



BSI Standards Publication

Reasonably Foreseeable Use Conditions when referring to EMF Exposure Assessment

National foreword

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A list of organizations represented on this committee can be obtained on request to its committee manager.

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TECHNICAL REPORT

CLC/TR 50713

RAPPORT TECHNIQUE

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July 2021

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English Version

Reasonably Foreseeable Use Conditions when referring to EMF Exposure Assessment

Conditions d'utilisation raisonnablement prévisibles dans le
cadre de l'évaluation de l'exposition aux champs
électromagnétiques

Vernünftigerweise vorhersehbare Nutzungsbedingungen,
auf die bei EMF-Bewertungen Bezug genommen wird

This Technical Report was approved by CENELEC on 2021-07-13.

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The logo for CENELEC, consisting of the word "CENELEC" in a bold, blue, sans-serif font. The letters are slightly shadowed and appear to be floating above a faint, stylized representation of a lightning bolt or electrical discharge.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (CLC/TR 50713:2021) has been prepared by CLC/TC 106X "Electromagnetic fields in the human environment".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

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Introduction

Directive 2014/53/EU (Radio Equipment Directive, RED) and Directive 2014/35/EU (Low Voltage Directive, LVD) require that equipment meets the electromagnetic fields (EMF) exposure requirements when used as intended as well as under reasonably foreseeable conditions. Consequently, all relevant product standards are to be revised to meet the new requirements introduced in these directives.

Both the above-mentioned directives introduce new wordings such as “conditions of use which can be reasonably foreseen” as well as “reasonably foreseeable conditions” which are considered synonymous phrases. These new wordings could be open to different interpretations. Therefore, there is a need for clarification of what “conditions of use which can be reasonably foreseen” and its synonyms “reasonably foreseeable conditions” as well as “reasonably foreseeable use” mean when dealing with the EMF compliance of different product categories and applications.

Reasonably foreseeable conditions not only take into account the user behaviour but also exposure conditions representative of all readily-predictable human and system behaviour including parameters such as the duration of exposure, time variability of transmitted power, simultaneously operated frequency bands, availability of manufacturer-approved accessories, and time averaging as defined in normative limits and exposure guidelines.

This document addresses only the EMF assessment perspective (both measurement and calculation).

This document refers to the wording of the underlying directives. The considerations are restricted to the EMF exposure assessment and not intended to be applied beyond EMF exposure assessment.

1 Scope

This document illustrates good practices and provides guidance with regard to the term “reasonably foreseeable use” as it relates to product compliance assessment standards concerning the exposure of humans to electric, magnetic and electromagnetic fields (EMF) as required in the Radio Equipment Directive (RED) and Low Voltage Directive (LVD). Other safety aspects and requirements from other directives are not covered by this document.

This document uses the term “reasonably foreseeable use”, which in the context of this document is interchangeable with the terms “reasonably foreseeable conditions” and “conditions of use which can be reasonably foreseen”. The document provides guidance that is not specific to individual equipment.

The document covers both occupational and general public use of equipment and also provides a rationale for the distinction between occupational use and use by the general public.

This document is limited to the standards in the scope of TC106X.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardisation at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.com/>

3.1

intended use

use of equipment in accordance with the information for use or user training provided by the manufacturer

Note 1 to entry: According to the RED, intended use requires proper installation and maintenance of radio equipment and that radio equipment has to be used for its intended purpose.

Note 2 to entry: Some usage of a product, shown for advertising purpose only, might not be intended to be repeated by the user and is therefore not part of the intended use.

[SOURCE: CENELEC Guide 32:2016, definition 4.8, modified; IEC 903-01-13, modified]

3.2

reasonably foreseeable use

intended use as well as use of equipment in conditions, which results from lawful and readily predictable human and system behaviour that can be anticipated by the manufacturer

Note 1 to entry: Use conditions explicitly excluded by the manufacturer in the information for use or user training, but nevertheless reasonably foreseeable under the assumption that the user has not read the information for use or has not followed training instructions, are deemed to represent reasonably foreseeable misuse and such conditions fall outside this definition.

Note 2 to entry: This document uses the term “reasonably foreseeable use”. In this context, the terms “reasonably foreseeable conditions”, “reasonably foreseeable use” and “conditions of use which can be reasonably foreseen” are interchangeable.