REF NO.	Topic	Comment	EPA Response
1	Allowances	Version 4 Base Type allowances have been reduced at very different rates depending on the base type. Since all of these base types use similar electronic components and in many cases use similar SOCs (System-On-a-Chip) integrated technologies, propose that the reductions should be more equitable between base types.	EPA understands that some technology is shared between these devices. However, the allowances take into account not just power used at any given time but the summation of all power used over time. In addition, the allowances are established based on available data at the time of specification development.
2	Allowances	As the Version 4 effective date nears, more data will become available and an opportunity for all stakeholders to discuss the proposed allowances with EPA is expected to be provided. To help ensure this, request that a note be included stating "Version 4.0 limits have been provided throughout this specification as preliminary targets that will be revaluated by EPA and finalized at least nine months prior to the Version 4.0 effective date", like the one found in the current Version 2.0 specification.	EPA has noted in the Final Draft specification that Version 4 requirements will be reviewed 9 months before they are intended to go into effect.
3	Allowances	Suggest that a separate allowance be provided for transcoding. The EPA states in the Draft Specification that transcoding is included in the advanced video processing allowance. Transcoding is a complicated sub-system within the set-top box, and is crucial to supporting multiple clients in multi-room environments in a bandwidth-efficient way. Allocating an additional allowance for transcoding would better support the specialized nature of the transcoding function in the set-top box.	EPA has determined that a specific transcoding allowance is not required, since the DVR and multi-room allowances are intended to cover this functionality.
4	Allowances	Suggest creating a new base allowance for gateway set-top boxes which can support video, digital voice, and data services. Gateways are an emerging technology that can, for example, combine the functionality of an Embedded Media Adapter (eMTA) with a wireless cable modem, and a digital voice adapter. The multi-function gateway set-top box is fundamentally different from a typical video set-top box or the multi-room DVR configuration included in the Draft Specification.	EPA has identified gateway STB base type as a topic of interest to be explored during development of the Version 4 specification in coming years, as the market for these products matures.
5	Allowances	AT&T's full product line has been ENERGY STAR compliant for the entire period the company has participated in the program. We are eager to maintain the 100% compliance level, even if the rules technically allow ENERGY STAR Service Provider status to be retained with the distribution of limited numbers of non-compliant devices.	EPA values its partnership with Service Providers and seeks to continue these relationships with the intention of offering consumers more efficient STBs that are less costly to operate while delivering environmental benefits. EPA also appreciates the interest some partners have in having 100% of the boxes they purchase meet the ENERGY STAR requirements. EPA must balance this interest with its guiding principles which call on the program to recognize the most efficient boxes. The Agency is attempting with this Final Draft proposal to set rigorous but achievable requirements.
6	Allowances	Because the qualification target is a bright line maximum (rather than an average around which minor variation is permitted) the allowed margin between expected consumption and the target must be sufficient to account for variations in components and the production process. The current target provides a margin for error of only 1 Kwh/yr... a reasonable margin is particularly warranted here, given the stringent, one-strike testing rule, under which a provider is disqualified if one out of three pieces of equipment fails to meet the target.	While EPA encourages full participation on the part of its Service Provider partners, note that the requirement for continued partnership is that 50% of new purchases in a calendar year are ENERGY STAR qualified. Further, in order to ensure that ENERGY STAR delivers on its brand promise to consumers, it is important that all products that bear the label meet ENERGY STAR requirements when deployed to the consumer. EPA requires testing of up to 3 units of a particular STB model to ensure that products can qualify in light of expected sample variations.
7	Deep Sleep	Recommend EPA specify a minimum percent reduction of On Mode to qualify as a Deep Sleep State to prevent abuse of the 1.5X credit incentive. For example, an STB with On Mode = 30W, Sleep Mode = 20W, and Deep Sleep Mode= 19W should not qualify for the 1.5X incentive Propose Deep Sleep power consumption must be at least 85% less than On Mode to qualify for the 1.5X credit incentive.	ENERGY STAR has modified the definition to require the deep sleep mode to be 15% of the playback power level or 3 watts, whichever is greater.
