





ENERGY STAR®

Version 7.0 Draft 2 Televisions Stakeholder Webinar


September 16, 2014

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ENERGY STAR Products Labelling Program

  Learn more at energystar.gov

Webinar Details



- Webinar slides and related materials will be available on the Televisions Web page:
 - http://www.energystar.gov/products/spec/televisions_specification_version_7_0_pd
- Audio provided via teleconference:
 - Call in:** +1 (877) 423-6338 (U.S.)
+1 (571) 281-2578 (International)
 - Code:** 456417#
 - Phone lines will remain open during discussion
 - Please mute line unless speaking
 - Press *6 to mute and *6 to un-mute your line

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Webinar Agenda



Time	Topic
2:00 - 2:15	Introduction
2:15 – 3:00	Definitions, Scope, General Requirements, QPX Template
3:00 – 3:30	Luminance Requirements
3:30 – 4:00	Dataset Overview and On Mode
4:00- 4:30	Standby Mode, Download Acquisition Mode
4:30 – 5:00	Open Discussion, Next Steps



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Introductions



- **Verena Radulovic**
U.S. Environmental Protection Agency
- **Jeremy Domm**
U.S. Department of Energy
- **Matt Malinowski**
ICF International
- **Rachel Unger**
ICF International
- **Allen Tsao**
Navigant Consulting
- **Tom Bolioli**
Terra Novum



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Activities to Date



- **December 2, 2013:** Version 7.0 Specification Revision Launch Memo Released,
 - December to March: data sharing and assembly
- **June 2, 2014:** Draft 1 Specification released
 - June 17 Stakeholder Webinar
- **September 2, 2014:** Draft 2 Specification released
- **Today, September 16: Overview of Draft 2 Specification**



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Written Comments



In addition to making verbal comments during today's call, stakeholders are encouraged to submit written comments to televisions@energystar.gov.

Comment Deadline

Monday, September 29, 2014



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Webinar Agenda



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Definitions: Removed in Draft 2



- EPA removed the following definitions:

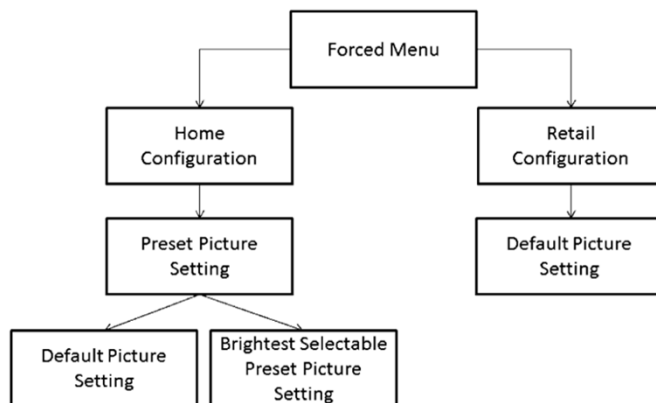
Definitions	Rationale
Point of Deployment Module	- Market presence rapidly declining
High Efficiency Video Processing	- Assume that UHD TV with Thin Client Capability has HEVC
Wake-on-LAN (WoL)	- Functionality falls under Full Network Connectivity - Stakeholders did not comment that it consumes additional power over general network presence



Definitions: Picture Settings



- EPA included the following diagram from the Final Rule for TVs with a forced menu

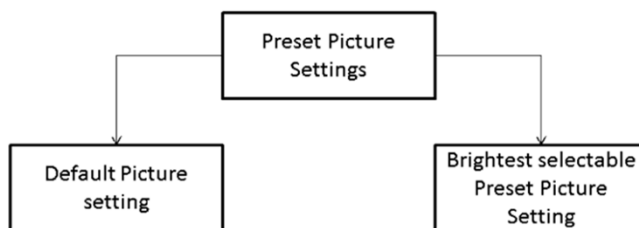


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Definitions: Picture Settings



- EPA included the following diagram from the Final Rule for TVs without a Forced Menu



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Definitions: Resolution



- Based on stakeholder feedback and review of available product information, EPA is now proposing to include Native Vertical Resolution in Draft 2
 - EPA also revised the definition of Native Vertical Resolution to specify that only visible physical pixels be counted and not those obscured by the bezel or other components

Native Vertical Resolution: The number of visible physical pixels along the vertical axis of the TV (e.g., a TV with a screen resolution of 1920 x 1080 (horizontal x vertical) would have a Native Vertical Resolution of 1080).

Effective Vertical Resolution: The number of pixels (or lines) that can be separately controlled into adequately distinguished lines across the screen. The measure of the ability to distinguish the lines/pixels is based on an objective contrast measurement standard.

