Irish Standard
I.S. EN 62779-3:2016

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

I.S. EN 62779-3:2016

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National Foreword

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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)

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

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European foreword

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IEC 62779	NOTE	Harmonized in EN 62779 series.

IEC 62779-3

Edition 1.0 2016-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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

Dispositifs à semiconducteurs – Interface à semiconducteurs pour les communications via le corps humain –
Partie 3: Type fonctionnel et ses conditions d'utilisation

IEC 62779-3:2016-04(en-fr)

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INTERNATIONAL STANDARD

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

Dispositifs à semiconducteurs – Interface à semiconducteurs pour les communications via le corps humain – Partie 3: Type fonctionnel et ses conditions d'utilisation

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONTENTS

FOREWORD....3
INTRODUCTION....5
1 Scope....6
2 Normative references....6
3 Terms and definitions....6
3.1 Interface type....7
3.2 Detection of HBC interface....7
3.3 Electromagnetic field coupling....7
3.4 Essential rating and characteristics....7
3.4.1 Signal transmission....7
3.4.2 Signal radiation....8
3.5 Other terms and definitions....8
4 Interface type....9
4.1 General specifications....9
4.1.1 Function....9
4.1.2 Implementation....10
4.1.3 Compatibility....10
4.2 Electrical specifications....10
4.2.1 Coupling specifications....10
4.2.2 Directional specifications....10
4.2.3 Transient specifications....11
4.3 Limiting values....11
4.3.1 Details to be stated....11
4.3.2 Electrical limiting values....11
4.3.3 Temperatures....11
4.3.4 Humidity....11
Bibliography....12

Figure 1 – HBC interfaces....6
Figure 2 – Block diagram of interface....9

Table 1 – Coupling specifications of a HBC interface....10
Table 2 – Direction specifications of a HBC interface....11
Table 3 – Transient specifications of a HBC electrode....11

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SEMICONDUCTOR DEVICES – SEMICONDUCTOR INTERFACE FOR HUMAN BODY COMMUNICATION –

Part 3: Functional type and its operational conditions

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

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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.

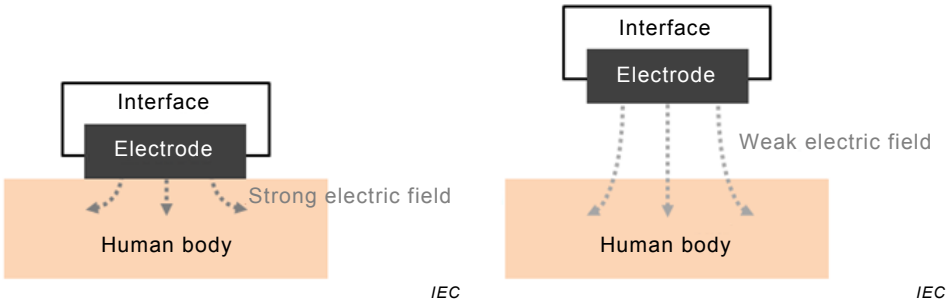
IEC 60748-4 gives requirements on interface integrated circuits for semiconductor devices. Especially, Chapter III, Section 7 in this standard is applied to interface circuits for a communication network using a general channel, such as wire or wireless. However, a channel for HBC is the human body whose 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.

3 Terms and definitions

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