Irish Standard
I.S. EN 62604-2:2012

Surface Acoustic Wave (SAW) and Bulk Acoustic Wave (BAW) duplexers of assessed quality -- Part 2: Guidelines for the use (IEC 62604-2:2011 (EQV))

I.S. EN 62604-2:2012

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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English version

Surface Acoustic Wave (SAW) and Bulk Acoustic Wave (BAW) duplexers of assessed quality - Part 2: Guidelines for the use

(IEC 62604-2:2011)

Duplexeurs à ondes acoustiques de surface (OAS) et à ondes acoustiques de volume (OAV) sous assurance de la qualité -
Partie 2: Lignes directrices d'utilisation
(CEI 62604-2:2011)

Oberflächenwellen-(OFW-) und Volumenwellen-(BAW-)Duplexer bewerter Qualität – Teil 2: Leitfaden für die Anwendung
(IEC 62604-2:2011)

This European Standard was approved by CENELEC on 2012-01-02. 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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CENELEC

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

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Foreword

The text of document 49/974/FDIS, future edition 1 of IEC 62604-2, prepared by IEC/TC 49, "Piezoelectric, Dielectric and Electrostatic Devices and Associated Materials for FrequencyControl, Selection and Detection" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62604-2:2012.

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)	2012-10-02
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-01-02

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

Endorsement notice

The text of the International Standard IEC 62604-2:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61019-1:2004	NOTE Harmonized as EN 61019-1:2005 (not modified).
IEC 62047-7:2011	NOTE Harmonized as EN 62047-7:2011 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60862-1	2003	Surface acoustic wave (SAW) filters of assessed quality - Part 1: Generic specification	EN 60862-1	2003
IEC 60862-2	2002	Surface acoustic wave (SAW) filters of assessed quality - Part 2: Guidance on use	EN 60862-2	2002
IEC 61019-2	2005	Surface acoustic wave (SAW) resonators - Part 2: Guide to the use	EN 61019-2	2005

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SURFACE ACOUSTIC WAVE (SAW) AND BULK ACOUSTIC WAVE (BAW) DUPLEXERS OF ASSESSED QUALITY –

Part 2: Guidelines for the use

FOREWORD

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International Standard IEC 62604-2 has been prepared by IEC technical committee 49: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection.

NOTE In this standard, SAW and BAW duplexers are treated simultaneously because both duplexers are used in the same manner especially in mobile phones and have same requirements of characteristics, test method and so on.

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

FDIS	Report on voting
49/974/FDIS	49/985A/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 of IEC 62604 series under the general title: *Surface acoustic wave (SAW) and bulk acoustic wave (BAW) duplexers of assessed quality,* 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 web site 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.

SURFACE ACOUSTIC WAVE (SAW) AND BULK ACOUSTIC WAVE (BAW) DUPLEXERS OF ASSESSED QUALITY –

Part 2: Guidelines for the use

1 Scope

This part of IEC 62604 concerns the duplexers, which can separate receiving signal from transmitting signal and are key components for two-way radio communications. They are generally used in mobile phones using CDMA systems such as N-CDMA, W-CDMA / Universal Mobile Telecommunication System (UMTS). So far, dielectric duplexers have been mainly used. However, recently SAW duplexers, which are utilized surface acoustic wave (SAW), are becoming popular and replacing the dielectric duplexers year by year in recent mobile phones, because of their advantage of small size, light weight and good electrical performances. In addition to SAW duplexers, BAW duplexers, which are utilized bulk acoustic wave (BAW), are also becoming in the spotlight and popular because of their higher *Q* property and better performances especially in PCS band.

It is neither the aim of these guidelines to explain theory, nor to attempt to cover all the eventualities which may arise in practical circumstances. These guidelines draw attention to some of the more fundamental questions, which should be considered by the user before he places an order for SAW and BAW duplexers for a new application. Such a procedure will be the user's insurance against unsatisfactory performance. Because SAW and BAW duplexers have very similar performance for the usage, it is useful and convenient for users that both duplexers are described in one standard.

Standard specifications, such as those of IEC of which these guidelines form a part, and national specifications or detail specifications issued by manufacturers, will define the available combinations of centre frequency, pass bandwidth and insertion attenuation for each of transmitting and receiving filters and isolation level between transmitting and receiving ports, etc. These specifications are compiled to include a wide range of SAW and BAW duplexers with standardized performances. It cannot be over-emphasized that the user should, wherever possible, select his duplexers from these specifications, when available, even if it may lead to making small modifications to his circuit to enable the use of standard duplexers. This applies particularly to the selection of the normal frequency.

2 Normative references

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

IEC 60862-1:2003, *Surface acoustic wave (SAW) filters of assessed quality – Part 1: Generic specification*

IEC 60862-2:2002, *Surface acoustic wave (SAW) filters of assessed quality – Part 2: Guide to the use*

IEC 61019-2:2005, *Surface acoustic wave (SAW) resonators – Part 2: Guide to the use*