SVENSK STANDARD SS-EN 62779-3

Fastställd	Utgåva	Sida	Ansvarig kommitté
2016-08-24	1	1 (1+13)	SEK Elektro-tekniska rådet

Halvledarkomponenter – Halvledargränssnitt för kommunikation genom människokroppen (HBC) – Del 3: Funktionstyp och driftförhållanden

Semiconductor devices –
Semiconductor interface for human body communication –
Part 3: Functional type and its operational conditions

Som svensk standard gäller europastandarden EN 62779-3:2016. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62779-3:2016.

Nationellt förord

Europastandarden EN 62779-3:2016

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62779-3, First edition, 2016 - Semiconductor devices - Semiconductor interface for human body communication - Part 3: Functional type and its operational conditions**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 31.080.01

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62779-3

June 2016

ICS 31.080.01

English Version

Semiconductor devices - Semiconductor interface for human body communication - Part 3: Functional type and its operational conditions (IEC 62779-3:2016)

Dispositifs à semiconducteurs - Interface à semiconducteurs pour les communications via le corps humain - Partie 3: Type fonctionnel et ses conditions d'utilisation (IEC 62779-3:2016)

Halbleiterbauelemente - Halbleiterschnittstelle zur Kommunikation über den menschlichen Körper - Teil 3: Funktionstyp und seine Betriebsbedingungen (IEC 62779-3:2016)

This European Standard was approved by CENELEC on 2016-05-31. 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.

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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

Ref. No. EN 62779-3:2016 E

SEK Svensk Elstandard

European foreword

The text of document 47/2282/FDIS, future edition 1 of IEC 62779-3, prepared by IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62779-3:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017-02-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-05-31

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Endorsement notice

The text of the International Standard IEC 62779-3:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 62779	NOTE	Harmonized in EN 62779 series.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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International Standard IEC 62779-3 has been prepared by IEC technical committee 47: Semiconductor devices.

The text of this standard is based on the following documents:

FDIS	Report on voting
47/2282/FDIS	47/2292/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62779 series, published under the general title *Semiconductor devices – Semiconductor interface for human body communication,* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The IEC 62779 series is composed of three parts as follows:

- IEC 62779-1 defines general requirements of a semiconductor interface for human body communication. It includes general and functional specifications of the interface.
- IEC 62779-2 defines a measurement method on electrical performances of an electrode that constructs a semiconductor interface for human body communication.
- IEC 62779-3 defines functional type of a semiconductor interface for human body communication, and operational conditions of the interface.

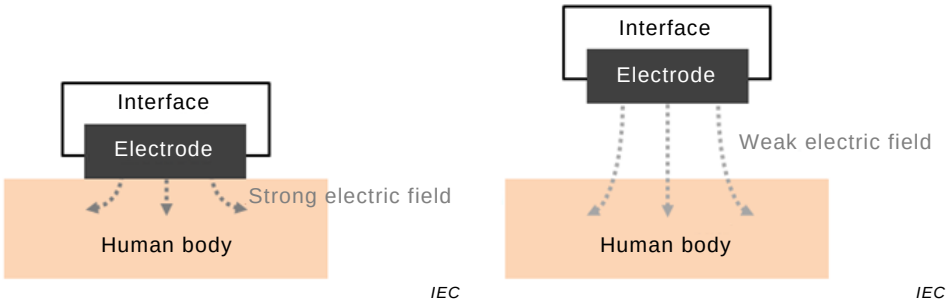
IEC 60748-4 gives requirements on interface integrated circuits for semiconductor devices. Especially, Chapter III, Section 7 in this standard is applied to interface circuits for a communication network using a general channel, such as wire or wireless. However, a channel for HBC is the human body whose channel properties, such as signal loss and delay profile, are different from the general channel, so the Chapter III, Section 7 cannot be applied to an interface for HBC. Furthermore, a standard on a communication protocol for body area network (BAN) – IEEE 802.15.6 (IEEE Std 802.15.6-2012), which includes a communication protocol for HBC was published in 2012. A common interface for HBC should be defined to secure communication compatibility between various devices that are implemented on/inside the human body or embedded in peripheral equipments.

SEMICONDUCTOR DEVICES – SEMICONDUCTOR INTERFACE FOR HUMAN BODY COMMUNICATION –

Part 3: Functional type and its operational conditions

1 Scope

This part of IEC 62779 series defines a functional type of a semiconductor interface for human body communication (HBC). An interface for HBC includes an electrode that is physical structure to transmit a data signal to the human body or receive a transmitted data signal from the body. An electrode directly contacts with the human body in many cases, but it cannot maintain the contact condition when an object, such as clothes, exists between the interface and the body or a near field communication is required; hence, depending on the contact condition, an interface for HBC can be categorized into a contact and non-contact type as shown in Figure 1. This part includes the categorization of the interface for HBC according to the contact condition; and performance parameters characterizing the interface of each category.



a) contact type **b) non-contact type**

Key

Human Body	Human body of a user using HBC	Electrode	Physical structure to transmit an electrical signal to the human body or receive a signal from the human body

Figure 1 – HBC interfaces

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.

None.