

عنوان مقاله:

Frequency Response Modelling of Cool and Warm White LEDs in VLC Systems

محل انتشار:

اولین کنفرانس منطقه ای مخابرات نوری بیسیم غرب آسیا (سال: 1397)

تعداد صفحات اصل مقاله: 4

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خلاصه مقاله:

The frequency response of the white light emitting diodes (LEDs) employed in visible light communication (VLC) are generally modelled as a first-order low-pass filter (LPF). However, the results of our investigation show that this general model is not entirely accurate for the whole range of white LEDs. Our findings show that while the response of warm white LEDs can be accurately modelled as a first-order LPF, that of the cool white LED is a third-order LPF. Based on these findings, an appropriate analog post-equaliser circuit is designed to enhance the -3 dB bandwidth of the white LEDs. The results show that the designed post-equalizer improves the -3 dB bandwidth by 6 MHz.

کلمات کلیدی:

(Visible light communication (VLC), Warm white LEDs, Cool white LEDs, post-equalization, low-pass filter (LPF)

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