ABSTRACT

As conventional communication techniques are reaching its limit in terms of bandwidth, there is a need to explore ways which can overcome the limitations of the current communication techniques. In most cases, the limiting factor for high data rates tends to be the bandwidth of the system. Significant research efforts have been made towards eliminating this drawback of traditional systems while not causing any degradation in the quality of service. This has led to exploring the unused regions of the electromagnetic spectrum to make the switch from RF spectrum and its limited bandwidth. Visible light as a medium of communication is an ideal candidate due to its seemingly infinite bandwidth. Such a method of communication where visible light itself is a medium for data transfer is called Visible Light Communication (VLC). Our research demonstrates the same.

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LIST OF ACRONYMS

- VLC – Visible Light Communication
- TIA – Transimpedance Amplifier
- MOSFET – Metal Oxide Semiconductor Field Effect Transistor
- LED – Light Emitting Diode
- PWM – Pulse Width Modulation
- BW – Bandwidth
- RF – Radio Frequency
- IDE – Integrated Development Environment
- OpenCV – Open Source Computer Vision
- API – Application Program Interface
- ADC – Analog to Digital Converter
- BJT – Bipolar Junction Transistor
- UART – Universal Asynchronous Receiver Transmitter
- OOK – ON OFF Keying
- OFDM – Orthogonal Frequency Division Multiplexing
- MIMO – Multiple Input Multiple Output