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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**



Reference

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Contents

Intellectual Property Rights	5
Foreword.....	5
1 Scope	6
2 References	7
3 Symbols and abbreviations.....	9
3.1 Symbols.....	9
3.2 Abbreviations	10
4 General characteristics	10
4.1 Frequency bands and channel arrangements	10
4.1.1 Channel arrangements.....	10
4.1.2 Channel spacing for systems operating on the same route.....	11
4.2 Compatibility requirements between systems	11
4.3 Performance and availability requirements	11
4.4 Environmental conditions.....	11
4.4.1 Equipment within weather protected locations (indoor locations).....	12
4.4.2 Equipment for non-weather protected locations (outdoor locations)	12
4.5 Power supply	12
4.6 Electromagnetic compatibility.....	12
4.7 System block diagram	12
4.8 Telecommunications Management Network (TMN) interface.....	13
4.9 Branching/feeder/antenna characteristics	13
4.9.1 Antenna radiation patterns	13
4.9.2 Antenna cross-Polar Discrimination (XPD)	13
4.9.3 Antenna Inter-Port Isolation (IPI).....	13
4.9.4 Waveguide flanges (or other connectors)	13
4.9.5 Return loss	13
5 System Parameters	14
5.1 Transmission capacity	14
5.2 Baseband parameters	14
5.2.1 Plesiochronous interfaces	14
5.2.2 SDH baseband interface.....	14
5.3 Transmitter characteristics.....	15
5.3.1 Transmitter power range	15
5.3.2 Transmit power and frequency control	15
5.3.2.1 Automatic Transmit Power Control (ATPC)	15
5.3.2.2 Remote Transmit Power Control (RTPC).....	15
5.3.2.3 Remote Frequency Control (RFC)	16
5.3.3 Transmitter output power tolerance	16
5.3.4 Transmit Local Oscillator (LO) frequency arrangements	16
5.3.5 RF spectrum mask	16
5.3.6 Discrete CW lines exceeding the spectrum mask limit.....	19
5.3.6.1 Spectral lines at the symbol rate.....	19
5.3.6.2 Other spectral lines.....	19
5.3.7 Spurious emissions	20
5.3.7.1 Spurious emissions - external.....	20
5.3.7.2 Spurious emissions - internal	21
5.3.8 Radio frequency tolerance	21
5.4 Receiver characteristics	21
5.4.1 Input level range	21
5.4.2 Receiver local oscillator frequency arrangements	21
5.4.3 Spurious emissions	21
5.4.3.1 Spurious emissions - internal	21
5.5 System performance without diversity	21

5.5.1	BER as a function of Receiver input Signal Level (RSL).....	22
5.5.2	Equipment Residual BER	22
5.5.3	Interference sensitivity.....	23
5.5.3.1	Co-channel interference sensitivity	23
5.5.3.2	Adjacent channel interference	24
5.5.3.3	CW spurious interference.....	24
5.5.3.4	Front-end non-linearity requirements (two-tone CW spurious interference)	25
5.5.4	Distortion sensitivity.....	25
5.6	System characteristics with diversity	25
Annex A (informative): Additional information.....		26
A.1	Radio frequency channel arrangement	26
A.1.1	Frequency band 24,50 GHz to 26,50 GHz	26
A.1.2	Frequency band 27,50 GHz to 29,50 GHz	27
A.2	Feeder/antenna return loss.....	28
A.3	Automatic Transmit Power Control (ATPC)	28
A.4	RBER	29
A.5	Co-channel and adjacent channel interference	30
Annex B (normative): System type codes for regulatory procedures		34
Annex C (normative): Output power tolerance and RBER		35
History		36

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Foreword

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

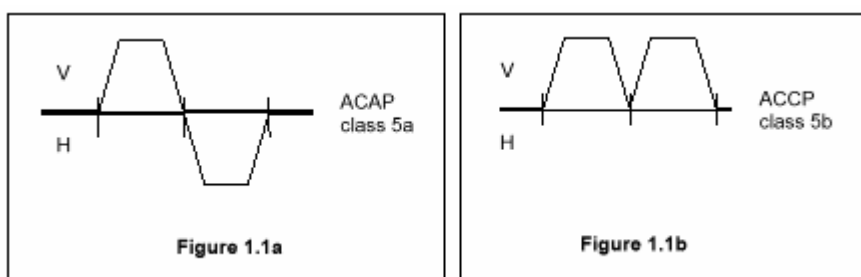
This new version modifies only class 5b spectrum mask giving more allowance for practical implementations, without modifying any other requirements, and proposed design objectives for class 5a BER versus RSL.

National transposition dates	
Date of adoption of this EN:	12 July 2002
Date of latest announcement of this EN (doa):	31 October 2002
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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;



- 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].