8	Deep Sleep	The EPA has proposed that manufacturers who include "Deep Sleep" functionality that is enabled by default be rewarded with a modified Total Energy Consumption ("TEC") equation for meeting product qualification criteria. We support this approach and commend the EPA for creating an incentive for manufacturers to implement this capability, rather than adopting aggressive deep sleep energy limits which would result in significant design constraints that would stifle innovation and limit the cable industry's ability to include market driven features in future set-top boxes. We are concerned, however, that the definition of Deep Sleep State as currently written may be interpreted to mean that, in order for a set-top box featuring the Deep Sleep State to be qualified, it must be disconnected from the service providers network.	EPA has removed the reference to network disconnection in the Final Draft specification, but has included power consumption requirements to ensure that Deep Sleep states can achieve meaningful power reductions.
9	Deep Sleep	Advocate for ENERGY STAR to include into its specifications some requirements for new STBs to enter a very low power mode when not in use for an extended period of time. The main unmet objective remains to find effective ways to shift from the current paradigm where today's STBs use near full power levels even when they are not in use to a world where new boxes use very low levels of power (<2W or so) when the user is neither watching or recording a show.	EPA appreciates this feedback and will continue to work with stakeholders through future specification revisions to address these issues.
10	Deep Sleep	In deep sleep state, the device shall use no more than 1W, and 2W for those with an information or status display. These levels are consistent with current European regulations EC 1275.	ENERGY STAR prefers to leave implementation requirements as open as possible to encourage manufacturers to develop optimal solutions that do not negatively impact customer satisfaction.
11	Deep Sleep	A clearly marked and defined button should be included in both the service provider provided remote and on the front of the set top box that puts the box into the low power/deep sleep state. We think implementations that require the user to hold the power button down for 5 seconds or more is unlikely to be effective due to lack of awareness.	The Deep Sleep requirements in the Final Draft specification address this comment.
12	Deep Sleep	A definition for deep sleep could be based on the language that is lifted from other standards under development elsewhere such as: The STB is placed in a mode where it: (1) is not providing audio and video outputs, and (2) can only be switched into another mode with the remote control unit or an internal signal. The STB is performing no useful function other than monitoring for a command to switch to another mode. This command could come from a remote control or an internal signal.	EPA has included a requirement for Deep Sleep in the Final Draft that is based on a percentage of On Mode power consumption. The proposed definition is not necessary given this addition to the specification.

REF NO.	Topic	Comment	EPA Response
13	Deep Sleep	The most recent EPA proposal assumes certain hours of operation and three different power levels besides when on (Ptv). These include the power recorded a) after auto power down, b) power in sleep, and c) power in deep sleep. Under the implementations we describe above we do not understand how there are three additional power modes here. Is EPA assuming an implementation whereby the box goes into a low power state for a certain period of time and then after an additional x hours enters an even deeper sleep?	The alternate TEC equation for Deep Sleep is only to be used with STBs with an automatic Deep Sleep state that is enabled by default. This equation assumes that Deep Sleep will be active for about 4 hours per day on average. EPA will revisit this assumption in future versions of the specification once **more** field data is available for review.
14	Deep Sleep	The absence of a specific power level number for Deep Sleep challenges energy efficiency programs to accurately measure the energy savings associated with Deep Sleep. Without this information, it will be difficult for them to promote Deep Sleep in any incentive programs.	ENERGY STAR has modified the definition to require the deep sleep mode to be 15% of the playback power level or 3 watts, whichever is greater.
15	Deep Sleep	CEE would also like to better understand how boxes with Deep Sleep capability will be deployed. Is it possible under the specification that a service provider could purchase and receive an incentive for a Deep Sleep capable box, but then configure the box so as to disable the Deep Sleep capability? If so, what are the consequences to ENERGY STAR, to consumers, and to efficiency programs? Would end users have the ability to enable Deep Sleep functionality? Why or why not? How can the specification be crafted to ensure that EPA's intentions with regard to Deep Sleep are realized?	The ENERGY STAR Service Provider agreement states that providers must "ensure that qualified set-top boxes continue to meet the requirements in the ENERGY STAR product specification for the duration of their deployment. This includes deploying and configuring hardware such that power management features and notifications provided by the original equipment manufacturer function as intended..." Additional requirements for Deep Sleep have also been added to the Final Draft specification. EPA intends to monitor deployments of STBs with Deep Sleep capability as these products are introduced to the US market, in order to determine the impact of this energy saving feature.
