

## ABSTRACT

Sweep Generator is a device to scan a particular frequency range that can produce an analog signal. But the availability of sweep generator is quite difficult because of its presence better known as additional functions in certain function generator and the price is expensive. In the sweep generator basically requires a frequency synthesizer. One type of frequency synthesizer is a DDS. The ability of DDS in making DDS generates frequencies as a frequency synthesizer which is used in various fields. Now many types of single-chip IC that is practical packaging of such DDS AD 9851 with all the capabilities provided.

In this last project, has made the sweep generator using DDS AD 9851. This device consists of blocks Minimum System microcontroller ATmega 8535 and power supply as a working DDS to AD 9851 program as a sweep generator. Block keypad and LCD as the user interface and Block DDS as the ongoing process of generating the frequency and frequency processing in order to function as a sweep generator of frequency desired by the user.

The result of this last project design resulted in a Sweep Generator that has a specification that is not different from the sweep generator output to the existing views of the display generated on a spectrum analyzer that is only there was a peak in the spectrum of the frequency of requests and the oscilloscope that produces a sinusoidal signal and square signal which results smooth. Besides that, the sweep generator design specifications result desired by the working frequency sweep generator in the frequency range 1 Hz - 30 MHz has a step frequency sweep of 1 Hz and amplitude range of  $\pm 1$  volt.

***Keywords:*** *DDS AD9851, Sweep Generator*