

**PERFORMANCE EVALUATION OF TURNSTILE ANTENNA
FOR WEATHER SATELLITE APPLICATION**

Project report is presented in partial fulfillment for the award of

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ABSTRACT

In this work, a crossed-dipole turnstile antenna is designed for weather satellite application. The turnstile antenna is able to receive the Automatic Picture Transmission (APT) from the National Oceanic and Atmospheric Administration (NOAA) satellites. The turnstile antenna is modeled and simulated using Computer Simulation Technique Microwave Studio (CST) software. Through this method, the free space reflection, S_{11} and the radiation pattern are obtained. This turnstile antenna was then measured and the S_{11} reading and the radiation pattern were recorded and calculated. The Voltage Standing Wave Ratio (VSWR) of both methods was presented. The simulation results were then compared with the measurement results where good agreements are observed. The antenna shall be receptive toward NOAA satellites transmitted frequency range, approximately from 137 MHz to 138 MHz with a peak response at 137.5 MHz.

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