



Application Note of RGBW

AV GD PM
2010-Jul.

RGBW Side Effect

Lower Brightness in Saturated Colors

- **Phenomenon**

- Lower brightness of **Red, Green, Blue, Yellow, Cyan, Magenta...** (saturated colors)



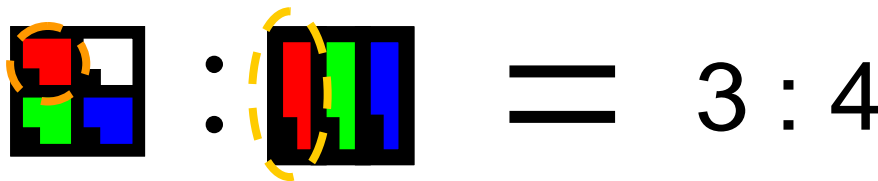
RGBW



RGB

- **Cause**

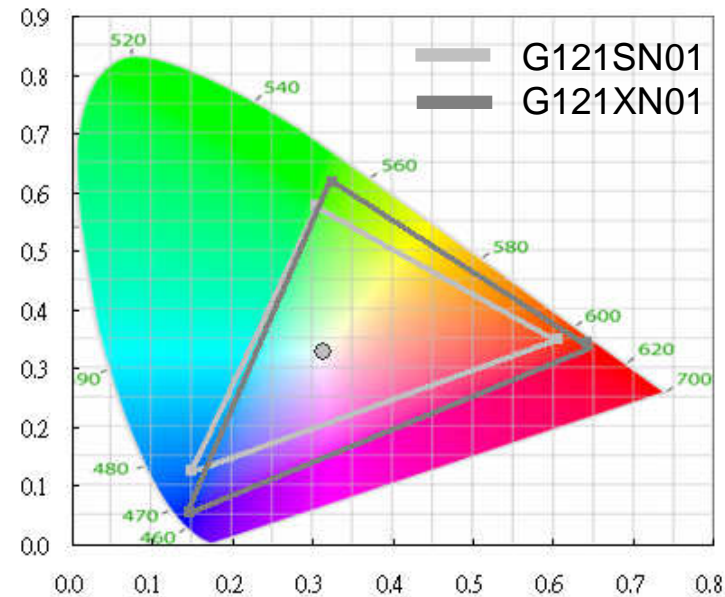
- Since W sub-pixel were not be turned on when display saturated colors, \$RGBW panel only has less than 75% brightness comparing with RGB display in saturated colors



RGB & RGBW Design Comparison

G121SN01(RGB) vs G121XN01(RGBW)

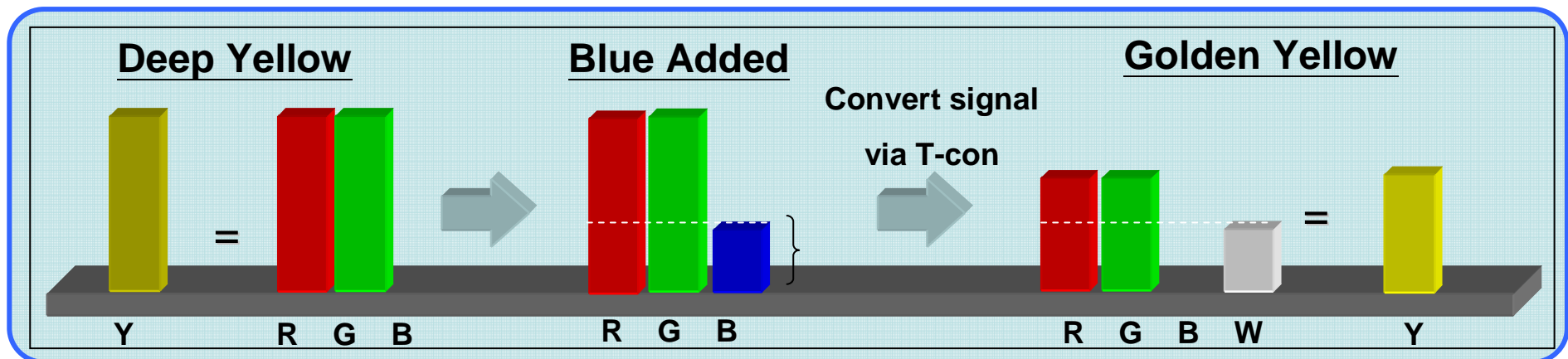
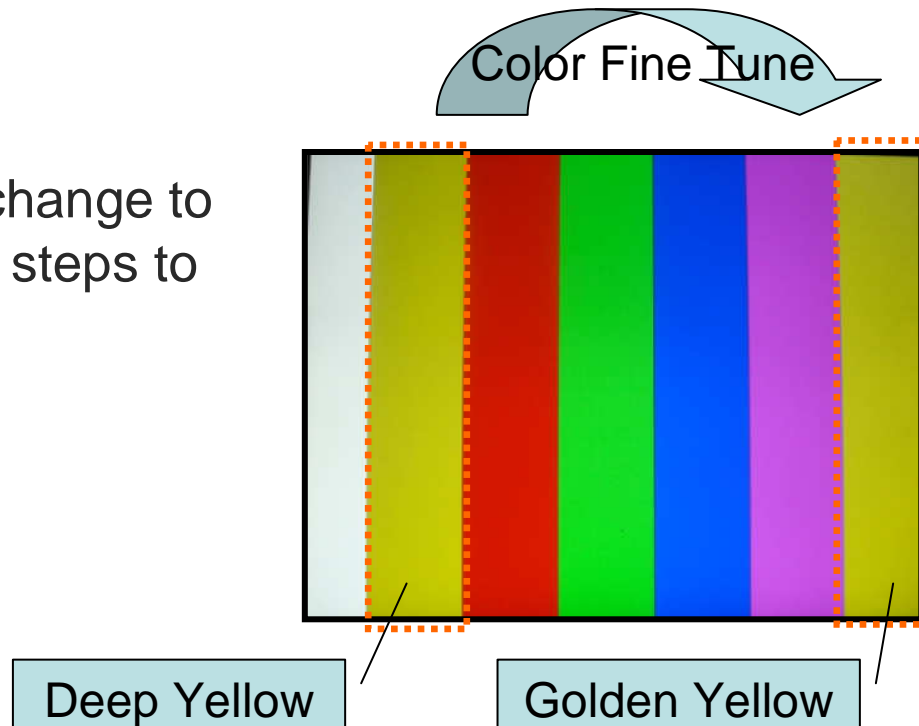
- NTSC: G121XN01(70%) > G121SN01(55%)
- The saturated color of RGBW is right, but luminance loss make the false appearance of dark saturated color.
- AUO suggestion: customer can add the third color to gain higher luminance to compensate it.



Fine-tune Color on RGBW Display

Ex: G121XN01

- For deep yellow color change to golden, to follow below steps to fine-tune to reach it



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