



Brussels, 6 June 2005  
DG INFSO/B4

**FINAL**

**SECOND MANDATE TO CEPT TO IDENTIFY THE CONDITIONS NECESSARY FOR  
HARMONISING RADIO SPECTRUM USE FOR ULTRA-WIDEBAND SYSTEMS IN THE  
EUROPEAN UNION**

**This mandate is issued to the CEPT without prejudice to the one-month right of scrutiny by the European Parliament, pursuant to Council Decision 1999/468/EC of 28 June 1999 (OJ L 184, 17.7.1999, p.23) on comitology procedure. This one-month period starts on 6 June 2005.**

**Title**

Mandate to CEPT to identify the conditions relating to the harmonised introduction in the European Union of radio applications based on ultra-wideband (UWB) technology (Mandate 2).

**Purpose**

Pursuant to art. 4 of the Radio Spectrum Decision, CEPT is mandated to undertake all necessary work to identify the most appropriate criteria for the timely and harmonised introduction of UWB applications in the European Union.

The underlying objective of this Mandate is to provide the Commission with the necessary information to develop one or more technical implementing measures harmonising the use of the radio spectrum to enable the timely introduction in the European Union of new applications of UWB technology. In view of expected market developments for this sector, the first half of 2006 is the target date for the adoption of initial, possibly time-limited, EU measures in this area, developed on the basis of the deliverables of the present Mandate 2.

## **Justification**

Enhancing competitiveness in the ICT sector by using the EU regulatory framework to foster competition and the introduction of new communication technologies is one of the leading policy goals defined in the Lisbon Agenda. Stronger ICT uptake will lead to greater economic competitiveness, growth and employment.

In this context, it is important to establish regulatory conditions which will encourage the development of economically-viable markets for UWB applications as commercial opportunities arise.

Harmonising spectrum usage rules across the EU shall help establishing an effective single market for these applications, with consequent economies of scale and benefits to the consumer, as well as avoiding the expected difficulties in enforcing divergent national regulations for highly-mobile UWB-enabled products. Any European technical solution which would encourage the global approximation of UWB technical conditions of use would also lead to similar advantages and would therefore be a positive outcome.

The first Mandate given by the Commission to CEPT on April 7<sup>th</sup> 2004 on this issue led to a final CEPT Report being delivered to the Commission on March 23<sup>rd</sup> 2005 (doc. RSCOM05-23). The ECC has recognised that a number of elements in the report have not been fully resolved within CEPT and that further work is needed to finalise the harmonised technical conditions of use of the radio spectrum for UWB in the EU.

The present Mandate wishes to provide a continued EU framework for this issue and further guidance on follow-up activities by CEPT to complete the technical work required to introduce UWB applications into the European Union market.

## **Order and Schedule**

1. CEPT is hereby mandated to finalise all relevant work to identify harmonised conditions of use of radio spectrum in the European Union for all significant types of UWB applications (i.e. communications, imaging, location-tracking, etc.)<sup>1</sup>, with priority for applications considered to be closest to user take-up.

In the work carried out under the Mandate, the overall objective of enabling innovation in ICT by the timely development and introduction in the European Union of new applications based on UWB technologies shall be given utmost consideration. In carrying out this task CEPT shall collaborate with the European Telecommunications Standardisation Institute (ETSI) that has been mandated (M/329) to develop harmonised standards that are to give presumption of conformity with Directive 1999/5/EC (the R&TTE Directive). These standards must ensure that UWB equipment will fulfil the essential requirement to avoid harmful interference.

To do so, the technical feasibility of coexistence of UWB applications with other radio applications shall be further explored in detail. The consequent emission mask and other requirements placed on UWB applications ought to remain proportionate and strike a balance between absolute protection and enabling innovation.

CEPT should also undertake this Mandate in full awareness of the developing regulatory context for UWB outside Europe and of the potential benefits to consumers of achieving globally-compatible conditions of radio spectrum use for mass-market UWB products.

