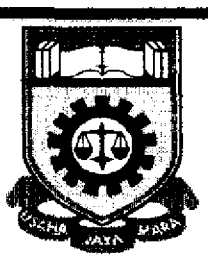
BROADBAND CDMA WIRELESS LOCAL LOOP WITH EMPHASIS ON THE AIRLOOP SYSTEM (LARGE-SCALE PROPAGATION)

This thesis is presented in partial fulfilment for the award of the

Bachelor of Electrical Engineering (Hons.)

INSTITUT TEKNOLOGI MARA



AZNIRA BT ABDULLAH
School of Electrical Engineering
Institut Teknologi MARA
40450 Shah Alam
MAY 1997

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Abstract

The demand for telephone network access is enhanced by economic pressure to expand a region or nation's access to telecommunications, and by the impact of deregulation. The motivation for the Wireless Local Loop (WLL) may, therefore, be derived from first, the extension of existing service for new or under supported areas, and the support of competitive networks in both advanced and underdeveloped Market. This trial, test and study project demonstrates some of the properties of the AirLoop system developed by the Lucent Technologies and planned to be implemented by the TRI/Celcom in Malaysia. The trial is held in the Institut Teknologi MARA Campus, Shah Alam.

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CHAPTER 1

1.0 INTRODUCTION

1.1 General

Since its invention, the telephone has become a necessary fixture in homes and offices of our society. Each telephone represents a connection to a wider telecommunication network, and it is in the last stage of the phone network-the wireless local loop-which for a number of years have been used to provide basic telephone services to customers living in rural areas, where the costs of wired service are very high.

Today, the wireless local loop has become a real option, not only to provide basic services in remote areas, but also to provide sophisticated services in cities. In order to move quickly, as well as, inexpensively, to provide communications, countries began to employ the wireless loop solution using FDMA or TDMA, and recently it was seen that B-CDMA may be used to advantage. Fig. 1 shows a schematic diagram of the interaction of wireless technologies and the share of the wireless local loop and access techniques [1].