16	Deep Sleep	Since a key element in the successful market adoption of set-top boxes that deliver energy savings from Deep Sleep operation would appear to be what amount of wake time consumers would tolerate, CEE encourages EPA to assess this tolerance within the United States market. This information could be particularly important if EPA is considering requiring inclusion of Deep Sleep state in a future specification.	It is impossible to know this tolerance with any level of certainty at this time, since these product features have not been developed for or deployed to the US market**.** EPA's approach is to let the manufacturers work out the best solutions for their customers, while also watching the reaction to early deployments associated with the incentive in the ENERGY STAR version 3.0 specifications.
17	Deep Sleep	Suggest that the definition of Deep Sleep in the Draft Specification be altered to remove the "lack of network access" requirement. Disconnecting network access will not result in significant power savings to achieve the EPA's goals. In addition, Motorola suggests that the EPA provide clarification on the type of switch/button on the set-top box or remote control that can be used for Deep Sleep Mode implementation without the "lack of network access" requirement.	ENERGY STAR has modified the definition to require the deep sleep mode to be 15% of the playback power level or 3 watts, whichever is greater.
18	Definitions	Propose changing base type "Cable/Satellite DTA" to "Cable DTA" since we are not aware of any Satellite DTA product currently on the market.	This modification has been incorporated into the Final Draft.
19	Effective Date	The effective dates for Version 3.0 and 4.0 are still to be determined. We would prefer at least 18 month lead time, combined with a summer implementation date, for the effective date of Version 3.0. Accordingly, we respectfully request the EPA consider an effective date of June 1, 2012 for qualification of products under Version 3.0, and June 1, 2014 for qualification of products under Version 4.0.	Based on EPA's 2009 market penetration data for products in this category, delaying the effective date until 2012 is not an acceptable solution. EPA has already delayed the original Tier 2 effective date by approximately 6 months, and has proposed additional provisions to make it easier for Service Providers to begin participating in the program in a manner that makes sense for their company and their suppliers.
20	Home Network Interface	Propose that the Home Network Interface retain the V2 allowance of 20 KWh/y. Similar to DOCSIS and CableCARD allowances, HNI technologies, other than wireless, have not changed their energy consumption profiles significantly since the V2 timeframe.	ENERGY STAR is comfortable with the allowances as written and will not be making changes at this time.
21	Home Network Interface	Section 1 of the Draft 2 Version 3.0 specification defines Home Network Interface as follows: The capability to interface with external devices over a network via IEEE 802.11 (WiFi), MoCA, or HPNA. As written, this definition appears to exclude the use of other network technologies that are not explicitly listed.	The definition has been modified to include all HNI technologies with the exception of specific interfaces that do not meet the intent of the functional adder.
22	Multi-room	Multi-Room covers the incremental energy for multiple users, not high performance network technologies. MR has included HNI energy consumption in past versions of the program because the only HNI typically supported was standard wired Ethernet which was very low power. Now that HNI is limited to only high performance (and higher energy consumption) technologies it is unreasonable to expect HNI to be included as part of the MR allowance.	HNI functionality is accommodated by the Multi-room allowance, so no change has been made.
23	Multi-room	A MR STB that does not require client STBs should be given a higher allowance than an MR STB that requires client STBs. This is logical since an MR STB that does not require client STBs must do all processing for all displays supported since there are no clients to share the additional processing.	EPA appreciates this feedback and will continue to work with stakeholders through future specification revisions to address these issues.
24	Multi-room	A MR STB that requires client STBs should be evaluated on the total energy use of the combination, not just the MR and client STBs individually. The TECCOMBINED of the MR and Client STB should be emphasized. The configuration is critical in realizing household energy savings. For example, if the primary TV (most watched) is connected to a client STB instead of the MR STB directly, then the energy use for the most watched TV is TECMR plus TECCLIENT. If the most watched TV is used 70-90% of the time then it is unlikely energy savings would be realized over individual STBs at each TV. By basing the TEC on the combination emphasizes the reduction of total configuration energy use, thereby minimizing the impact of installation configurations on energy consumption.	EPA investigated the possibility of qualifying a multi-room installation by adding TEC limits for both the server and remote STB, but decided to maintain the prior specification structure where each base type must qualify ind**e**pendently. This will avoid consumer confusion about STBs that would qualify in one installation scenario but not others.
