

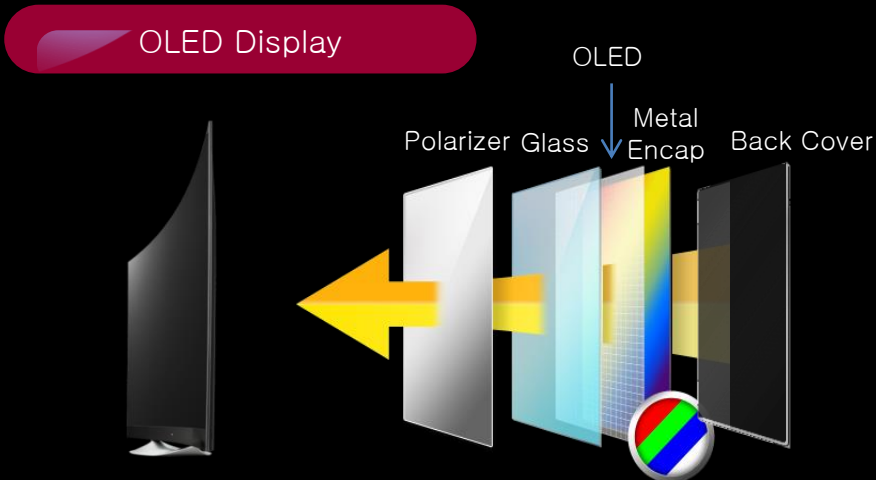
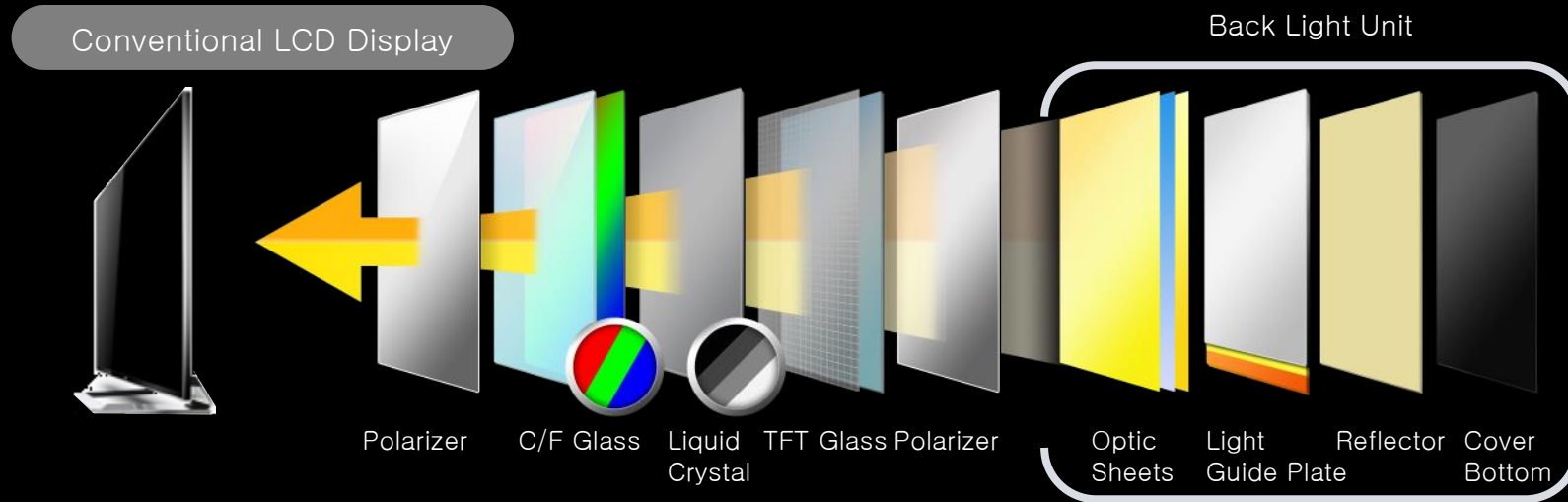
OLED

*Nothing to be Compared!*



# #. Structure of OLED Panel

OLED does not require the backlight unit nor the liquid crystal layer.



