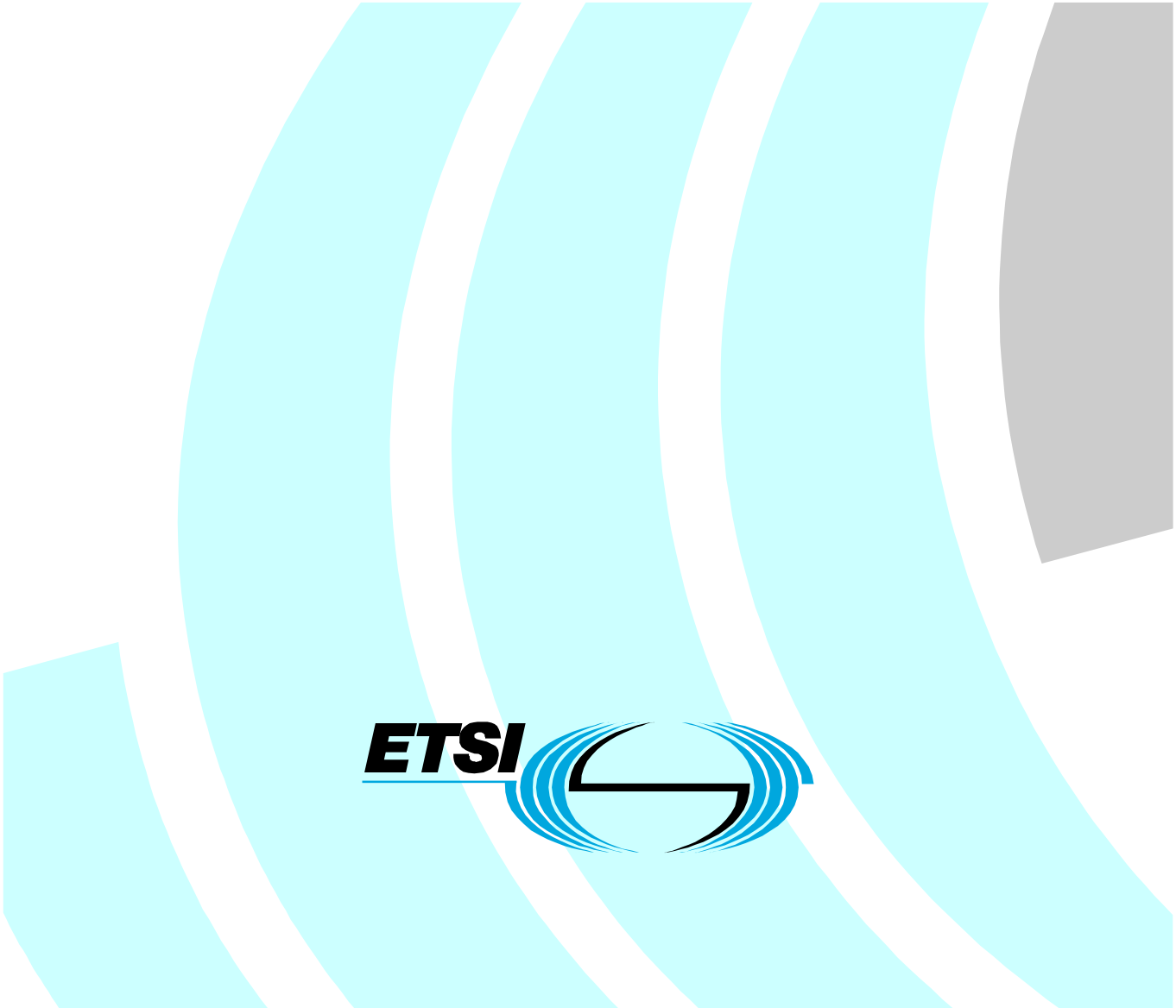
ETSI EN 300 431 V1.4.1 (2002-07)

European Standard (Telecommunications series)

Fixed Radio Systems;
Point-to-point equipment;
Parameters for radio system
for the transmission of digital signals operating
in the frequency range 24,50 GHz to 29,50 GHz



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Contents

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Transmission and Multiplexing (TM).

This new version modifies only class 5b spectrum mask giving more allowance for practical implementations, without modifying any other requirements, and proposed design objectives for class 5a BER versus RSL.

National transposition dates	
Date of adoption of this EN:	12 July 2002
Date of latest announcement of this EN (doa):	31 October 2002
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 April 2003
Date of withdrawal of any conflicting National Standard (dow):	30 April 2003

1 Scope

The present document specifies the minimum performance parameters for terrestrial fixed service radio communications equipments operating in the frequency range 24,50 GHz to 29,50 GHz and contains a revision from the previous version, in the areas of:

- introduction of unique system type codes for regulatory reference to the various system types detailed in the present document, refer to new annex C and related categories of equipment classes of spectral efficiency;
- additional systems with higher spectrum efficiency in the new class 4 systems;
- change of spectrum mask and adjacent channel selectivity of STM-0 systems in 28 MHz channel spacing to align to EN 300 639 [34];
- introduction of new spectrum efficiency class 5 for STM-1 capacity for 28 MHz Adjacent Channel Alternate-Polarization (ACAP as class 5a) and Adjacent Channel Co-Polarization (ACCP as class 5b), see examples of the spectrum usage in figures 1.1a and 1.1b;

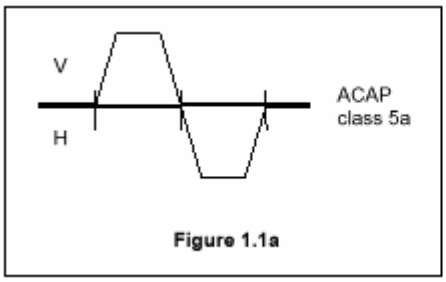

Figure 1.1a

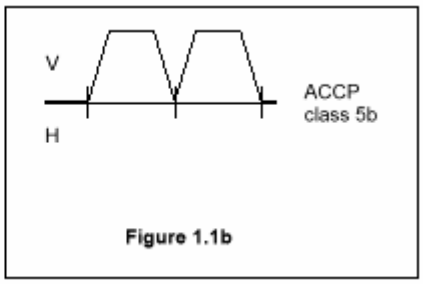

Figure 1.1b

- change to spectrum mask for class 4 (140 Mbit/s to 155 Mbit/s) at "f5" to align with the mask used in the 23 GHz and 38 GHz standards.

NOTE: In a previous version (ETS 300 431 [37]), there was provision for:

- further options for Grade A digital radio systems (with 112 MHz channel separation);
- specific antenna radiation patterns (now superseded by EN 300 833 [3]).

These options are not reprinted in the present document as they are considered to be no longer of interest for ETSI members. However, for regulatory purposes, they may still be referenced from ETS 300 431 [37].

Digital systems are intended to be used for point-to-point connections in local and regional networks at data rates between 2 Mbit/s and the Synchronous Transport Module, level 1 (STM-1).

The parameters to be specified fall into two categories:

a) those that are required to provide compatibility between channels from different sources of equipment on the same route, connected either:
   - to separate antennas; or
   - to separate polarizations of the same antenna.

b) parameters defining the transmission quality of the proposed system.

The present document deals with Radio Frequency (RF) and baseband characteristics relevant to low, medium and high capacity Plesiochronous Digital Hierarchy (PDH) transmission systems, STM-0 and STM-1 Synchronous Digital Hierarchy (SDH) transmission systems. Antenna/feeder system requirements are covered in EN 300 833 [3].