ABSTRACT

SAR (Synthetic Aperture Radar) is an air Radar mapping technique to generate high resolution to depict an image or picture. In order for SAR to obtain high resolution and satisfactory mapping results, the effort to be used requires a signal generator.

In an attempt to obtain a good mapping result, it is used a component known as the LFM Signal generator, which serves as the LFM signal generation to be emitted. The signal to be transmitted is a signal in the form of LFM Pulse. At this final task the LFM signal generator used in the design will work on a frequency range of 5.75 Ghz-5, 85GHz with a central frequency of 5.8 Ghz with a Bandwithof 100 Mhz.

From the results of the measurement that has been done obtained by the signal triangle and sawtooth signal from the ramp generator with the voltage generated by the signal will be used as the VCO input voltage that will produce LFM signal with the frequency Vary. From the merger of all feeding blocks will be generated in the form of signal with the LFM pulse form. LFM pulse of the triangular signal has a bandwidth of 156.4 MHz, the working frequency range 5.6220 GHz – 5.7784 GHz and LFM pulse signal sawtooth has a bandwidth of 290 MHz, the working frequency range is 5.6500 GHz – 5.9400 GHz.

Keyword : *Synthetic Aperture Radar* (SAR), LFM Signal Generator, VCO.