

EUROPEAN RADIOCOMMUNICATIONS COMMITTEE

ERC Decision
of 10 March 1999
on the adoption of approval regulations for
equipment to be used for low and medium capacity point-to-
point Digital Radio Relay Systems (DRRS) operating in the
frequency range 2.1 to 2.6 GHz,
based on the European Telecommunications Standard
(ETS) 300 633
(ERC/DEC/(99)08)



WITHDRAWN

EXPLANATORY MEMORANDUM

1. INTRODUCTION

The free movement of radiocommunications goods and the provision of Europe-wide services for radiocommunications are only achievable if there exist common regulations throughout Europe regarding availability of frequency bands, approval requirements and border crossing procedures. A basic requirement to fulfil these objectives is the Europe-wide implementation of national regulations based on the European Telecommunications Standards (ETSS) or European Norms (ENs) developed by the European Telecommunications Standards Institute (ETSI).

This Decision (ERC/DEC/(99)08) provides the necessary mechanism for CEPT Administrations to commit themselves to implement, within their national regimes, European Telecommunications Standard 300 633¹ and withdraw any conflicting national standard.

2. BACKGROUND

Both the ERC and ETSI are involved in the development of common regulations, as described in (1) above. The Memorandum of Understanding between ERC and ETSI explains the respective responsibilities of the two organisations and its annex describes the principles of co-operation. The ERC, for its part, should, *inter alia*, adopt Decisions on the introduction of ETSI standards into approval regimes.

ETS 300 633 has been prepared by the Transmission and Multiplexing (TM) Technical Committee of ETSI. The standard has undergone the ETSI standards approval procedure and is now published as an ETS.

The ETS is based on CEPT Recommendation T/R 13-01 (frequency bands 2025-2110 MHz paired with 2200-2290 MHz, and 2520-2593 MHz paired with 2597-2670 MHz) and on ITU-R Recommendation F.746-3 (for the band 2300-2500 MHz).

The use of the frequency range 2.1 to 2.6 GHz covered by ETS 300 633 is not harmonised within CEPT. Administrations have adopted different arrangements, to meet national requirements, for channel separation (0.5, 1, 1.75, 2, 3.5, 7 and 14 MHz). Further the equipment used in this frequency range is subject to national licensing and frequency planning which requires specification of, *inter alia*, frequency of operation and equivalent isotropically radiated power (e.i.r.p.).

Nevertheless, there are a number of parameters, in particular those considered by the ERC as essential for spectrum management purposes², which can be harmonised by adopting within approval regulations the limit values and measurement methods provided in ETS 300 633.

3. REQUIREMENT FOR AN ERC DECISION

The allocation and assignment of radio frequencies and the complementary equipment approval regimes in CEPT member countries are laid down by law, regulation or administrative action. The ERC recognises that for harmonised fixed and mobile radio services to be introduced successfully throughout Europe, manufacturers and operators must be given the confidence to make the necessary investment in the development and procurement of new systems. Commitment by CEPT Administrations to implement this ERC Decision will provide a clear indication that equipment conforming to approval regulations based on ETS 300 633 will have the benefit of a Europe-wide market.

¹ ETS 300 633: "Transmission and Multiplexing (TM); Digital Radio Relay Systems (DRRS); Low and medium capacity point-to-point DRRS operating in the frequency range 2,1 to 2,6 GHz" Edition 1, 1997

² See Annex 1 of the Decision

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on the adoption of approval regulations for radio equipment to be used for low and medium capacity point-to-point Digital Radio Relay Systems (DRRS) operating in the frequency range 2.1 to 2.6 GHz, based on the European Telecommunications Standard (ETS) 300 633

(ERC/DEC/(99)08)

“The European Conference of Postal and Telecommunications Administrations,

considering:

- a) that CEPT has a long term objective to harmonise the use of frequencies and the related regulatory regimes;
- b) that such harmonisation will benefit administrations, manufacturers, operators and users;
- c) that ETSI has published ETS 300 633 for equipment to be used for low and medium capacity point-to-point Digital Radio Relay Systems (DRRS) operating in the frequency range 2.1 to 2.6 GHz with channel separations of 0.5, 1, 1.75, 2, 3.5, 7 and 14 MHz (7 and 14 MHz for Class 2 and 3 equipment only);
- d) that, for the foreseeable future, there will continue to be widespread use of radio relay systems in the fixed service having the technical characteristics described in (c) above;
- e) that, in accordance with the Memorandum of Understanding between ERC and ETSI, the ERC shall adopt ERC Decisions on the introduction of ETSI standards into approval regimes;
- f) that the use of radio equipment is subject to national licensing and frequency planning requirements, in particular for frequency of operation and e.i.r.p.;
- g) that suitable transitional arrangements are given in CEPT Recommendation T/R 13-01 and in ITU-R Recommendation F.746-3;
- h) that adequate system parameters are essential for safety related systems and in order to ensure efficient use of the spectrum a minimum set of receiver parameters is required;

recognising

that this Decision shall not impede EEA countries from fulfilling their obligations according to community law;

DECIDES

1. to adopt approval regulations for equipment to be used for low and medium capacity point-to-point Digital Radio Relay Systems (DRRS) operating in the frequency range 2.1 to 2.6 GHz with transmitter power levels of up to 10W, based on the limit values and measurement methods for spectrum management parameters contained in ETS 300 633, with the exclusion by national choice of those parameters which are subject to national licensing requirements³. A list of spectrum management parameters to be included in approval regulations is given in Annex 1;
2. to withdraw any conflicting national approval regulation(s);
3. that this Decision shall enter into force on 15 March 1999;
4. that CEPT Member Administrations shall communicate the national measures implementing this Decision to the ERC Chairman and the ERO when the Decision is nationally implemented.”

