

Panasonic Comments on
ENERGY STAR Draft 1 Version 3.1
On Mode Power Level Requirements

ENERGY STAR Televisions Stakeholder Meeting

April 24, 2009

Washington, DC



Current ENERGY STAR TVs Specification

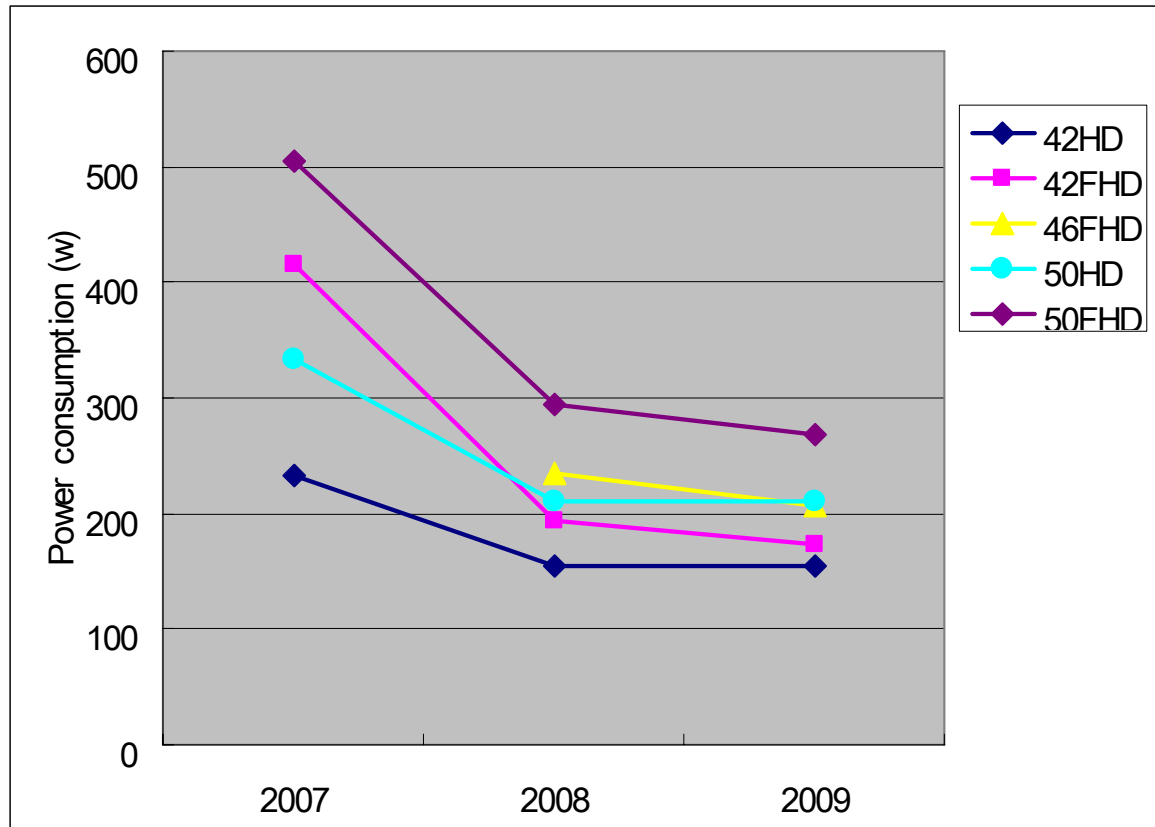
- Initial spec revision plans for Tier 2
 - EPA reiterated its intention to work with stakeholders to develop criteria to result in 25% qualification rate
 - “Watch closely evolution of both products and market conditions”
 - No additional guidelines offered
- No reference to a Tier 3
 - Setting qualification values for an effective date of 3 years out is unwise
 - Limits will be purely speculative; not based on specific supporting data
 - Better to review future models' power consumption levels then set Tier 3 qualification formula

On Mode Power Consumption

- On mode power consumption
 - To “qualify top performing (in terms of efficiency) models on the market when the specification goes into effect”
 - Dataset of 495 models used to set spec line
 - Claimed to be “representative of market in 2010”
 - No way to ensure as model introduction schedule typically in spring
 - Substantial improvements between 2008 and earlier models cannot be assumed to continue each year
 - 40% reduction in power consumption levels largely attributable to baselines
 - Future efficiency improvements in product designs will be incrementally less due to maturing technologies