Definitions: Ultra HD



- In Draft 1, EPA proposed the following definition for Ultra High Definition:

Ultra High Definition (UHD): The capability to display video signals with a minimum output resolution of 3840x2160 in progressive scan mode at minimum frame rate of 24 fps.

- Stakeholders suggested that EPA:
 - Make the definition clear and unambiguous; and
 - Reference industry standards such as CEA

Definitions: Ultra HD



- From the Consumer Electronics Association

A display system may be referred to as Ultra High-Definition if it meets the following minimum performance attributes:

Display Resolution—Has at least 8 million active pixels, with at least 3840 horizontally and at least 2160 vertically.

Aspect Ratio—The width to height ratio of the display's native resolution is 16:9 or wider.

Upconversion – The display is capable of upscaling HD video and displaying it at Ultra High-Definition display resolution.

Digital Input – Has one or more HDMI inputs supporting at least 3840x2160 native content resolution at 24p, 30p, & 60p frames per second. At least one of the 3840x2160 HDMI inputs shall support HDCP v2.2 or equivalent content protection.

Colorimetry – Processes 2160p video inputs encoded according to ITU-R BT.709 color space, and may support wider colorimetry standards.

Bit Depth – Has a minimum bit depth of 8 bits.



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Definitions: Ultra HD



- In Draft 2, EPA proposes removing the Ultra HD definition and applying criteria **based on Native Vertical Resolution of at least 2160 lines** noting that:
 - Industry standards are subject to change
 - Challenging to confirm and collect data for an extensive list of performance attributes



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Definitions: Power Overhang State



- EPA introduced **Power Overhang State** in 2010 primarily to:
 - Allow projection lamps to cool-down; and
 - Capture quick-start and instant-on functionality

On Mode: The power mode in which the product is connected to a mains power source, has been activated, and is providing one or more of its principal functions.

Power Overhang State: A limited-duration power state within On Mode that is intended to facilitate a product's rapid return to full On Mode functionality or provide time for the product to perform functions required for safe shutdown (e.g., operation of cooling fans) after being switched into a low power state by the user.



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Definitions: Power Overhang State



- EPA is proposing to remove to **Power Overhang State** in V7 because:
 - This state does not “provide one or more principal functions” of On Mode;
 - Very small subset of models reported Power Overhang in Version 6; and
 - Most functions of Power Overhang State, including quick start, should now be captured in one of the Standby Modes, namely Standby-Active, Low or Standby-Active, High.
- Summary of V6 data for 20 models (1 certified in 2014, 19 certified in 2013):


Primary Purpose	# of models	# of Partners	Avg. Power	Avg. Time
MCU operating	12	3	5 W	0 min
TV firmware updates	1	1	75.9 W	2 min
Quick Start	7	2	24 W	120 min



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Definitions: Human Interface



- Based on discussions with stakeholders and review of available information, human interface features do not appear to require significant additional power
- 
- EPA will allow stakeholders to report these features but will not include testing or additional allowances under V7

Gesture Recognition: Ability to recognize non-verbal communication through a movement of the body, head, or limbs to express or emphasize an idea, sentiment, or command.

Voice Recognition: Ability to recognize spoken words or phrases and to convert said communication into text or commands to which meaning has been assigned.



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Scope: Exclusions



- Given stakeholder support, EPA removed the following exclusion under Draft 2:

Products that do not have a power state meeting the definition of Standby-Passive Mode (e.g., Public Alert CEA-2009-A certified models which offer 24/7/365 active public alert features)



- EPA is unaware of TVs with this certification
 - The functionalities of always-on active public alert could be captured under Standby-Active, Low rather than excluding these types of products entirely
- **EPA clarifies that TVs without Standby-Passive, Mode are eligible for ENERGY STAR certification under Version 7.0**



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Scope: Exclusions



- Under Draft 2, EPA is still proposing to exclude battery-powered TVs:
 - There are currently no ENERGY STAR certified battery-powered TVs
 - Represents small portion of overall market and components optimized to extend battery life
 - TVs with a Main Battery are tested with the ENERGY STAR Test Method for Televisions, Rev. Aug-2010; however, the procedures of this test method are not aligned well with the parameters and reporting requirements under Appendix H, leading to results that cannot be compared across products

Section 2.2 Excluded Products:

- i. Televisions with a Main Battery that enables operation without connected mains power.



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Gen. Requirements: Settings



- Product shall still display information that Default Picture Setting qualifies for ENERGY STAR (Section 3.2.4. i)
- **NEW in Draft 2:** EPA is proposing that Partners be allowed to indicate other Preset Picture Settings also able to meet ENERGY STAR requirements

3.2.4 Preset Picture Setting Menu:

- ii. The product may optionally display on-screen information indicating that factory-configured picture settings other than the Default Picture Setting meet ENERGY STAR if a TV in those settings could also meet the Section 3.3 On Mode Requirements. For purposes of ENERGY STAR certification, Partners shall report the presence of these settings to the EPA-recognized certification body and maintain internal documentation. EPA reserves the right to request this documentation at any time. The settings shall not be third-party tested or reviewed during certification and verification processes.

