Full Adder Topologies for Improved Plethysmograph Performance

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Abstract:

Adder circuits play a vital role in biomedical instrument plethysmograph performance. There are two new types of non-invasive method for measuring arterial blood pressure recently developed. Both of the methods are based on the characteristics of the pressure-volume relationship in the artery. One is the volume-oscillometric method; and the other is the volume-compensation method, based on the vascular unloading principle. Both methods employ photoelectric plethysmography for detection of arterial volume changes in the biological segment. Now a days, plethysmograph is used in the biomedical field to plot the arterial blood pressure curve. It is also used for measuring oxygen saturation in the blood and circulatory capacity with functional residual capacity and also to study respiration. Here the adder circuit inside the microcontroller is analyzed so that efficient output is obtained compared to the existing ones.

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