

ENCE3210 Feasibility Assessment Winston Har

From what I could tell all the components used in the space balloon bar one were still available. The main one that doesn't exist is the HIH-4030 humidity sensor by Sparkfun. The product seems to have been discontinued, while it's still available for purchase, the purchase price is quite high, showing scarcity of the remaining available supply that's leftover. The other components were still in stock, although I thought they were a little expensive.

So, when working on my design I decided to move away from the components they were using in favor for adafruit designs. Replacing the Sparkfun HIH-4030 humidity sensor is an Adafruit HDC3022. The adafruit component is a combo humidity and temperature sensor, removing the need for a second internal one wire thermometer saving on weight. Additionally instead of using the Sparkfun OpenLog, for data storage I used an Adafruit SPI flash SD card 4gb variant. This allows me to forgo the sd card and just have the data on the smaller board, saving more weight. I also replaced the accelerometer with the adafruit variant to save a few dollars. Also I swapped out the Arduino Uno for an Arduino Micro, as not all pins were needed and the lower cost, lower weight, and lower power consumption fit the goal of redesigning the PCB for this project. Overall I am happy with the execution of my redesign, I feel like the smaller footprint of the redesigned PCB speaks for itself.