UNIVERSITI TEKNOLOGI MARA

RECTANGULAR MICROSTRIP 4X3 PATCH ARRAY ANTENNA AT 2.4 GHZ FOR WLAN APPLICATION

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ABSTRACT

In this paper, microstrip patch antennas are presented. Based on the array concept the array antennas were designed at 2.4GHz and investigated in terms of return loss, size and gain. It was found that 4x3 patch array antenna gave best performance compared to the other patch antennas. The 4x3 patch array antennas was then fabricated and measured using RO4350 microstrip substrate. Good agreement between simulation and measurement was observed for the 4x3 patch array antenna.

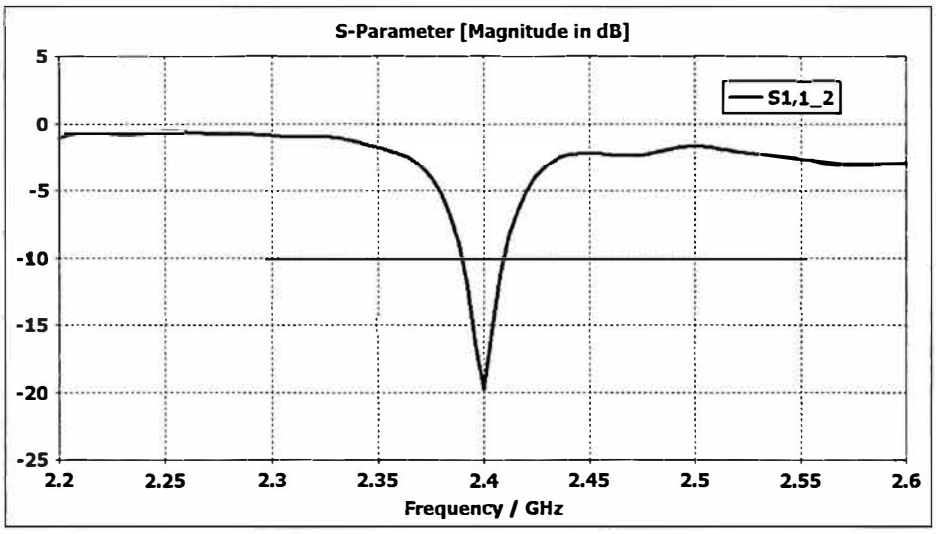

Figure A: Return loss, S_{11} of 4x3 patch array antenna

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CHAPTER 1

INTRODUCTION

1.0 BACKGROUND STUDY

Back to recent years, development of microwave technology gives significant impacts to many applications in modern society. As microwave technology keeps upgrading and improved, one of the applications that fully utilizes microwave system also experience rapid development. It is a telecommunication technology where now people experience a rapid progress in wireless communication which seems to replace wired communication networks. In this case, antennas play a more important role.

There are various antennas used in communication systems and classified into several types. Some of the antenna is grouped into certain type due to its function. For example, dual band antenna. Some of them is categorized to their physical assemblement or its structure[1][2]. For example, microstrip antenna where they are very well known because of their small size.