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<sup>1</sup> Except automotive short-range radar, already harmonised in the EU by Commission Decisions 2004/545/EC and 2005/50/EC.

2. In order to achieve the above, CEPT is mandated to:

- **adequately schedule and prioritise activities** under this mandate to optimise the possibilities for a successful conclusion of the work in a timely manner and to reflect activities already undertaken in this area;
- **determine the frequency range(s) to focus upon initially** for specific UWB applications, and justify this selection on the basis of clear criteria (such as maturity of products in such bands); study the possible use of additional frequency ranges in the future;
- **undertake complementary technical compatibility studies** between UWB applications and potentially affected selected radio services, notably for the priority frequency ranges, based on realistic interference scenarios;
- **report on the empirical evidence** gathered by current measurement campaigns within and outside Europe. Apply such results to validate or modify theoretical coexistence scenarios between UWB applications and other radio users;
- **carry out a detailed impact analysis on the selected bands**, for a restricted set of alternative regulatory solutions. Analyse in sufficient depth the feasibility and impact of **generic and dedicated regulatory measures, operational conditions and available technical mitigation techniques**, to optimise the compatibility between UWB applications and other radio devices<sup>2</sup>;
- on the basis of the above, develop, where justified, **differentiated solutions** for distinct device categories using UWB technology, such as:
  - communications systems, (low-data and high-/v. high-data rate);
  - imaging systems;
  - location-tracking systems.

and additional categories or specific sub-categories, if required. The feasibility of implementing and enforcing such differentiated application-based regulation ought to be considered;

- in developing its proposals, **give due consideration to the existing analyses of expected costs and benefits** of alternative regulatory scenarios for the introduction of UWB-enabled applications provided by existing or new economic studies;
- **designate harmonised frequency bands for specific UWB uses**; the choice of particular technical conditions of use applicable to UWB in these bands shall be duly justified<sup>3</sup>. Alternatively, technical “options” shall be provided for discussion and approval by the Radio Spectrum Committee;

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<sup>2</sup> Such work ought to be carried out in close collaboration with ETSI, since such mitigation techniques are to be embedded in the harmonised standards it is developing pursuant to Commission Mandate M/329.

<sup>3</sup> For instance, the differences and similarities of UWB signals from existing EMC background noise ought to be explained, and how the proposed regulation on UWB is taking into account the current real-life coexistence of radio services with such noise.

- **assist the Commission in considering what could be the possible elements of a monitoring and review mechanism** aimed at ensuring that regulation of radio spectrum for UWB remains responsive to technical and societal developments, and to actual or perceived changes in the risk of harmful interference with other radio applications<sup>4</sup>;
- **propose a work plan** for further future activities on UWB.

CEPT is expected to summarise the results on the above-mentioned tasks in its reporting to the Commission.

3. CEPT is mandated to provide deliverables according to the following schedule:

<b>Delivery date</b>	<b>Deliverable</b>	<b>Subject</b>
1 <sup>st</sup> December 2005	Final Report from CEPT to the Commission	Description of work undertaken and final results achieved under this Mandate.

The above schedule is established with due consideration for the optimal timing of regulation needed for the placing on the market of the first expected mass-market UWB applications. However, a limited amount of delay may be proposed by CEPT (up to 1<sup>st</sup> April 2006) if more time is required to reach concrete results enabling the effective introduction of UWB in the European Union. A readjustment of a final timeframe, if found necessary, should be justified.

In addition, CEPT is requested to report on the progress of its work pursuant to this Mandate to all the meetings of the Radio Spectrum Committee taking place during the course of the Mandate, including by means of an Interim Report, if necessary.

4. The result of this Mandate can be made applicable in the European Community pursuant to Article 4 of the Radio Spectrum Decision<sup>2</sup>.

In implementing this Mandate, the CEPT shall take the utmost account of Community law applicable.

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<sup>4</sup> One possibility to be explored could be to introduce formal modalities to monitor and measure periodically the overall noise floor in order to track any aggregate UWB-induced effects.

<sup>2</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, OJ L 108 of 24.4.2002, p.1.