# ANSI/CTA Standard

## Methodology of Measurements for Features in Sleep Tracking Consumer Technology Devices and Applications

## ANSI/CTA/NSF-2052.2

September 2017

ANSI Accredited Standards Developer

National Sleep Foundation

Consumer Technology Association™

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(Formulated under the cognizance of the CTA **R6.4 Health & Fitness Technology Subcommittee**.)

Published by
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Technology & Standards Department
www.cta.tech

## FOREWORD

This standard was developed by the Consumer Technology Association's R6.4 Health and Fitness Technology subcommittee WG 1 Sleep Monitors.

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# Methodology of Measurements for Features in Sleep Tracking Consumer Technology Devices and Applications

## 1 Scope

This voluntary standard defines the methodology for measuring elemental parameters used in consumer technology devices and applications designed to evaluate sleep. The measures covered within this standard are contained within ANSI/CTA-2052.1, *Definitions and Characteristics for Wearable Sleep Monitors*.

## 2 References

### 2.1 Normative References

The following standards contain provisions that, through reference in this text, constitute normative provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed here.

#### 2.1.1 Normative Reference List

1. ANSI/CTA/NSF-2052.1, *Definitions and Characteristics for Wearable Sleep Monitors Performance Criteria*

#### 2.1.2 Normative Reference Acquisition

1. Consumer Technology Association, www.cta.tech

### 2.2 General Remarks/Caveats

NOTE 1: Sustained is a general term and is not quantified because the specific criteria will be sensor and sensitivity dependent. However, the term is used here to differentiate it from transient changes.

## 3 Description of Measures

- Directly Measured (D)
- Inferred from measure indicated (I)
- Standard for sleep medicine (S)
- Calculated from other measures (C)
- Newly defined terms (N)
- Standard technique using EEG, EOG, and EMG (PSG)
- Heart Rate, Respiration, Blood Pressure, Electrodermal Activity, Pulse Volume, Pulse Transit Time (ANS)
- Core Body Temperature (Body Temp)