

1. I located a single integrated circuit that could measure both temperature and humidity. The IC is manufactured by Texas Instruments and can be purchased on a quantity dependent price scale from \$2.66 per unit to \$1.20 per unit. The part number is HDC1080, and it can be purchased from the following link: <http://www.ti.com/product/HDC1080>.
2. The temperature range that the HDC1080 can measure is from -40 °C to 125 °C, additionally, the humidity range that it can measure is from 0 % to 100 % relative humidity (RH).
3. The HDC1080 requires an I2C serial communication interface to communicate with a microcontroller.
4. The HDC1080 can operate at a supply voltage in the range of 2.7 V to 5.5 V.
5. Below is a screenshot of the component schematic and PCB layout that I designed for the HDC1080.

