IEC TR 63274

Edition 1.0 2021-03

TECHNICAL REPORT

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Power consumption of high dynamic range television sets

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.160.40

ISBN 978-2-8322-9512-0

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POWER CONSUMPTION OF HIGH DYNAMIC RANGE TELEVISION SETS

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IEC TR 63274, which is a Technical Report, has been prepared by Technical Area 19: Environmental and energy aspects for multimedia systems and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this Technical Report is based on the following documents:

DTR	Report on voting
100/3348/DTR	100/3397/RVDTR

Full information on the voting for the approval of this Technical Report can be found in the report on voting indicated in the above table.

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
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- amended.

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INTRODUCTION

High dynamic range (HDR) video is emerging as a new technology that affects the entire video ecosystem from production and processing, through to distribution and presentation. HDR television sets potentially have higher peak luminance level capabilities, and HDR video signals can represent pictures with much higher luminance levels than was the case in traditional analogue and digital video systems.

Current television set power consumption measurement methods, including those standardized in the IEC 62087 series (see [1][1], [2]and [3]), consider only televisions that accept a traditional, standard dynamic range (SDR) signal. It is likely that an HDR-capable television's power consumption will differ when presented with an HDR signal versus an SDR signal.

IEC TC100 TA19 has identified a standardization opportunity related to the method of measuring the power consumption of HDR television sets, including the development of a related HDR test signal.

This document assesses the current HDR technology for the parameters relevant for TV power consumption and sets the groundwork for the subsequent development of a measurement standard for the power consumption of HDR TV sets.

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1 Numbers in square brackets refer to the Bibliography.

POWER CONSUMPTION OF HIGH DYNAMIC RANGE TELEVISION SETS

1 Scope

This document introduces high dynamic range video technology, describes current television set power consumption measurement methods, discusses the HDR TV market, analyses HDR TV power measurement challenges, and considers a path forward for HDR TV power measurement standards development.

2 Normative reference

There are no normative references in this document.