Gen. Requirements: Settings



- EPA is proposing that TVs display on-screen information if Standby settings are altered from the default or as-tested state similar to the existing Preset Picture Setting Menu requirement

3.2.5 Standby-Passive Mode and Standby-Active, Low Mode Settings: If users can select and enable Standby-Passive Mode or Standby-Active Low Mode functions from a display prompt in On Mode or a settings menu other than a Forced Menu that may differ in power consumption from the default, as-tested Home Configuration, the product shall:

- Display on-screen information that enabling certain optional features and functionalities (e.g., instant-on) in Standby-Active, Low Mode other than those included in the Home Configuration or default as-tested settings may increase energy consumption beyond the limits required for ENERGY STAR certification.
- Based on stakeholder input, EPA is no longer considering requiring a menu selection for a discrete time period within a 24-hr cycle for the feature to be enabled.



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Gen. Requirements: Standby-Active, High Mode



- EPA is, however, proposing that the TV return to the default Standby-Active, Low Mode following a firmware or maintenance update
- This ensures:
 - The TV returns to low power state when not providing a useful function; and
 - The default as-tested state is reflective of the TV's operation even after updates are made during the product's lifetime
- Consistent with Set-top Box specification

3.2.7 Standby-Active, High Mode Capability: TVs with Standby-Active, Low Mode shall automatically return to the default as-tested Standby-Active, Low Mode following a manufacturer firmware update or other maintenance operation in Standby Active, High Mode within a time period **no greater than 15 minutes** from the completion of said update/maintenance operation.



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Gen. Requirements: Standby-Active, High Mode



Clarification for requirement:

- Partner to report time in which product returns to lower power state to certification bodies, but documentation not reviewed during certification.
- EPA reserves right to review documentation at any time.

QPX Reporting Requirements



- With Draft 2, EPA has provided a Draft Qualified Product Exchange (QPX) reporting template for stakeholder review:
 - EPA-recognized certification bodies use the template to submit certified product to EPA
 - Basic power and characteristics fields appear on the ENERGY STAR Certified Products List while additional data indicate products meet criteria and informs future specification development
 - EPA welcomes stakeholder suggestions

QPX: Features



- To better allow purchases to identify types of products and features EPA has updated the following:

Application	
Indicate the application or market for which the product is intended for use.	
<ul style="list-style-type: none"> Consumer Commercial Signage/Monitor Hospital Grade 	<ul style="list-style-type: none"> Hospitality Other

Features	
Indicate any available features in the product. The features may include those not enabled during tests for ENERGY STAR certification	
<ul style="list-style-type: none"> 3D Additional Analog Tuner Anti-burn-in Anti-glare Automatic Brightness Control Digital IP Tuner Electronic Program Guide Energy Gauge Gesture Recognition HPNA High Dynamic Range Integrated DVD 	<ul style="list-style-type: none"> Integrated DVR Integrated hard drive MoCA Motion Blur Picture-in-Picture Quick Start Upconversion User Adjustable Backlight Voice Recognition Wide Color Gamut Other None



QPX: Features



- EPA has included fields to record features enabled in the following modes:

Features Enabled in Modes		
On Mode	Standby-Active, Low	Standby-Active, High
<ul style="list-style-type: none"> Automatic Brightness Control Gesture Recognition High Dynamic Range Upconversion Voice Recognition Other None 	<ul style="list-style-type: none"> Gesture Recognition Quick Start Internal Timer or Clock Voice Recognition Wake-on-LAN WoWLAN Other None N/A 	<ul style="list-style-type: none"> Gesture Recognition Quick Start Internal Timer or Clock Voice Recognition Other None N/A



QPX: Thin Clients



- EPA is proposing the following fields for Thin Client Functionality:
 - Partners report the standardized multimedia protocols and certifications to the EPA-recognized certification body

Thin Client Capability	Multimedia Protocols
Indicate whether the product has Thin Client Capability.	Indicate the interoperability protocols to receive and share multimedia supported by the model.
<ul style="list-style-type: none"> Yes No 	<ul style="list-style-type: none"> DLNA Miracast RVU Other



QPX: Networking



- EPA proposes the following networking fields:

