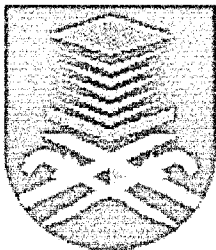


# MICROWAVE BALANCED AMPLIFIER

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This project is presented in partial fulfillment for the award of the  
Bachelor of Electrical Engineering (Honours)  
UNIVERSITI TEKNOLOGI MARA

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## ABSTRACT

The aim of this project is to investigate on the design of microwave balanced amplifier. The circuit design and simulation was implemented using a Computer Aided Design Package HP Eesof Libra.

The amplifier was designed using a MESFET transistor NE 76038. The amplifier gives a system gain of 16.5 dB at 2 GHz, the measured noise figure at 0.6 dB and  $\Gamma = 0.76 \angle 28$ . The operating point was chosen at  $V_{DS} = 3$  V and  $I_{DS} = 10$  mA.

A 3 dB branchline coupler was used in designing balanced amplifier. The performance of this branch line coupler was simulated by simulating its coupling, isolation and directivity.

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