

## Display Drivers for Mobile & Hand Held Devices

### Executive Summary

The case study details KPIT Cummins Analog & Mixed Signal capabilities in Display drivers for Mobile and Handheld devices. KPIT Cummins has been working with the customer for the last 20 months from offshore and delivering Analog & Mixed Signal designs ranging from 0.32 $\mu$  to 0.18 $\mu$  CMOS process

### Client

One of world's leading IC design houses with strong expertise in Analog & Mixed Signal system designs for consumer market

### Business Issue(s) Addressed

Chips for mobile/handhelds

The primary challenge was to understand the reference design and recreate the whole design with feature enhancements, reduced power consumption and silicon area. This started as an onsite activity and we currently are delivering the different version from the offshore development center. The projects have very short turn-around time in order to facilitate the faster time-to-market.

Broadly, the scope can be listed as

- Understand the Display Driver technology
- Proprietary Fab Process
- Understand the reference system, documentation & reports
- Mixed Signal design/layout
- Schematic modification/design
- Circuit simulations, characterization
- Full custom Layout design/tweaking for optimal area/power
- CSTN / MSTN / E-Ink / Imod variants

### Key Achievements / Deliverables

- Built offshore delivery capabilities
- Accelerated product Time-To-Market
- Minimal customer interaction
- Enhanced Silicon reduction

### KPIT Cummins Contribution

The solution comprised of design modifications to the reference design, circuit level simulations and characterization. The simulation results were used to build the memory model in Verilog environment.

KPIT Cummins contributed from Specification understanding, Schematic modification/ entry to simulation and characterization.