Wireless Technologies Supported	Low Power Wireless Technologies	Ethernet Supported
<ul style="list-style-type: none"> IEEE 802.11ac, 5 GHz IEEE 802.11n, 5 GHz IEEE 802.11n, 2.4 GHz IEEE 802.11g, 2.4 GHz IEEE 802.11b, 2.4 GHz IEEE 802.11a, 5 GHz Other None 	<ul style="list-style-type: none"> ZigBee Bluetooth Other None 	<ul style="list-style-type: none"> Fast Ethernet (100 Mbit/s) Gigabit Ethernet (1000 Mbit/s) Fast Energy Efficient Ethernet (IEEE 802.3az) Gigabit Energy Efficient Ethernet (IEEE 802.3az) None Other



QPX: Connections and Ports



- EPA has included the following for connections and ports:

Physical Data Ports	Audio/Video Ports
<ul style="list-style-type: none"> • Universal Serial Bus (USB) • Firewire • Thunderbolt • SATA • SCSI • RS-232 • Other • None 	<ul style="list-style-type: none"> • Coaxial • Component • Composite • DVI • HDMI 2.X • HDMI 1.X • IEEE 1394 • RF • S-Video • VGA • Other



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Luminance Requirement



- EPA proposes retaining current requirement to prevent TVs from shipping too dim.
- Most certified TVs ship at a luminance above 65% of max brightness.

3.6 Luminance Requirements

3.6.1 Measured peak luminance in the Default Picture Setting ($L_{\text{DEFAULT_HOME}}$) shall be **greater than or equal to 65%** of measured peak luminance in the Brightest Selectable Preset Picture Setting (the greater value of $L_{\text{DEFAULT_RETAIL}}$ or $L_{\text{BRIGHTEST_HOME}}$).



Luminance of Non-ABC Models



Average Luminance in Default Picture Mode (cd/m ²)		
Size Bin	Direct-lit LED	Edge-lit LED
20	173	172
32	204	200
40	210	216
46	208	206
50	234	225
60	234	220
Total	204	194

Average Luminance in Brightest Selectable Setting (cd/m ²)		
Size Bin	Direct-lit LED	Edge-lit LED
20	211	207
32	256	244
40	260	267
46	261	263
50	294	299
60	303	300
Total	255	241

Models are on-average well above the luminance ratio requirement of 65%

Luminance Ratio Default/Brightest		
Size Bin	Direct-lit LED	Edge-lit LED
20	83%	84%
32	80%	83%
40	81%	81%
46	80%	79%
50	79%	76%
60	77%	73%
Total	81%	82%



Luminance of ABC Models



Average Luminance in Default Picture Mode (cd/m²)

Size Bin	Direct-lit LED	Edge-lit LED
20	-	200
32	247	190
40	242	218
46	291	265
50	281	260
60	263	265
70	247	260
Average	264	243

Average Luminance in Brightest Selectable Setting (cd/m²)

Size Bin	Direct-lit LED	Edge-lit LED
20	-	239
32	278	239
40	298	279
46	365	351
50	360	334
60	351	353
70	342	353
Average	335	316

When ABC is disabled, these models are on-average brighter than the models shipped without ABC

Luminance Ratio Default/Brightest

Size Bin	Direct-lit LED	Edge-lit LED
20	-	85%
32	90%	79%
40	83%	78%
46	84%	76%
50	80%	78%
60	76%	76%
70	72%	74%
Average	81%	77%

Note: There are 6 plasma ABC models with luminance ranging from 51 to 81 cd/m².



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Luminance

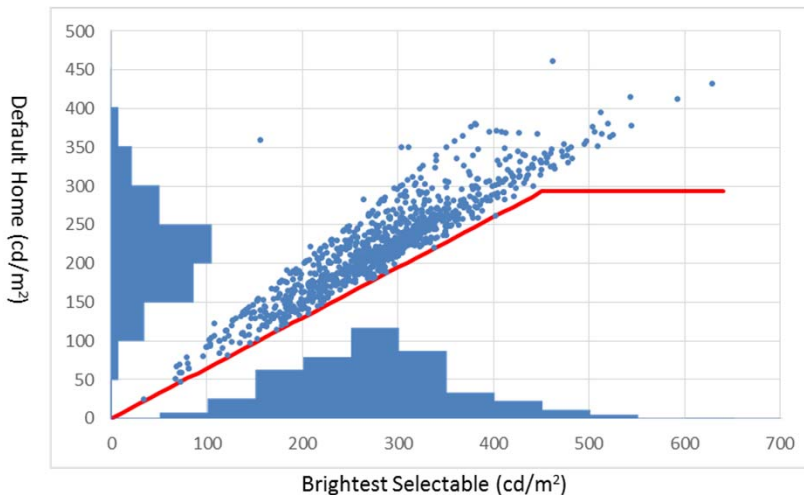


- Most certified TVs have Brightest Selectable Preset Picture Setting luminance between 200-400 cd/m².
- Some new TVs are even brighter, according to feedback, mostly intended for retail settings. 65% of max brightness would still be too bright for viewing in consumer homes.
- EPA proposes that for TVs capable of very bright luminance peaks (>450 cd/m²), minimum default luminance be allowed at 293 cd/m².
 - Intended to capture how products would be optimized for home viewing but also ensure that products not be shipped too dim.
 - 293 cd/m² is 65% of 450 cd/m²
 - Clarification: If products with max Brightest Selectable Preset Picture Settings >450cd/m² wish to qualify and ship product at luminance higher than 293 cd/m², they are still allowed to do so.