25	Multi-room	Propose changing line 239 to "7.9 Multi-Room STB and Client STB Testing." Revise text for line 240 to 241: A) At the completion of testing of a multi-room capable UUT in a single-display (user) configuration, per Sections 7.1 through 7.8, the UUT shall be tested in a multi-room configuration. A client STB, if required by the multi-room STB, shall also be tested in a multi-room configuration,	The ENERGY STAR test procedure has been updated per this suggestion.
26	Multi-room	If MR incentives are provided, they should be for Multi-Room STBs and not TCs. The deployment of Multi-Room STBs will lead to reduced whole home energy consumption. The deployment of Thin-clients creates more energy consumption in the home, not less.	EPA appreciates this feedback and will continue to work with stakeholders through future specification revisions to address these issues.

REF NO.	Topic	Comment	EPA Response
27	Multi-room	Based on discussions during the ENERGY STAR® conference call on October 4, 2010, we understand that it is not the EPA's intent to limit the distribution of content, or to limit delivery of such content only to thin-client/remote set-tops. Accordingly, we suggest that the Multi-room definition be modified as follows: The capability to provide independent live or recorded audio/video content to multiple devices of any product type (base type) within a single family dwelling. This definition does not include the capability to manage gateway services for multi-subscriber scenarios.	This definition has been updated in the Final Draft specification.
28	Multi-room	The Home Network Interface additional allowance is only 10 kWh/year, half of what is actually consumed by MoCA technology. Secondly, the allowance becomes 0 kWh/year for server products, due to the prohibition on its use with multi-room servers. Request that this prohibition (found in paragraph 3.3.3.ii.h) be lifted.	EPA appreciates this feedback and will continue to work with stakeholders through future specification revisions to address these issues.
29	Multi-room	In its presentation to stakeholders, EPA presented information indicating that there is a great potential for energy savings in multi-room deployments in all scenarios, but especially for those involving true thin clients. CEE is extremely interested in this savings opportunity, but it does not have sufficient information to assess whether the incentive scheme posed by EPA will result in widespread production and deployment of true thin clients and the accompanying realization of energy savings. It would be helpful to understand what other incentive scenarios EPA contemplated, why those proposed were deemed most promising, and whether EPA has received supportive input from service providers and manufacturers.	The "new purchase" incentive was selected to take advantage of a structure and commitment that EPA currently has in place with SPs, rather than inventing something new and more complex. The 50% number was selected because (1) it is large enough to be meaningful, and (2) it is of the same order of magnitude as the potential savings in the scenario EPA published for Cable STBs.
30	Multi-stream	Section 3.3.3 (ii)(i) of the Draft 2 Version 3.0 specification allows manufacturers to apply the Multi-stream allowance only once, regardless of the number of simultaneous streams supported by the set-top. We believe this limitation unfairly penalizes manufacturers who design set-top boxes featuring more than two tuners. A set-top box featuring multiple tuners must be designed and built with additional hardware resources, such as a larger central processor and power supply as well as additional memory, necessary to accommodate the multi-stream capability. Consequently, these devices will consume more power regardless of whether the additional tuners are in active use or not.	The test requirements and additional functionality allowance structure are the same as those currently in place for the Version 2 STB specification. These requirements are intended to reward STBs that can scale power consumption to match the number of tuners that are in use at any given time.
31	Partner Commitments	Propose the following new text: At every opportunity install ENERGY STAR qualified Multi-Room set-top boxes, for whole-home DVR configurations, to minimize the number of DVRs deployed to a subscriber. Propose that the 50% new purchase incentive be applied to Multi-room STBs versus thin clients.	EPA has included an incentive for thin client purchases, since the savings achieved from a qualifying thin client installation versus a standard base type installation are very likely to be realized. Savings for purchases of multi-room boxes are, on the other hand, only going to be achieved if the multi-room box is installed in an efficient multi-room configuration. EPA prefers to tie the incentive to the option that is more likely to realize actual energy savings.
32	Partner Commitments	Suggest removing: …and frequent electronic program guide downloads… and adding …and auto power down timers from the partner commitments for Training and Consumer Education. Users normally do not have control over EPG downloads so use auto power down timers as an example instead.	This modification has been incorporated into the Final Draft service provider agreement.
