



NRDC Study of Set Top Box and Game Console Power Use

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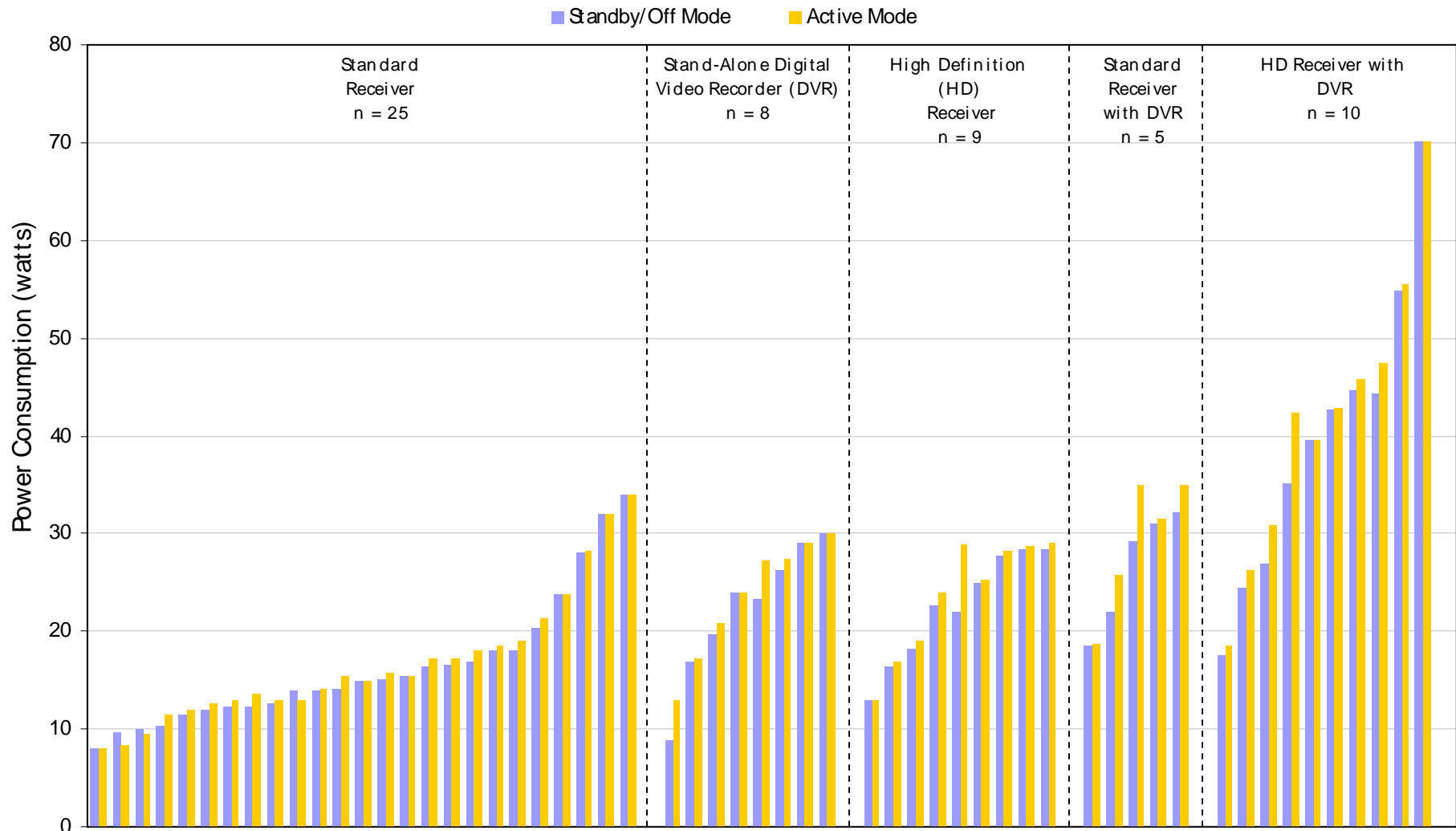
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Field Measurements

