EE 344 Final Report : Visible Light Communication using LED
Group No. B-05
Faculty Incharge: Prof. Kumar Appaiah
TA Associated :
Arka Sadhu - 140070011
Sudeep Salgia - 14D070011
Parth Kothari - 14D070019

1 Abstract

Mark Twain had once remarked, "Buy land – they're not making it anymore". Interestingly, in today's context this holds even for the spectrum. With the spectrum limited anyway and its increased demand greatly driven by the need of the newer technologies like Internet of Things, there is an urgent need to look for solution of this spectrum-crunch. Surprisingly, the solution is staring right at us - visible light. This has led to whole new fast developing field of light fidelity or popularly known as, LiFi. It is a term often used in place of Visible Light Communication which is a technique that aims at solving the problem of illumination and communication together. It achieves this by switching the light sources at high frequencies, making it indiscernible to the human eye by measurable by a sensitive photodiode. In our project, we aim to develop a prototype of Visible Light Based Communication link. The project will consist of a transmitter, a LED in this case, which will transmit the message signal which will be received by the receiver. The data transmitted would be read from a file.

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2 Chapter 1 : Introduction

2.1 Project Objective

The project aims at developing a prototype to establish a commununication link which uses the visible spectrum for transmission. This is popularly knowns as Visible Light Communication (VLC).

2.2 Block Diagram

2.3 Motivation for the Work

The previous decade has seen a tremendous technological growth in the field of mobile services, Wifi and applications in the field of Internet of Things.

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3 Chapter 2 : Project Design

4 Chapter 3 : Project Implementation

- Software Details
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5 Chapter 4 : Performance Evaluation

6 Chapter 5 : Conclusion and suggestions for future work