

# INTERNATIONAL STANDARD

**Semiconductor devices – Semiconductor devices for energy harvesting and generation –  
Part 6: Test and evaluation methods for vertical contact mode triboelectric energy harvesting devices**



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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## SEMICONDUCTOR DEVICES – SEMICONDUCTOR DEVICES FOR ENERGY HARVESTING AND GENERATION –

### Part 6: Test and evaluation methods for vertical contact mode triboelectric energy harvesting devices

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

FDIS	Report on voting
47/2573/FDIS	47/2585/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 62830 series, published under the general title *Semiconductor devices – Semiconductor devices for energy harvesting and generation*, 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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- withdrawn,
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# SEMICONDUCTOR DEVICES – SEMICONDUCTOR DEVICES FOR ENERGY HARVESTING AND GENERATION –

## Part 6: Test and evaluation methods for vertical contact mode triboelectric energy harvesting devices

### 1 Scope

This part of IEC 62830 defines terms, definitions, symbols, and specifies configurations and test methods to be used to evaluate and determine the performance characteristics of vertical contact mode triboelectric energy harvesting devices for practical use. This document is applicable to energy harvesting devices as power sources for wearable devices and wireless sensors used in healthcare monitoring, consumer electronics, general industries, military and aerospace applications without any limitations on device technology and size.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
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#### 3.1 General terms

##### 3.1.1

##### **vertical contact**

physical touching of two objects having relative movement at right angles to their planes at the point of contact

Note 1 to entry: A vertical contact mode triboelectric energy harvester which converts physical contact to electricity and is comprised of dielectric materials, surface electrode, external load, and air gap between dielectric materials, is shown in Figure 1.

Note 2 to entry: The theories for four working modes of a contact triboelectric energy harvester are shown in Figure 2.