



MANDATE TO CEPT ON DEVELOPING HARMONISED TECHNICAL CONDITIONS FOR INTRODUCING THE LATEST TECHNOLOGY EVOLUTION IN THE FUTURE RAILWAY MOBILE COMMUNICATIONS SYSTEM (FRMCS) USING THE 900 MHz FREQUENCY BAND

1. PURPOSE

The purpose of this mandate to the CEPT is to develop harmonised technical and operational conditions based on investigations already done in the CEPT to introduce use cases with the latest technology evolution for the 874.4-880 MHz and 919.4-925 MHz frequency bands (the ‘900 MHz band’) in the future railway mobile communications system (FRMCS).

2. BACKGROUND

On 28 September 2021, the Commission adopted the Implementing Decision (EU) 2021/1730 on the harmonised use of the paired frequency bands 874.4-880 MHz and 919.4-925 MHz and of the unpaired frequency band 1900-1910 MHz for Railway Mobile Radio¹, starting the development of the FRMCS supporting railway digitisation and innovation in the EU.

Recent investigations in the CEPT² have demonstrated that in the 900 MHz band use cases can be introduced based on channels larger than 1.4 MHz, but smaller than 5 MHz and the use can be extended to other narrowband (NB) applications and technologies (currently limited to NB IoT). This will facilitate the concurrent usage of FRMCS and the Global System for Mobile Communications – Rail (GSM-R) legacy systems in the current infrastructure in this frequency band, with evident cost savings.

The provision of channels smaller than 5 MHz using 5G features will play a critical function in the migration from GSM-R to FRMCS and beyond, allowing new devices to be introduced on the market.

Utilising 5G New Radio (NR) in the 900 MHz band will allow reaching the high reliability of communications from and to a moving train, while complying with the end-to-end latency. Therefore, it is appropriate to further develop the EU regulatory framework to accommodate the latest technology evolution, and to ensure its alignment with the CEPT framework.

¹ Commission Implementing Decision (EU) 2021/1730 of 28 September 2021 on the harmonised use of the paired frequency bands 874,4-880,0 MHz and 919,4-925,0 MHz and of the unpaired frequency band 1900-1910 MHz for Railway Mobile Radio, OJ L 346, 30.9.2021, p. 1.

² Based on the CEPT report 74 and ECC report 318.

3. JUSTIFICATION

Pursuant to Article 4(2) of the Radio Spectrum Decision³ the Commission shall 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.

Considering the recent work of the CEPT and the evolving work of ETSI and related inputs by stakeholders, the EU regulatory framework on the harmonised use of radio spectrum for railways should be updated in order to take into account the latest technology evolution in support of possible new use cases in the 900 MHz band for the FRMCS during the migration period from GSM-R to FRMCS and beyond.

In the work carried out under this mandate, the overall policy objectives of the Radio Spectrum Policy Programme (RSPP) such as effective and efficient spectrum use and the support for specific Union policies shall be given utmost consideration. In implementing this Mandate, the CEPT shall, whenever relevant, take utmost account of the applicable EU law and support the principles of service and technological neutrality, non-discrimination and proportionality insofar as technically possible.

4. TASK ORDER AND SCHEDULE

In order to support the aforementioned extensions in using the 900 MHz band for the FRMCS across the EU, the CEPT is mandated to carry out the following technical task:

Task

Develop harmonised technical and operational conditions⁴ for introducing channels larger than 1.4 MHz, but smaller than 5 MHz for the use of 5G-NR and enable narrowband use cases other than NB-IoT in the 900 MHz frequency bands for RMR.

In performing the task above, the CEPT should take due consideration of the anticipated simultaneous operation between GSM-R and the FRMCS for several years.

The CEPT should work in cooperation with ETSI, as appropriate.

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

Delivery date	Deliverable	Subject
March 2025	Draft CEPT Report to the Commission ⁵	Description of work undertaken and results.

³ Decision No 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 L108, 24.4.2002, p. 1.

⁴ Based on investigations already done in the CEPT.

⁵ Subject to public consultation.

June 2025	Final CEPT Report to the Commission	Description of work undertaken and final results.
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The CEPT is requested to report on the progress of its work pursuant to this mandate to all meetings of the Radio Spectrum Committee (RSC) taking place during the course of this mandate.

The Commission, with the assistance of the RSC and pursuant to the Radio Spectrum Decision, may consider applying the results of this mandate in the Union, pursuant to Article 4 of that Decision and having taken into account any potential relevant guidance of the Radio Spectrum Policy Group.