



## **ECC RECOMMENDATION (02)10**

### **HARMONISED UTILISATION OF SPECTRUM FOR 1.28MCPS UTRA TDD OPTION IN CONNECTION WITH ERC/DEC/(99)25**

Recommendation adopted by the Working Group "Frequency Management" (WGFM)

#### **BACKGROUND**

The ERC/DEC/(99)25, ERC Decision of 29 November 1999 on the harmonised utilisation of spectrum for terrestrial Universal Mobile Telecommunications System (UMTS) operating within the bands 1900 - 1980 MHz, 2100 - 2025 MHz and 2110 - 2170 MHz had the aim to provide a common approach for CEPT administrations:

- for the planning of spectrum within the above mentioned frequency bands
- to make available spectrum for use in FDD and TDD modes in a timely way to ensure efficient and effective use of the frequency bands identified for UMTS within CEPT.

ERC/DEC/(99)25 was developed based upon the initial set of UMTS specifications (Release 99) which contained the TDD mode with a chip rate of 3.84 Mcps. Subsequent UMTS specifications (Release 4 onwards) have contained another TDD mode with a chip rate of 1.28 Mcps.

This ECC Recommendation provides the necessary guidance on how to apply and interpret the ERC/DEC/(99)25 for countries where the TDD mode using the chip rate of 1.28 Mcps is to be deployed.

“The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that ERC/DEC/(99)25 was developed based upon the initial set of UMTS specifications (Release 99) which contained the TDD mode with a chip rate of 3.84 Mcps,
- b) that UMTS specifications (Release 4 onwards) contain two options of the TDD mode with different chip rates:
  - 3.84 Mcps UTRA TDD (also sometimes called 'high chip rate TDD' or HCR TDD) with a nominal channel spacing of 5MHz and
  - 1.28 Mcps UTRA TDD (also sometimes called 'low chip rate TDD' or LCR TDD) with a nominal channel spacing of 1.6MHz,
- c) that it is desirable to have guiding information for the application of 1.28 Mcps TDD in the bands assigned to the TDD mode, in a similar way as given in ERC/DEC/(99) for 3.84 Mcps TDD;

*recommends*

- 1) that a 5 MHz frequency block assigned to one 3.84 Mcps UTRA TDD carrier may alternatively be arranged to contain up to three 1.28 Mcps UTRA TDD subcarriers,
- 2) that the arrangement of 1.28 Mcps TDD carriers be based on a 200 kHz raster,
- 3) that ERC/DEC/(99)25 be applied for both TDD mode chiprate options (3.84 Mcps and 1.28 Mcps), apart from the points 8 – 15 of Annex 1 which address the 3.84 Mcps UTRA TDD option only,
- 4) that for application of the 1.28 Mcps TDD option the corresponding points 8 - 15 of Annex 1 of DEC/ERC/(99)25 should read as follows:
  - a) The carrier spacing between a 3.84 Mcps TDD carrier for a self provided application and the closest public 1.28 Mcps TDD carrier is a minimum of 3.2 MHz.
  - b) The carrier spacing between a public 3.84 Mcps TDD carrier and the closest 1.28 Mcps TDD carrier used for a self provided application is a minimum of 3.2 MHz.
  - c) The carrier spacing between a 1.28 Mcps TDD carrier for a self provided application and the closest public 1.28 Mcps TDD carrier is a minimum of 1.6 MHz.
  - d) 1.28 Mcps TDD carrier spacing between the closest carriers of different public operators is a minimum of 1.6 MHz. 1.28 Mcps TDD carrier spacing within a public operators spectrum is variable, based on a 200 kHz raster, and may be less than 1.6 MHz.
  - e) Carrier spacing between the closest 1.28 Mcps TDD carrier and a 3.84 Mcps TDD carrier of a different public operator is a minimum of 3.4 MHz. Carrier spacing between the closest 1.28 Mcps TDD carrier and a 3.84 Mcps TDD carrier within a public operators spectrum is variable, based on a 200 kHz raster, and may be less than 3.4 MHz.
  - f) Carrier spacing between the closest 1.28 Mcps TDD carrier and a FDD carrier of a different public operator is a minimum of 3.4 MHz.
  - g) 1.28 Mcps TDD carrier spacing between the closest carriers of self provided applications is a minimum of 1.4MHz, based on a 200 kHz raster.
  - h) The 1.28 Mcps TDD carrier nearest to 1900 MHz should be centered at 1900.8 MHz or above<sup>1</sup>.
  - i) The 1.28 Mcps TDD carrier nearest to 1980 MHz should be centered at 1978.8 MHz or below<sup>2</sup>.
  - j) The 1.28 Mcps TDD carrier nearest to 2010 MHz should be centered at 2011.4 MHz or above.
  - k) The 1.28 Mcps TDD carrier nearest to 2025 MHz should be centered at 2023.8 MHz or below.”

*Note:*

*Please check the CEPT web site (<http://www.CEPT.org>) for the up to date position on the implementation of this and other ECC and ERC Recommendations*

<sup>1</sup> If the top DECT channel is used for DECT WLL, additional mitigation techniques might be necessary.

<sup>2</sup> Use of the TDD here would require a greater frequency separation, or other mitigation techniques such as increased filtering, or a combination of these.