



UNITED STATES ENVIRONMENTAL  
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WASHINGTON, D.C. 20460

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Thomson comments on Draft 2 – ENERGY STAR STB Program Requirements for  
Manufacturers V2.0 Corrected (October 12, 2007)

- Lines 91-95:** A manufacturer cannot always know in advance the actions or commitments of a service provider, especially if a specific product's manufacturing life is over several years. A product may sit on a distributor's shelf for a while, and the target service provider may not be known at the time of manufacture. Even if a target service provider has been identified, that service provider may or may not decide at some time in the future to support ENERGY STAR after boxes are already in the field. The service provider may promote ENERGY STAR "on Screen", which is outside of the manufacturer's control.
- Lines 105-107:** If the user can modify the energy settings, the user must be informed of the consequences. For example, if a DVR unit has its hard drive turned off to save energy, the user will have to wait a significant time until he/she can record after turning on the set top box. If the user is not informed, he/she may become frustrated. American customers are used to instant action.  
Also, these guidelines need to provide a consistent message to manufacturers regarding testing with out-of-box settings versus "most energy consumptive" standby mode. The TV/VCR guidelines state in one section that testing is to be performed under configuration and settings as shipped to the customer. In another section, it states that measurements are to be taken in the most energy consumptive standby mode. There were TV manufacturers who were not allowed to place the ENERGY STAR label on the product when the out-of-box setting (as shipped to the customer) met the ENERGY STAR guidelines, but consumer modifiable energy settings caused the product to exceed the guidelines.
- Lines 118-128:** It is unknown what the impact of reporting requirements will be on heavy competition manufacturers. The set top box industry is very competitive.
- Lines 232-238 and 368-413:** As was discussed in the meetings to discuss Draft 2, the FCC requires separable security, which is implemented today as CableCARD and embedded DOCSIS – which are both used 24x7 even when the STB is in standby mode. As was also stated in the meetings, this embedded DOCSIS modem can be critical to the operation of the cable box. The sample STBs used to determine the base functionality allowance for cable did not include either of these technologies. Either the base functionality allowance for cable needs to be

expanded to include these items, or additional functionality allowances need to be given.

5. **Lines 401-402:** IPTV is an expanding field. More time is needed to define and discuss IPTV requirements as they relate to this document. Some IPTVs can be multifunctional devices and thus blur the difference between a cable, satellite and IPTV box. Which requirement will be used for a box that has both satellite receiving and IPTV capabilities?
6. **Table 2:** The list of additional functionalities needs to be enriched. For example:
  - Embedded DOCSIS or return channel (see item 4 above)
  - CableCARD (see item 4 above)
  - Embedded VoIP functionality
  - Digital Home Network interface (MoCA, 802.11, ...)
  - Parasitic loads (see item 7 below)
  - Dual decode

NOTE: The European Code of Conduct could be used to enrich the list.

7. **Table 1 and lines 436-446:** It is unclear if the measurements are to be taken with parasitic loads attached, for example an external USB device, external eSATA hard drive, LNA attached for satellite box, etc. Please provide clarification on external parasitic loads.
8. **Table 1 and lines 436-446:** What type of video was being processed by the sample STBs when determining the base allowances? A decoder processing rapidly changing video such as a sports program will consume much more power than while processing static images such as test patterns or talk shows with little background movement.
9. **Table 2:** To avoid confusion, “High Definition” should be replaced with “High Definition Decode” to make it clear that the corresponding credit would also apply for a STB that would not provide HD output, but only decode the HD and convert it to SD for output.
10. **Line 429:** To be qualified, does a STB with an external power supply need to be tested with the power supply, and does the power supply then become automatically qualified if it is tested with the STB that has become qualified? Does the STB with an external power supply have its allowance reduced from Tables 1 and 2 if the power supply is qualified separately?
11. **Lines 551 and 570:** These two lines seem to conflict with each other in terms of the amount of time a STB is allowed to exit Standby mode – 1 hour per 8 hour period, 2 hours per 24 hour period.

12. **Lines 580-585:** The manufacturer may have limited control over the UI design, The service provider has overall control of the specifications for the STB they are purchasing.
13. **General Question:** What are the EPA policies if some section of the guidelines conflict with individual state's requirements? Which rules will have precedence?
14. **General Comment 1:** Power consumption of a STB will be highly dependent on the service providers who control the middleware and operational processes.
15. **General Comment 2:** Test methods and processes will need to be better defined to eliminate manufacturer, EPA, and Service Provider concerns. The Canadian Specification has many undefined details.
16. **General Comment 3:** It appears that the upcoming design of STBs will include a STB type that might be called "Multi-Functional". E.g. a cable box may also function as an IP box or a Satellite box may also have the ability to fully function as an IP box, or there may even be the possibility of a set top box that can fully function as an IP box, Satellite box, and a cable box. This "packing" of capabilities will make STB definitions meaningless if the box will only be listed as one type of box.
  - One box type (with multi capabilities) but listed as a single type of box, might be rated using the function that will most easily pass ENERGY STAR power levels. In reality, the customer might use the unrated function. This might lead to arguments because the manufacturer or service provider will want to determine which type of box their multi-functional" box will be called.
  - Another option might be to require an ENERGY STAR rating for each box function. This would require that a box have several Energy Star ratings and stickers.
  - Last of all, the EPA might consider the box to be "Multi-Functional" and require the box to meet all the EPA Energy Star requirements for each of the major functions designed into the box.

This "Multi-Functional" box is not a dream, but already exists and is on many planning boards. Customers like single boxes that do many things (e.g. cell phones) rather than have an assortment of boxes each requiring power cords, remotes, etc. The VCR and DVD machine is another prime example of a multi-functional box.

Another wrinkle is that service providers (cable/satellite/telco) are all in competition with each other, and they will continue to add features to distinguish themselves from their competition. The same applies to manufacturers. In the initial meeting to discuss draft 2, a statement was made that a DOCSIS modem in a STB was "duplicate functionality" to a stand alone DOCSIS modem in the customer's home and as such may be a luxury. These "luxuries" are what attract customers, and new technologies / features will continue to be added.



To make this subject even more complex, the set top boxes of the future may contain many functions not even listed in this ENERGY STAR Set-top Box document. These will probably occur within the time of Tier 2. The “multi-functional” box specification can be expanded into the ENERGY STAR program as new functions are discovered.

The requirement to meet each ENERGY STAR functional test allows the customer to be free to decide on what functions he/she desires to use on a particular Set Top Box while knowing each function is ENERGY STAR rated.