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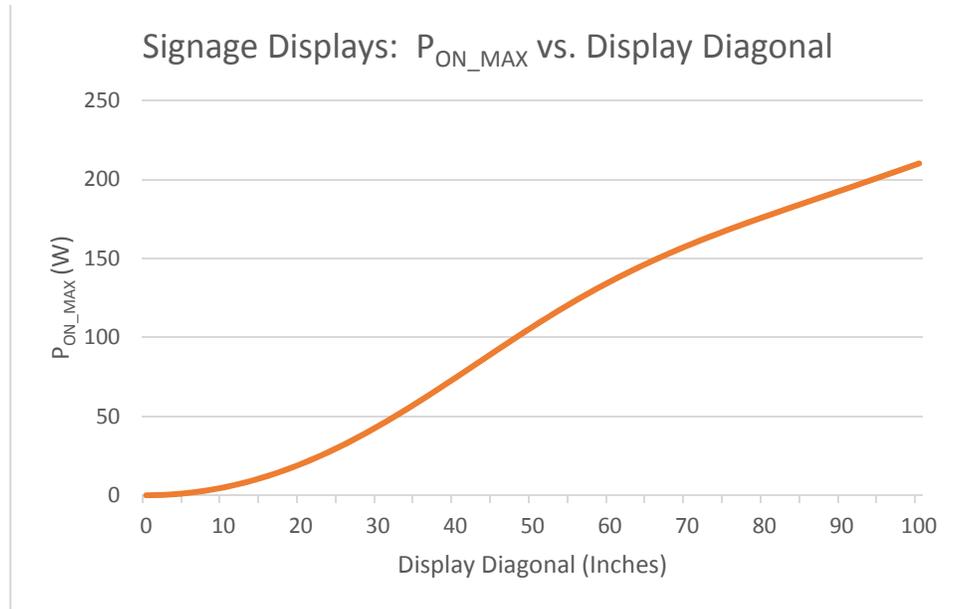
Dear James,

Founded in 1983, headquartered in Beaverton, Oregon, Planar, a Leyard company, is a global leader in display and digital signage technology, providing premier solutions for the world's most demanding environments.

As such, we believe we are in a strong position to provide recommendations that will increase participation and adoption among commercial signage display manufacturers and we sincerely appreciate the opportunity to provide feedback on the Draft 1 Version 8.0 ENERGY STAR Displays specification. Our feedback and resulting recommendations are outlined below.

**Maximum On Mode Power ( $P_{ON\_MAX}$ ) is too restrictive for larger displays**

Because of the usage of the hyperbolic tangent function in calculating the Maximum On Mode Power, the rise in  $P_{ON\_MAX}$  continuously decreases as the display diagonal increases, starting at a display diagonal of about 43". For larger displays, this means a disproportionately low percentage increase in  $P_{ON\_MAX}$  compared to the percentage increase in display area. For example, an 85" display has 28.4% greater area than a 75" display, but the total increase in  $P_{ON\_MAX}$  is only 10.3%. The graph below reflects this disparity.



We have observed that displays with a diagonal greater than 75" have substantial difficulty in meeting the P<sub>ON\_MAX</sub> requirements listed in Section 3.4.1 of the draft standard. Accordingly, as of the time of this writing, only 2 of 180 signage displays listed on the ENERGY STAR website are above 75", representing a very small percentage of total displays in that size category. We believe that signage display participation in the ENERGY STAR program would increase if the P<sub>ON\_MAX</sub> requirements were relaxed to be more representative of available large format display power efficiency.

### Large signage displays are unfairly judged compared to tiled display walls

Large displays, such as 98", directly compete with smaller narrow bezel displays, such as a 2x2 array of 49" LCD panels. However, this tiled array of 49" displays has a substantial advantage in terms of Maximum On Mode Power. Under the Draft 1 Version 8.0 requirements, each 49" display has a P<sub>ON\_MAX</sub> of around 103.5W, allowing the 2x2 array of displays to consume up to 414W. In contrast, a 98" display, comprising the same active area as the 2x2 array of 49" displays, has a P<sub>ON\_MAX</sub> of 206.7W. The 98" display is therefore at a significant disadvantage under the current standard, and customers may assume that their 2x2 array of 49" ENERGY STAR certified displays are more power efficient than a competitive 98" non-ENERGY STAR certified display, when in fact the 49" displays could in fact be considerably less power efficient.

Resolving the current power consumption inequality between comparably sized tiled and non-tiled display walls is a key factor in increasing participation by larger signage displays in the ENERGY STAR program.

### Tiled display architectures with off board video processing are ineligible for certification

While the Draft 1 Version 8.0 standard defines an Electronic Display such that all components do not need to reside in a single enclosure, it does not contain provisions for architectures that drive multiple

displays. Tiled display architectures, with off board processors intended to drive multiple displays, are becoming prevalent in the market with LCD video wall systems such as the Clarity® Matrix® G3 and LED displays such as the Leyard® DirectLight Series. While the subcomponents of these architectures could potentially be individually certified, the off board video processors in these designs are ineligible to be certified under the Version 3.0 ENERGY STAR Audio/Video specification. An AV Product under that standard must have “Audio Amplification and/or Optical Disc Player functions”, and most video wall controllers meet neither of these requirements. Accordingly, tiled display systems with off board video processing are currently unable to achieve ENERGY STAR certification.

Increased participation in the ENERGY STAR Displays program would occur if explicit certification criteria were defined for tiled video wall systems containing off board processing electronics.

### Recommendations

In summary, we propose the following recommendations to address the concerns stated above:

1. Increase  $P_{ON\_MAX}$  for signage displays such that it meets the following criteria:
  - a. The rate of increase in  $P_{ON\_MAX}$  is more closely related to increase in area.
  - b. The overall  $P_{ON\_MAX}$  value for a larger display is fair in comparison to multiple tiled displays that comprise the same area.
2. Create a specific product class for tiled displays with off board processing, potentially with similar Maximum On Mode Power requirements as comparably sized signage displays. As the overall area of these tiled displays can vary considerably between installations, we propose definition of separate power consumption criteria for the processing and display components of the system.

Thank you for your consideration of this feedback, and please do not hesitate to contact us if you would like to discuss these requests in greater detail.

Best Regards,



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