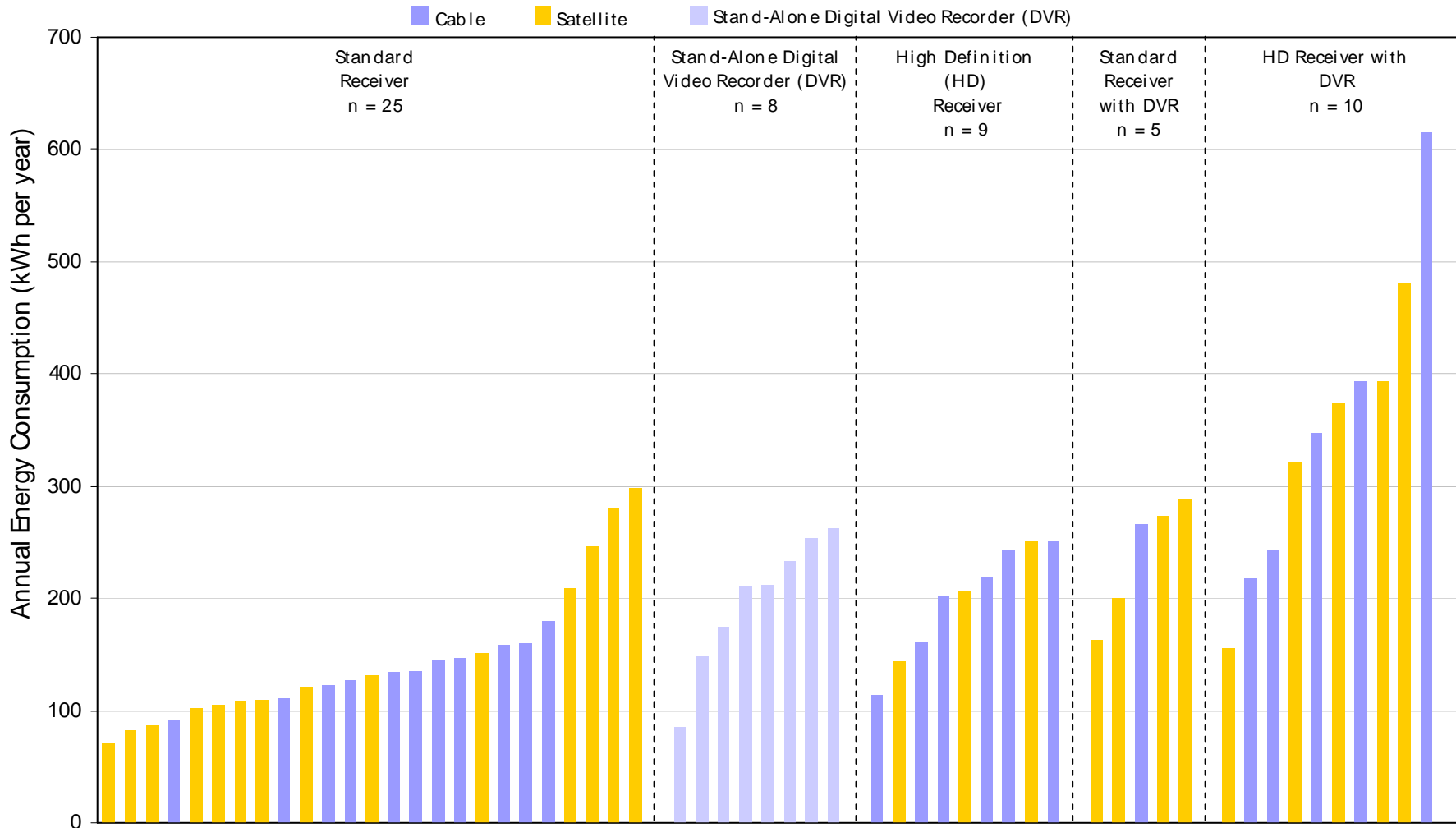
- Measured 48 discrete boxes in the field with power meter.
- Both cable and satellite, as well as stand alones (eg TiVo, Slingbox, etc.).
- From basic box up to hi-end boxes with HD, multiple tuners, and built in DVR.
- Measured off/standby and on.
- Tried to capture auto power down or sleep features.

Power Consumption of Today's Set Top Boxes by Mode



- Power consumption does not differ significantly by mode with the exception of a few models that we are investigating.
- No meaningful sleep or auto power down modes detected in any of the boxes surveyed.

