

1.5 Gbps, 5150 ppm Spread Spectrum SerDes PHY with a 0.3 mW, 1.5 Gbps Level Detector for Serial ATA

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We have successfully developed a 5150 ppm spread spectrum SerDes physical layer chip compliant with the Serial ATA. The device was fabricated with a 0.13 μ m, 1.5V CMOS process and includes a self-running, pulse-swallow PLL to generate the TX carrier, a triple loop tracking the PLL to recover the receive clock, and a 0.3 mW current-crossover level detector to detect the 1.5 Gbps carrier for initial communication.