

ABSTRACT

Amplifier barely gain the input signal. Input signal is copied and reproduced to get higher and stronger signal. Quality factor is a factor point that represent the condition of transistor when there is no incoming signal. Class A amplifier has quality factor in the middle of weight resistant and good linearity that makes the good signal. The lowest efficiency is 25% because there are many loss power in transistor that make the output still low.

In the amplifier design, components which used must stabil and has little tolerance. Amplifier can be said in stabil condition when there are no other oscillation. Besides, we must concern about the transistor bias, gain, noise figure, power output and type of the circuit. In the realization, the distance among the component, substrate preferring, synchronizing the impedance and soldering must be concerned because it has influence in getting maximum result.

In this final task, there will make a design and implementation of class A bandpass filter amplifier in 1800 MHz frequency that use real transistor in order to get good signal. Certain type and value must be chosen carefully to get the right value of amplifier that used in optimal class A bandpass filter. Altium Design 6 is a simulation tool to help getting their correct value. From the simulation, the amplifier works in 1771-1912 MHz with gain 4,039 dB and bandwidth 141 MHz. It has dynamic range between 1790-1890 MHz.