

Optical Communication Module VLC



Overview

A complete Visible Light Communication (VLC) system implementation using FPGA technology for PC-to-PC data transmission through optical links. The Photonic Displays and Applications Group (GDAF), Electronic Technology Department, University Carlos III of Madrid, Calle Butarque 15, Leganés, 28911 Madrid, Spain TECNALIA, Basque Research and Technology Alliance (BRTA), Paseo de la Castellana 200, 28046 Madrid, Spain Author to whom. In telecommunications, visible light communication (VLC) is the use of visible light (light with a frequency of 400–800 THz, wavelength of 780–375 nm) as a transmission medium. VLC is a subset of optical wireless communications technologies. The fundamental principle relies on encoding data into rapid variations of light intensity, which are then. Yamaichi Electronics (Head Office: Ota-ku, Tokyo, President: Junichi Kameya) has developed “OSFP-VLC”, a vertical variant of the Octal Small Form Factor Pluggable (“OSFP*1”) connector that is compliant to the Vertical Line Card (“VLC”) platform which was presented by Nubis communications in ECOC.



Article Content

Visible light communication

In telecommunications, visible light communication (VLC) is the use of visible light (light with a frequency of 400–800 THz, wavelength of 780–375 nm) as a transmission medium. VLC is a subset of optical wireless communications technologies. The technology uses fluorescent lamps (ordinary lamps, not special communications devices) to transmit signals at 10 kbit/s, or LEDs for up to 500 Mbit/s over short distances.

Introduction to Visible Light Communications

This chapter offers an overview of the history of visible light communication (VLC), its advantages, applications, related modulation and signal processing techniques, and standardization progresses.

Optical OFDM for visible light communications

Visible light communication (VLC) has become a promising complement to its radio-frequency (RF) counterpart. In VLC systems, orthogonal frequency division multi

Internet of Radio Light VLC Receiver

Optical bandwidth and Field-of-Emission • Conclusion: The VLC receiver must detect white light with high sensitivity and take into account the light source bandwidth.

A New Automotive VLC System Using Optical Communication Image

As a new technology for next-generation vehicle-to-everything (V2X) communication, visible-light communication (VLC) using light-emitting diode (LED) transmitters and camera receivers

FSO and VLC Li-Fi Market Size, Growth, Forecast to 2035

The visible light communication segment accounted for the dominant market share in 2025 and is projected to grow at a substantial CAGR during the forecast period. Based on the technology, the

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Visible Light Communication (VLC) operates by modulating the intensity of light-emitting diodes (LEDs) at frequencies imperceptible to the human eye, typically in the range of 400–800 THz.

Wireless Communication using VLC and MIMO Technology

VLC itself is a category of Optical Wireless Communication (OWC). These techniques facilitate the communication, by modulating light in the visible spectrum, which is primarily used for illumination

Co-Packaged Optics (CPO) Market Trends 2026: AI Data Center Optical ...

Explore the future of co-packaged optics (CPO) in AI data centers. Learn how silicon photonics, optical I/O, and high-speed optical interconnect technologies are shaping next-generation

LightCounting :: Scale-up networks in AI Clusters is a

A surge in AI development created a new wave in demand for optical connectivity in 2023-2025 and it will sustain the market's growth through 2030. The Figure

Unlocking VLC Potential in Optical Communications

Explore the world of Visible Light Communication (VLC) and its role in shaping the future of optical communications, offering a secure and high-speed data transfer solution.

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Components of a VLC System Transmitter Module The transmitter in a VLC system converts electrical signals into modulated light waves. A high-brightness light-emitting diode (LED) or laser diode (LD)

Optical communication based V2V for vehicle platooning

Furthermore, VLC has been implemented in the context of vehicle platooning. VLC systems employ visible light for communication that occupy the spectrum from 380 to 750 nm

Illuminating the future: A comprehensive review of visible light ...

Visible Light Communication (VLC) is a rapidly growing field that aims to leverage the unused spectrum of visible light for data transmission. VLC uses light-emitting diodes (LEDs) as both

Optoelectronics Interfaces for a VLC System for UHD Audio-Visual ...

This paper provides a survey of some important emerging technologies used to create advanced optical transceivers in VLC and considers various transceiver designs.

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