23 Nov 2006	2006/804/EC	Harmonisation of the radio spectrum for radio frequency identification (RFID) devices operating in the ultra-high frequency band
21 Feb 2007	2007/131/EC	Allowing harmonised use of the radio spectrum for equipment using ultra-wideband technology
23 May 2008	2008/432/EC	Amending Commission Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices
5 Aug 2008	2008/673/EC	Amending Decision 2005/928/EC on the harmonisation of the 169,4-169,8125 MHz frequency band for certain types of short range devices
13 May 2009	2009/381/EC	Amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices

21 Apr 2009	2009/343/EC	Amending Decision 2007/131/EC on allowing the use of the radio spectrum for equipment using ultra-wideband technology
30 Jun 2010	2010/368/EU	Amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices
29 Jul 2011	2011/485/EU	Amending Decision 2005/50/EC on the 24 GHz band for the time-limited use by automotive short-range radar equipment
8 Dec 2011	2011/829/EU	Amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices
11 Dec 2013	2013/752/EU	Amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices and repealing Decision 2005/928/EC

Communications on board aircrafts and ships

Date	**Commission Decision**	**Content**
7 Apr 2008	2008/294/EC	Harmonised conditions of spectrum use for mobile communication services on aircraft
19 Mar 2010	2010/166/EU	Harmonisation conditions of use of radio spectrum for mobile communication services on board vessels
12 Nov 2013	2013/654/EU	Amending Commission Decision 2008/294/EC to include additional access technologies and frequency bands for mobile communications services on aircraft.

Transitional periods/sharing arrangements - Art. 4.5 of the Radio Spectrum Decision

Date	**Commission Decision**	**Content**
22 May 2007	2007/346/EC	France — limited emission powers for RFID
16 Dec 2008	2009/1/EC	Bulgaria — harmonisation of the 2500-2690 MHz band
25 Feb 2009	2009/159/EC	Austria — use of the 5875-5905 MHz band for safety-related applications of ITS

6 Oct 2009	2009/740/EC	France — harmonisation of the 2500-2690 MHz band
26 Oct 2009	2009/812/EC	France — harmonisation of the radio spectrum for use by short-range devices
31 Mar 2010	2010/194/EU	Bulgaria — harmonisation of the 2500-2690 MHz band

Derogations under Art. 6(4) of the RSPP Decision regarding the 800 MHz band

Date of Decision	**Commission Decision notified to MSs**	**Content**
23 Jul 2013	C(2013) 4546	Spain — 12 months
23 Jul 2013	C(2013) 4547	Poland —12 months
23 Jul 2013	C(2013) 4569	Hungary — 18 months
23 Jul 2013	C(2013) 4570	Austria — 9 months
23 Jul 2013	C(2013) 4590	Malta — 24 months
23 Jul 2013	C(2013) 4592	Slovakia — no derogation granted
23 Jul 2013	C(2013) 4593	Romania — until 5.4.2014
23 Jul 2013	C(2013) 4594	Slovenia — no derogation granted
23 Jul 2013	C(2013) 4595	Cyprus — 36 months
23 Jul 2013	C(2013) 4608	Finland — 12 months
23 Jul 2013	C(2013) 4613	Lithuania — 6 months*
17 Oct 2013	C(2013)6765	Greece — 30.10.2014
17 Oct 2013	C(2013)6764	Latvia — 30 months
9 Dec 2013	C(2013)8690	Czech Republic — 6 months**

* 30 months for 820-821 MHz sub-band

** Two districts only