

STN	Prístroje a systémy na komunikáciu po silnoprúdovom vedení v inštaláciach nízkeho napätia. Charakteristiky rádiového rušenia. Medze a metódy merania. Časť 1: Zariadenia na domáce použitie.	STN EN 50561-1 33 3320
------------	---	--

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/14

Obsahuje: EN 50561-1:2013

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50561-1

October 2013

ICS 33.040.60

English version

**Power line communication apparatus used in low-voltage installations -
Radio disturbance characteristics -
Limits and methods of measurement -
Part 1: Apparatus for in-home use**

Appareils de communication par courant
porteur utilisés dans les installations
basse tension -
Caractéristiques de perturbations
radioélectriques -
Limites et méthodes de mesure -
Partie 1: Appareils pour usage intérieur

Kommunikationsgeräte auf elektrischen
Niederspannungsnetzen -
Funkstöreigenschaften -
Grenzwerte und Messverfahren -
Teil 1: Geräte für die Verwendung im
Heimbereich

This European Standard was approved by CENELEC on 2013-10-09. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Contents	Page
Foreword	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Requirement for conducted disturbances at AC mains power ports	8
5 Requirement for conducted disturbances at telecommunication/network ports	9
6 Requirements for conducted disturbances and communications signals at PLC ports	9
6.1 General requirements	9
6.2 Specific requirements for dynamic frequency exclusion	10
7 Requirement for radiated disturbances	11
8 Measurement conditions for PLC ports	11
9 Measurement methods and procedures for PLC ports	11
9.1 Conducted unsymmetrical disturbances	11
9.2 Dynamic power control	13
9.3 Cognitive frequency exclusion	14
9.4 Conducted asymmetric disturbances	15
10 Measurement uncertainty	15
Annex A (normative) Excluded frequency ranges	16
Annex B (normative) Impedance Stabilisation Network (ISN) for asymmetric disturbance measurements	18
Annex C (informative) Cognitive frequency exclusion	20
C.1 Abbreviations	20
C.2 PLC apparatus broadcast radio detection	20
C.3 Verification of the cognitive frequency exclusion implementation	21
C.4 Test signals	23
Annex ZZ (informative) Coverage of Essential Requirements of EU Directives	24
Bibliography	25

Figure 1 — Minimum requirements for a dynamically excluded frequency range	11
Figure 2 — Test arrangement for measuring the PLC port with an AMN	12
Figure 3 — Example coupling system	13
Figure 4 — Example test equipment arrangement for measuring PLC transmit signal levels	14
Figure 5 — Example schematic of 100 Ω to 50 Ω Balun	14
Figure 6 — Test arrangement for measuring the conducted asymmetric disturbances from the PLC port...	15
Figure B.1 — Example circuit schematic for ISN	18
Figure B.2 — Arrangement for measurement of the ISN common mode decoupling attenuation (isolation) (excluding the Coupling System)	19
Table 1 — Limits for conducted disturbances	9
Table 2 — Maximum PLC transmit signal level between 1,606 5 MHz and 30 MHz	10
Table A.1 — Permanently excluded frequency ranges	16
Table A.2 — Permanent or dynamically excluded frequency ranges	17

Foreword

This document (EN 50561-1:2013) has been prepared by CLC/TC 210, "Electromagnetic compatibility (EMC)".

The following dates are fixed:

- latest date by which this document has to be implemented at (dop) 2014-10-09
national level by publication of an identical national standard
or by endorsement
- latest date by which the national standards conflicting with this (dow) 2016-10-09
document have to be withdrawn

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

The scope is extended to the whole radio-frequency range from 9 kHz to 400 GHz, but limits are formulated only in restricted frequency bands, which are considered sufficient to reach adequate emission levels to protect radio broadcast and telecommunication services and to allow other apparatus to operate as intended at reasonable distance.

Introduction

The European Committee for Electrotechnical Standardization (CENELEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent given in EN 50561-1:2013.

CENELEC takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured CENELEC that he is willing to negotiate licenses under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with CENELEC. Information may be obtained from:

Sony Cooperation
Hiroshi Kamitani
IP Alliance & Licensing Department
1-7-1 Konan, Minato-ku, Tokyo 108-0075, Japan
Tel: +81-3-6748-3505
Fax: +81-6748-3544
Hiroshi.Kamitani@jp.sony.com

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

1 Scope

This part of EN 50561 specifies limits and methods of measurement of radio disturbance characteristics for in-home communication apparatus that use the low-voltage power installation as the transmission medium. This part of EN 50561 applies to equipment that communicate over this medium in the frequency range 1,606 5 MHz to 30 MHz.

NOTE Similar equipment that communicate outside this frequency range is under study and will be covered by another European Standard.

Procedures are given for the measurement of signals generated by the equipment and limits are specified for the frequency range 9 kHz to 400 GHz. No measurement is required at frequencies where no limit is specified.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 55022:2010 + AC:2011, *Information technology equipment — Radio disturbance characteristics — Limits and methods of measurement (CISPR 22:2008, modified)*

EN 55016-1-1:2010, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 1-1: Radio disturbance and immunity measuring apparatus — Measuring apparatus (CISPR 16-1-1:2010 + corrigendum Oct. 2011)*

EN 55016-1-2:2004, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 1-2: Radio disturbance and immunity measuring apparatus — Ancillary equipment — Conducted disturbances (CISPR 16-1-2:2003)*

EN 55016-4-2:2004¹⁾, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 4-2: Uncertainties, statistics and limit modelling — Uncertainty in EMC measurements (CISPR 16-4-2:2003)*

The Radio Regulations, ITU, Edition of 2008

ITU-R Recommendation BS.560-3²⁾, *Radio-frequency protection ratios in LF, MF and HF broadcasting*

ITU-R Recommendation BS.703, *Characteristics of AM sound broadcasting reference receivers for planning purposes*

ITU-R Recommendation BS.1615³⁾, *"Planning parameters" for digital sound broadcasting at frequencies below 30 MHz*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

1) EN 55016-4-2:2004 is superseded by EN 55016-4-2:2011, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 4-2: Uncertainties, statistics and limit modelling — Measurement instrumentation uncertainty (CISPR 16-4-2:2011)*

2) BS.560-3 is superseded by BS.560-4, *Radio-frequency protection ratios in LF, MF and HF broadcasting*

3) BS.1615 is superseded by BS.1615-1, *"Planning parameters" for digital sound broadcasting at frequencies below 30 MHz*