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RADIO SPECTRUM COMMITTEE

Working Document

Subject: Mandate to CEPT to study and identify harmonised compatibility and sharing conditions for Video PMSE in the 2.7 – 2.9 GHz frequency band, taking into account radar use

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MANDATE TO CEPT

TO STUDY AND IDENTIFY HARMONISED COMPATIBILITY AND SHARING CONDITIONS FOR VIDEO PMSE IN THE 2.7-2.9 GHz FREQUENCY BAND, TAKING INTO ACCOUNT RADAR USE

1. PURPOSE

This mandate aims at developing harmonised compatibility and sharing conditions for the introduction of Video PMSE¹ (mainly cordless video cameras and as far as possible wireless video links, identified as portable and mobile links²) in the 2.7-2.9 GHz frequency band.

Appropriate technical conditions should be developed in order to maximise the possibility to use this spectrum for Video PMSE while guaranteeing continuous use of the band by radars (aeronautical radio navigation service and radiolocation service).

2. BACKGROUND AND EU POLICY OBJECTIVES

Pursuant to Article 8.5 of the Radio Spectrum Policy Programme (RSPP)³, "Member States shall, in cooperation with the Commission, seek to ensure the necessary frequency bands for PMSE, in accordance with the Union's objectives to improve the integration of the internal market and access to culture".

Video PMSE often used frequency bands which now have been subject to harmonisation for terrestrial systems capable of providing electronic communications services. Considering the resulting reduced availability and the spectrum needs for Video PMSE, the development of additional sharing possibilities requires further study of additional frequency bands.

Video PMSE requires sufficient bandwidth and is used for audio-visual PMSE services and in some Member States for Public Protection and Disaster Relief (PPDR) services. Video PMSE applications, include services ancillary to programme making (SAP) and service ancillary to broadcasting (SAB), support the production of audio-visual content, such as films, advertisement, corporate videos, concerts, theatre and activities of the broadcasting industry, as well as electronic news gathering (ENG) and outside broadcasting (OB). Part of the Video PMSE and, where needed, PPDR related activities require temporary use of spectrum at unpredictable locations.

With regard to the PPDR spectrum needs, article 8.3 of the RSPP states that "the Commission shall, in cooperation with the Member States, seek to ensure that sufficient spectrum is made available under harmonised conditions to support the development of safety services and the free circulation of related devices as well as the development of

¹ For the definition of PMSE see CEPT Report 50.

² ECC Report 219, Characteristics of PMSE digital video links to be used in compatible and sharing studies, Table 3, Category of PMSE video links for spectrum study purposes.

³ Decision 243/2012/EU of 14 March 2012, OJ L 81 of 21.3.2012

innovative interoperable solutions for public safety and protection, civil protection and disaster relief".

This mandate is a follow-up to the response to the 2011 Commission mandate to CEPT⁴ to identify the technical conditions and the frequency bands necessary for **sustainable operation of cordless video cameras in the EU**, including spectrum sharing opportunities possible through technological developments. In its Report 51⁵, CEPT identified the 2700-2900 MHz band and other bands as possible new spectrum for cordless cameras and video links, however, subject to further sharing studies. Such studies should be undertaken in this mandate taking into account updated technical characteristics.⁶

In its Report to Parliament and Council on the spectrum inventory, the Commission stressed the need to investigate the possibility for radars and other services to share the 2.7-2.9 GHz band⁷. In its Report on Strategic Sectoral Spectrum Needs⁸, RSPG stressed that spectrum needs for PMSE should be studied and protected and that, with regard to the PMSE video applications, harmonisation at European level of expanded tuning ranges and sharing conditions is necessary to meet future spectrum demands. Reference is made to the already identified potential candidate bands and sharing conditions under study by CEPT, which include the 2.7-2.9 GHz frequency band. Moreover this RSPG Report underlines that PMSE needs should be recognised in case of re-allocation of primary services.

In 2012, the European Commission published a Communication⁹ promoting the shared use of radio spectrum resources in the internal market, by allowing various independent users and/or devices to access the similar frequency ranges subject to appropriate conditions, in such a way as to maximise efficient spectrum use to meet growing demand for wireless connectivity, while avoiding deterioration in the quality of spectrum use by incumbent users.

Taking into account both guaranteeing the quality of the incumbent radar use in the 2.7-2.9 GHz frequency band and providing a certainty to the Video PMSE stakeholders for a long term solution, the compatibility and sharing conditions should focus on these services.

⁴ RSCOM11-59 final, Mandate to CEPT on technical conditions regarding spectrum harmonisation options for wireless radio microphones and cordless video-cameras (PMSE equipment), dated 15 December 2011.

⁵ CEPT Report 51 on the technical conditions for ensuring the sustainable operation of cordless video-cameras in the EU, approved on 8 November 2013 by the ECC

⁶ ECC letter to EC dated 3 December 2014 on spectrum for video links and cordless cameras.

⁷ COM(2014) 536 final, "Report from the Commission to the European Parliament and the Council on the Radio Spectrum Inventory", 1 September 2014

⁸ RSPG13-540(rev2) "RSPG Report on Strategic Sectoral Spectrum Needs"

⁹ COM(2012) 478 final (date 03.09.2012);
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0478:FIN:EN:PDF>

3. JUSTIFICATION

Pursuant to Article 4(2) of the Radio Spectrum Decision¹⁰, the Commission may issue mandates to the CEPT for the development of technical implementing measures with a view to ensuring harmonised conditions for the availability and efficient use of radio spectrum necessary for the functioning of the internal market. Such mandates shall set the tasks to be performed and their timetable.

