

A COMPARATIVE ANALYSIS OF FREQUENCY SYNTHESIZERS

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ABSTRACT

In this paper various techniques for frequency synthesis are described with their advantages and disadvantages, some design example for frequency synthesis for RF application are then reviewed. The review suggest that direct analog frequency synthesizer gives very pure output spectrum but it is bulky and consumes more power. Direct digital frequency synthesizer has fast locking time, less phase noise but it generate frequencies less than reference frequency. Fractional- N Phase locked loop based frequency synthesizers are best suited in modern communication in terms of low power consumption and high frequency resolution.

KEYWORDS: Direct Analog Frequency Synthesizer, Direct Digital Frequency Synthesizer, Frequency Synthesize, R Phase Locked Loop