ABSTRACT

Attenuation is an absolute thing which is following signal transmission in telecomunication system. It causes power level reduction and low amplitude level in the transmitted informaton signal. Thus, power amplifiying is needed so the received power can be sent to the next stage. But, the usual amplifier has a big inner noise, so it's not possible to do power amplifiying without amplify noise. And then, based in this condition, in the radio wave system's receiver must be put amplifier within high level gain and low noise. And this equipment is called as Low Noise Amplifier (LNA). This LNA will be applicated esspecially for Long Term Evolution (LTE) technology which is iin developed state in Indonesia to support the more complex public communication need. LTE in Indonesia will be operated at frequency 2300 MHz and 3300 MHz.

The methode that is used in design and building LNA is experiment methode. It needs mathematic manipulation and theory adjusment and adaptation for the real condition. Designing and building the components for pre-amplifier are adjusted by the S-parameter's characteristic in the datasheet of IC.

LNA's matching impedance is built by using shunt single stub which is designed by manilpulate microstip line. LNA will be operated in frequency 2300 MHz. It gains power about more than 10 dB with a small dimension about 4x5 cm, and Noise Fifure less than 2 dB, so the LNA is suitable for LTE.

Keyword :

LTE, Matching Impedance, Noise Figure, Gain.