EEDAL'06

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Contributions to New TV Test Method

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Existing Methods

- IEC 62087
- JEITA
- Possible Replacements

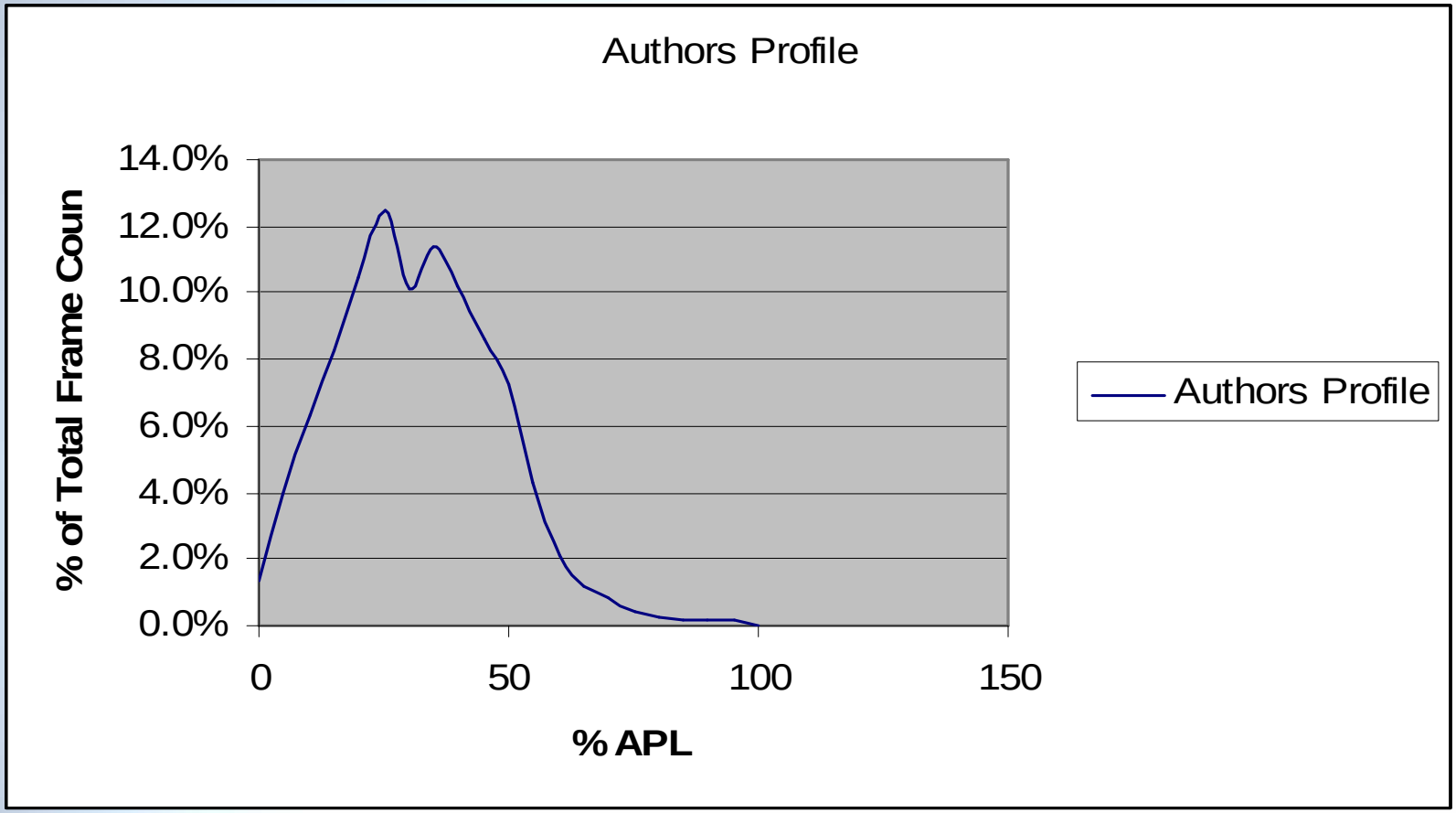
IEC 62087

- Uses a three bar black and white pattern for the measurement of ON Mode Power.
- This pattern has an APL of 50%.
- Most TVs at this APL level will show a power consumption of 100%
- This pattern therefore, in effect, will give the same power measurement as a 100% APL white raster in most cases.
- TVs are actually showing pictures with APLs below 50% ninety percent of the time
- The suitability of this test pattern must be questioned.

JEITA

- This uses four patterns. 0% Black, 100% White Raster, three bar Black and White and Colour bars both with an APL level of 50%.
- The results of these measurements are then averaged according to the formula:
  - **((Pw+Pb)/2 + Pc + Pt)/3**
    - **Where;**
    - **Pw is Power Measured with 100% white**
    - **Pb is Power Measured with 0% Black**
    - **Pc is Power Measured with Colour Bars**
    - **Pt is Power Measured with Three Bars**
- This method is more accurate because power consumption at black level is measure.
- APL samples show the highest 0% APL frame count was 3.3%.
- This method gives effective weighting of 16.75%for black and 83.75 for white.

Sample Profile (Authors Viewing Habit)



Test Pattern Option – Must be moving Patterns

APL Level	Weighting
5%	10%
15%	10%
20%	10%
25%	10%
30%	10%
35%	10%
40%	10%
45%	10%
50%	10%
100%	10%

Modelled Results

Model	Authors Profile	Simple APL	% Variation	JEITA	% Variation	IEC62087	% Variation
Plasma 42 Inch	184	192	104.4%	217	117.5%	210	114.0%
Plasma 42 Inch	209	216	103.3%	250	119.6%	250	119.7%
Plasma 42 Inch	270	274	101.7%	300	111.0%	336	124.5%
Plasma 42 Inch	317	318	100.3%	307	97.1%	330	104.2%
Plasma 42 Inch	300	302	100.6%	303	100.8%	330	109.9%
LCD 40 Inch	182	181	99.9%	172	94.5%	191	105.2%
LCD 26 Inch	117	117	99.9%	116	99.1%	118	101.2%
LCD 26 Inch	105	106	100.4%	106	100.6%	110	104.6%
CRT 32 Inch	109	110	101.1%	123	113.3%	129	118.7%
CRT 29 Inch	107	108	100.6%	111	103.4%	119	111.1%
CRT 33 Inch	150	151	100.6%	157	105.0%	169	112.7%
CRT 32 Inch	68	72	105.4%	78	114.5%	72	105.9%
CRT 32 Inch	129	128	99.9%	126	97.9%	132	102.7%
CRT 36 Inch	165	166	100.6%	173	104.5%	182	110.1%
CRT 36 Inch	252	253	100.4%	259	102.7%	274	108.7%

The way forward

- There are many possible test video including moving pictures and moving test patterns.
- Work needs to be done to determine the best test video and validate the choice.
- IEC WG is positively working to this end.