
Inženiring opreme (EE) - Pogoji okolja in preskusi vplivov okolja za telekomunikacijsko opremo – Del 2-7: Specifikacija preskusov vplivov okolja - Prenosna in nestacionarna uporaba

Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 2-7: Specification of environmental tests; Portable and non-stationary use

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ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing
33.050.01	Telekomunikacijska terminalska oprema na splošno	Telecommunication terminal equipment in general

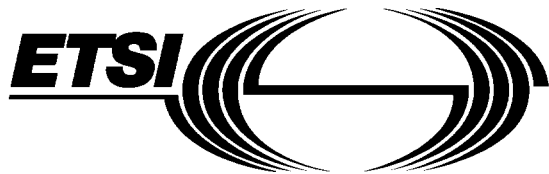
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Part 2-7: Specification of environmental tests
Portable and non-stationary use**

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Foreword

This multi-part European Telecommunication Standard (ETS) has been produced by the Equipment Engineering (EE) Technical Committee of the European Telecommunications Standards Institute (ETSI).

ETS 300 019 is concerned with environmental conditions and environmental tests for telecommunications equipment and comprises two main parts, each with subdivisions:

- ETS 300 019-1: "Classification of environmental conditions".

Part 1 specifies different standardised environmental classes covering climatic and biological conditions, chemically and mechanically active substances and mechanical conditions during storage, transportation and in use.

- ETS 300 019-2: "Specification of environmental tests".

Part 2 specifies the recommended test severities and test methods for the different environmental classes.

Part 2-0 forms a general overview of Part 2. This part (Part 2-7), deals with portable and non-stationary use.

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1 Scope

This European Telecommunication Standard (ETS) specifies test methods and severities for the verification of the required resistibility of equipment according to the relevant environmental class.

The tests defined in Part 2-7 of this multi-part standard apply to portable and non-stationary use of equipment, covering the environments stated in ETS 300 019-1-7 [1].

2 Normative references

This ETS incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 019-1-7: "Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment Part 1-7: Classification of environmental conditions; Portable and non-stationary use".
- [2] IEC 68-2: "Basic environmental testing procedures. Part 2: Tests".
- [3] ETS 300 019-2-0: "Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment Part 2-0: Specification of environmental tests; Introduction".

3 Environmental test specifications

The detailed descriptions of the environmental conditions are given in Clauses 4 and 5 of ETS 300 019-1-7 [1].

ETS 300 019-2-0 [3] forms a general overview of Part 2 of this ETS.

The equipment under test is assumed to be in its operational state throughout the test conditions described in this Part unless otherwise stated. The required performance before, during and after the test needs to be specified in the product specification. Input and load conditions of the equipment shall be chosen to obtain full utilisation of the equipment under test. The heat dissipation shall be maximised, except for the steady state, low temperature test, where it shall be minimised.

3.1 Specification T 7.1: Temperature-controlled locations

This specification applies to use at, and direct transfer between, permanently temperature-controlled enclosed locations where humidity is usually not controlled. See tables 1, 5 and 6.

Table 1: Test specification T 7.1: Temperature-controlled locations - climatic tests

Environmental parameter			Environmental Class 7.1	Environmental test specification T 7.1: Portable, temperature-controlled locations			
Type	Parameter	Detail parameter	Characteristic severity	Test severity	Duration	Reference	Method
Air temperature	low	(°C)	+5	+5 (7)	16 h	IEC 68-2-1	Ab/Ad: Cold (6)
	high	(°C)	+40	+40 (1) or +50 (17)	16 h	IEC 68-2-2	Bb/Bd: Dry heat
	change	(°C)	+5/+25	+5/+25 (9)	3 cycles t ₁ = 3 h	IEC 68-2-14	Na: Change of temperature
Humidity	relative	low	(%)	5	(2) (8)		
		high	(%) (°C)	85	85 +30	4 d	IEC 68-2-56
		condensation	(%) (°C)	yes	90-100 +30	2 cycles	IEC 68-2-30
	absolute	low	(g/m ³)	1	none (2) (8)		
		high	(g/m ³)	25	(10)		
Air	pressure	low	(kPa)	70	none		
		high	(kPa)	106	none		
	speed	(m/s)	5,0	none			
Water	rain	intensity	no				
		low temperature	no				
	other sources		no				
	icing & frosting		no				
Radiation	solar	(W/m ²)	700	(3)			
	heat	(W/m ²)	600	(3)			

(continued)

Table 1 (concluded): Test specification T 7.1: Temperature-controlled locations - climatic tests

Environmental parameter			Environmental Class 7.1	Environmental test specification T 7.1: Portable, temperature-controlled locations			
Type	Parameter	Detail parameter	Characteristic severity	Test severity	Duration	Reference	Method
Chemically active sub- stances	sulphur	SO ₂ (mg/m ³)	0,3/1,0 (4)	none (5)			
		H ₂ S (mg/m ³)	0,1/0,5 (4)	none (5)			
	chlorine	salts	sea and road salt mist	none (5)			
		Cl ₂ (mg/m ³)	0,1/0,3 (4)	none (5)			
		HCl (mg/m ³)	0,1/0,5 (4)	none (5)			
	nitrogen	NO _x (mg/m ³)	0,5/1,0 (4)	none (5)			
		NH ₃ (mg/m ³)	1,0/3,0 (4)	none (5)			
	hydrogen fluoride HF	(mg/m ³)	0,01/0,03 (4)	none (5)			
ozone O ₃	(mg/m ³)	0,05/0,1 (4)	none (5)				
Mechanically active substances	dust	sedimentation (mg/(m ² h))	1,5	(2)			
		suspension (mg/m ³)	0,2	(2)			
	sand	(mg/m ³)	30	(2)			
Flora and Fauna	micro organisms		no				
	rodents, insects		no				
no = this condition does not occur in this class. none = verification is required only in special cases.							

(n) = NOTE (n = number of note), see subclause 3.5.

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