How Samsung Display’s QA Process Guarantees Quality in Performance

The importance of public information display across multiple industries has become increasingly apparent as technology continues to spread through public spaces the world over. So much so that PwC predicts that spending on digital out-of-home advertising will reach $10.94 billion by 2020.

In addition to performance and innovation, the commercial display buyer needs reliability. Why does reliability often trump every other feature? Commercial applications can include mission-critical applications, so downtime, repair, or replacement needs to be avoided by a commercial buyer. The cost of downtime is not only time spent non-operationally, but also could lead to loss of revenue (i.e., in retail) or inability to perform functions (i.e., in control rooms), leaving a bad customer image.

For the last ten years, Samsung Display has strived to earn the customers’ trust. A pivotal part of this trust comes from the rigorous testing that occurs before the display panel is shipped to the customer.

So what makes Samsung Display’s testing processes so different?

The Samsung Display difference

Samsung Display’s panels are made to tolerate long continuous hours of operation, high temperatures, ambient dust and heavy-duty usage. Commercial display panels are built to perform 24/7 without loss of image quality, brightness, contrast, or any other factors that could potentially disrupt your message. With this in mind, Samsung Display performs tests on 100% of their samples using a ten-step process, compared with most competitors that only use a six-step testing process. Most of these tests are administered in both portrait and landscape modes.

Here are some highlights of the testing measures employed by Samsung Display to ensure you always receive the best panel.

High Temperature Operating Life (HTOL)

Used to determine the reliability of integrated circuits, this test exposes integrated circuits to a high temperature of 50/60℃ for 500 hours.

Wet High Temperature Storage (WHTS)

Used to determine the reliability of displays under high humidity/high heat environments, Samsung Display tests all samples at 60℃ and 75% relative humidity for 500 hours.

Thermal Cycle Testing

This test examines the durability of the display components and internal structures to withstand mechanical stresses induced by alternating them through hot and cold temperature extremes.

Image Sticking

The image sticking reliability test is used to determine image retention on screen at 50℃ with 168 hours on, with a fixed screen image and one-hour release.

Dust

Helps to determine dust infiltration to the screen over ten hours at ordinary temperatures and humidity—ten minutes on and ten minutes off.

Test Strep Stress (TSS)

This test exposes Samsung Display's screens in sudden temperature changes for 220 temperature cycles. Samsung tests between -20℃ to approximately 65℃ with an acceleration of -25℃ to around 80℃.

Altitude

Altitude affects the design of power supplies since air is used as an electric insulating medium in the construction of any display solution. Samsung Display tests its display's performance at 0℃ at 50,000 feet for 48 hours during non-operation.

Why should you demand these tests for your display?

Since professional displays are intended to perform in various environments, it's imperative that quality assurance pushes their tolerance to the limit. Samsung Display tests more variables with higher benchmarks than any other competitor to guarantee the quality of every display they produce. See what Samsung Display's durable, reliable screens can do for your business.