Title- *Design of CMOS Ackerberg-Mossberg Filters Using 0.18µm Technology*

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PROBLEM STATEMENT-

This study focuses on designing a power-efficient, digitally tunable Ackerberg-Mossberg high-pass filter using operational amplifiers (op-amps) for audio and communication applications. The goal is to reduce power consumption, a common challenge in analog baseband filters, while ensuring high performance. The filter will be designed for a ±1.8V supply voltage and fabricated using a 0.18µm CMOS process, with the operational amplifier achieving a unity gain bandwidth of 76.33 dB. The design will be simulated in the eSIM environment, comparing various filter types (low-pass, high-pass) for power consumption, frequency response, and tunability, contributing to low-power embedded system development.

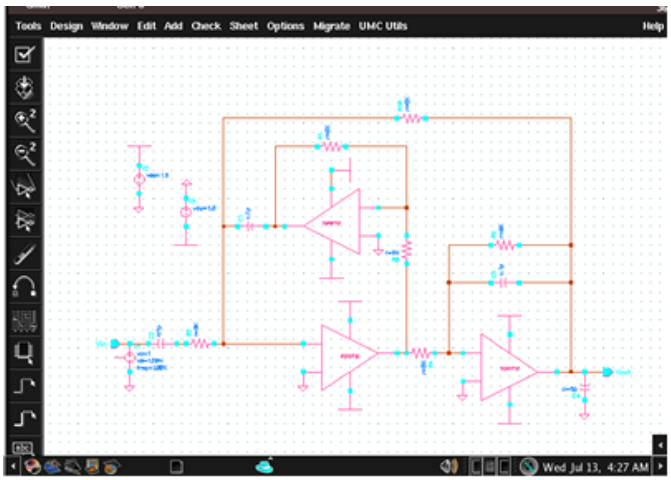

Figure 5.1 Schematic of Ackerberg-Mossberg Low Pass Filter

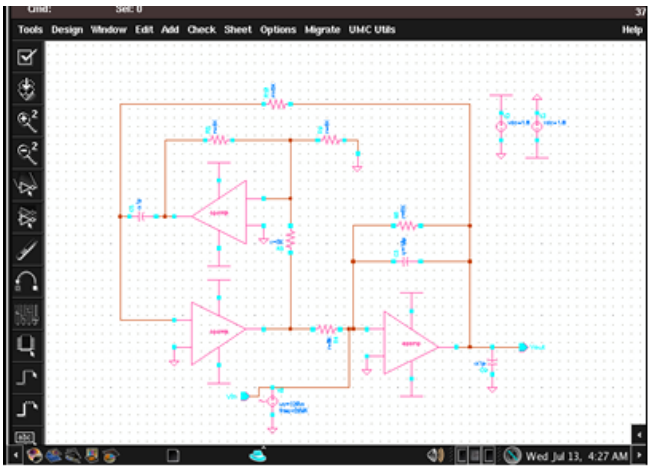

Figure 6.1 Schematic of Ackerberg-Mossberg High Pass Filter

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