



National Standards Authority of Ireland

STANDARD RECOMMENDATION

**S.R. CLC/TR 50412-1:2007**

ICS 33.100.20

**POWER LINE COMMUNICATION  
APPARATUS AND SYSTEMS USED IN  
LOW-VOLTAGE INSTALLATIONS IN THE  
FREQUENCY RANGE 1,6 MHZ TO 30 MHZ --  
PART 1: GENERAL**

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TECHNICAL REPORT  
RAPPORT TECHNIQUE  
TECHNISCHER BERICHT

**CLC/TR 50412-1**

May 2007

ICS 33.100.20

English version

**Power line communication apparatus and systems  
used in low-voltage installations  
in the frequency range 1,6 MHz to 30 MHz -  
Part 1: General**

Equipements et systèmes de courant  
porteur en ligne utilisés dans les  
installations basse tension dans la bande  
de fréquence 1,6 MHz à 30 MHz -  
Part 1: Generalités

Kommunikationsgeräte  
und -systeme auf elektrischen  
Niederspannungsnetzen im  
Frequenzbereich 1,6 MHz bis 30 MHz -  
Teil 1: Allgemein

This Technical Report was approved by CENELEC on 2006-12-25.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

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## **Foreword**

This Technical Report was prepared by SC 205A/WG 10, Mains communicating systems, of Technical Committee CENELEC TC 205, Home and Building Electronic Systems (HBES).

The text of the draft was submitted to vote and was approved by CENELEC as CLC/TR 50412-1 on 2006-12-25.

## 1 Scope

This Technical Report applies to electrical equipment using signals in the frequency range 1,6 MHz to 30 MHz to transmit information on low voltage electrical systems, either on the public supply system or within installations in consumers' premises.

It is a Technical Report covering the different standards for HF Power Line produced by SC205A.

It points to related documents about:

- frequency bands, coexistence and filters;
- limits for the terminal output levels in the operating band;
- limits for conducted and radiated disturbance (product & installation EMC);
- measurement methods.

It does not specify the signal modulation methods nor the coding methods nor functional features. Environmental requirements and tests are not included.

The requirements have been selected so as to ensure an adequate level of EMC and EMI for all apparatus (e.g. including residential, commercial, light industrial and industrial premises).

The severity levels required by this Technical Report may not cover extreme cases which may occur in any location but with a low probability of occurrence. In special cases situations will arise where the level of disturbances may exceed the levels specified in this Technical Report (e.g. where a hand-held transmitter is used in proximity to an apparatus). In these instances special mitigation measures may be required.

## 2 Normative references

Void

## 3 Structure of the EN/TR 50412 series

The EN/TR 50412 series will consist of the following parts:

CLC/TR 50412-1	Power line communication apparatus and systems used in low-voltage installations in the frequency range 1,6 MHz to 30 MHz – Part 1: General
EN 50412-2-1	Power line communication apparatus and systems used in low-voltage installations in the frequency range 1,6 MHz to 30 MHz – Part 2-1: Residential, commercial and industrial environment - Immunity requirements
EN 50412-2-2 <sup>1)</sup>	Power line communication apparatus and systems used in low-voltage installations in the frequency range 1,6 MHz to 30 MHz – Part 2-2: Residential, commercial and industrial environment - Emission requirements

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<sup>1)</sup> At draft stage

EN 50412-3<sup>1)</sup>

Power line communication apparatus and systems used in low-voltage installations in the frequency range 1,6 MHz to 30 MHz – Part 3: Low-voltage decoupling filters – Generic specification

The EN/TR 50412 series have two standards in common with the EN 50065 series (Low Frequency): EN 50065-4-2 and EN 50065-4-7.

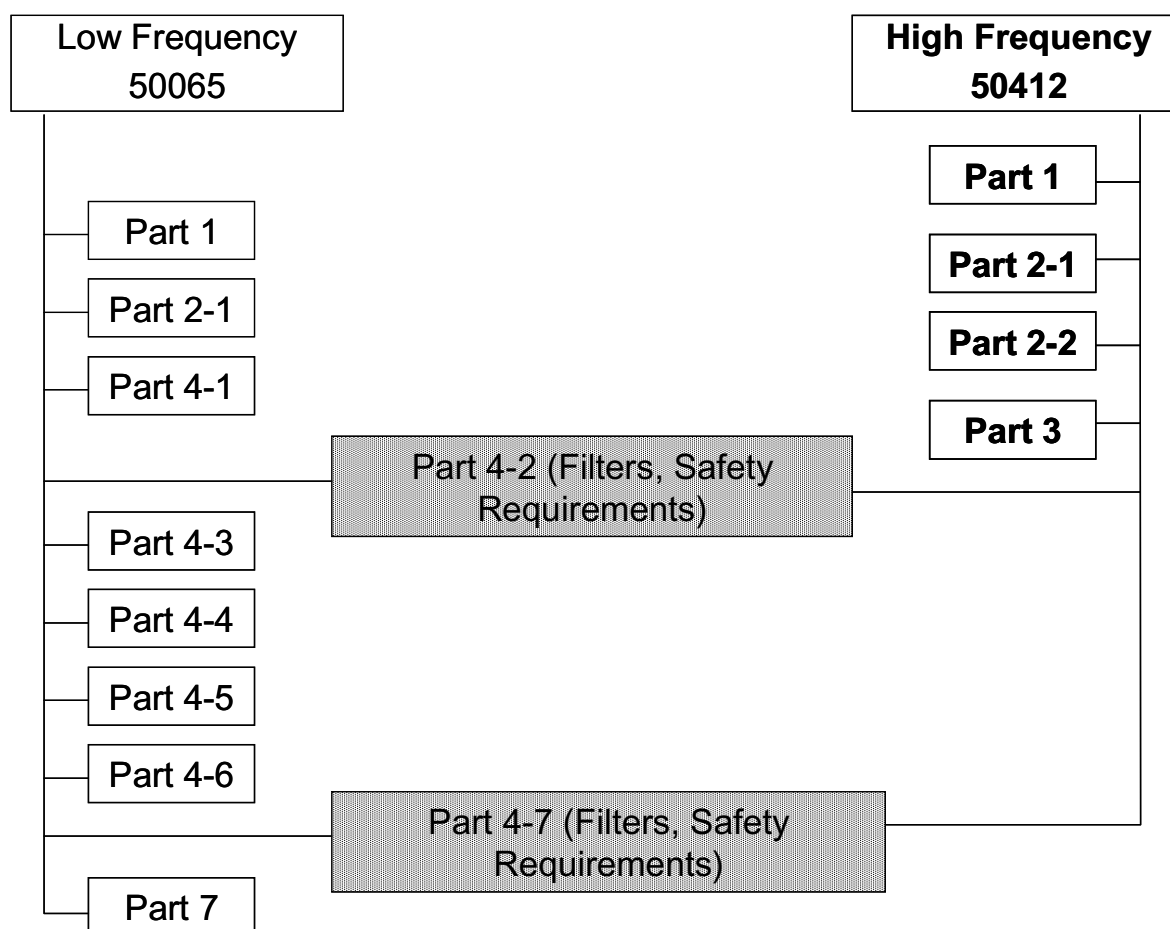


Figure 1 – 50412 and 50065 series

## 4 Definitions and abbreviations

### 4.1 Definitions

The definitions in IEC 60050-161 apply. The following particular definitions are used in this Technical Report.

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