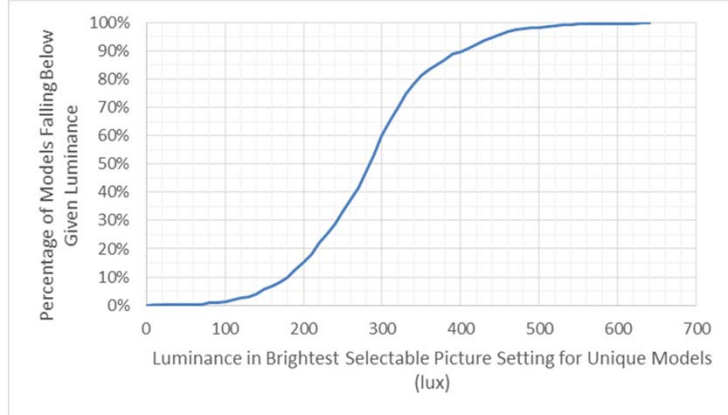
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Luminance Proposal



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Currently qualified models



- 96% of qualified models have a Brightest Selectable Picture Setting that falls below 450 cd/m²



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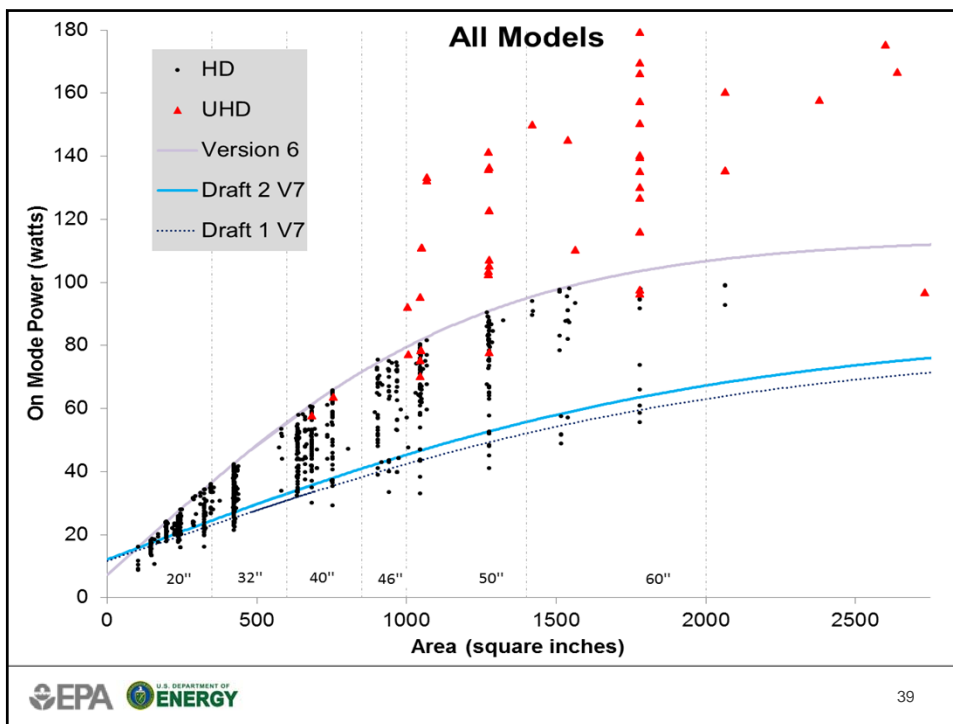
Dataset Overview



- A total of **827 unique models** from the following sources:
 - Data submitted by 5 partners to EPA from January to July 2014
 - The V6 ENERGY STAR certified products database as of July 2014
 - UHD models reported to the California Energy Commission in 2014
- **281 HD Final Rule** tested models and **488 HD NOPR** models
- **64 UHD** models from 12 manufacturers
- **397 Direct-lit HD LED** models & **371 Edge-lit HD LED** models
- **152 ABC-enabled HD** models and **69 HD models tested in Standby-Active, Low**



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On Mode Power: ABC



- Given stakeholder feedback on Draft 1, EPA limited its Draft 2 ABC model analysis to Final Rule models
 - Stakeholders commented that linear interpolation of NOPR lux values varied in some cases significantly from actual measured values

$$P_{ON_ABC} = (0.25 \times P_{100}) + (0.25 \times P_{35}) + (0.25 \times P_{12}) + (0.25 \times P_3)$$

Where:

- P_{100} , P_{35} , P_{12} , and P_3 are the measured On Mode power values at 100, 35, 12, and 3 lux, respectively, with ABC enabled when tested per the Final Rule.