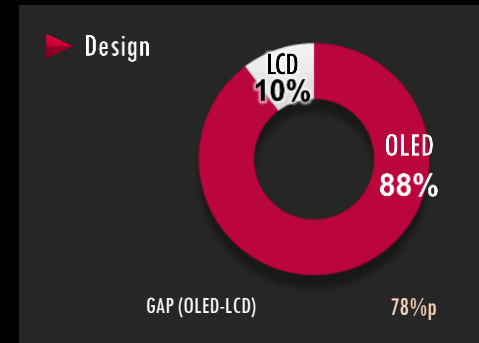
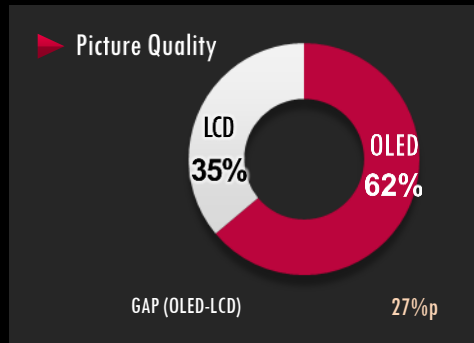
## The Self-Emissive OLED Display

- No Back Light Unit
  - Light leakage free
- No Liquid Crystal Layer
  - Wide viewing angle
  - Faster response time
- Simple Structure
  - Less components
  - Slim / sleek design

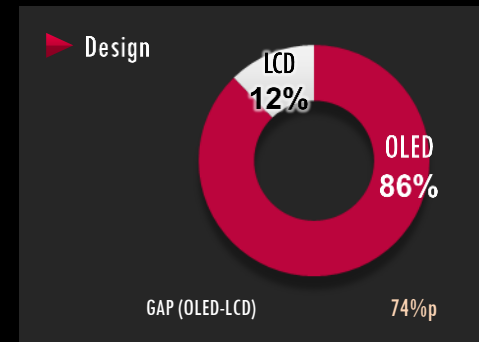
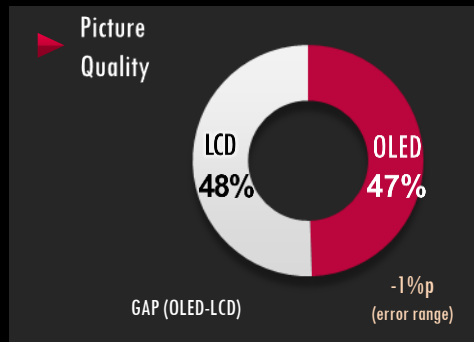
# 1. Consumer Research

The result of the consumer survey in terms of picture quality & design in China/US./Germany shows that OLED is superior to LCD.