Rate of Efficiency Improvements Will Slow for Maturing TV Technologies

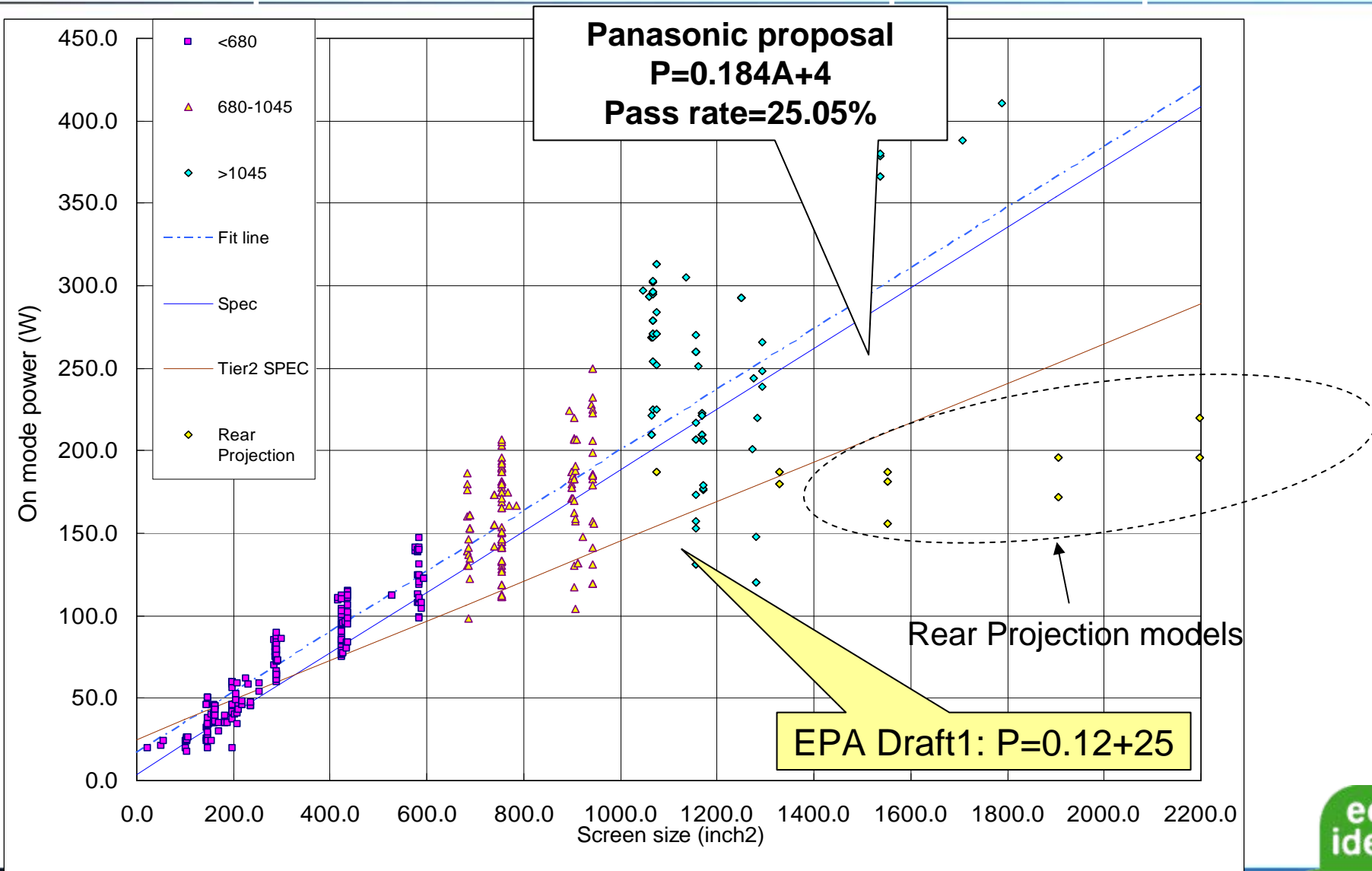
- Dramatic efficiency improvements over past 3 model years
 - Rate of improvement likely to slow in future
 - Annual percentage improvements of +30 to 40% not sustainable



