

STB Power Measurement: Standards and Test Procedures

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STB Power Measurement

EXISTING STANDARDS AND TEST PROCEDURES

- CEA-2013: *Digital STB Background Power Consumption*
 - Introduced basic definitions and terms
 - Established a “Sleep” state maximum power allowance
- CEA-2022: *Digital STB Active Power Consumption Measurement*
 - Defined ON state and test configuration
 - No levels established, test procedure only
- IEC 62087:2008: *Methods of measurement for the Power Consumption of Audio, Video and related equipment*
 - New measurement parameters defined (terminology)
 - Supports multiple tuner energy impact
 - Defines multiple “Standby” and “ON” modes
 - Source content defined as highest resolution and most complex coding standard supported by targeted broadcast system

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EXISTING STANDARDS AND TEST PROCEDURES

- *CSA C380-11: Test procedure for the measurement of energy consumption of set-top boxes (STBs)*
 - Integrated IEC 62087 parameters and test procedures
 - NA Market focus
 - Appendix maps IEC parameters to ENERGY STAR V3 terms
 - Does not specify mode duty cycles
 - Does not specify allowances
- *ENERGY STAR V3 – Test Procedure*
 - References C380-08
 - Specifies mode duty cycles including specific DVR test requirements
 - Specifies TEC calculations and annual energy use allowances
 - Specifies “Allowances” for added functionality beyond base assumptions
 - Specifies base annual energy use by STB type (Cable, IPTV, etc.)

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NEW STANDARDS (IN-PROCESS)

- CEA-2043: *Set-top Box (STB) Power Measurement*
 - Summer/Fall 2012
 - Replaces CEA-2013 and CEA-2022
 - A US version of CSA C380-11
 - Adopts IEC 62087 terms as in CSA C380-11
 - Adds specific multi-room STB test including Thin-Client STBs
 - Specifies source content attributes to support live system testing
 - Appendix maps IEC parameters to ENERGY STAR V3 terms
 - Does not specify duty cycles or allowances, test procedure only
- US DOE Test Procedure (Standard)
 - Summer 2013
 - Introduces STB Classes (will not adopt “Allowances”)
 - Tests for active, standby, and off power modes
 - Mode duty cycles to represent “typical household usage”
 - Investigating using a “live” service for testing

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THANK YOU

Questions?