## Preference Comparison (65 UHD OLED vs. 65 UHD LCD)



## • Preference Comparison (55 FHD OLED vs. 65 UHD LCD)

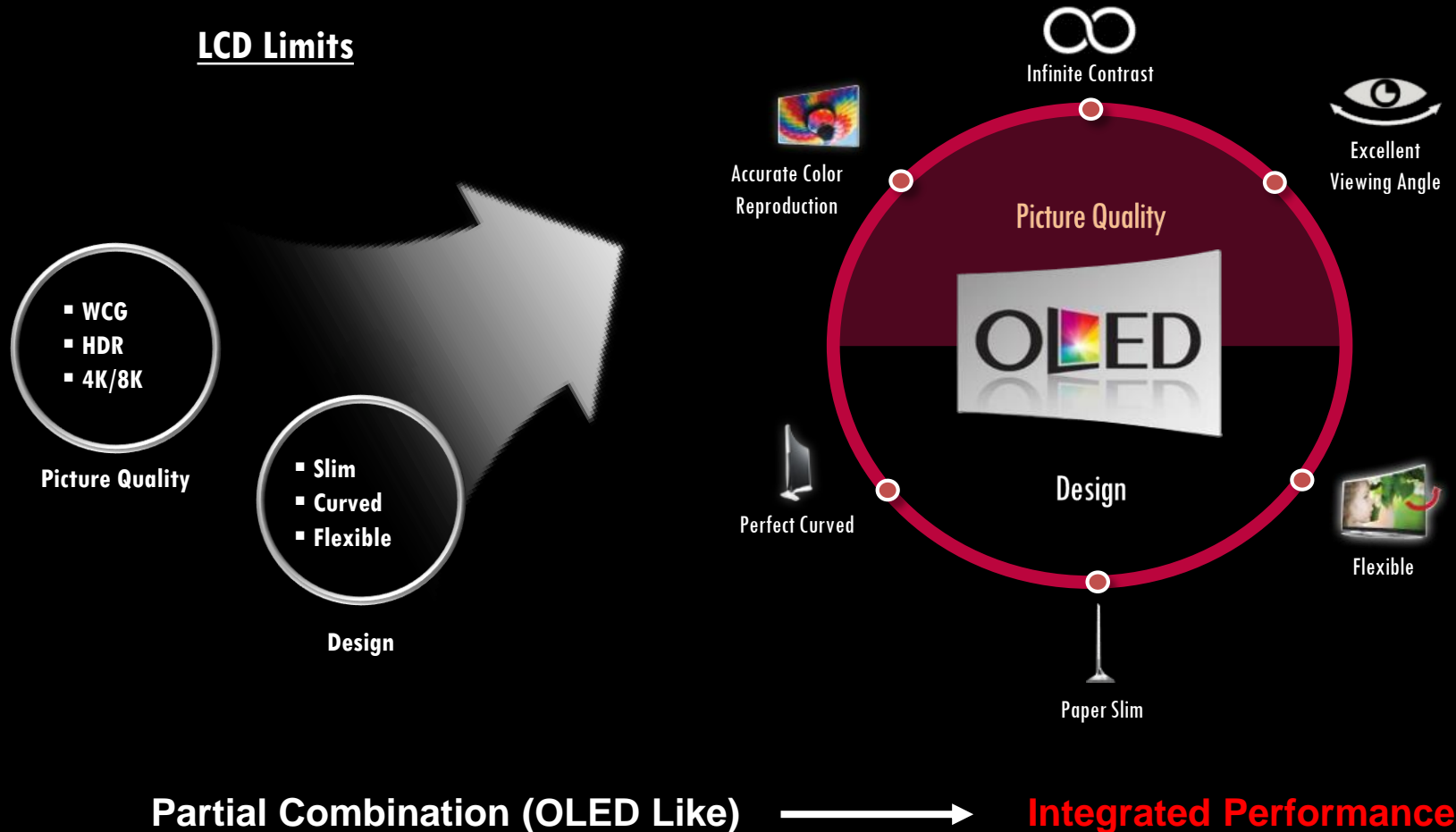


Source: Consumer Survey, upper 30% income, 55" and over \$1500 TV Purchased/purchase intended (TNS, '14.12~'15.01)

※ Total Preference (Avg. of China, U.S., Germany), Brand / Price information not revealed

## 2. The Next Display, OLED Display

OLED is a new display technology that overcomes the limits of the current displays in terms of picture quality and design.



# 3. 5 Superiorities of OLED Display

- Key Slogan

- OLED, Nothing to be Compared!


- 5 Superiorities of OLED Display

- |   |                        |   |                        |   |
|---|------------------------|---|------------------------|---|
| 1 | Perfect Black          |    | Perfect Black          | Pure black with self-lightning pixels                         |
| 2 | Perfect Color          |    | Perfect Color          | Accurate & stable color reproduction                          |
| 3 | Perfect Viewing Screen |    | Perfect Viewing Screen | No color distortion from any viewing angle                    |
| 4 | Perfectly Clear Motion |  | Perfectly Clear Motion | Vivid & clear image with 5,000 times faster MPRT              |
| 5 | Perfect Design         |  | Perfect Design         | Slim & light design<br>Future displays with free form factors |

# 3. 5 Superiorities of OLED Display

1) Perfect Black

Self-lightening pixels of OLED produce infinite contrast and perfect black without light leakage.

|                             |   |  |
|-----------------------------|---|--|
|                             | <p><b>*Flagship LCD</b></p>  <p>• C/R : 3900:1</p> | <p><b>OLED</b></p>  <p>• C/R : Infinite</p> |
| <p><u>Black</u></p>         |   |  |
| <p><u>Halo Artifact</u></p> |  <p>• Black Luminance : 0.2 nit</p>               |  <p>• Black Luminance : 0 nit</p>          |

# 3. 5 Superiorities of OLED Display

OLED provides accurate & stable color reproduction.

