

UNIVERSITI TEKNOLOGI MARA

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

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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%.

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