SCHOOL OF ENGINEERING

DESIGN AND IMPLEMENTATION OF LOW FREQUENCY SYNTHESIZER

FINAL YEAR PROJECT

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Abstract

This project is to study one of the approaches to frequency synthesis – that is the coherent indirect method which is characterized by utilizing Phase-Locked Loop (PLL) technique. A theoretical study of the loop components and various types of implementation has been made in this project with the required assessment to design the Low Frequency Synthesizer; by intending to generate output signal with stability, low in phase noise and able to stabilize with controlled locked signals at the desired frequencies. It is the author’s interest to choose the range of bandwidth frequency for this frequency synthesizer project. Integrated circuits (ICs) are been used in implementation during the development process of this project. Utilization of ICs has become a practice in most of the field of communication systems design due to its low in cost, availability and simple to use in digital circuitry.

Thus, the low frequency synthesizer can be designed and implemented with this particular factor.