

The title, definition and allowances for “Home Network Interface” are inconsistent with DIRECTV’s expectation.

At the meetings following the release of Draft 3, stakeholders discussed the need to address advanced home networking technologies such as Wi-Fi and MoCA. However, the Final Draft came out using a definition, “Home Network Interface”, that encompassed these advanced technologies AND DLNA (which includes the use of plain-old Ethernet). DIRECTV believes this to have been incorrect.

Home Network Point 1: DIRECTV expected that the Additional Functionality titled “Home Network Interface”, introduced in this Final Draft, should have been titled “Advanced Home Networking Technologies” and it should not have included “DLNA” in the definition.

Home Network Point 2: While a simple Ethernet interface can be expected to be found on the great majority of Multi-Room and thin client device, and therefore should be part of their baseline allowances, the Advanced Home Network Technologies will not be found in nearly so many of these devices. Thus, the second sentence of the definition Q must be deleted as it is not correct for MoCA or Wi-Fi.

Home Network Point 3: If a Multi-Room device implemented two advanced home networking technologies, e.g. both Wi-Fi and MoCA, then it must be granted an allowance for each of these that is used concurrently (as is done in the case of Additional Tuners). This is a perfectly reasonable scenario, allowing the Multi-Room device to (for example) auto-discover and communicate with clients having MoCA only and clients having wireless only.

Home Network Point 4: The allowance given in Table 2 for Home Network Interface is inadequate for Advanced Home Network Technologies. Stakeholder inputs to the EPA for these technologies were consistently that they required at least 4 Watts for Tier 1. These Advanced Home Network Technologies are transmitters designed to allow signals to transcend high loss environments (existing house wiring, walls, etc), which is very different from the very low loss CAT5 cable used for a simple Ethernet interface.

Qualification Procedures

The Tier 1 and Tier 2 guidelines were based on actual measurements of a handful of different products, and stakeholder inputs throughout the STB guideline development process were normally given as average performance values. It is not "apples to apples", then, for the STB guidelines to then be declared by the EPA to be absolute limits (i.e. all 5 randomly chosen devices must fall within the limits instead of an average of the 5 devices). If the limit must be absolute, as suggested in EPA’s response in the Comments Matrix (see row 376) then it would be appropriate for EPA to increase all current allowances by a margin that accounts for variability around these average values. DIRECTV would find EPA’s proposal of a 10% margin acceptable to be added to the current allowances.

Picture in Picture cannot be required in the Energy Star STB test procedure.

DIRECTV's products do not presently include Picture in Picture (PIP). The section of the test procedure requiring that the product be placed into PIP mode cannot be required, as many products will be unable to comply. This section should perhaps be deleted: PIP not only uses an extra tuner but also uses an extra decoder, system memory and processing which may result in more energy consumption in a compatible product than that of simply exercising another tuner.

Tier 2 guidelines and lead-time do not address the realities of one-way service provider networks and consumer electronics development timelines.

Saying only that it will revisit the Tier 2 criteria as needed up to 9 months prior to their taking effect, the EPA didn't satisfactorily address DIRECTV concerns about the criteria and the lead time expressed in Draft 3 comments. Nine months only provides enough time for DIRECTV to plan for and implement an extrication from the voluntary Energy Star program. Even if, as DIRECTV has requested, separate Tier 2 criteria for one-way networks are developed, 9 months does not suffice to plan products that would ensure continued participation in Energy Star. We maintain that separate guidelines are needed for one-way and two-way networks, and that longer lead times are needed for the guidelines to be firmly established.

As the Comment Matrix for Draft 3 did not include the text of DIRECTV's argument for separate guidelines (see row 371), it is repeated here in the hopes that it will be included in the Comment Matrix for this Final Draft and be shared with all stakeholders:

When a network is two-way, a STB can readily go into a sleep mode that consumes little energy, as it can at regular intervals briefly come out of that mode, power its communication interface and request updates to EPG and system information (such as authorizations) from the headend. This is true for Telco networks and most larger Cable networks, giving operators of these systems an ability to comply with the draft Tier 2 guidelines.

A one-way STB network, including the great majority of satellite installations as well as smaller cable systems, is incapable of this. A one-way STB has no way of requesting data and as a result must always be listening for EPG and system info. The functionality required for this precludes a sleep mode that consumes only a few watts (necessary to achieve the ~50% energy savings targeted by the Draft 3 Tier 2 guidelines). Furthermore, if the STBs in a one-way network were required to stop listening, a customer's experience with the service would be harmed: for example, DVR recordings requested by a customer who is away from home would be missed and STBs could readily miss authorizations requiring subsequent calls to customer service. By requiring one-way STBs to stop listening, the competitiveness of one-way systems is put at risk.

DIRECTV recognizes that if the Tier 2 guidelines were designed to be achievable by one-way networks, then the operators of two-way networks

wouldn't necessarily take the additional measures of redesigning headends and STBs needed to get the 50% energy savings targeted by EPA. On the other hand, operators of one-way networks such as DIRECTV will not be able to participate in the ENERGY STAR STB program at all if they cannot foresee a path that can result in compliance with Tier 2 allowances. There is a simple solution to this problem, however: include separate Tier 2 guidelines for one-way and two-way networks. The Tier 2 allowances for one-way service provider installations would be based on improvements possible by more efficient implementations of STBs, and would be less aggressive than the Tier 2 allowances for 2-way presently proposed.

It is important to note that a service provider can have both one-way and two-way installations. For competitive reasons, both of the top satellite service providers have begun experimenting with connecting STBs to their customers' broadband services. In the case of DIRECTV, connected STBs number in the tens of thousands at present and are being used to deliver new Video On Demand services. In the next few years, as more customers have home networks and broadband connections, and as more satellite STBs have the ability to connect through these, more satellite service provider installations will assuredly be two-way. These two-way installations would comply with the two-way Tier 2 guidelines.

For monitoring purposes, it would be appropriate for the EPA to require service providers to report on the numbers of one-way and two-way installations as part of their annual reporting obligations.

Refurbished STB Energy Savings

EPA's strong encouragement in the Comment Matrix (see row 374) that service providers improve energy efficiency of deployed products must necessarily be backed up with incentives. DIRECTV suggested a way for service providers to be incentivized to do this (by getting credit for equivalent gains achieved), and continues to suggest that a change of this type is warranted. DIRECTV did not ever suggest that these refurbished products could earn an Energy Star mark, as seems to be implied by the EPA response (see row 374).

Requirements Remain in Flux

The changes from Draft 3 to the Final Draft were far more extensive than anticipated, and in at least one area (Home Networking Interface) it is DIRECTV's belief that the changes were implemented incorrectly. DIRECTV maintains that it would be appropriate for meetings to be held to discuss the changes to the Final Draft. Also, it may be necessary for another full drafting round to be planned for by EPA before a Final Spec is released.