

QUESTION ITU-R 46-3/4

Preferred multiple-access characteristics in the fixed-satellite service

(1990-1993-2007)

The ITU Radiocommunication Assembly,

considering

- a) that satellites in the fixed-satellite service (FSS) are simultaneously used by many earth stations at different locations;
- b) that various multiple-access methods including time division multiple-access (TDMA) and code division multiple-access (CDMA) are already used or planned by various administrations;
- c) that multicarrier-based multiple-access schemes such as orthogonal frequency division multiplexing – frequency division multiple-access (OFDM-FDMA or OFDMA), multicarrier CDMA (MC-CDMA) and multifrequency TDMA (MF-TDMA) have been adopted or are being considered to be adopted in many terrestrial system standards for future implementation;
- d) that, in order to ensure the efficient use of frequency spectrum and orbits, it may be desirable to determine the optimum multiple-access characteristics;
- e) that recommendation of certain system characteristics may be desirable;
- f) that the transmission characteristics of multiple-access systems, especially multicarrier-based multiple-access systems, may be of importance in their interaction with one another;
- g) that increases in interference on CDMA signals can be accommodated by reducing system capacity,

decides that the following Question should be studied

- 1** What are the preferred multiple-access methods taking into account in particular the nature of the network, the modulation methods and the different system characteristics used in the FSS?
- 2** What characteristics of multiple-access systems might usefully be recommended as preferred and, if appropriate, what operational characteristics should be selected for their application?
- 3** What is the effect of interference on networks using CDMA techniques?
- 4** What is the effect of other transmission parameters such as coding and modulation on the systems or networks using multicarrier-based multiple-access techniques?

further decides

1 that the results of these studies should lead to the formulation of appropriate Recommendations by 2010.

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