Optimized Design of Optical Receiver

In this section, we discuss techniques to characterize optical receivers, with a focus on the wideband characterization of their frequency response.

In this study, we consider these trade-offs and formulate an optimisation problem to design imaging receivers that can achieve maximum high speed while satisfying a minimum FOV requirement.

This tutorial brief covered the optimization of the front- end of optical receivers. We looked into different optimization techniques used and quantified the optimal bandwidths for 2-PAM and 4-PAM signaling.

enging requirements for high performance laser-based optical wireless receivers. A non-convex optimisation problem was formulated for maximising the achievable data rate R under constraints on ...

The fundamental goal in the design of an optical receiver is to minimize the amount of optical power which must reach the receiver in order to achieve a given bit error rate (BER) in digital systems or a ...

Abstract - This paper presents an optimized design methodology for an inductor-less 28-Gb/s NRZ optical receiver (ORx) analog front-end (AFE) using the Berkeley Analog Generator (BAG) in 28-nm ...

In this chapter, we will introduce the basic concept of a high-speed receiver, the integrated circuit (IC) technique of the front-end. Subsequently, passive peaking techniques for a preamplifier are described.

Before comparing different optical receiver concepts and discussing the most relevant receiver design trade-offs, we introduce some important receiver performance measures.

Considerable effort has been directed at developing monolithic optical receivers that integrate all components, including the photodetector, on the same chip by using the optoelectronic integrated ...

Optical receiver design is critical in PAM-4 systems, as the eye diagram becomes both vertically and horizontally compressed. To ensure proper detection, an analog front-end must exhibit high

This paper investigates a composite optical receiver for an indoor visible light communication (VLC) system. The optical gain, received power, and signal-to-noise ratio (SNR) are ...

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