

Key DIRECTV Comments



- “Thin Client Base Functionality Allowance”
- “Replaceable Conditional Access”

Thin Client Base Allowance



- “The Home Network Interface and Advanced Video Processing allowances from Tier 2 Version 2.0 have been removed from the list of additional functionalities, and added to the base type allowances for Cable STBs in response to recent technology trends.” (EPA letter of Feb 23)
- As a result, Cable STBs have a draft V3.0 Tier 1 value = 72:
 - 50 kWh/year (V2.0 Tier 2 base functionality)
 - 12 kWh/year (V2.0 Tier 2 Advanced Video Processing)
 - 10 kWh/year (V2.0 Tier 2 Home Network Interface)
 - 72 kWh/year TOTAL

Thin Client Base Allowance, cont.



- Following similar logic as for Cable STBs, Thin Client / Remote STBs should have a draft V3.0 Tier 1 value of 44:
 - 22 kWh/year (V2.0 Tier 2 base functionality)
 - 12 kWh/year (V2.0 Tier 2 Advanced Video Processing)
 - 10 kWh/year (V2.0 Tier 2 Home Network Interface)
 - 44 kWh/year TOTAL
- The draft V3.0 Tier 1 base allowance for Thin Client / Remote STBs is not 44 kWh/year, however, but 22 kWh/year
 - Identical to the V2.0 Tier 2 base functionality alone

Thin Client Base Allowance, cont.



- Draft V3.0 Tier 2 values of Cable, Satellite, Terrestrial and Thin Client / Remote STBs show a 20% reduction when compared to the draft V3.0 Tier 1 values:
 - Cable STBs = 60 (72 kWh/year – 20%)
 - Satellite STBs = 60 (72 kWh/year – 20%)
 - Terrestrial STBs = 18 (22 kWh/year – 20%)
 - Thin Client / Remote STBs = 18 (22 kWh/year – 20%)
- Using the corrected draft V3.0 Tier 1 value of 44 kWh/year for Thin Client / Remote STBs, the corrected draft V3.0 Tier 2 value should be 36
 - Thin Client / Remote STBs = 36 (44 kWh/year – 20%)

Thin Client Base Allowance, cont.



- DIRECTV “C30” thin client / remote STBs, prototypes of which were shown at CES 2010, have both Advanced MPEG4 Video Processing and advanced MoCA Home Network Interfaces
- C30 measured TEC of 78.58 kWh/yr is 67% higher than current draft V3.0 Tier 1 of 47 (= base allowance of 22 kWh/year + High Definition allowance of 25 kWh/year)
 - This device will never qualify under draft V3.0 Tier 1
- C30 measured TEC of 78.58 kWh/yr is 14% higher than corrected draft V3.0 Tier 1 of 69 (= base allowance of 44 kWh/year + High Definition allowance of 25 kWh/year)
 - While not currently compliant, the potential exists for the device to be made compliant



Conclusion

- Thin client devices' base functionality must include MPEG4 & Home Networking, just as for STBs
 - Applies to both V3.0 Tier 1 and V3.0 Tier 2 drafts
- Specifically, Table 1 should show a Tier 1 Annual Energy Allowance for Thin Client / Remote of at least
 - 44 kWh/year (V3.0 Tier 1)
 - 36 kWh/year (V3.0 Tier 2)

