



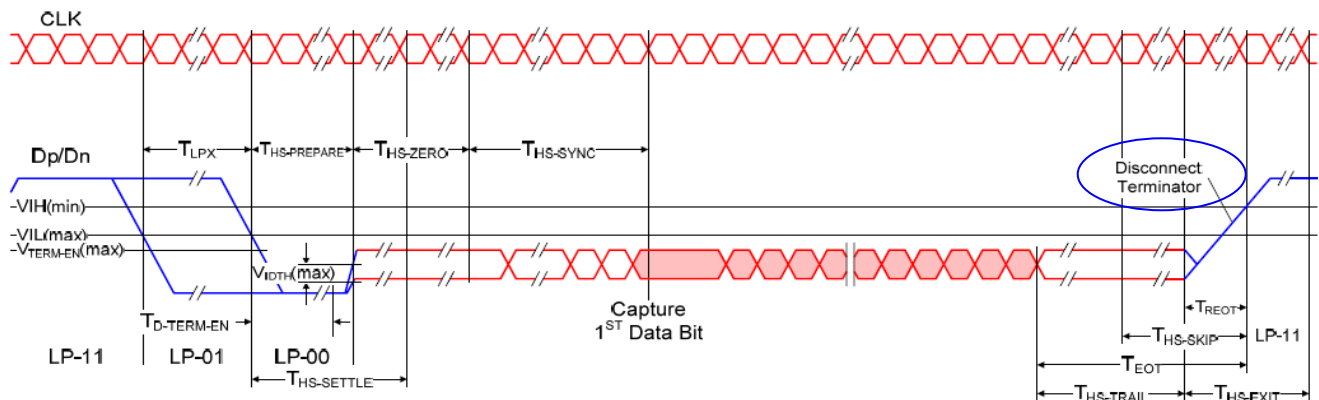
## Question: “Why do I see unexpected low signal amplitude in low-power mode during a MIPI D-PHY transmitter test on my ATE?”

### Question

When I try to characterize the output transition from high-speed to low-power mode on a data lane of a MIPI device on my ATE, I am measuring different signal voltage levels in low-power mode compared to what I am expecting. Why do I see smaller low-power signal voltage levels compared to the real application?

### Answer from Stefan Walther, Verigy Germany

During high-speed data transmission, the data lines are terminated on the receiving side of a MIPI link. As soon as the data transmission switches to low-power mode, the receiving side of a MIPI link is required to turn off its termination.



For MIPI transmitter test, the ATE represents the receiving part of a MIPI link. In order to correctly measure the transition from high-speed to low-power mode, the ATE pin electronic has to disable its termination on-the-fly. This is mandatory to measure correct signal voltage levels and transition times. The challenge is to make sure that the ATE pin electronic is still able to capture the transmitted signal while it changes the termination state. On V93000 Pin Scale Cards this can easily be accomplished by working with pattern controlled driver termination. We will elaborate on this in one of the future go/semi newsletters.