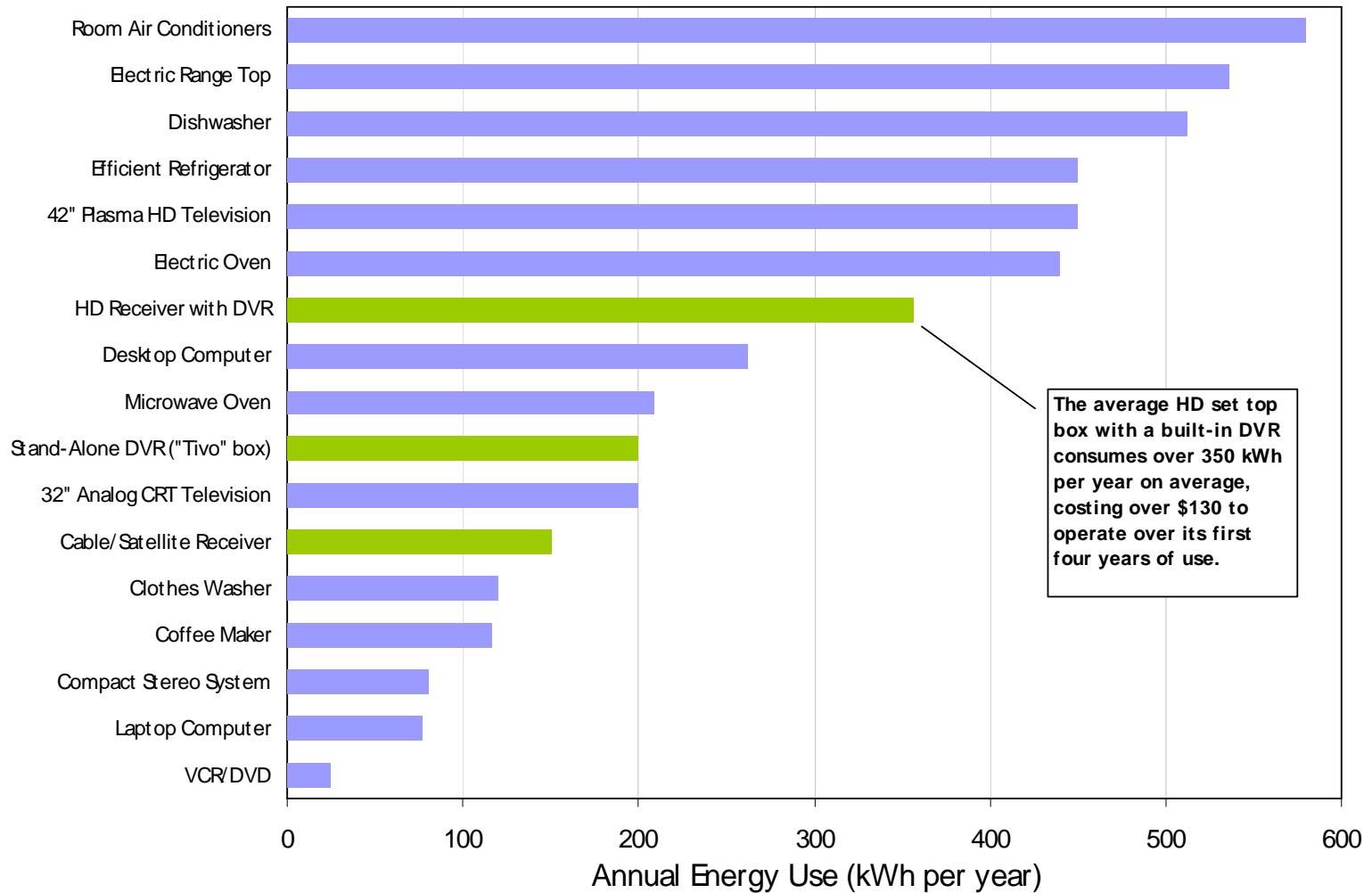
Annual Energy Consumption of Today's Set Top Boxes