Draft 2 Version 7.0 Proposal



- EPA is proposing the following On Mode Power Requirement for all Televisions for Draft 2

Equation 2: Maximum On Mode Power Requirement

$$P_{ON_MAX} = 71 \times \tanh(0.0005 \times (A - 140) + 0.045) + 14$$

Where:

- P_{ON_MAX} is the maximum allowable On Mode Power consumption in watts;
- A is the viewable Screen Area of the product in square inches; and
- \tanh is the hyperbolic tangent function.



Draft 2 Version 7.0 Proposal



- Below is the pass rate for High Definition TVs including ABC Final Rule tested models and non-ABC Final Rule and NOPR tested models
 - Models from 28 manufacturers

Diagonal (inches)	All HD Models		
	# Passing	Total	%
< 20	55	198	28%
20 - 32	20	167	12%
32 - 40	16	177	9%
40 - 46	13	71	18%
46 - 50	13	119	11%
50 - 69	8	31	26%
>69	0	3	0%
Total	125	766	16%



Draft 2 Version 7.0 Proposal



- Below are the pass rates for non-ABC and ABC models
 - The majority of ABC models entered the market in 2014 whereas the non-ABC models include models entering the market as early as late 2012

Diagonal (inches)	Non-ABC (V6 and V6.1)			Diagonal (inches)	ABC Models (V6.1 Only)		
	# Passing	Total	%		# Passing	Total	%
< 20	55	198	28%	< 20	0	0	-
20 - 32	12	152	8%	20 - 32	8	15	53%
32 - 40	2	141	1%	32 - 40	14	36	39%
40 - 46	6	56	11%	40 - 46	7	15	47%
46 - 50	1	90	1%	46 - 50	12	29	41%
50 - 69	1	17	6%	50 - 69	7	14	50%
>69	0	0	-	>69	0	3	0%
Total	77	654	12%	Total	48	112	43%



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Draft 2 Version 7.0 Proposal



- For comparison, below is the Draft 2 estimated pass rate of NOPR ABC models using interpolated data
 - NOPR Lux Values: 0,10, 50, and 100

Diagonal (inches)	HD ABC NOPR Data					
	HD ABC NOPR Measured			HD ABC NOPR Interpolated		
	#	Total	%	#	Total	%
< 20	0	5	0%	2	5	40%
20 - 32	2	32	6%	9	36	25%
32 - 40	6	61	10%	18	71	25%
40 - 46	3	38	8%	13	44	30%
46 - 50	6	80	8%	23	86	27%
50 - 69	6	58	10%	24	60	40%
>69	0	24	0%	4	24	17%
Total	23	298	8%	93	326	29%



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Ultra High Definition TVs



- UHD TV shipments will account for 41 percent of global flat panel TV units in 2020, up from just 4 percent in 2014.
 - By region, UHD household penetration will reach 32% in North America, 22% in Western Europe and 18% in Asia Pacific by 2020.
 - Entry level prices for UHD TVs will drop below \$2,000 before the end of 2014
 - Source: <http://www.telecompetitor.com/uhd-tv-forecast-to-be-in-33-of-u-s-households-by-2020/>

Ultra High Definition TVs



- In Draft 2, EPA has proposed an allowance for UHD TVs expiring May 1, 2017

Equation 1: On Mode Power Requirement for All TVs

$$P_{ON} \leq P_{ON_MAX} + P_{HR}$$

Where:

- P_{ON} is On Mode Power in watts;
- P_{ON_MAX} is the Maximum On Mode Power requirement in watts calculated in Equation 2; and
- P_{HR} is a high resolution allowance in watts, as applicable, calculated in Equation 2.

Equation 3: Calculation of On Mode Power Allowance for TVs with Native Vertical Resolution Greater than or Equal to 2160 pixels (Expires May 1, 2017)

$$P_{HR} = 0.55 \times P_{ON_MAX}$$

Where:

- P_{HR} is the high resolution On Mode Power Allowance in watts; and
- P_{ON_MAX} is the maximum allowable On Mode Power consumption in watts.

