SLOVENSKI STANDARD
SIST EN 300 019-1-4 V2.2.1:2014

01-junij-2014

Okoljski inženiring (EE) - Okoljski pogoji in preskusi vplivov okolja na telekomunikacijsko opremo - 1-4. del: Klasifikacija okoljskih pogojev - Fiksna uporaba na lokacijah, ki niso zaščitene pred vremenskimi vplivi

Environmental Engineering (EE) - Environmental conditions and environmental tests for telecommunications equipment - Part 1-4: Classification of environmental conditions - Stationary use at non-weatherprotected locations

Ta slovenski standard je istoveten z: **EN 300 019-1-4 Version 2.2.1**

ICS:

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

SIST EN 300 019-1-4 V2.2.1:2014 **en**

ETSI EN 300 019-1-4 V2.2.1 (2014-04)

Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-4: Classification of environmental conditions; Stationary use at non-weatherprotected locations

Reference
REN/EE-0156

Keywords
environment, equipment practice, testing

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
http://www.etsi.org

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
http://portal.etsi.org/tb/status/status.asp

If you find errors in the present document, please send your comment to one of the following services:
http://portal.etsi.org/chaircor/ETSI_support.asp

Copyright Notification

Contents

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://ipr.etsi.org).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Environmental Engineering (EE).

The present document is part 1, sub part 4 of a multi-part deliverable covering the classification of environmental conditions and environmental tests for telecommunications equipment, as identified below:

Part 1: "Classification of environmental conditions": (see note 1)

Sub-part 0: "Introduction";

Sub-part 1: "Storage";

Sub-part 2: "Transportation";

Sub-part 3: "Stationary use at weatherprotected locations";

Sub-part 4: "Stationary use at non-weatherprotected locations";

Sub-part 5: "Ground vehicle installations";

Sub-part 6: "Ship environments";

Sub-part 7: "Portable and non-stationary use";

Sub-part 8: "Stationary use at underground locations";

Part 2: "Specification of environmental tests" (see note 2).

NOTE 1: Specifies different standardized environmental classes covering climatic and biological conditions, chemically and mechanically active substances and mechanical conditions during storage, transportation and in use. Sub-part 1-0 forms a general overview of part 1.

NOTE 2: Specifies the recommended test severities and test methods for the different environmental classes.

National transposition dates	
Date of adoption of this EN:	21 April 2014
Date of latest announcement of this EN (doa):	31 July 2014
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 January 2015
Date of withdrawal of any conflicting National Standard (dow):	31 January 2015

1 Scope

The purpose of the present document is to define a class of environmental conditions and their severities to which equipment may be exposed. Only severe conditions, which may be harmful to the equipment, are included. The severities specified are those which will have a low probability of being exceeded; generally less than 1 %.

The present document applies to equipment mounted for stationary use including periods of erection work, down time, maintenance and repair at non-weatherprotected locations defined in clause 5.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

[1] ETSI EN 300 019-1-3 (2009): "Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-3: Classification of environmental conditions; Stationary use at weatherprotected locations".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] Void.

[i.2] IEC 60721-3-4:1995: "Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 4: Stationary use at non-weatherprotected locations".

[i.3] IEC 60721-2-4:2002: "Classification of environmental conditions - Part 2: Environmental conditions appearing in nature. Solar radiation and temperature".

[i.4] IEC 60068-2-27:2008: "Environmental testing. Part 2: Tests. Test Ea and guidance: Shock".

[i.5] IEC 60721-2-6:1990: "Classification of environmental conditions. Part 2: Environmental conditions appearing in nature - Earthquake vibration and shock".

[i.6] IEC 60068-3-3:1991: "Environmental testing - Part 3: Guidance. Seismic test methods for equipment".

[i.7] ETSI EN 300 019-2-4 (2013): "Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 2-4: Specification of environmental tests; Stationary use at non-weatherprotected locations".

3 Definitions

For the purposes of the present document, the following terms and definitions apply:

absolute humidity: mass of water vapour in grammes which is associated with one cubic metre of dry air in an air/water vapour mixture

non-weatherprotected location: location at which the equipment is not protected from direct weather influences

relative humidity: ratio of the partial pressure of the water vapour in moist air at a given temperature, to the partial pressure of the water vapour in saturated air at the same temperature

stationary use: use of the equipment mounted firmly on the structure, or on mounting devices, or it is permanently placed at a certain site

NOTE: It is not intended for portable use - but short periods of handling during erection works, down time, maintenance and repair at the location are included.

4 Environmental classes

The classes shown in parentheses, e.g. (4C3), may be selected for special applications.

These classes shall apply to a non-weatherprotected location.