Flagship LCD

OLED

- OLED : Accurate color expression of the input signal

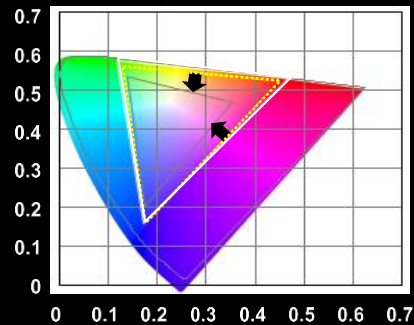


Color Saturation (Pinky)

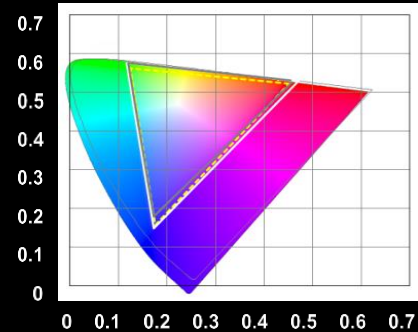


Exact Color (Red)

- OLED always produces accurate colors for both bright & dark images.



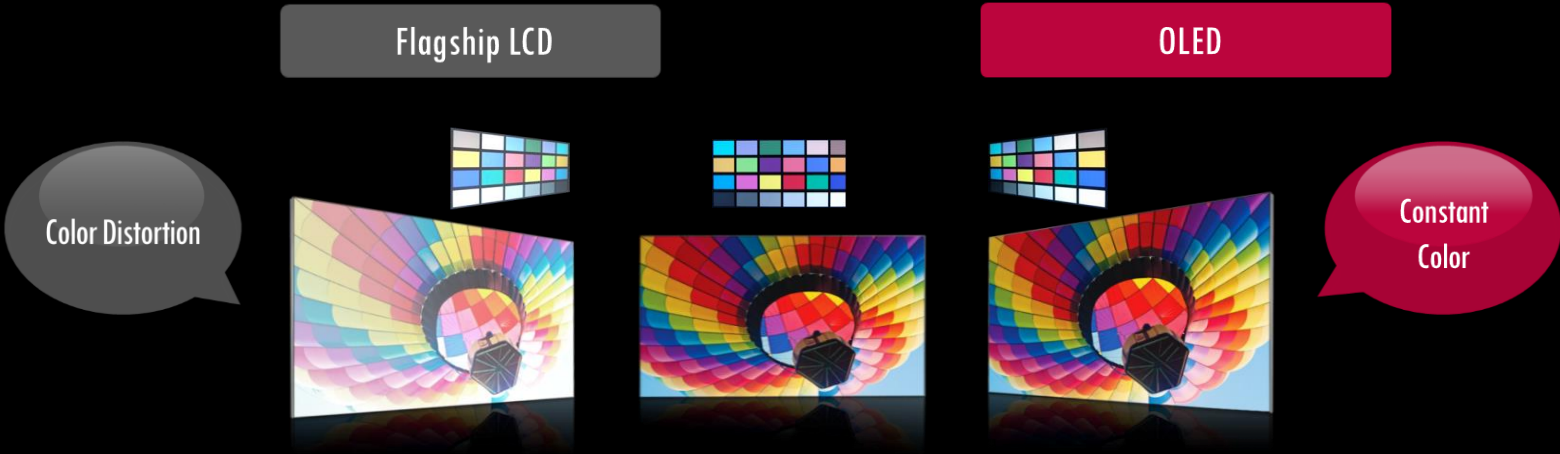
--- BT.709  
— Bright Image  
— Dark Image



# 3.5 Superiorities of OLED Display

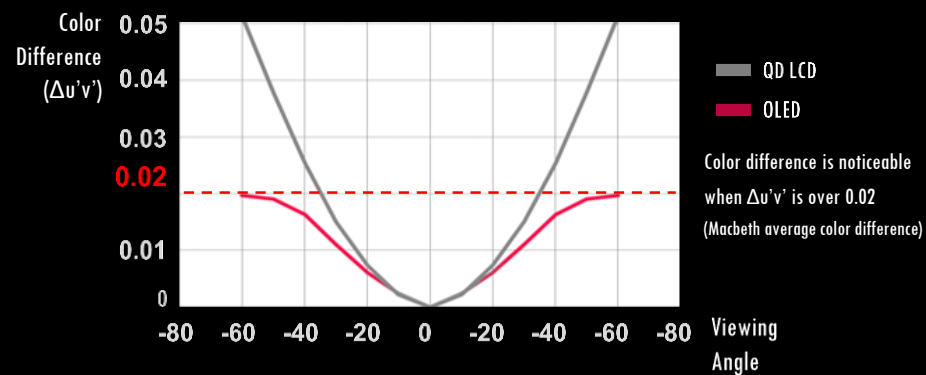
## 3) Perfect Viewing Screen

OLED has a very wide viewing angle, because of the self-lighting pixels.



