ILLUMINATE - VIsibLe Light CommUnication enabled SMart Indoor lightiNg And control SysTEm

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***Abstract*—In India, as per the Bureau of Energy Efficiency (BEE) report for the year 2020-21, building sector contributes to 34% of total electricity consumption and is predicted to rise 3 fold by 2032. Energy consuming devices in commercial buildings includes lighting, heating, ventilation and air conditioning (HVAC), and other auxiliary equipments. Lighting accounts for 20% to 40% of total energy consumption in buildings. Lighting control plays a major role in reducing the energy consumption. Most of the commercial wireless lighting control solutions available in the market use Radio Frequency (RF) for communication. Visible light communication (VLC) is an eco-friendly green optical wireless communication technology that combines illumination and communication thereby saves energy and reduces carbon footprint. This paper addresses the limitations of the existing RF based solutions and proposes an indoor lighting control solution using VLC for RF free zones.**

***Keyword*—Green Communication, Lighting Control, Line of Sight, Occupancy Control, Visible Light Communication**

Dhivya G obtained her M.E in Embedded Systems Technologies from College of Engineering, Guindy, India. She holds 2 Indian patents, 1 copyright and 5+ international publication to her credit. She filed 3 Indian patents. She is associated with Centre for Development of Advanced Computing (C-DAC) Chennai for last 16+ years. Currently she is designated as Joint Director. Her areas of interest include Visible Light Communications, Internet of Things, Wireless Sensor Network, Cyber Security and Ubiquitous Computing

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