



## Proposed Edits to the Equation for Determining On Mode Power Consumption for TVs with Automatic Brightness Control

### **Background**

On the November 6, 2007 TV call, stakeholders requested that EPA review the equation provided for determining the On Mode power consumption of TVs with Automatic Brightness Control (ABC) in the Draft 2 Version 3.0 TV products specification. Stakeholders noted that the equation was based on the JEITA standard used in Japan, but TV viewing in Japan is typically in brighter ambient light conditions than in the United States. EPA was requested to review Nielsen data to determine how much TV is typically watched at night domestically, and use that as a proxy for the amount of time TV is viewed in low ambient light settings.

### **Equation as Currently Proposed in the Draft 2 specification:**

$P_A = 0.75 * P_{Max} + 0.25 * P_{MIN}$ , where  $P_A$  is the average On Mode power consumption in watts and rounded to the nearest whole number, taking into consideration that the TV will be in low ambient light level conditions one-quarter of the time;  $P_{Max}$  is the average On Mode power consumption in watts and rounded to the nearest whole number, determined by the applicable equation provided in Table 1, above, and tested with a minimum ambient light level of 300 lux entering directly into the sensor; and  $P_{MIN}$  is the average On Mode power consumption in watts and rounded to the nearest whole number, determined by the applicable equation provided in Table 1, above, BUT when tested with an ambient light level of 0 lux entering directly into the sensor.

### **Proposed Revision to the Equation:**

$$P_A = 0.55 * P_{Max} + 0.45 * P_{MIN}$$

### **Reasoning for Proposed Change:**

Based on Nielsen data for 2005, approximately 45% of TV viewing in the U.S. occurs during the evening and night. (Early Fringe: 4:30 p.m. – 7:30 p.m. Monday through Friday; Primetime: 8:00 p.m. – 11:00 p.m. Monday through Saturday and 7:00 p.m. – 11:00 p.m. Sunday; and, Late Fringe: 11:00 p.m. – 1:00 a.m. Monday through Sunday.) Per stakeholder request, EPA has used this information to approximate the percentage of time that viewing occurs in low ambient light conditions and modified the equation for TVs with ABC accordingly.