Ultra High Definition TVs



- Models by 3 manufacturers can meet the proposed Draft 2 UHD criteria

Diagonal (inches)	UHD Pass Rate		
	# Passing	Total	%
20 - 32	0	0	-
32 - 40	1	3	33%
40 - 46	0	0	-
46 - 50	3	28	11%
50 - 69	2	17	12%
>69	1	16	6%
Total	7	64	11%

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Standby-Passive Mode



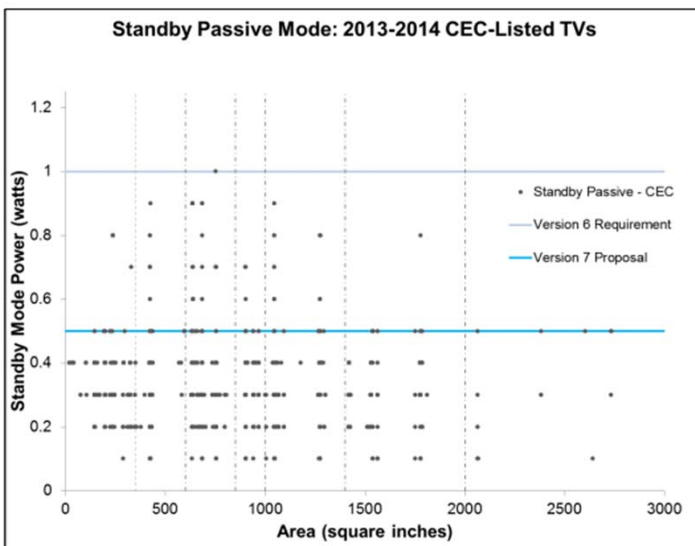
- The Version 6.0 specification has a Standby-Passive Mode limit of 1.0 W
 - Over 95 percent of current ENERGY STAR Version 6 certified models have measured Standby-Passive Mode power less than or equal to 0.5 W.



- For Version 7.0, In Draft 2 EPA proposed that Standby-Passive Mode power shall be less than or equal to **0.5 W**



Standby-Passive Mode



- Based on new data, EPA is considering 0.3 W limit for Standby-Passive Mode for inclusion in the Draft Final Version 7.0.
- Still represents over 50% of models in CEC database
- EPA seeks feedback on this proposal.

Standby-Active, Low Mode



- IHS Screen Digest expects smart TV shipments to rise to 141 million and account for 55% of global television shipments by 2015 – making up more than half the market for the first time (Source: <http://www.telecompetitor.com/report-smart-tvs-account-for-more-than-25-of-global-tv-shipments/>)
- Therefore EPA is proposing new requirements for Standby-Active, Low Mode in Version 7.0 that take into account the actual network functionality provided
 - DOE and EPA are proposing an additional test for models with Standby-Active, Low mode to assess Full Network Connectivity



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Standby-Active, Low Mode



- Draft 2 is maintaining the reference to the following CEA test method

Table 3: Methods for TVs with Standby-Active, Low

Product Type	Method
TVs with Standby-Active, Low Mode	CEA-2037-A, Determination of Television Set Power Consumption

- Available here:
[http://www.ce.org/Standards/Standard-Listings/R4-Video-Systems-Committee/CEA-2037-\(ANSI\).aspx](http://www.ce.org/Standards/Standard-Listings/R4-Video-Systems-Committee/CEA-2037-(ANSI).aspx)



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Standby-Active, Low Mode



- The Draft 2 specification language is as follows:
 - The test results are reported the EPA-recognized certification body
 - Standby-Active, Low Mode requirements are no longer based on whether or not there is Full Network Connectivity

4.2.2 If the TV is network enabled and tested in Standby-Active, Low per Appendix H, the following additional test, with, is required for ENERGY STAR certification:

- i. Perform all procedures specified in Section 6.6.5 Standby-active, Low of CEA-2037-A with the additional preconditions:
 - 1) Place the UUT in the On Mode as tested per Appendix H and momentarily press the power button on the remote control; and
 - 2) Wait 5 minutes after pressing the power button before beginning the Section 6.6.5 procedures.
- ii. TVs, for which availability can be confirmed with one of the methods in Section 6.6.5.2 Availability, shall be reported as having Full Network Connectivity.

Standby-Active, Low Mode



- CEA 6.6.5.2 Availability – availability is confirmed by either of the following methods:
 1. A network scanner application or other software application confirms IP address is associated with UUT and is active during Standby-active, Low mode.
 2. Switching the UUT into On Mode with Wake-on-LAN (QOL) or Wake on Wireless LAN (WoWLAN) Network signal

Standby-Active, Low Mode



- EPA is proposing a **3.0 W** maximum power limit for Standby-Active, Low Mode
 - Manufacturers commented that 3–6 W is achievable
 - Other stakeholders pointed to existing technology < 2 W
 - Desktops and printers can Sleep with Wake-On-LAN < 2 W
 - From Sept 2013 IEA 4E Standby Power Annex report "[Power Requirements for Functions](#)" indicate efficient networking technology:

Ethernet link without Energy Efficient Ethernet	Idle Wi-Fi transceiver
0.373 to 0.583 W of ac power	0.036 to 0.250 W of ac power

