Weather station

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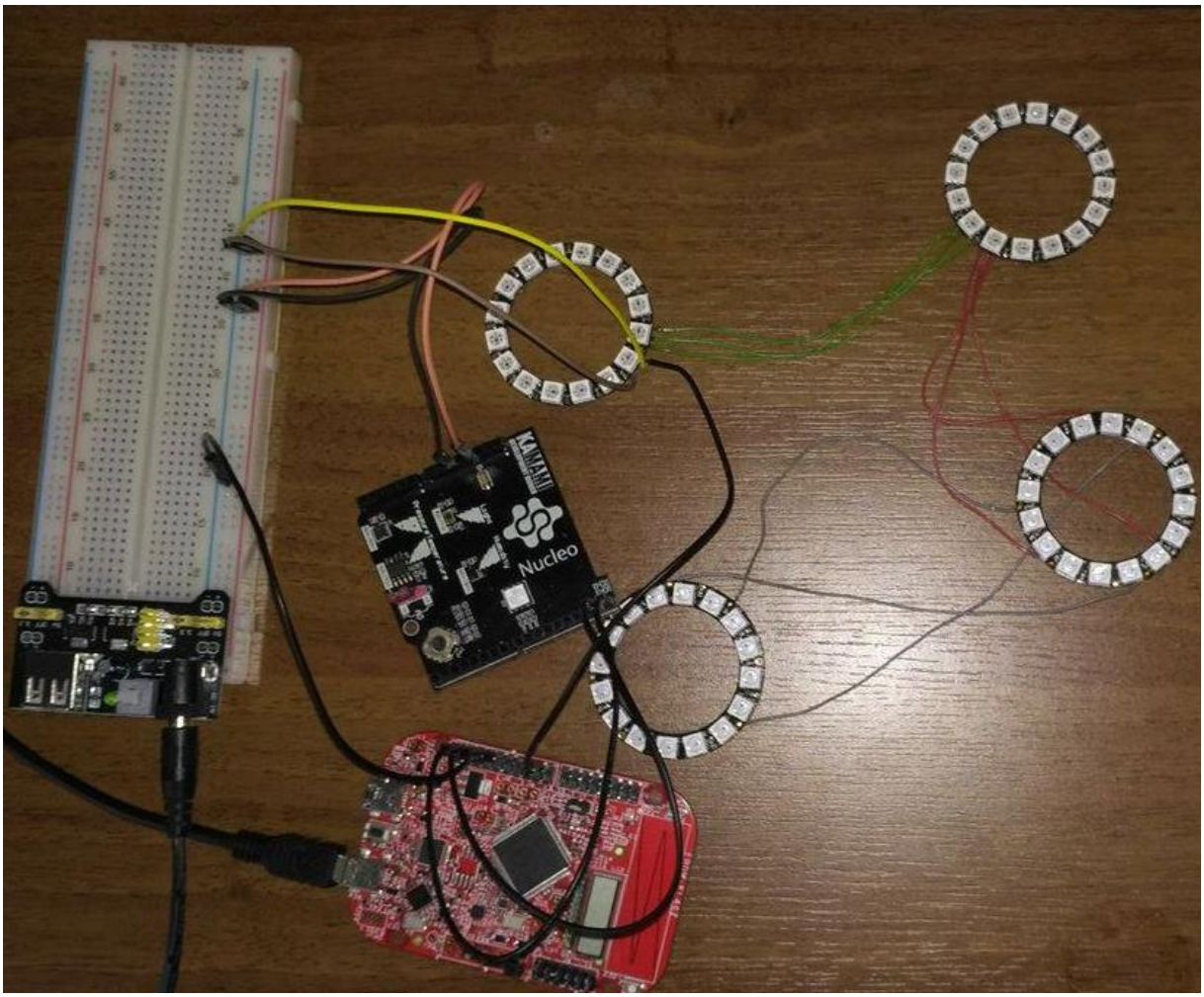
1. Introducion

The aim of our project is to build a weather station with which we read the four parameters: preassure, temperature, humidity and light. After reading these parameters display each on a separate ring composed of 16 LEDs.

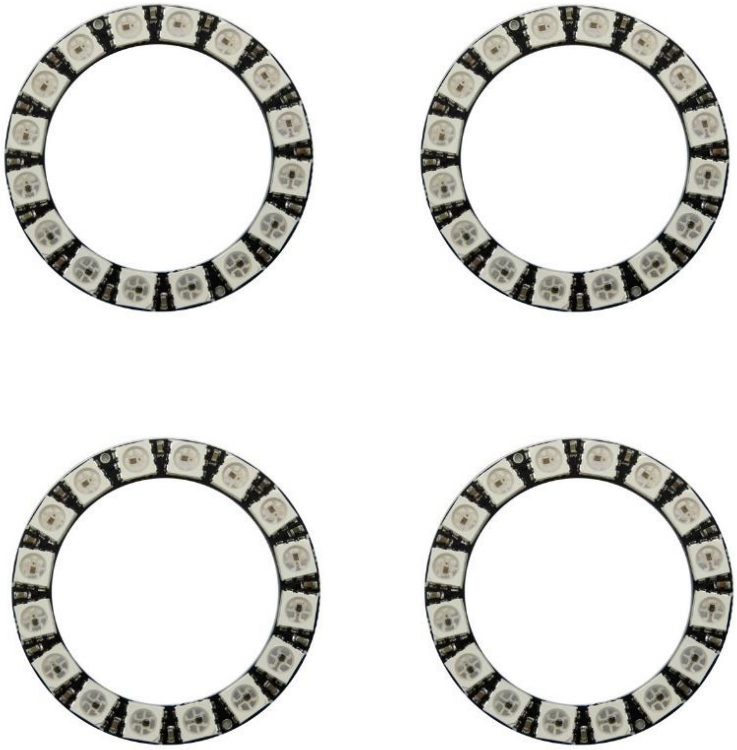


2. Used components

-FRDM-KL46Z

-Nucleo Weather

-4 x NeoPixel Ring – 16 x RGB LED



3. How it works

At first We read parameters using I^2C. Then We transform measured value on a universal scale using special writed function. Next, using second functoin We choose one of the colour scale. Temperature from 7 to 38 Celsius degrees, from 7 to 22 Celsius degrees LEDs lights on blue, from 23 to 38 Celsius degrees LEDs lights on red. Pressure from 976 to 1040 hPa. If preassure will increase by 4hPa another LED lights up. Humidity from 32 to 96 percent. One more LED lights up when Humidity will increase by 4 percent. Light from 0 to 1008 Lux. One LED turn on/off if light will increase/decrease by 63 lux.At the end using value in universal scale and chosen colour scale We lights LEDs in NeoPixel Ring.