A 0.13-μm CMOS 5-Gb/s 10-meter 28AWG cable transceiver with no-feedback-loop continuous-time post-equalizer

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A 5-Gb/s 10-meter 28AWG cable transceiver is developed with 0.13-μm CMOS technologies. A continuous-time post-equalizer with the novel high-speed analog amplifiers can handle up to 9 dB of frequency-dependent attenuation in cables, and an 18 dB of improvement in the attenuation (27 dB in total) can be also achieved with the novel optimization technique using the pre-emphasis and the post-equalization.