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INTERNATIONAL STANDARD

colour inside

Audio, video and related equipment – Determination of power consumption – Part 5: Set top boxes (STB)

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AUDIO, VIDEO AND RELATED EQUIPMENT – DETERMINATION OF POWER CONSUMPTION –

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FOREWORD

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International Standard IEC 62087-5 has been prepared by technical area 12: AV energy efficiency and smart grid applications, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This first edition of IEC 62087-5 cancels and replaces Clause 8 of IEC 62087:2011. This standard together with IEC 62087-1 to IEC 62087-4 and IEC 62087-6 cancels and replaces IEC 62087:2011. This International Standard constitutes a technical revision.

This edition does not include any significant technical changes with respect to Clause 8 of IEC 62087:2011. It was developed as a member of the new multipart series of IEC 62087 standards.

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

FDIS	Report on voting
100/2470/FDIS	100/2500/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.

A list of all parts in the IEC 62087 series, published under the general title *Audio, video, and related equipment – Determination of power consumption*, can be found on the IEC website.

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

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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This part of IEC 62087 specifies methods for measurement of the power consumption of set top boxes for consumer use.

IEC 62087:2011[1] (third edition) revises methods for measuring power consumption of set top boxes in the On mode and Partial On modes. These modes correspond to the active modes which are defined in IEC 62542:2013.

This standard has been divided into multiple parts. At the time of publication of this part, the following parts are planned or published:

– Part 1: General
– Part 2: Signals and media
– Part 3: Television sets
– Part 4: Video recording equipment
– Part 5: Set top boxes (STB)
– Part 6: Audio equipment

[1] IEC 62087:2011, *Methods of measurement for the power consumption of audio, video and related equipment*

AUDIO, VIDEO AND RELATED EQUIPMENT – DETERMINATION OF POWER CONSUMPTION –

Part 5: Set top boxes (STB)

1 Scope

This part of IEC 62087 specifies methods of measurement for the power consumption of set top boxes (STBs). It specifies the different modes of operation which are relevant for measuring power consumption.

The methods of measurement are applicable only for equipment which can be connected to the mains.

The measuring conditions in this standard represent the normal use of the equipment and may differ from specific conditions, as specified, for example, in safety standards.

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.

IEC 60107-1:1997, *Methods of measurement on receivers for television broadcast transmissions – Part 1: General conditions – Measurements at radio and video frequencies*

IEC 62087-1:2015, *Audio, video, and related equipment – Methods of measurement for power consumption – Part 1: General*

IEC 62216:2009, *Digital terrestrial television receivers for the DVB-T system*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1
additional functions
functions that are not required for the basic operation of the equipment

3.1.2
buffering
temporary storage of video and audio streams in some form of memory in order to perform time shifting functions

3.1.3
cable TV STB
STB whose principal function is to receive and decode television signals from a broadband, hybrid fiber/coaxial, community cable distribution system and deliver them to a display and/or recording device

3.1.4
conditional access module
plug-in module that enables conditional access

3.1.5
data over the cable service interface specification
DOCSIS
international suite of standards that define interface requirements for cable modems involved in high-speed data and video/audio content distribution over cable television systems

3.1.6
internet protocol TV STB
STB whose principal function is to receive and decode television/video signals encapsulated in IP packets and to deliver them to a display and/or recording device

3.1.7
multi-room STB
STB that is capable of providing 2 or more independent video and audio streams either direct to display devices or to thin clients/remote

3.1.8
satellite TV STB
STB whose principal function is to receive and decode television signals from satellites and deliver them to a display and/or recording device

3.1.9
set top box
STB
equipment for the reception of television and related services (e.g. radio) from terrestrial, cable, satellite, or broadband networks which are decoded and delivered to a display and/or recording device

3.1.10
special functions
functions that are related to, but not required for, the basic operation of the device

3.1.11
television set
TV
equipment for the reception and display of television broadcast and similar services for terrestrial, cable, satellite and broadband network transmission of analogue and/or digital signals

Note 1 to entry: A television set may include additional functions that are not required for its basic operation.

3.1.12
terrestrial TV STB
STB whose principal function is to receive and decode television signals over the air (OTA) and deliver them to a display and/or recording device

3.1.13
thin-client STB
remote STB
STB that is designed to interface between a multi-room capable STB and a TV (or other output device) that has no ability to interface with the service provider directly and relies solely on a multi-room box STB for content

Note 1 to entry: Any STB that meets the definition of cable TV, satellite TV, Internet protocol TV or terrestrial TV STB is not a thin-client/remote STB.

3.1.14
time shifting
capability of a device to allow playback type functions with real time broadcast

Note 1 to entry: Such functions may include fast forward, review (rewind), pause and slow motion.

3.1.15
video recording equipment
equipment for the recording and reproduction of video and audio signals on a recording medium

EXAMPLES Video cassette recorder (VCR) and digital versatile disc (DVD) player or recorder.

Note 1 to entry: Equipment with only playback function is included as well.

3.2 Abbreviations

′	Prime
AC	Alternating Current
BD	Blu-ray Disc TM[2]
DC	Direct Current
DVD	Digital Versatile Disc
IP	Internet Protocol
HD	High Definition (720 p or better)
HDD	Hard Disk Drive
LNB	Low Noise Block converter
MPEG	Moving Picture Experts Group
OTA	Signals Over the Air
RF	Radio Frequency
SD	Standard Definition
STB	Set Top Box
UUT	Unit Under Test
VCR	Video Cassette Recorder

4 Specification of operating modes and functions

4.1 General

Table 1 contains the operating modes and functions for set top boxes.

4.2 Auto power down function

An auto power down feature may be implemented on a STB to power down into a Partial On mode after a predetermined time. Such a feature should be referred to as auto power down.

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2 Blu-ray Disc™ is a trade mark of the Blu-ray Disc Association. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named.