There are four types of radar operating in the 2.7-2.9 GHz in the Union:

- Civilian Air Traffic Control (ATC) radars (also addressed as civil S-band radars);
- Military radars;
- Mobile bird-strike radars, designed to detect the flight of birds, which may collide with aeroplanes;
- Meteorological radars.

Moreover, the frequency band 2.7-2.9 GHz is identified as a 'Class A' band in the NATO Joint civil/military frequency agreement (NJFA). This band is essential to NATO and is in military use for land and naval applications in the aeronautical radio navigation and radiolocation service, specifically for airport surveillance radars (ASR) and air defence radars.

A study conducted for the European Commission¹¹ reported a total of 112 civilian ATC radars in the Union operating in the 2.7-2.9 GHz band, with between 1 and 42 radars in each Member State. 14 Member States are operating aeronautical radars at fewer than five sites in the entire country (usually airports) and most Member States having less than 20 national radar sites in operation. No public information on the number of military radar sites in the EU is available. Considering the existence of geographical areas where the 2.7-2.9 GHz band is unused, geographical sharing with cordless video cameras should therefore be possible in parts of the Union.

Relevant adjacent services shall be considered during the studies, as appropriate.

In response to an EC mandate on PMSE dated 15 December 2011 which included cordless video-cameras, CEPT Report 51 identified also the 2.7-2.9 GHz band as one of the possible new bands for temporary use by cordless cameras, subject to appropriate geographical constraints to protect radar applications.

Moreover, considering the need for more efficient use of spectrum to satisfy demand, studies should identify technical conditions appropriate to allow sharing capabilities of the 2.7-2.9 GHz band between radars and Video PMSE in particular through geographical sharing.

Shared use of the 2.7-2.9 GHz frequency band should be fostered, in line with the following EU objectives:

- Ensure efficient use of spectrum;

¹⁰ Decision 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community, OJL 108 of 24.4.2002

¹¹ "Inventory and review of spectrum use: Assessment of the EU potential for improving spectral efficiency", WIK-Consult study for the European Commission, 11 September 2012

- Promote innovation through enhanced flexibility in spectrum use;
- Provide the necessary frequency bands for PMSE to improve the integration of the internal market and access to culture, without affecting incumbent uses and their development in the 2.7-2.9 GHz band;
- Maximise the socio-economic and cultural benefit for EU citizens and PMSE users to the fullest extent by facilitating economies of scale, lowering price and fostering cross-border portability and interoperability;
- Ensure that sufficient spectrum is made available to support the development of safety services.

4. TASK ORDER AND SCHEDULE

CEPT is herewith mandated to develop harmonised technical conditions for the use of the 2.7-2.9 GHz frequency band by Video PMSE (mainly cordless video cameras and as far as possible wireless video links, identified as portable and mobile links¹²) while ensuring the long term radar use of the band in the territory of those Member States that wish to maintain such use. Temporary point-to-point video links with high directivity antennas, which use higher frequency bands, are not covered by this Mandate.

In the work carried out under the Mandate, the general and specific policy objectives of the RSPP, such as effective and efficient spectrum use and the support for specific Union policies shall be given utmost consideration. In implementing this mandate, CEPT shall, where relevant, take utmost account of EU law applicable and support the principles of service and technological neutrality, non-discrimination and proportionality insofar as technically possible. CEPT is also requested to collaborate actively with the European Telecommunications Standardisation Institute (ETSI) which develops harmonised standards for conformity under Directive 1999/5/EC and Directive 2014/53/EU.

To support the policy objectives presented above, CEPT is mandated to carry out technical studies in fulfilment of the following tasks:

Task 1 – Identification of compatibility and sharing scenario(s)

To take stock of the current situation and future plans in the Member States regarding sharing concepts to enable the deployment of Video PMSE in the 2.7-2.9 GHz frequency band.

Clarify the assumptions for operation and the operational footprint for Video PMSE use.

To study and identify compatibility and sharing scenario(s) for use of the 2.7-2.9 GHz frequency band between Video PMSE and radar systems and to define relevant coexistence/protection parameters that ensure efficient spectrum use.

To study and identify compatibility scenario(s) for use of the 2.7 - 2.9 GHz frequency band by Video PMSE and the use of radio services in the adjacent frequency bands.

¹² ECC Report 219, Characteristics of PMSE digital video links to be used in compatible and sharing studies, Table 3, Category of PMSE video links for spectrum study purposes.

Task 2 – Development of compatibility and sharing conditions

Depending on the outcome of Task 1, develop technical compatibility and sharing conditions and appropriate mitigation techniques and/or harmonised least restrictive technical conditions for Video PMSE use in the 2.7-2.9 GHz frequency band, taking into account the requirements of radars as well as existing radio services in adjacent bands.

CEPT should provide deliverables according to the following schedule:

Delivery date	Deliverable	Subject
March 2016	Interim Report from CEPT to the Commission	Description of work undertaken and stable results under tasks (1) and interim results under tasks (2) of this Mandate.
June 2016 ¹³	Final Draft Report from CEPT to the Commission.	Description of work undertaken and final results under tasks (1) and (2) of this Mandate.
September 2016	Final Report from CEPT to the Commission. taking into account the outcome of the public consultations	Description of work undertaken and final results under this Mandate taking into account the results of the public consultations

In addition, CEPT is requested to report on the progress of its work pursuant to this Mandate to all meetings of the Radio Spectrum Committee taking place during the course of the Mandate.

The Commission, with the assistance of the Radio Spectrum Committee and pursuant to the Radio Spectrum Decision, may consider applying the results of this mandate in the EU, pursuant to Article 4 of the Radio Spectrum Decision.

¹³ Subject to subsequent public consultation