Radio frequency (RF) bulk acoustic wave (BAW) filters of assessed quality - Part 2: Guidelines for the use

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Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 21.09.2012.	Date of Availability of the European standard is 21.09.2012.
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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62575-2

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English version

Radio frequency (RF) bulk acoustic wave (BAW) filters of assessed quality - Part 2: Guidelines for the use

(IEC 62575-2:2012)

Filtres radiofréquences (RF) à ondes acoustiques de volume (OAV) sous assurance de la qualité - Partie 2: Lignes directrices d'emploi (CEI 62575-2:2012)

Volumenwellenfilter für Hochfrequenzanwendungen (HFBAW-Filter) - Teil 2: Leitfaden für die Anwendung (IEC 62575-2:2012)

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

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Foreword

The text of document 49/994/FDIS, future edition 1 of IEC 62575-2, prepared by IEC/TC 49 "Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62575-2:2012.

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)	2013-05-29
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-08-29

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Endorsement notice

The text of the International Standard IEC 62575-2:2012 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 60862-1:2003	NOTE	Harmonised as EN 60862-1:2003 (not modified).
IEC 62047-7:2011	NOTE	Harmonised as EN 62047-7:2011 (not modified).

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INTRODUCTION

RF BAW filters are now widely used in mobile communications. While the RF BAW filters have various specifications, many of them can be classified within a few fundamental categories.

Standard specifications, given in IEC 62575, and national specifications or detail specifications issued by manufacturers, define the available combinations of nominal frequency, pass bandwidth, ripple, shape factor, terminating impedance, etc. These specifications are compiled to include a wide range of RF BAW filters with standardized performances. It cannot be over-emphasized that the user should, wherever possible, select his RF BAW filters from these specifications, when available, even if it may lead to making small modifications to his circuit to enable standard filters to be used. This applies particularly to the selection of the nominal frequency.

This standard has been compiled in response to a generally expressed desire on the part of both users and manufacturers for guidance on the use of RF BAW filters, so that the filters may be used to their best advantage. To this end, general and fundamental characteristics have been explained in this part of IEC 62575.

It is not the aim of this standard to explain theory, nor to attempt to cover all the eventualities which may arise in practical circumstances. This standard draws attention to some of the more fundamental questions, which should be considered by the user before he places an order for an RF BAW filter for a new application. Such a procedure will be the user's insurance against unsatisfactory performance.

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RADIO FREQUENCY (RF) BULK ACOUSTIC WAVE (BAW) FILTERS OF ASSESSED QUALITY –

Part 2: Guidelines for the use

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1 Scope

This part of IEC 62575 gives practical guidance on the use of RF BAW filters which are used in telecommunications, measuring equipment, radar systems and consumer products. General information, standard values and test conditions will be provided in a future IEC standard[1].

This part of IEC 62575 includes various kinds of filter configurations, of which the operating frequency range is from approximately 500 MHz to 10 GHz and the relative bandwidth is about 1 % to 5 % of the centre frequency.

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 Technical considerations

It is of prime interest to a user that the filter characteristics should satisfy a particular specification. The selection of tuning networks and RF BAW filters to meet that specification should be a matter of agreement between user and manufacturer.

Filter characteristics are usually expressed in terms of insertion attenuation as a function of frequency, as shown in Figure 1. A standard method for measuring insertion attenuation is described in IEC 60862-1:2003, 5.5.2. Insertion attenuation characteristics are further specified by nominal frequency, minimum insertion attenuation or maximum insertion attenuation, pass-band ripple and shape factor. The specification is to be satisfied between the lowest and highest temperatures of the specified operating temperature range and before and after environmental tests.

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[1] This standard (under consideration) is expected to bear the reference number IEC 62575-1.