33	Partner Commitments	We believe there will be situations where service providers will not be able to deploy thin-client set-top boxes, either due to their lack of availability or because they would not be technically viable for use in certain multi-room configurations. Accordingly, we suggest the Service Provider thin client installation requirement be revised as follows: "Where appropriate, install ENERGY STAR-qualified thin-client set-top boxes in Multi-room configurations, to minimize the number of DVRs deployed to subscribers."	This modification has been incorporated into the Final Draft service provider agreement.
34	Partner Commitments	To further encourage service provider participation, we request that the EPA lower the new purchase requirement threshold of 50% of all new set-top boxes purchased in a calendar year to 25%.We believe the addition of this change would give service providers even greater incentive to participate in the ENERGY STAR® program.	EPA intends to maintain the new purchase threshold at 50%. Several major STB service providers have joined the program and met or exceeded this requirement - to reduce the requirement to 25% would sacrifice energy efficiency gains previously achieved by ENERGY STAR in the years to come.
35	Partner Commitments	Manufacturer "credit" – for the manufacturer to be eligible for the deep sleep credit the box must include the ability to enter deep sleep via APD, AND manually when the user turns off the STB by pressing the appropriate button on the remote or the front of the STB. Service provider credit – the box must meet the requirements for the manuf credit and these features must be shipped and deployed enabled.	EPA appreciates this feedback and will continue to work with stakeholders through future specification revisions to address these issues.
36	Partner Commitments	Motorola suggests that the EPA provide more clarification on the responsibilities of the manufacturer and the service provider in the definition for APD. The updated APD definition in the Draft Specification requires the default setting to persist until an "end-user" manually disables or modifies the setting. However, in the case of leased STBs, once the STBs are shipped from manufacturers to service providers, the final default APD setting will be managed by the service providers prior to deployment. In short, STB manufacturers have no control of the APD setting after the STBs are shipped.	The ENERGY STAR Service Provider agreement states that providers must "ensure that qualified set-top boxes continue to meet the requirements in the ENERGY STAR product specification for the duration of their deployment. This includes deploying and configuring hardware such that power management features and notifications provided by the original equipment manufacturer function as intended..."
37	Partner Commitments	Consumer devices typically have a 5 to 7 year life and, as a result, sensible design dictates that functionality be present that may not initially be useful but which has the potential for game changing impacts on consumers' lives and/or energy consumption. Adaptability will require interfaces that may consume power that is not immediately used for the specific purpose associated with a STB. Enabling and encouraging Service Providers to deploy such capabilities early accelerates innovation and adoption of new functionality. ENERGY STAR targets should be crafted in a manner that does not inhibit such innovation and risk taking that can significantly advance energy conservation or help meet other equally important policy goals of the country	EPA is interested in learning more about forthcoming technology developments and welcomes stakeholder suggestions as to how to accommodate such innovations in the ENERGY STAR specification. EPA is open to changing the structure of the Version 4.0 specification when reviewing the proposed requirements before they go into effect, to account for these advances.

REF NO.	Topic	Comment	EPA Response
38	Place Shifting	Propose the deletion of a specific place-shifting test. i. Place-Shifting, also known in the industry as "TV Everywhere", is an emerging technology and is too immature to be included in the current Energy Star program. ii. Place-Shifting is being implemented by Service Providers using many different methods and technologies. Some solutions use the home STB as a content server, some solutions use content servers located in a Service Provider data center, and others propose using the "cloud" ecosystem for content. iii. The market penetration of Place-Shifting services is very low and it is not yet possible to obtain use statistics to determine an additional feature allowance for the current V3 program. iv. A Place-Shifting service, if implemented as part of the STB device, could use the current Multi-Room STB test as is, since it is basically an alternative method for providing content to a secondary user without the requirement of a client STB.	EPA has modified the test procedure to remove the requirement to include place-shifting in the calculation of STB power consumption. Place-shifting will still be tested per the ENERGY STAR test procedure, but no specific requirements will be in place for Version 3.0.
39	Product Family	Propose the following change to the last sentence of the Product Family section: From: …aesthetic housing changes that do not affect the thermal characteristics of the device… To: …aesthetic housing changes only (e.g., color, labeling, or other cosmetic modifications). All features and options of the product family must be identical. Any changes to the product housing will affect a thermal characteristic however that is up to the manufacturer and service provider to manage. The energy usage will only be affected by feature or option changes.	This proposed language is consistent with other ENERGY STAR specification revisions to support the program change to a third-party certification structure. Manufacturers may work with CBs to determine which aesthetic changes merit re-testing for qualification and which (e.g., cosmetic modifications) do not.
