

# Digital TV Set Top Box: Minimum Energy Performance Standards

## Implementation Dates

On 1 December 2008, Australian states and territories introduced energy efficiency regulations for set top boxes (STBs). All models covered by the regulation imported into Australia on or after 1 December 2008 must be registered. The regulation also specifies requirements for mandatory energy labelling and compliance with Minimum Energy Performance Standards.

## What is covered?

All STBs that decode MPEG 2 Standard Definition (SD) and High Definition (HD) broadcasts are covered by the regulation. This includes STBs that operate on the terrestrial digital television platform and those that operate on subscription cable or satellite digital television platforms. Excluded from the regulations are digital receivers that are integrated with other equipment and equipment that is designed to receive services from the internet. Also, STBs that have a hard disk drive (HDD) for recording are excluded. If the STB does not have a HDD but has a USB or other connection that allows recording when a HDD is connected to it, then the STB needs to meet the regulations when tested without a disk drive connected.

## How to register a set top box for the regulatory scheme

All STBs imported into Australia on and after 1 December 2008 must be registered with an Australian regulator and must comply with the regulations. Registration is available at:

<http://www.energyrating.gov.au/programs/e3-program/energy-rating-labelling/submit/>

A test report is not required to be submitted as part of the registration process. However, it must be held by the manufacturer or importer and made available to a regulator on request. For this reason it is recommended that an electronic copy of the test report be uploaded when making a registration application.

Instructions for use of the on-line registration system for all regulated products are available at:

<http://www.energyrating.gov.au/resources/program-publications/?viewPublicationID=2139>

## Testing Requirements

STBs must be tested according to the measurement method in AS/NZS 62087.1:2010 and the requirements as specified in AS/NZS 62087.2.1:2008. The standard also requires the determination of relevant passive and active standby modes. These standards are available from SAI Global [www.saiglobal.com/shop/](http://www.saiglobal.com/shop/).

AS/NZS 62087.2.1:2008 specifies the maximum power allowance (MPA) that the STBs covered by the regulation must meet in 'On' mode and 'Active Standby' modes in Table 2. For STBs having optional features, the MPA can be increased by adding additional feature allowances for 'On' mode and 'Active Standby' mode. These allowances are listed in Table 4 in AS/NZS 62087.2.1:2008. A maximum power level (MPL) is also specified. This specifies a cap for the maximum allowable power consumption for the combined MPA and additional feature allowance.

It is important to understand that Table 4 is for additional features only. Table 2 specifies the MPA assuming the STB has a tuner and a PSTN Modem.

## Worked Examples

### Example 1

An HD STB has one tuner and an ADSL Modem interface. Its Passive Standby is 1.5W. There is no Active Standby mode.

- MPA from Table 2 for a HD STB with a passive standby usage between 1W and 2W is 14W.
- Table 4 allows an extra 2.7W in “On” Mode for an ADSL Modem
- This gives an “On” mode MPA of  $14W + 2.7W = 16.7W$ . This means that when tested in the “On” mode power must be equal to or less than 16.7W to comply with regulations.

### Example 2

An SD STB with SCART Interface and a PSTN Modem interface. Its Passive Standby is 0.5W. There is no Active Standby mode.

- MPA from Table 2 for an SD STB with a Passive Standby usage below 1W is 8W
- Table 4 allows an extra 1W in “On” Mode for an SCART Interface and zero W for PSTN Modem (See Note in Table 4)
- This gives an “On” mode MPA of  $8W + 1W = 9W$ . This means that when tested in the “On” mode power must be equal to or less than 9W to comply with regulations.

### Example 3

HD set top box with SCART Interface and 2 PSTN Modem interfaces, 2 tuners, a wireless interface and a broadband ADSL modem. Its Passive Standby is 1.5Watts. There is no Active Standby mode.

- MPA from Table 2 for an HD STB with a passive standby between 1W and 2W is 14W
- Table 4 allows an extra 1W in “On” mode for an SCART Interface, 0.7W for the second PSTN Modem, 2.0W for the additional tuner, 2.5W for the wireless interface and 2.7W for an ADSL modem.
- This gives an “On” mode MPA of  $14W + 1W + 0.7W + 2.0W + 2.5W + 2.7W = 22.9W$ . This exceeds the (MPL) limit of 22W. This means that when tested the “On” mode power must be equal to or less than 22W to comply with regulations.

### For more detailed information go to:

Submitting an application

<http://www.energyrating.gov.au/programs/e3-program/energy-rating-labelling/submit/>

On line registration instructions

<http://www.energyrating.gov.au/resources/program-publications/?viewPublicationID=2139>

Purchase Australian/New Zealand Standards

<http://infostore.saiglobal.com/store/>