

Samsung Develops 1.72" Super-reflective LCD Screen for Cell Phones

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Samsung Electronics announced that it has developed a 1.72-inch super-reflective (SR) LCD screen that can be read easily outdoors even when the sun is shining brightly. The reflectance rate for the new transreflective SR LCD technology is three times that of the usual qVGA-resolution (128x160 pixels) mobile displays available today.

Samsung Electronics has applied silver with high reflectance instead of aluminum to achieve the breakthrough. At the same time, the company developed a new reflective lens that greatly improves the rate at which light is concentrated into pixels. In addition, light entering the 1.72"

LCD can be fully harnessed due to improved transmittance capabilities of the polarizer and color filter.

Moreover, to prevent any increase in power consumption, Samsung chose to combine the super-reflectance technology with transflective (illuminated the screen from front and back) rather than transmissive (illuminated from behind the screen) panel technology. The transflective mode makes more effective use of natural outside lighting than the transmissive mode, while the transmissive mode instead would have increased power consumption by requiring a brightness of at least 300nit to sufficiently improve outdoor visibility.

The super-reflective 1.72” LCD has a brightness of 100nit, a contrast ratio of 220:1/30:1 (transmission/reflection) and 50 percent color saturation.

Executive Vice President Jin-hyuk Yun of the Mobile Display Business Team at Samsung Electronics LCD Business says, “Our new super-reflectance technology allows us to offer consumers a high-quality LCD that is very easy to read in bright sunlight. The SR technology has improved the reflecting metal, the color filter and other parts of the assembled LCD module, in addition to the lens and reflectance rate, without increasing production costs or lowering yields.”

Samsung Electronics plans to apply its new SR technology to all its high-resolution transflective displays in phases.

Source: Samsung Electronics

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