

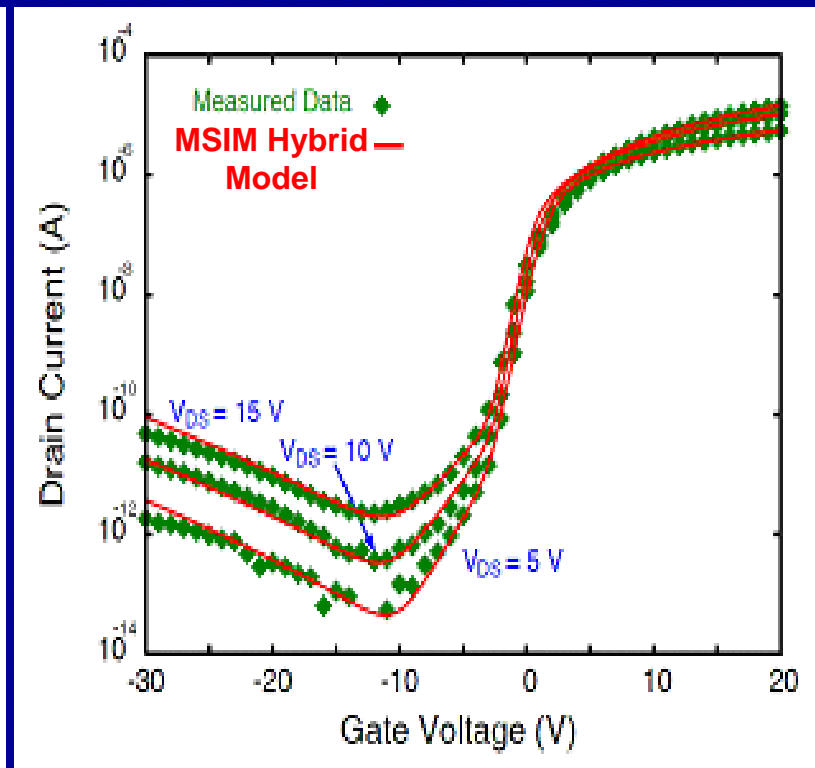
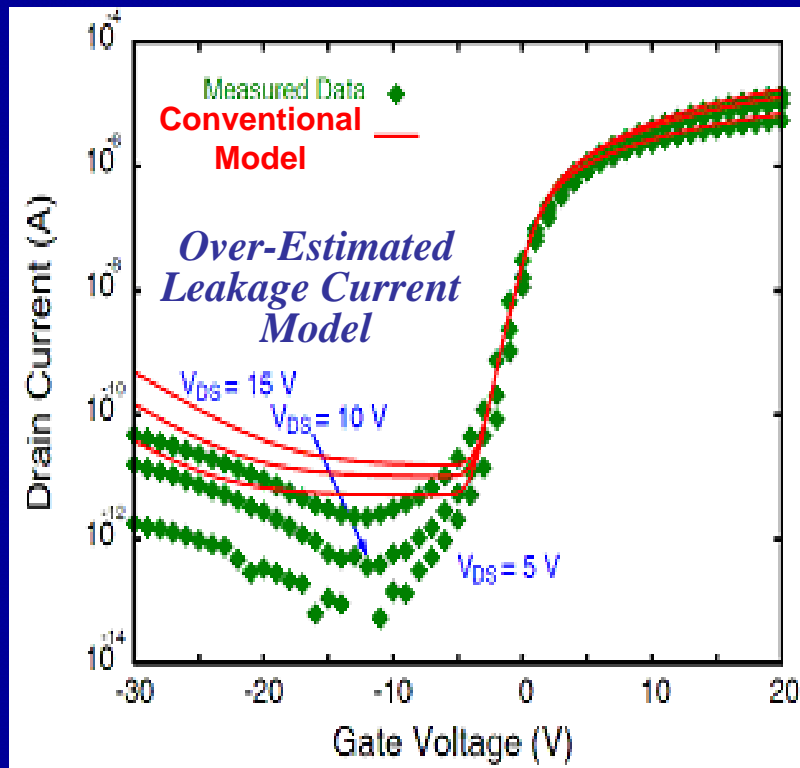
# Flicker Effects Analysis

Due to Leakage Current of LED-BackLite

- ◆ Leakage current of LCD panel will increase with the intensity of LED-BackLit
- ◆ The impacts of Leakage currents will be
  - Power consumption
  - Flickering / image-sticking effects
- ◆ Accurate simulation due to leakage current is critical for optimizing LED TV performance such as minimizing the flicker

