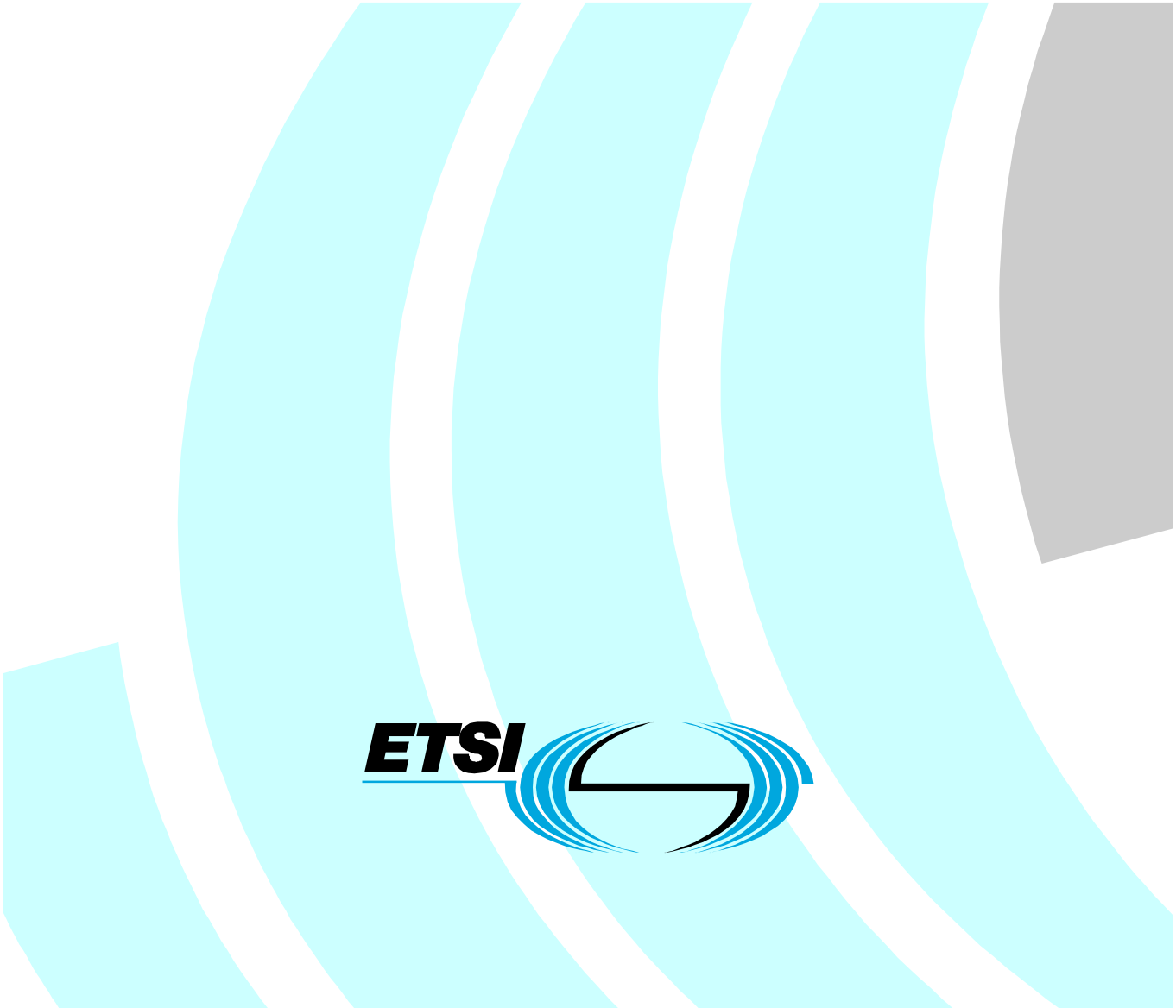
ETSI EN 300 197 V1.6.1 (2002-07)

European Standard (Telecommunications series)

Fixed Radio Systems;
Point-to-point equipment;
Parameters for radio systems for the transmission of digital signals operating at 32 GHz and 38 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).

The present document specifies the minimum performance parameters for radio equipment operating in the frequency ranges as detailed in clause 4.1.1.

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

Proposed 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 digital fixed service radio communications equipment operating in the 32 GHz and 38 GHz frequency.

For 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:

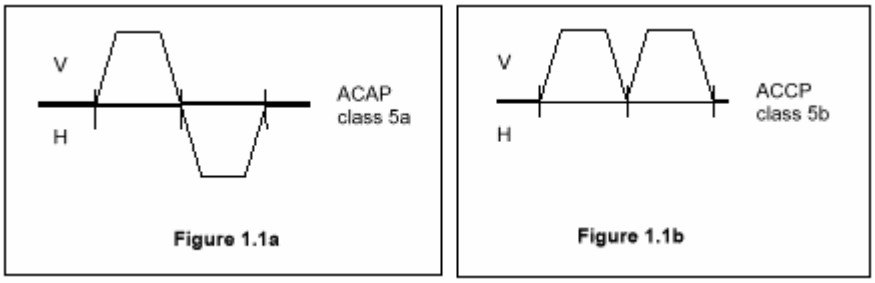

Figure 1

NOTE: In EN 300 197 (V1.2.2) [35] there was provision for:
- parameters for wideband analogue systems;
- further options for digital radio systems (there referred as Grade A systems);
- specific antenna radiation patterns (now superseded by EN 300 833 [3]).

These options are not reprinted in this version as they are considered to be no longer of interest for ETSI members. However, for regulatory purposes, they may still be referenced from EN 300 197 (V1.2.2) [35].

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 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 to separate antennas;

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].

The present document does not contain aspects related to test procedures and test conditions however they are to be found in EN 301 126-1 [2].

As the maximum transmission rate in a given bandwidth depends on system spectral efficiency, different equipment classes are defined:

Class 2: equipment spectral efficiency based on typically 4-states modulation scheme (e.g. 4-FSK, 4-QAM, or equivalent);

Class 3: equipment spectral efficiency based on typically 8-states modulation scheme (e.g. 8-PSK, or equivalent);

Class 4: equipment spectral efficiency based on typically 16 or 32-states modulation scheme (e.g. 16-QAM, 32-QAM, or equivalent);

Class 5: equipment spectral efficiency based on typically 64 or 128-states modulation scheme (e.g. 64-QAM, 128-QAM, or equivalent).

The above classes are indicative only and do not imply any constraint to the actual modulation format, provided that all the requirements in the present document are met.