- Many TVs are already under 0.3 W in Standby-Passive Mode so adding a low power multi-controller unit (under 0.5 W) that allows for Wake-On-LAN and allows for other components to sleep



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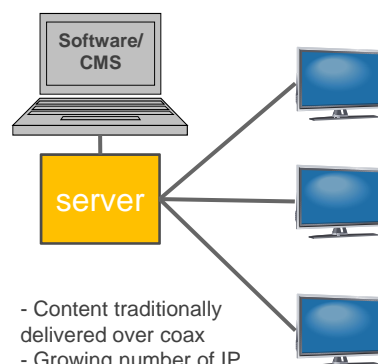
Hospitality TVs



- Under Draft 2, EPA is again requesting feedback on the relevance of the Hospitality TV definition to today's products

2) **Hospitality Television:** A TV product which includes the following features:

- A control port for bi-directional communication (DB-9, RJ11, RJ12, RJ45, coaxial cable, or HDMI-CEC); and
- Activated hospitality protocol software (e.g., SmartPort, Meeting Professionals International (MPI), Multiple Television Interface (MTI), Serial Protocol) to provide direct access to Video-On-Demand (VOD) systems or a digital media player designed for hospitality-specific applications.



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Download Acquisition Mode



- Version 6 includes the following Download Acquisition Mode requirements for Hospitality TVs based on:
 - [CEA Procedure for DAM Testing: For TVs, Revision 0.3, 8 September 2010](#)

3.7.1 A product may automatically exit Standby-Passive Mode or Standby-Active, Low Mode and enter Download Acquisition Mode according to a predefined schedule, in order to:

- i. Download channel listing information for use by an electronic programming guide,
- ii. Monitor for emergency messaging/communications, or
- iii. Communicate via a network protocol.

3.7.2 Measured DAM energy consumption for all DAM states (EDAM) shall be less than or equal to 40 watt-hours per day (0.04 kWh/day).



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Download Acquisition Mode



- EPA is still reviewing the separate DAM energy use requirements for Hospitality TVs because it has identified many TVs meeting the definition for Hospitality TV that were not tested in DAM for certification to V6
- For those TVs that have been tested, Download Acquisition Mode is reported to be active from **15 minutes to just over an hour a day** making the overall energy use impact relatively small as assessed by the CEA Procedure

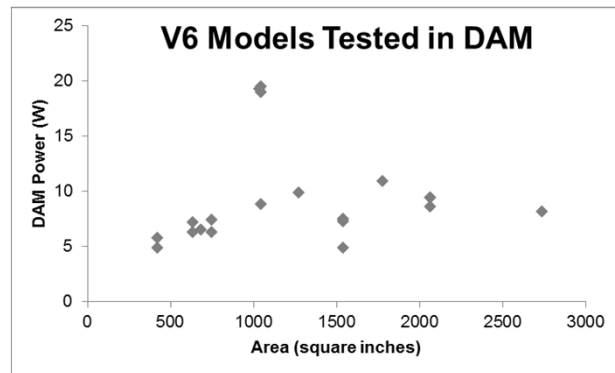


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Download Acquisition Mode



- Measured power in DAM for V6 models:



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Download Acquisition Mode



- EPA notes that Hospitality TVs that typically provide services over Ethernet and not other connections have not been tested with DAM under V6
 - EPA seeks additional stakeholder feedback on these TVs and whether or not they should be tested in DAM



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Webinar Agenda



Time	Topic
2:00 - 2:15	Introduction
2:15 – 3:00	Definitions, Scope, General Requirements, QPX Template
3:00 – 3:30	Luminance Requirements
3:30 – 4:00	Dataset Overview and On Mode
4:00- 4:30	Standby Mode, Download Acquisition Mode
4:30 – 5:00	Open Discussion, Next Steps



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Open Discussion



- DOE and EPA would now like to open up the line for any general comments from stakeholders.



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Specification Development Timeline



- EPA is proposing the following Version 7.0 specification development timeline:

Event	Date
September 29, 2014	Draft 2 Comments Due
Late October 2014	Final Draft Released
Late November	Final Specification Published
August 2015	Version 7.0 Effective



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Written Comments



In addition to making verbal comments during today's call, stakeholders are encouraged to submit written comments to televisions@energystar.gov.

Comment Deadline

Monday, September 29, 2014



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Contact Information



Please send any additional comments to televisions@energystar.gov or contact:

For questions regarding the specification, you may contact Verena Radulovic at Radulovic.Verena@epa.gov or (202) 343-9845.

For questions regarding the test procedures, you may contact Jeremy Domm at Jeremy.Dommu@ee.doe.gov or (202) 586-9870.

Thank you for participating!



www.energystar.gov/productdevelopment

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