These classes shall apply to locations:

- which are directly exposed to an open-air climate, including solar radiation, movement of the surrounding air, precipitation and water jets; splashing water;
- where mould growth, or attacks by animals but excluding termites, may occur;
- with normal levels of contaminants experienced in urban areas with industrial activities scattered over the whole area and/or with heavy traffic. It also applies to coastal areas;

NOTE 1: At locations in the immediate neighbourhood of industrial sources with chemical emissions either special precautions should be taken or a special chemical class should be chosen.

- in areas with sand or dust sources, including urban areas;

NOTE 2: At locations in geographical areas with wind-driven sand or dust in air special precautions should be taken or a special class for mechanically active substances should be chosen.

- where transmitted vibrations are experienced from machines or passing vehicles. Higher level shocks may be experienced e.g. from adjacent machines.

NOTE 3: More severe mechanical conditions are to be expected for equipment intended for public use. Special requirements should be stated for such equipment, e.g. protection against vandalism.

If earthquake conditions can be expected, the conditions stated in clause 5.6 apply.

Two groups of classes are considered:

- Classes 4.1 and 4.1E apply to general climatic conditions - applies to climatic conditions in most of Europe.
- Classes 4.2L and 4.2H apply to extreme climatic conditions. These classes should be considered only in locations with extreme climates - applies to extremely cold or warm climatic conditions world-wide.

4.1 Class 4.1: Non-weatherprotected locations

Class 4.1 applies to most of Europe. For Class 4.1E see note in clause 4.2.

Class 4.1 is a combination of classes 4K2/4Z5/4Z7/4B1/4C2(4C3)/4S2/4M5 in IEC 60721-3-4 [i.2] and the environmental conditions are given in clause 5. It ranges from mild warm dry to cold temperate.

The climatogram is shown in figure 1.

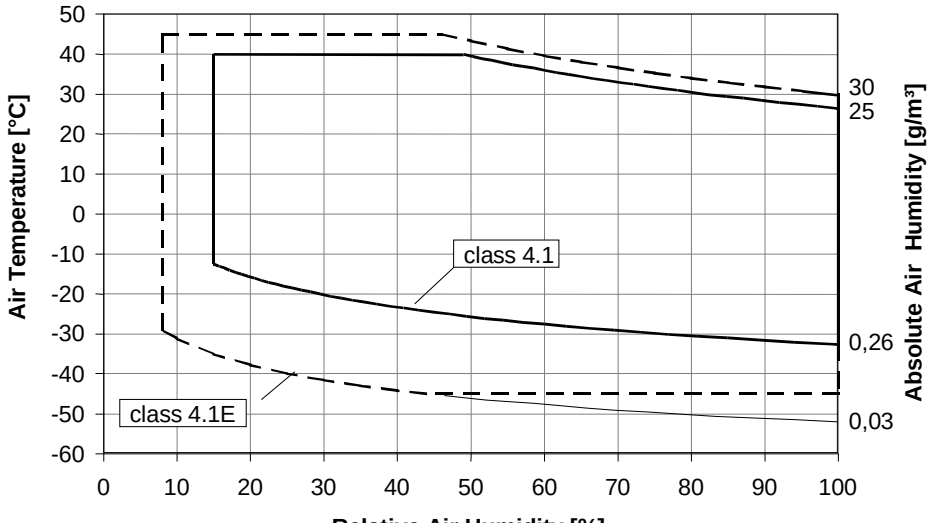

Figure 1: Climatogram for classes 4.1 and 4.1E: Non-weatherprotected locations

4.2 Class 4.1E: Non-weatherprotected locations - extended

Class 4.1E covers most of Europe.

Class 4.1E is a combination of classes 4Z5/4Z7/4B1/4C2(4C3)/4S2/4M5 in IEC 60721-3-4 [i.2] and the environmental conditions are given in clause 4. It ranges from mild warm dry to cold (see note).

NOTE: The climatic conditions in this class do not correspond to an IEC 60721-3-4 [i.2] class. In order to define a non-weatherprotected class covering European locations where the mean value of the annual extreme values -45 °C is chosen as the low temperature and +45 °C as the high temperature for the class 4.1E.

The climatogram is shown in figure 1.

4.3 Class 4.2L: Non-weatherprotected locations - extremely cold

Class 4.2L covers extremely cold climatic conditions world-wide.

Class 4.2L is a combination of classes 4K4L /4Z5/4Z7/4B1/4C2(4C3)/4S2/4M5 in IEC 60721-3-4 [i.2] and the environmental conditions are given in clause 5. It ranges from warm temperate to extremely cold.

The climatogram is shown in figure 2.