

ABSTRACT

LED (Light Emitting Diode) currently most of its use is only as an indicator or as lighting a room. In the development of this technology many innovations have been developed, namely LEDs can now be used as high-speed transmission media. Visible Light Communication (VLC) is a communication system that can be used as a process of delivering information using visible light. VLC provides efficiency in wireless communication systems because it offers new bandwidth and has not been used in wireless communications, and has good development potential. The use of visible light in wireless communication can be a solution to the problem of energy saving and radio frequency in the development of wireless communication.

In this final project, communication devices be designed in the access point section that uses visible light transmission. The communication device designed is Full-Duplex communication with an access point as a Transmitter block in each part. The transmitted data consists of video, Audio and text that is processed using a Web Server on the Raspberry pi.

Access Point quotes by sending text and character videos to terminal equipment that is carried out in the Lab.SKO (G9) room. The results of the transmission speed of 1 bit per second, the maximum range of 80cm, the optimal distance of 60cm, and the maximum number of characters that can be sent 8 characters (64 bits)

Keywords: Visible Light Communication, light-emitting diodes, photodiodes, raspberry pi, video, Audio, and text.