

ABSTRACT

In RF microwave system, especially on receiver, the existing oscillator is very important. It used to transforms DC to AC. On this final project the oscillator used as power and frequency supply. This instrument is demonstrated into slotted line to decrease instrument price and to make it stay longer.

On this final project a prototype of microwave oscillator had been designed and realized on area of 2000 ± 500 MHz. The oscillator is designed on unstable area so it can produce the oscillation wanted. It is designed using unstable transistor that is BFR 91. And passive component like resistor, capacitor and inductor is realized using discrete component. This oscillator is variable.

To find out weather the oscillator is working as designed, a test has been done, by comparing the measurement result with design specification. From the measurement result, the oscillator can work on frequency of 0.8873 GHz (on 0V voltage) and 1.2561 GHz (on 28V voltage). From the result there is a frequency difference. This came out as a result many factors, such as the substrate that used, width and length of circuit that can b too long, etc.