



Brussels,  
DG CONNECT/B4

**MANDATE TO CEPT**  
**TO DEVELOP HARMONISED TECHNICAL CONDITIONS FOR THE 2300-2400 MHz ('2.3 GHz') FREQUENCY BAND IN THE EU FOR THE PROVISION OF WIRELESS BROADBAND ELECTRONIC COMMUNICATIONS SERVICES**

## **1. PURPOSE**

This mandate aims at developing technical conditions for the introduction of wireless broadband (WBB) in the 2300-2400 MHz ('2.3 GHz') band which share with incumbent users. The technical conditions should enable the deployment of wireless broadband services while also ensuring the long term incumbent use of the band in the territory of those Member States that wish to maintain such use.

The results of this mandate should constitute a technical input to the EU-level political process of identifying 1200 MHz for WBB in accordance with the Radio Spectrum Policy Programme (RSPP)<sup>1</sup>. The spectrum inventory established by the RSPP involves assessment of spectrum supply and demand and will examine the efficiency of spectrum use in the range 400 MHz to 6 GHz. The inventory may earmark the 2.3 GHz band for Wireless Broadband use at an early stage in view of the suitability of the band and the scope for sharing with incumbent use.

The results of this mandate should serve as a basis for any Member State that may decide to proceed with WBB and related national sharing frameworks in the 2.3 GHz band at an early stage, so as to avoid fragmentation in the internal market and contribute to consistent national sharing frameworks.

Moreover, the mandate and its technical results should also complement the policy considerations of the European Commission with regard to shared use of spectrum<sup>2</sup> and of the Radio Spectrum Policy Group (RSPG) in the context of the RSPG Opinions on Wireless Broadband<sup>3</sup> and Licensed Shared Access<sup>4</sup>.

## **2. EU POLICY OBJECTIVES**

The Digital Agenda for Europe (DAE) has set ambitious broadband targets by 2020, namely ubiquitous fast broadband coverage in the EU of at least 30 Mbps as well as

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<sup>1</sup> Decision 243/2012/EU of the European Parliament and of the Council of 14 March 2012

<sup>2</sup> Commission Communication, "Promoting the shared use of radio spectrum resources in the internal market", COM(2012) 478 final, September 2012

<sup>3</sup> RSPG12-521(rev1) "RSPG Opinion on Strategic Challenges facing Europe in addressing the Growing Spectrum Demand for Wireless Broadband"

<sup>4</sup> RSPG13-538 "RSPG Opinion on Licensed Shared Access"

subscriptions to super-fast broadband of at least 100 Mbps for 50% of the EU households. WBB is expected to play an important role in achieving these objectives.

Corresponding to the Union policy objective of allocating sufficient and appropriate spectrum in a timely manner and to best meet the increasing demand for wireless broadband, the RSPP requires the Commission and Member States to make every effort to identify at least 1200 MHz of suitable spectrum by 2015. Furthermore, the RSPP establishes a spectrum inventory inter alia to help identify frequency bands that could be suitable for reallocation and spectrum-sharing opportunities. One of its objectives is to explore new ways for sharing spectrum, to the benefit of both private and public users, while taking into account the potential positive and negative impact of allocation or reallocation of such bands and of adjacent bands on existing users.

The Commission services take the view that spectrum sharing should become a mainstream mode of spectrum use in the internal market given the increasing scarcity of spectrum resources (at least at frequencies below 6 GHz) and in order to ensure efficient spectrum use. In its Communication on promoting shared use of spectrum<sup>5</sup> the Commission has stated that, to foster the development of wireless innovations in the EU, it is necessary to continuously improve the opportunities for harmonised spectrum access in both licence-exempt bands and licensed spectrum and to establish new tools for more shared use of radio spectrum resources in the internal market. In particular the Commission stated that it sees the need in a common path in the EU towards enabling more sharing possibilities, based on contractual agreements between users.