Color Viewing Angle

✓ OLED : 120° > QD LCD : 70°





# 3.5 Superiorities of OLED Display

## 4) Perfect Clear Motion

Faster response time of OLED provides clear images without image blurring.

Flagship LCD



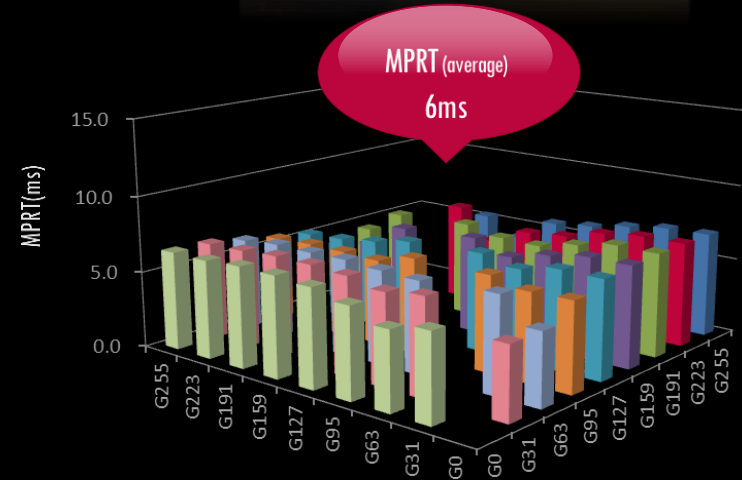
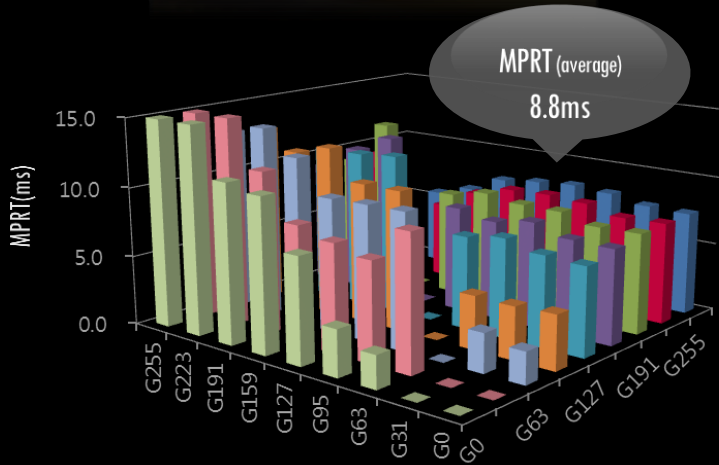
OLED



- Advantages of self-lighting pixels

| Category   |                    | LCD  | < | OLED  |
|------------|--------------------|------|---|-------|
| *MPRT (ms) | Average            | 8.8  | < | 6     |
|            | Standard Deviation | 3.22 | < | 0.7   |
| *GTG (ms)  |                    | 5    | < | 0.001 |

\* Lower MPRT creates less image blurring

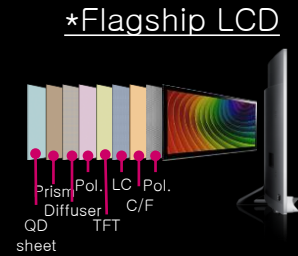


\*MPRT (Motion Picture Response Time), GTG (Gray to Gray)

\*65" QD LCD basis (LGD internal test)

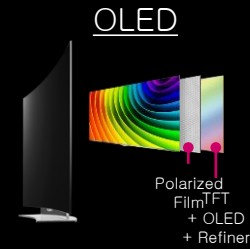
### Concept

Slim



Competitor's 65" (JS9500)  
: Slimmest 35mm / Thickest 67mm

1/5  
Slimmer



LG 65" (EG9600)  
: Slimmest 5.97mm / Thickest 49.9mm

Light

\* Flagship LCD



Competitor's 65" (JS9500)

OLED



LG 65" (EG9600)

30%  
Lighter

Future Display