40	Program	The development of an ENERGY STAR specification for set-top boxes is complex. The draft specification documents address many types of set top boxes that vary significantly in their functionality, energy consumption, and how they operate. In addition, the manner in which the products covered under the proposed specification are placed into use varies, with a minority going through a retail channel and a majority being deployed by service providers with little, if any, involvement by the end consumer in product selection. One foundational question for EPA is: Given these conditions, how will EPA employ a labeling approach that delivers on the brand tenets and promise of ENERGY STAR? Based on its efforts to date to promote ENERGY STAR set-top boxes, this will be a difficult task, though one that is worth the effort given the aggregate savings potential.	EPA agrees that this product category requires a unique approach in comparison with most ENERGY STAR products. As such, EPA has developed a partnership with key service providers and continues to recruit additional partners. These partners collectively purchased 15 million qualified boxes in 2009, which are typically about 30% more efficient than standard boxes while still providing the service they were secured to deliver. These service provider partners also fulfilled commitments to educate their customers about efficiency gains. EPA continues to work with stakeholders to deliver greater savings through participating STBs, especially via incentives for deep sleep and true thin client deployments. EPA intends to continue with this model that the Agency believes is delivering consumer savings and environmental benefit and looks forward to stakeholder support.
41	Program	In order for voluntary energy efficiency programs to promote ENERGY STAR set-top boxes, the label must identify and differentiate the most efficient models. According to the established principles for the ENERGY STAR brand, performance levels are generally set to identify the top 25 percent of products. When ENERGY STAR specifications conform to this guideline, they typically provide an effective tool for energy efficiency programs promoting efficient products. EPA's presentation to stakeholders seems to indicate that IP set-top boxes will qualify for Version 3.0 at a particularly high rate (11 of 17, or almost 65 percent), and EPA has shared that 16 of 40 models of any type currently on the ENERGY STAR product qualification list—or 40 percent—meet the qualification criteria proposed for Version 3.0. We ask EPA to share, in the absence of market share data, the presumed relationship between model availability and installed units, as well as the supporting basis for the proposed levels.	EPA's estimates that 14.9 million ENERGY STAR qualified STBs were sold to Service Provider Partners in 2009. An additional 8 million qualified STBs were sold to non Service Provider Partners. For 2009, this reflects an estimated 65% market penetration for products sold my manufacturer Partners. Note that the data presented by EPA during a recent stakeholder conference call are reflective of only those products that were submitted for ENERGY STAR qualification and a handful of independent test data points from non-qualified products, versus the market as a whole.
42	Program	Another tenet of the ENERGY STAR brand is that a product that bears the label is cost effective to the end user. Does EPA have any information on any additional costs associated with producing or purchasing products that meet the efficiency requirements in the Draft 2 specification?	It is difficult to assess the cost differential of an ENERGY STAR STB vs a conventional STB as Service Providers generally post the cost of bundles of services including the hardware, rather than a cost of a particular piece of hardware. Offerings vary across providers, making it difficult to compare the prices of packages between ENERGY STAR partners and non partners. However, as ENERGY STAR Service Providers appear to offer 100% ENERGY STAR qualified boxes, one can gather that there is no price adder for ENERGY STAR for customers of that Partner.
43	Program	Ask EPA to provide information on the energy savings of an ENERGY STAR-labeled product as compared to a baseline or standard efficiency product. The difference in energy use between a labeled product and a standard product is an essential input for efficiency programs considering promoting ENERGY STAR set-top boxes with incentives.	EPA does not have access to a sufficient quantity of performance data for non-qualified STBs to compare against performance of products on the ENERGY STAR qualified product list.
44	Program	Would like to better understand how frequently EPA intends to review this specification and what market and technical conditions might trigger a specification revision in the future, including changing the effective date of future tiers. For example, is market penetration a trigger, and if so, what percentage would prompt EPA to consider a specification revision? Lastly, we ask EPA to comment on how the proposed strategy of setting future performance specifications for set-top boxes maps against its larger strategy for managing the ENERGY STAR brand.	Per the EPA/DOE Agreement on ENERGY STAR, EPA is obligated to revise all ENERGY STAR specifications for short-lived products (most CE and IT products) every two years.
