

ABSTRACT

In a telecommunications link must have a disturbing noise or signal so as to reduce the power delivered to the recipient, therefore, needed an amplifier that does not just exist on the sender side alone but also on the receiving end. However, the amplifier amplifies the signal but also information to strengthen existing noise at the amplifier input signal. So who has the required amplifier gain maximum power and minimum noise of the LNA (Low Noise Amplifier) which amplifies the power suit and has a low noise figure up to acceptable limits.

In this final project is designed LNA (Low Noise Amplifier) with the specifications on the working area of 890 – 960 MHz with Noise Figure $\leq 2\text{dB}$, Gain $\leq 10\text{dB}$ and simulated using ADS (Advanced Design System) 2009. LNA (Low Noise Amplifier) uses transistor BFR-91A as its active component and the component capacitors and inductors as adjusting its impedance. This final project is simulated using the software ADS (Advanced Design System) 2009 to see the results of the simulated parameters.

The results of the simulation LNA (Low Noise Amplifier) with ADS (Advanced Design System) 2009 is a gain of -18.298 dB , VSWR (Voltage Standing Wave Ratio) value is 3.133 and the coefficient pantulnya 0.5. Results - the results are still not meet the desired specifications, namely the gain of 10 dB , VSWR 1.5 and the maximum value that can be tolerated reflection coefficient is 0.2.

Keywords: LNA, Noise Figure, Gain, Lange Directional Coupler