

ESP1864

Implementation Of Li-Fi For Multimedia Data Transfer Based On Visible Light Communication

Wireless communication is the need of the hour, so there is a huge thirst for improvement of the means of communication. Motivated by the looming crisis of radio frequency (RF) spectrum, light fidelity (Li-Fi) which is a technology attached to the visible light communications (VLC) offers many key advantages and effective solutions to the problems posed in the last decade. Through this technology, data is transmitted by light thanks to the unique properties of white light emitting diode (LED) lamps switching. In this article, we created a scheme of transmission at the base of the pulse-width modulation (PWM). The information that we are going to transmit in our case is an audio signal generated by a mobile phone. We create a saw tooth signal that we compare with our audio signal in order to create a PWM signal. Then this modulated signal will be transmitted by LED in the form of a light signal that the photodiode (PD) detects and transforms it into an electrical signal. Finally, we demodulate the signal obtained by a simple first-order low-pass filter RC to receive the demodulated in the speakers and therefore the maximum frequency of the transmission is 87 KHz.