In this context the RSPG stated in its Opinion on LSA that the continued promotion of the shared use of radio spectrum is a valuable means to leverage the unique capability to re-used spectrum resources. In this regard it stated that access to previously assigned spectrum could be facilitated through licensed usage, under a Licensed Shared Access (LSA) approach.

Therefore, within the tasks of this mandate as specified in the Section "Task order and schedule", the Commission requests CEPT to take into account that use of the 2.3 GHz band should contribute to several important EU policy objectives, namely:

- strengthen the Internal Market for potential mass market WBB services and equipment which will operate in the band both for legacy uses and potential new uses;
- contribute to the DAE broadband targets, which rely on a mix of technologies, including wireless broadband;
- meet spectrum demand in support of the RSPP spectrum target of 1200 MHz for wireless broadband;
- promote innovation and investment through enhanced flexibility in spectrum use;
- foster shared use of spectrum.

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<sup>5</sup> Commission Communication, "Promoting the shared use of radio spectrum resources in the internal market", COM(2012) 478 final, September 2012

### 3. JUSTIFICATION

Pursuant to Article 4(2) of the Radio Spectrum Decision<sup>6</sup> 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.

In light of the EU policy objectives mentioned in the previous section the 2.3 GHz band has been identified by and by the Radio Spectrum Policy Group (RSPG) as a possible candidate band for the use by wireless broadband (WBB) services in the EU. In this regard the RSPG recommended<sup>7</sup> this frequency band to support WBB needs in the short term before 2015. Furthermore, the RSPG recommended the Commission to consider adopting complementary measures to further promote shared and flexible use of the 2.3 GHz band between wireless broadband applications and other services, based on LSA regulatory provisions, facilitating the long-term incumbent use of the band in the territory of those Member States that wish to maintain such use. Activities are already on-going in the framework of CEPT<sup>8</sup> to develop harmonisation measures for Mobile/Fixed Communications Networks (MFCN) under LSA in this band.

The band appears attractive for the use by WBB services, because it provides for a rather large bandwidth of 100 MHz, is suitable for providing WBB capacity with relatively low propagation and penetration loss, and has potential for global harmonisation having been identified globally for International Mobile Telecommunications (IMT) in the World Radiocommunications Conference in 2007 (WRC-07). Consequently, it is already planned to be used for WBB in several countries, e.g. in Asia. User equipment and base station equipment based on the TD-LTE standard are already commercially available and the equipment market for this band is expected to significantly grow in the coming years driven by large deployments in some countries, especially in Asia.

Currently in EU Member States this band is used for strategic governmental applications such as aeronautical telemetry and closed-circuit television (CCTV, a security application) as well as Programme Making and Special Events (PMSE), specifically Services Ancillary to Broadcasting and Programme Making SAB/SAP (ERC/REC 25-10), e.g., as a core band for wireless cameras, and also at national level for various other applications.

In light of these current allocations that are expected to be maintained in some Member States, considerations have been given by Member States and stakeholders to the possibility to provide access to this band for WBB through an appropriate sharing approach such as Licensed Shared Access (LSA). Such an approach should ensure the long term incumbent use of the band in the territory of those Member States that wish to maintain such use, while providing legal certainty for the LSA licensees.

Therefore, the Commission considers that on-going international and national developments set in the context of consistent implementation of the RSPP objectives

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<sup>6</sup> 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

<sup>7</sup> RSPG13-521(rev1) "RSPG Opinion on Strategic Challenges facing Europe in addressing the Growing Spectrum Demand for Wireless Broadband"

<sup>8</sup> CEPT has set up activities in September 2012, which are aimed at developing harmonised technical conditions for WBB in the 2.3 GHz band by the first half of 2014 (CEPT ECC WGs FM 52 on the 2300-2400 MHz band and FM 53 on RRS and LSA)

through the inventory process justify the need for technical studies to identify technical and regulatory conditions for the usage of WBB in the 2.3 GHz band.

#### 4. TASK ORDER AND SCHEDULE

CEPT is herewith mandated to undertake work to develop technical harmonisation conditions for the use of the 2300-2400 MHz frequency band for the provision of WBB electronic communications services with a view to also ensuring the long term incumbent use of the band in the territory of those Member States that wish to maintain such use.

