

**MARA UNIVERSITY OF TECHNOLOGY**

**AN EVALUATION OF THE LEVEL OF  
AWARENESS OF BROADBAND OVER POWER  
LINES (BPL) AND ITS STANDARD**

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## **ABSTRACT**

This study discusses a new technology called Broadband over Power Lines (BPL) technology that utilizes the electricity power lines for the internet use or broadband. The discussion is on the awareness of Malaysians about the technology and its standard. Since this is a new technology in Malaysia, a few approaches is applied in order to acquire data and technical information by interviewing personnel that have relation with the technology, gathering information from the Internet, IEEE Journals, books, magazines and keep track with the latest news on power line technology through newspaper. From the research, we acknowledged that the level of awareness of broadband over power lines is still low but the expectations and the acceptance of BPL are very high. The result also shown that BPL is more effective and the performance is beyond our first impression when we aware about BPL than the formal broadband. The main constraint in conducting this research is difficulties in obtaining the real data and technical information since the technology is not yet been implemented in Malaysia. But once the technology is being implemented in Malaysia, hopefully by the next year, our Information Society that hunger for a high speed Internet connection will enjoy the features offered by the technology.

# **CHAPTER I**

## **INTRODUCTION**

This chapter will include the background of the research, problem statement, project aims, objectives of the research, research significance, research questions, objectives, scope of the study and hypothesis of the study.

### **1.1 Background The Research**

Malaysian nowadays only notice about the broadband technology connected through their telephone lines and a wireless connection only. But in a few months, there will be new broadband technology line introduce by Tenaga Nasional Berhad (TNB) collaborative with Telekom Malaysia (TM) meanwhile the modem will be produce by Masers Digital Sdn Bhd. It will use the electric utility's existing power lines and the electrical wiring already installed in homes and businesses to deliver broadband Internet directly to the computer with a specific modem that enable us to surf the internet with the speed of 224Mbs.

Broadband over power lines (BPL) refers to technologies for using power lines to deliver broadband services, in particular in remote rural areas not served by digital subscriber line (DSL) or telephone line. BPL works by modulating high-frequency radio waves with the digital signals from the Internet. These radio waves are fed into the utility grid at specific points. They travel along the wires and pass through the utility transformers to subscribers' homes and businesses. Little, if any, modification is necessary to the utility grid to allow transmission of BPL. This mode has not yet been widely deployed in the United States, but it has been implemented in a few other countries, with varying results. The Federal Communications Commission (FCC) is currently working on a set of

rules according to which BPL may be implemented in the United States. If it is put into use, BPL will be an unlicensed service, and will be governed by rules similar to those that apply to cordless telephones, television remote controls, and other consumer electronic devices.

Some people say BPL represents an ideal solution for people in rural areas. But many engineers fear that BPL will interfere with fire, police, shortwave, land mobile, and other radio systems important to national security. Amateur radio operators will have to be concerns as well. BPL subscribers may also be adversely affected by the electromagnetic fields that radio transmitters generate in the course of their normal and licensed operations. The utility power lines are not shielded, as is coaxial cable, and some of the frequencies suggested for BPL operation lie within the spectra assigned to essential wireless services.

In the era of Internet and multimedia, besides data, voice, mage, graphic and video are highly applied in our daily life. People are demanding a high-speed connection to the Internet so that the 'World Wide Wait' phenomenon can be eliminated. An information society could not be realized if the Internet access in the country still not reaching our expectation. At present, Internet access for the majority is limited to slow speed and poor quality systems. Due to the growth of the Internet subscribers every year, the network become so congested even the fastest public network offered so far, Integrated Services Digital Network (ISDN) cannot cater with the growing demand. Other technologies such as Digital Subscriber Line (require multi-line telephony), cable modem, broadband radio, wireless connection, or even satellite can be applied as the alternative to the public access network but it cost more to the society. The main obstacle in the realization of the information society is the investment required to provide the necessary infrastructure, which will reach the maximum number of users. The currently available technologies, that are wire, cable, fiber and wireless/satellite,