

Recommendation T/R 22-06 (Madrid 1992, revised at Nicosia 1994)

**HARMONISED RADIO FREQUENCY BANDS FOR HIGH PERFORMANCE RADIO LOCAL
AREA NETWORKS (HIPERLANs) IN THE 5 GHz AND 17 GHz FREQUENCY RANGE**

Recommendation proposed by the Working Group "Frequency Management" (FM)

Text of the Recommendation adopted by the "European Radiocommunications Committee" (ERC):

INTRODUCTION

In 1991 the European Radiocommunications Committee (ERC) published Report No. 1 on the harmonisation of frequency bands for Radio Local Area Networks (RLANs). Subsequently, CEPT Recommendation T/R 10-01 E (relating to the harmonised radio frequency bands for Wide Band Data Transmission Systems using spread spectrum technology) was published. This Recommendation recognises the need to identify suitable radio spectrum to meet the requirements of a future European standard for High Performance Radio Local Area Networks (HIPERLANs) being developed by ETSI.

After consultation with ETSI, it was established that HIPERLANs required a predictable sharing environment and a band of at least 150 MHz, estimated from the instantaneous data rate of 20 Mbits/s per terminal and an average of 1000 Mbits/S/floor/hectare. A requirement for two different frequency bands was foreseen, one offering good frequency re-use within buildings and the other offering good in-building penetration. It is recognised that the future HIPERLAN standard requiring higher data rates will necessitate a more predictable sharing environment.

In cooperation with ETSI and after further analysis and spectrum engineering studies suitable spectrum was identified in the 5 GHz and the 17 GHz frequency range.

CEPT carried out compatibility studies to support the choice of the frequency bands for RLANs. These studies are in ERC reports Nos. 1 and 8.

“The European Conference of Postal and Telecommunications Administrations,

considering that

- a) CEPT has a long term objective to harmonise the use of radio frequencies throughout Europe;
- b) CEPT should develop frequency arrangements in consultation with organisations developing standards for radio systems in order to make the most efficient use of the available spectrum;
- c) there is an increasing use of computer equipment, computer terminals and peripheral equipment by the business and industrial community;
- d) there is a requirement to exchange information between such equipment through Local Area Networks (LANs);
- e) existing LANs consist of equipment interconnected by cable resulting in a rigid hardware structure;
- f) LANs using radio (RLANs) would enable a more flexible approach to the installation, reconfiguration and use of such networks;

- g) ETSI is developing a standard for High Performance Radio Local Area Network (HIPERLANs);
- h) there is a need to provide harmonised spectrum and associated equipment standards which enable the rapid deployment of HIPERLANs without any frequency planning and/or individual licensing;

noting that

- a) the frequency band 5000 - 5250 MHz is allocated to the Aeronautical Radionavigation Service to be used for Microwave Landing System (MLS) but there are no plans for the use of the frequency band 5150 - 5250 MHz by the aeronautical community;
- b) compatibility studies and spectrum investigations have shown that compatibility is possible under certain conditions between RLANs and radiolocation systems operating in the 5 and 17 GHz frequency range;
- c) HIPERLANs are intended for indoor use;
- d) CEPT Recommendation T/R 22-03 E designates for RLANs (referred to as Cordless Local Area Networks) the frequency range of 59 to 62 GHz enabling high data transfer rates in a small coverage area;

recommends that

1. the frequency band 5150 - 5250 MHz be used for HIPERLAN equipment on a non-protected and a non-interference basis and that the band 5250 - 5300 MHz may be used on the same basis, and on a national basis, according to market demand for expansion of the HIPERLAN System from 1st January 1996. The effective isotropically radiated peak envelope power in this band shall not exceed 0 dBW. This equipment is for indoor use;
2. the frequency band 17.1 - 17.3 GHz be used on a non-protected and non-interference basis for HIPERLAN equipment. The effective isotropically radiated peak envelope power in this band shall not exceed -10 dBW;
3. the other frequency management parameters, which include channel bandwidth and power limits of any emissions outside the designated frequency bands, shall be decided by ERC in consultation with ETSI;
4. in order to provide a predictable sharing environment for HIPERLANs, applications other than those operating in accordance with Article 8 of the RR and HIPERLANs should not be permitted in the bands mentioned in Recommends 1 and 2;
5. HIPERLAN equipment and associated antennas must be type approved according to the relevant ETSI Standard and marked "CEPT-HIPERLAN Y" according to the CEPT Recommendation T/R 71-03 E;
6. in the case of HIPERLAN equipment capable of using an external antenna the method of connection between the HIPERLAN equipment and the antenna shall be specifically designed to prevent operation using unauthorised antennas;
7. CEPT Member countries shall not require an individual license for the use of HIPERLANs."