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.

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

**Task 1:** Develop common and minimal (least restrictive) technical conditions for wireless broadband usage of the 2300-2400 MHz frequency band.

This task includes:

- 1.1 Identify *common and minimal (least restrictive) technical conditions*<sup>9</sup> for the introduction of wireless broadband use in the 2300-2400 MHz band for the provision of electronic communications services. These conditions should be sufficient to ensure coexistence between WBB services within the same band and with services in adjacent bands including use by Radio Local Area Networks (RLAN).
- 1.2 Develop *channelling arrangements* that are sufficiently precise for the development of EU-wide equipment and take into consideration the possibility of international harmonisation.

**Task 2:** Where appropriate develop common technical sharing solutions for the shared use of the 2300-2400 MHz band for WBB and incumbent services/applications.

This task includes:

- 2.1 For each of the *relevant incumbent services/applications* in the Member States including military use, PMSE, fixed links, and radio amateur services: (i) assess the *deployment assumptions and the operational footprint* and (ii) *take stock of the situation and future plans* in the Member States regarding the application of the LSA concept to enable the deployment of WBB.
- 2.2 For each incumbent service/application considered under 2.1: (i) identify *technological and regulatory options facilitating sharing* between WBB and the

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<sup>9</sup> Such as the definition of appropriate BEMs (Block Edge Masks)

relevant incumbent service/application including mutual dynamic coordination mechanisms between WBB operators and incumbents; (ii) assess *the scope for harmonisation of technical sharing parameters and solutions* through standardisation and/or an implementing decision;

- 2.3 Depending on results for each relevant incumbent service/application under 2.2(ii) and without prejudice to national rules on data confidentiality define *technical and regulatory solutions* relevant for the technological and regulatory options identified under 2.2(i) that support consistent sharing frameworks defined at national level allowing for the development and efficient operation of EU-wide equipment.

The Commission may provide CEPT with further guidance on this mandate depending on future agreements at EU level (which may involve the European Parliament and the Council) concerning spectrum resources to be made available in the context of specific EU policies, as well as relevant impact assessments the Commission may undertake in this context. Also, the impact of spectrum demand assessments for different uses at national level may require to be taken into account during the work on the Mandate.

CEPT should provide deliverables under this Mandate according to the following schedule:

<b>Delivery date</b>	<b>Deliverable</b>	<b>Subject</b>
June 2014 <sup>10</sup>	Final Draft Report A from CEPT to the Commission	Description of work undertaken for Task 1 and final results
November 2014	<b>Final</b> Report A from CEPT to the Commission, taking into account the outcome of the public consultation	Description of work undertaken for Task 1 and final results taking into account the results of the public consultation
November 2014 <sup>11</sup>	Final Draft Report B.1 from CEPT to the Commission	Description of work undertaken for Task 2, final results for task 2.2(ii) <sup>12</sup>
March 2015	<b>Final</b> Report B.1 from CEPT to the Commission, taking into account the outcome of the public consultation	Final results for task 2.2(ii) taking into account the results of the public consultation
March 2015 <sup>13</sup>	Final Draft Report B.2 from CEPT to the Commission	Description of work undertaken for Task 2 and final results
July 2015	<b>Final</b> Report B.2 from CEPT to the Commission, taking	Description of work undertaken for Task 2 and final results taking into

<sup>10</sup> Subject to subsequent public consultation

<sup>11</sup> Subject to subsequent public consultation

<sup>12</sup> The final results under task 2.2(ii) will clarify the scope for technical and regulatory conditions that are relevant for a harmonisation decision. If such conditions are identified, the relevant results at this stage will serve as basis for a harmonisation decision. If not, and more work is required to identify relevant conditions within 2.2(ii), these will then be set out in an addendum to Report A submitted to the RSC no later than March 2015.

<sup>13</sup> Subject to subsequent public consultation

	into account the outcome of the public consultation	account the results of the public consultation
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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 and subject to the results of the inventory process.