# Leakage Current Model

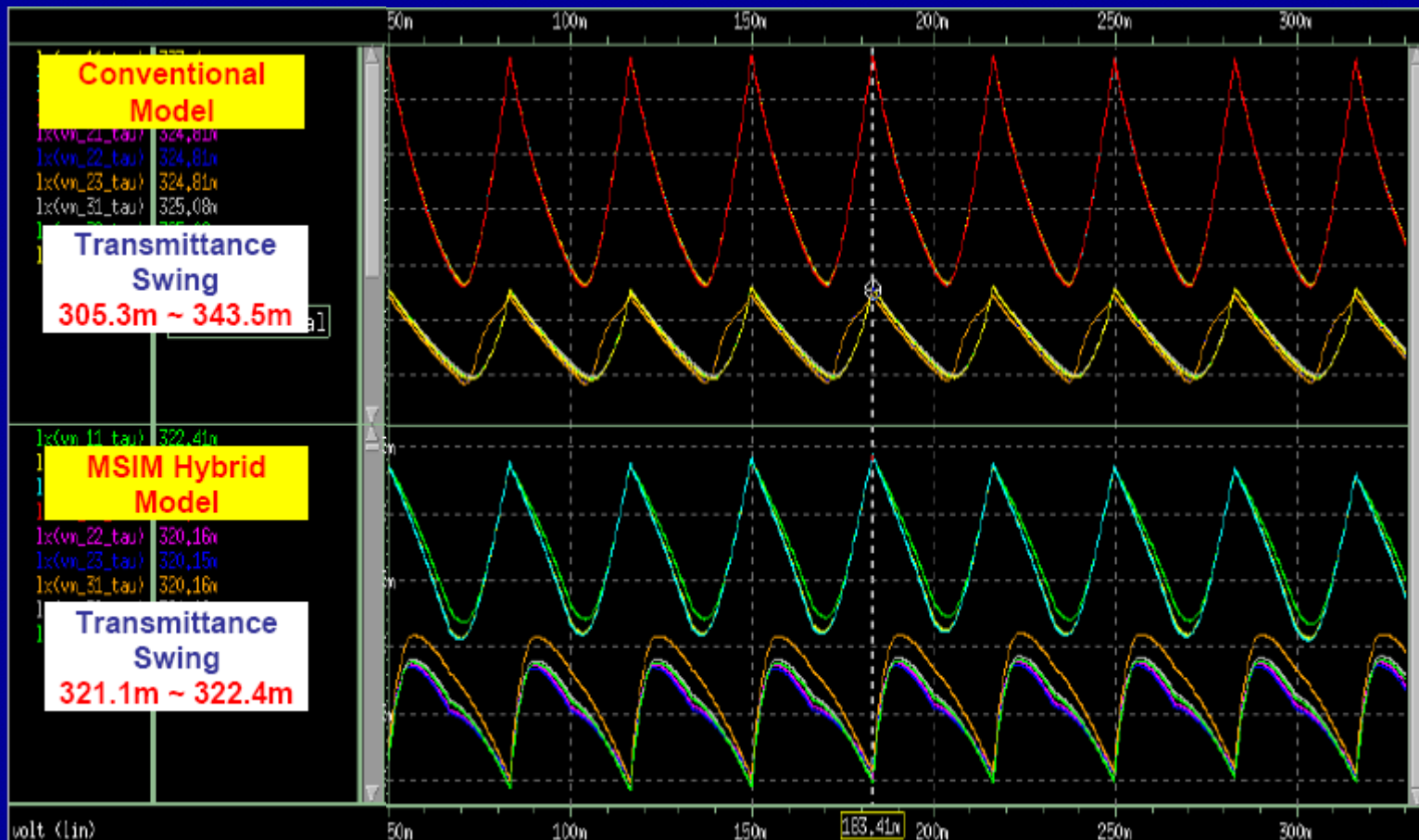
## Hybrid Model vs Conventional Model



MSIM Hybrid Modeling takes the existing TFT models as the base, and correct them by 'Raw Data' for accuracy and special effects

# Flicker Effect Analysis

## Simulation Results by MSIM-LCD





# Flicker Effect Analysis

## Wrong Judging by Conventional Model

- ◆ Transmittance is normally required to be under -20db at 30Hz for the acceptable flickering
- ◆ Simulation results and analysis

Model	Max T	Min T	DB	
Conventional	343.5m	305.3m	-18.61db	<i>Falsely Fail</i>
MSIM Hybrid	321.1m	322.4m	-47.89db	<i>Correctly Pass</i>

- ◆ Over-estimated leakage current by conventional model will cause wrong judging on flicker effect.