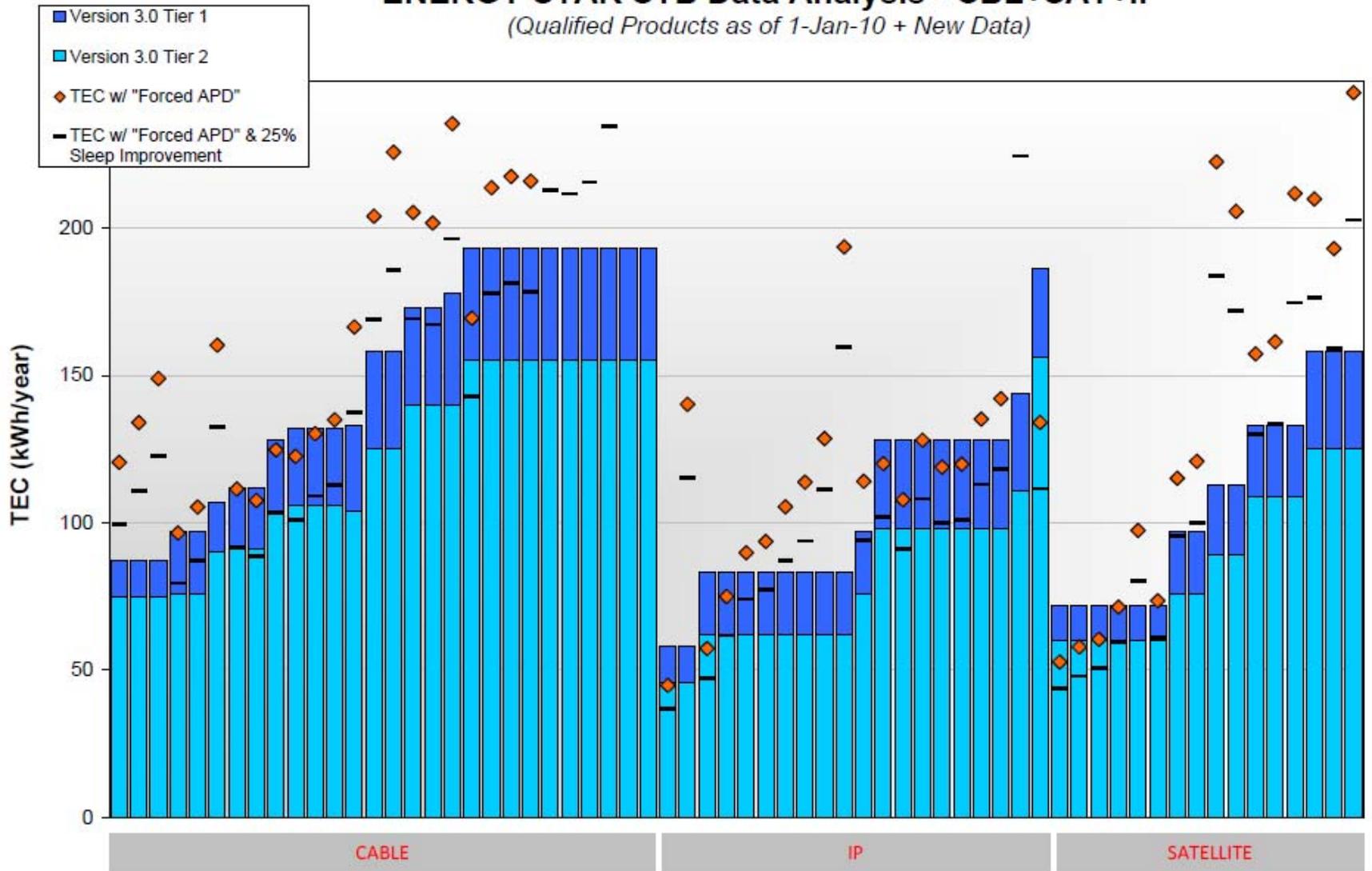
Replaceable Conditional Access



- The EPA explains in its cover letter of February 23 that it “aligned the base allowance for Satellite STBs with the base allowance for Cable STBs”.
- By setting the base allowance for Satellite STBs to be the same as for Cable STBs, however, it effectively eliminated from Satellite STBs any allowance for the smart card based conditional access used by satellite service operators.
- EPA’s chart that follows pictorially demonstrates a difference of ~35 kWh/year between Cable STBs and Satellite STBs
 - DOCSIS annual energy allowance of 20 kWh/year is not applicable to Satellite, as this is cable-specific functionality that allows 2-way communications with cable head-ends
 - CableCard annual energy allowance of 15 kWh/year is applicable to Satellite, however, as Satellite STBs universally require conditional access as well

ENERGY STAR STB Data Analysis - CBL+SAT+IP

(Qualified Products as of 1-Jan-10 + New Data)



This chart shows ESTAR qualification levels, as determined by product base type and feature set, from the new Version 3.0 Tier 1 and Tier 2 proposals. The orange diamonds represent TEC values derived from the ENERGY STAR data set, assuming Automatic Power-down (APD) is active for each product. The black dashes represent the same products, assuming an additional 25% reduction in Sleep mode power consumption.

Replaceable Conditional Access, cont.



- In the same way that the CableCard based conditional access used by cable operators was not removed from the Version 3.0 Tier 1 specification, an allowance must remain in place for the smart card based conditional access used by satellite service operators.
- A simple way to address this inequity would be for the additional functionality currently called “CableCard” to be renamed “Replaceable Conditional Access” and be applicable for both Cable STBs and Satellite STBs.
- In this way the allowances for Satellite STBs and Cable STBs would truly be aligned, as was the EPA’s intention.

Thank you!



Steve Dulac
spdulac@directv.com
(310) 964-4996