45	Program	A speedier update and revision process is required that, in particular, recognizes that the set top box market is highly competitive. The current standard setting process is a lengthy one and may necessitate early disclosure of planned functionality in order to achieve ENERGY STAR certification. This may be problematic, because no provider will want to provide advance notice of planned functionality to other competitors. A process for providing adders for new functionality, without going through the current draft and review cycle is needed to stimulate innovation and participation in the ENERGY STAR program without compromising competitive first mover advantages.	EPA is open to receiving proposals for new functionality adders with supporting data outside of specification revisions cycles. EPA has the flexibility to evaluate and vet, as appropriate, an addition to the list of functions in the specification at any time.
46	Test Method	Propose that Reference Channel A and Reference Channel C can be either SD or HD format.	EPA is comfortable with the test procedure as written and will not be making changes at this time.
47	Test Method	Propose new language for the satellite requirement: Satellite STBs shall interact with CA system via LNB, POTS modem, or applicable HNI technology (e.g. IEEE-802.3, MoCA, HomePlug, etc.).	This definition has been updated in the Final Draft specification.

REF NO.	Topic	Comment	EPA Response
48	Test Method	The base level Watching TV scenario should not include a recording action.	This portion of the test procedure represents the common scenario of viewing buffered live TV while recording a program in the background. It only occurs in 1/3 the test and is different than the recording tests in which both tuners are recording to long-term storage.
49	Test Method	The test method to measure the power use of the device in deep sleep must include several elements: a) measure power use after deep sleep button is pushed, b) turn the box off manually and by APD and verify the box is able to wake to record a preprogrammed show and then power back down and measure power use, c) verify the box is able to wake to receive an update and then power down and measure power use, and d) determine amount	A simple test has been included in the Final Draft specification for the measurement of power consumption in Deep Sleep state. Over time, as EPA learns more about Deep Sleep implementations in the field, a more robust test procedure may be proposed for future versions of the specification.
50	Test Method	Request that EPA share its methodology for developing the duty cycle assumptions for set-top boxes that are used in the TEC equations. Duty cycle estimates are another piece of information that helps energy efficiency programs gauge their ability to offer a cost-effective energy efficiency program for set-top boxes.	EPA has provided CEE with the assumptions and tools it used to calculate duty cycle. EPA will provide this information to other interested parties upon request.
51	Thin Client	Suggest replacing the reference to “Thin Client” in the definition with “non-DVR STB.” Under a Multi-room configuration, Multi-room STBs perform the same functions whether they are delivering content to a Thin-client STB or non-DVR STB.	Devices that don't fit under the thin client definition and don't have a DVR would simply be categorized by their base type and any options they have. Thin clients are a special class of device that have no technology specific base type, as they do not communicate with the MSO/head end directly. Though thin clients may be created solely for a specific providers network, this specificity is not inherent to the device.
52	Third-party Certification	With “outlier” products a key concern, recommend that product verification limits should be established that are 5% higher than the qualification limits.	EPA is committed to ensuring that products that are labeled as ENERGY STAR deliver the promised energy savings. As such, EPA expects partners to ensure products meet the efficiency requirements in all cases, even if that means designing for greater efficiency than required by EPA's eligibility criteria.
53	Third-party Certification	Request that all third-party verification testing programs applicable to the STB product category be developed in harmony with this DOE-established model: Verification Testing Stage 1 Test (aka Screening Test) is performed on a product, and only when the product tested is “more than 5% worse than ENERGY-STAR specifications” is further action required (see http://www1.eere.energy.gov/buildings/appliance_standards/pdfs/faqfinal.pdf). Not only does this precedent eliminate “outlier” concerns, it addresses the measurement variations that can add up through the use of different test equipment and laboratory set-ups over long stretches of time.	The threshold for testing additional units has been reduced from 10% to 5% in the Final Draft specification. EPA has established verification requirements for certification bodies that can be found here: http://www.energystar.gov/ia/partners/downloads/mou/Conditions_and_Criteria_for_Recognition_of_Certification_Bodies.pdf (see pages 3-5). These requirements consider existing programs such as that employed by DOE.