Note:

Please check the ERO web site (www.ero.dk) under “Documentation / Implementation” for the up to date position on the implementation of this and other ERC Decisions.

³ Annex 2 is provided for information to show which options have been adopted by each administration in those cases where ETS 300 633 offers a choice

ANNEX 1

Parameters from ETS 300 633 to be included in approval regulations:

ETS 300 633	Section	Comments
General Characteristics	4	
Frequency bands and channel arrangements	4.1	
Modes of operation	4.2	
Channel spacing	4.2.1	Channel spacings of 0.5, 1, 1.75, 2, 3.5, 7 and 14 MHz
Transmit/receive duplex frequency separation	4.2.2	
Transmitter characteristics	6	Options for channel spacings of 0.5, 1, 1.75, 2, 3.5, 7 and 14 MHz.
Transmitter power	6.1	
RF spectrum mask	6.2	
Spurious emissions	6.4	
Radio frequency tolerance	6.5	
Receiver characteristics	7	Options for channel spacings of 0.5, 1, 1.75, 2, 3.5, 7 and 14 MHz.
Spurious emissions	7.2	
System characteristics	8	Options for channel spacings of 0.5, 1, 1.75, 2, 3.5, 7 and 14 MHz.
BER performance	8.1	
Interference sensitivity	8.3	
co-channel interference	8.3.1	
adjacent channel interference	8.3.2	
CW spurious interference	8.3.3	

ANNEX 2

Adoption of ETS 300 633: National variations

Administration	Application of ERC Rec. T/R 13-01 and ITU-R Recommendation F.746-3 and adoption of channel spacing options	Sub-bands of ERC Rec. T/R 13-01 (Annex C and/or D) and ITU-R Rec. F.746-3 available ⁴	Adoption of options for environmental conditions
Albania			
Andorra			
Austria			
Belgium			
Bosnia and Herzegovina			
Bulgaria			
Croatia			
Cyprus	1 to 57		58 to 64
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Iceland			
Ireland			
Italy			
Latvia		B1; B3: 7, 9, 13, 15, 22, 24, 30, 34, 36, 43, 45, 49, 51, 52, 54, 55, 57	58 to 64
Liechtenstein			
Lithuania		B1: 1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 37, 40, 43, 46, 49, 52; B2: 2, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 38, 41, 44, 47, 49, 53; B3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54	58 to 64
Luxembourg			
Malta			
Moldova			
Monaco			
Netherlands			
Norway			
Poland			
Portugal			
Romania			
Russian Federation			
San Marino			
Slovak Republic			
Slovenia			
Spain			
Sweden			
Switzerland			
The Former Yugoslav Republic of Macedonia			

⁴ Specify the real (sub-)bands available in case of partial usage

Administration	Application of ERC Rec. T/R 13-01 and ITU-R Recommendation F.746-3 and adoption of channel spacing options	Sub-bands of ERC Rec. T/R 13-01 (Annex C and/or D) and ITU-R Rec. F.746-3 available ⁵	Adoption of options for environmental conditions
Turkey			
Ukraine			
United Kingdom			
Vatican City			

Key:

Frequency bands options:

Option	Reference	Frequency bands (MHz)
B1	ERC Rec. T/R 13-01 Annex C	2025-2110 paired with 2200-2290
B2	ERC Rec. T/R 13-01 Annex D	2520-2593 paired with 2597-2670
B3	ITU-R Rec. F.746-3	2300-2500

⁵ Specify the real (sub-)bands available in case of partial usage

Channel spacing options:

Option	Frequency Band	Spectrum efficiency class	Bit-rate (kbit/s)	Channel spacings (MHz)
1 2 3	B1 B2 B3	1	400	0.5
4 5 6	B1 B2 B3	1	800	1
7 8 9	B1 B2 B3	1	1400	1.75
10 11 12	B1 B2 B3	1	1600	2
13 14 15	B1 B2 B3	1	2800	3.5
16 17 18	B1 B2 B3	2	650	0.5
19 20 21	B1 B2 B3	2	1300	1
22 23 24	B1 B2 B3	2	2275	1.75
25 26 27	B1 B2 B3	2	2600	2
28 29 30	B1 B2 B3	2	4500	3.5
31 32 33	B1 B2 B3	2	9000	7
34 35 36	B1 B2 B3	2	18000	14
37 38 39	B1 B2 B3	3	1300	0.5
40 41 42	B1 B2 B3	3	2600	1
43 44 45	B1 B2 B3	3	4550	1.75
46 47 48	B1 B2 B3	3	5200	2
49 50 51	B1 B2 B3	3	9100	3.5
52 53 54	B1 B2 B3	3	18200	7

55	B1			
56	B2	3	38000	14
57	B3			

Class 1: equipment performances based on typically 2-state modulation scheme (e.g. 2-FSK (Frequency Shift Keying), Gaussian Minimum Shift Keying (GMSK) with discriminator detection, or equivalent);

Class 2: equipment performances based on typically 4-state modulation scheme (e.g. 4-FSK, 4-QAM (Quadrature Amplitude Modulation), or equivalent);

Class 3: equipment performances based on typically 16-state modulation scheme (e.g. 16-QAM, or equivalent).

Environmental condition options

- 58 = Class 3.1
- 59 = Class 3.2
- 60 = Class 3.3
- 61 = Class 3.4
- 62 = Class 3.5
- 63 = Class 4.1
- 64 = Class 4.1E

Some countries may require a more stringent temperature range than is currently covered in this ETS.