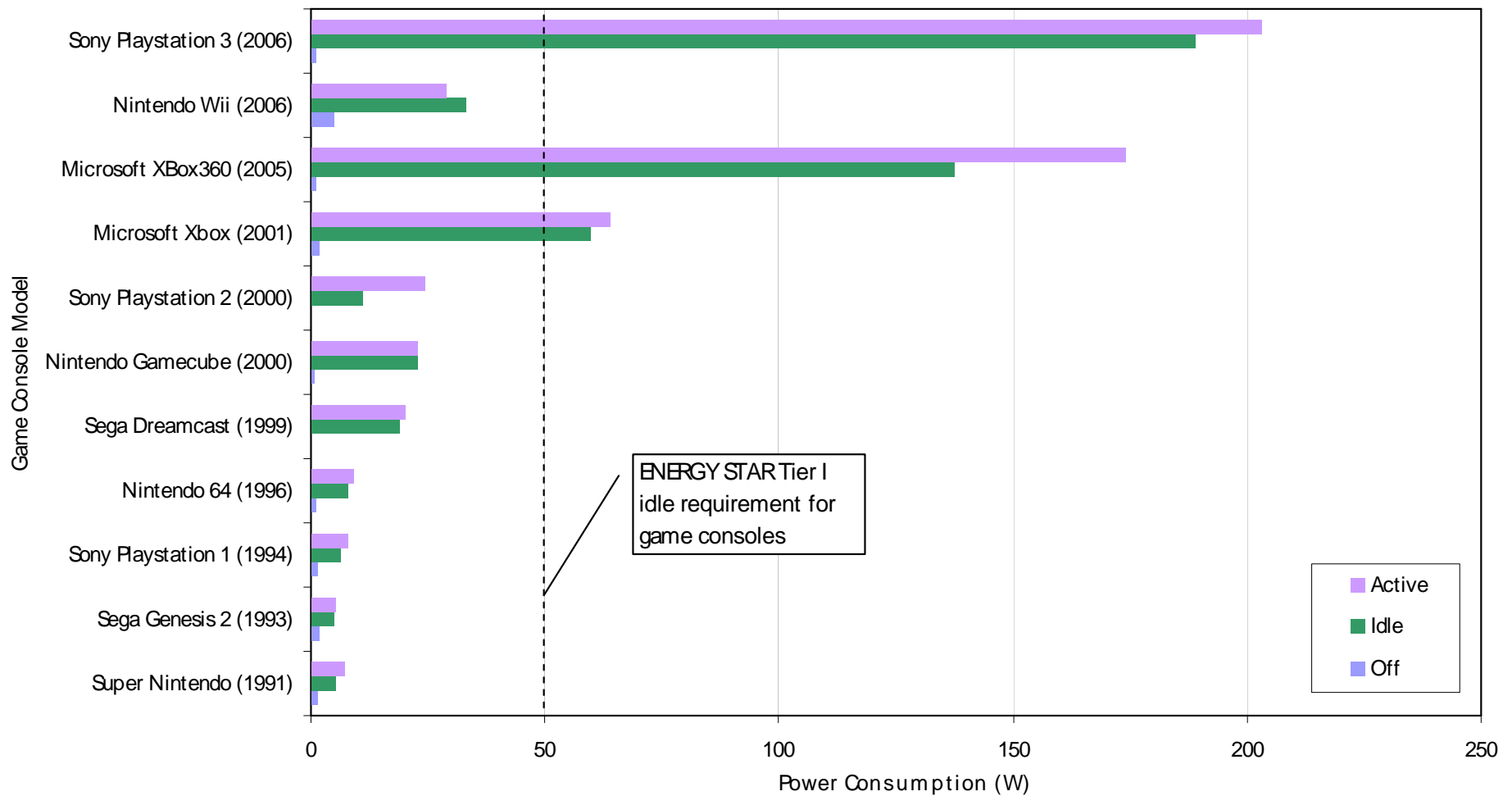
- Cable/satellite boxes without DVRs use 100 to 200 kWh of electricity per year. High definition cable and satellite boxes use only slightly more energy on average.
- Cable and satellite set top boxes with DVRs use anywhere from 200 to 400 kWh per year, or 1.5 to 2 times as much as stand-alone DVRs like Tivo or cable/satellite boxes without DVR capabilities
- Media receiver boxes like the Sling box use significantly less energy (around 35 kWh per year) but must be used in conjunction with existing A/V equipment and computers, thus adding another 35 kWh to the annual energy use of existing home electronics. New media receiver boxes like the AppleTV can be expected to use more power due to built-in hard drives.

High-End STBs Approaching the Energy Use of Other Major Appliances

Annual Energy Use of Common Household Appliances



Game Console Power Consumption



- Measured and/or researched “active” (i.e. playing games), “idle” (i.e. no active gameplay, menu screen, etc.) and “off” modes for a variety of past and present game consoles. Measurements made on current consoles (Playstation 3, Wii, Xbox360) and obtained through internet research for older vintage consoles
- Next generation game consoles are trending toward greater power consumption (e.g. compare the various generations of Playstations shown above)
- Although older game consoles consume less power, analysis shows that these consoles may still have a large installed base, meaning that aggregate power consumption is relatively significant even though individual devices power use is relatively small. (For example, see “Game Console Power Consumption” and “Video Game Console World Sales” for Playstation 2)
- “Off” power modes in game consoles do consume significantly less power than “idle” or “active” modes, unlike cable/satellite boxes