**Summary of system tests and specifications.**

**Assumptions**

It is assumed that the sensors work accurately since the was no existing calibrated system to accurately measure the amount of gas present in a room. It becomes a system disadvantages since there is no way to validate these measured values. We also assume the user will calibrate the system in clean air(environment) before use. By simply assuming if they can not smell smoke or gas the air is clean. It is assumed the system will not be exposed to any liquids or submerged in water since sensor do not work well in liquid.

**Functionality Specifications**

* Sense two different gases, namely CO at this range
* The device has an indication system with four different colours to visually represent quality of air.
* Simultaneous data logging capabilities of 4 sensor values every 2 seconds. (tested)
* Live data viewing using data acquisition software (PLX-DAQ) with Excel.
* Manual Calibration through system reset button on sensing node.
* Mobile, wireless data transmission using Bluetooth technology.
* Dual supply with USB or battery power.

**Total Cost**

R 885.61

**Product specification**

Each specification has a method of testing done that will be detailed in the final report and the results currently obtained from the system are as follows.

|  |  |
| --- | --- |
| Voltage supply | 5 V |
| Max.Operating current | 470 mA |
| Dimensions | 131x69x44 (mm) |
| Operational Temperature | 16°C to 26°C |
| Humidity range | 15%RH to 65%RH |
| Output/Concentration Resolution | 1ppm |
| Temperature resolution | 1°C |
| Humidity resolution | 1%RH |
| Weight | ? |
| Max. distance between receiver and transmitter | 26 m (open space) |
| Logging speed | 2 seconds |
| Bandwidth/Response time | ? |