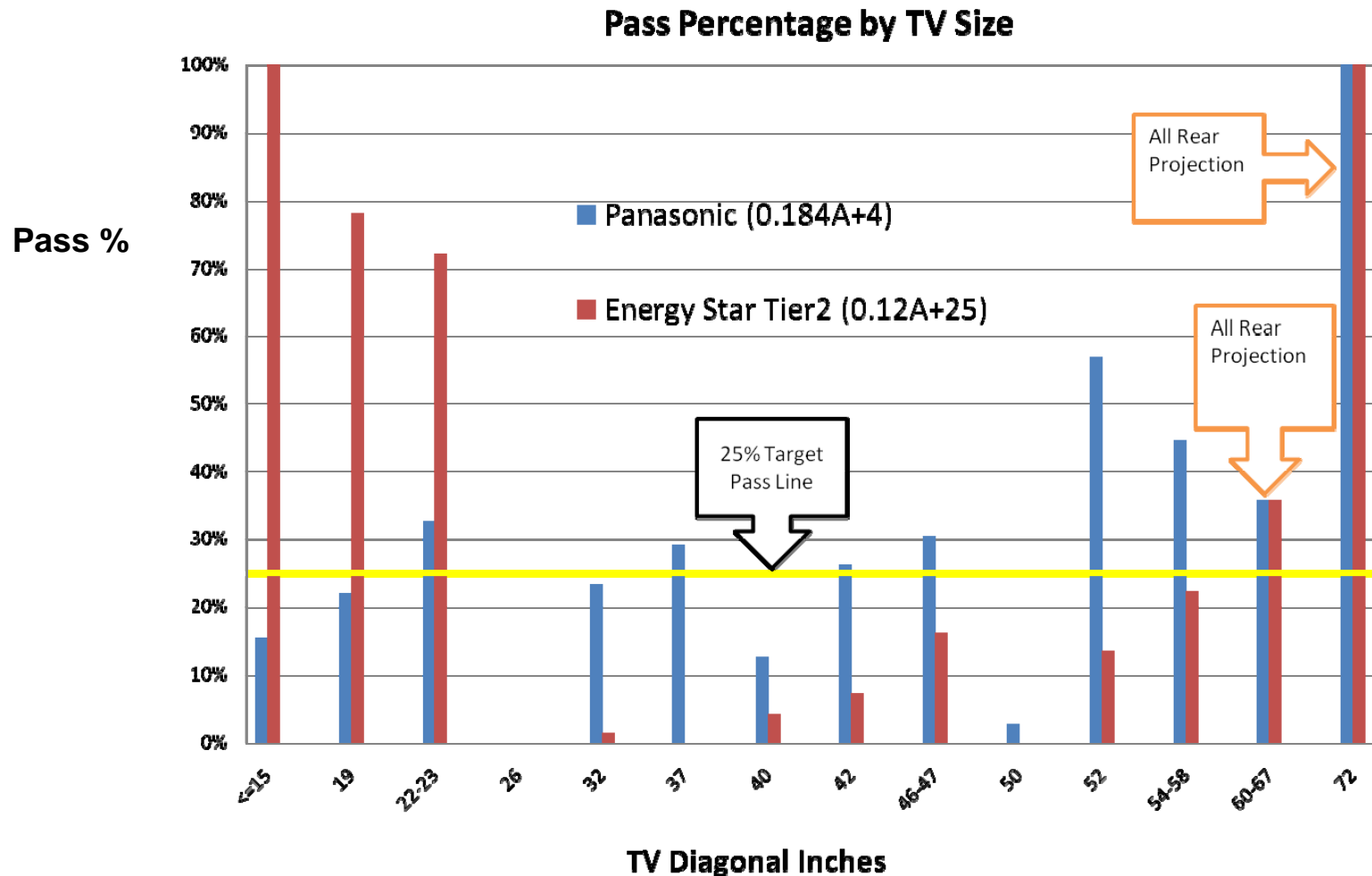
ENERGY STAR Challenge Tied to On Mode

- Need to create robust spec must be balanced by equitable approach
 - Spec qualification should not be constrained by display size or technology
 - Version 3.1 draft 1 on mode formula line disproportionately qualifies smaller size displays; unfairly weights disappearing technologies
 - Revised slope line should treat all sizes fairly
 - Not qualify 100% of models in any popular size category
 - Strive to maintain overall 25% qualification rate
 - Panasonic proposal to address above concerns:
 - $P=0.184A+4$
 - Slope based upon best linear fit of EPA data base
 - Intercept adjusted for 25% pass rate

Comparison of Panasonic Proposed Slope Line



Qualification Rates Should be Spread Across Sizes



Summary of Panasonic On Mode Power Position

- Tier 2 levels cannot be supported in terms of available larger size displays (above 40 inches)
 - DLP models from only one manufacturer should not be basis for severe slope at larger sizes
 - Prohibitively expensive LED LCD and OLED TVs should not be factored into dataset
 - Niche products like “Laservue” TV should not be factored into dataset
- Tier 3 NOT discussed under ENERGY STAR 3.0
- Perceived need to establish extremely “challenging” limits 3 years out is not wise direction
 - Better to leave levels TBD until supporting data; informed evaluation of market trends can be reviewed
- Panasonic proposal for calculating 3.1 Tier 2 on mode power consumption limits: $P=0.184A+4$
 - Addresses qualification disparities inherent to Draft 1 proposal
- Extremely challenging limits on power consumption could block development and implementation of new product features, technologies
 - 3D TV, higher resolution