UNIVERSITI TEKNOLOGI MARA

ENHANCEMENT OF BANDWIDTH IN MICROSTRIP ANTENNA THROUGH DEFECTED GROUND STRUCTURE AND SYMMETRICAL CUT ON PATCH

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Thesis submitted in fulfilment of the requirements for the degree of

Master of Science in Telecommunication and Information Engineering

Faculty of Electrical Engineering

ABSTRACT

The purpose of this paper is to report the process and the achievement of the bandwidth enhancement through Defected Ground Structure (DGS) and Symmetrical Cut on the patch. This antenna is designed for S-band application resonates at 2.45 GHz. The design procedure is presented and the characteristic and the performance of the antenna are analyzed. This patch antenna was fabricated on RO3003 substrate. The simulations were done using Computer Simulation Technology Microwave Studio (CST-MWS) and the measurement was using Vector Network Analyzer (VNA) and Radio frequency (RF) Signal Generator. Based on the simulation, the antenna shows improvements in term of bandwidth and return loss of 53.33% and 163.33%, respectively. The overall size of patch area was also reduced up to 34.3%.

ACKNOWLEDGEMENTS

First and foremost, all praises to Allah the Al-Mighty for the strengths and His blessing in continuing along this learning process and completing this thesis. I would like to give a special gratitude to my final year project supervisors, Dr. Mohamad Fahmi Hussin @ Mohammad and Assoc. Prof. Dr. Ahmad Asari Sulaiman for their helped in coordinating the project. The supervision is truly help in the progression and smoothness of this project. I feel motivated and encouraged every time attending his meeting. Without his encouragement and guidance this project would not be materialized.

My deepest and special thanks go to the Universiti Teknologi MARA and Ministry of Education Malaysia for the financial support. Furthermore, I also would like to acknowledge an appreciation to the FKE staff especially to the technicians in laboratory, who gave the permission to use all required equipment and the necessary material to complete the project. A special thank goes to antenna group members, who always help in completing the project. This research would not have been possible without their helps. I also appreciate the guidance from other lecturers as well as the panels especially in the final presentation to improve my presentation skills. Thanks to their comment and advice.

Last but not least, sincere thanks go to my beloved parents and also to my families for their love, prayers and encouragement. Thank you for the endless support and love. Special thank also goes to those who indirectly contributed in this research.

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