

# Vital Responder

## Weekly Report 12

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**Dissertation:** Vital Helmet – Towards a sensorized helmet for First Responders

**Supervisor:** Associate Professor (with “Agregação”) João Paulo Cunha

**Week:** 18-05-2015 to 22-05-2015

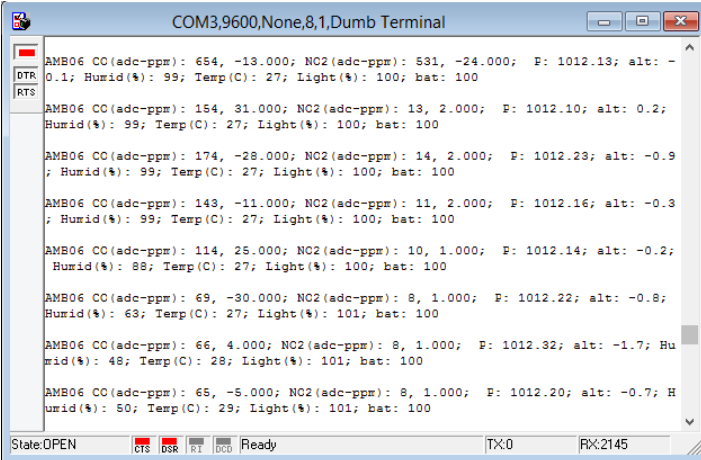
### Development:

- Test the PCB in lab and using a car;
- Test the PCB at Parque da Cidade;
- Make Power-Point to CBER-Meeting;



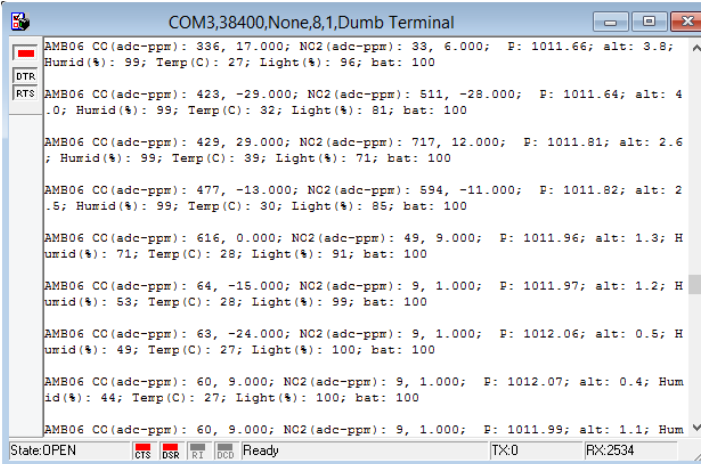
Fig. 1 Testing sensor;

## Results:



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COM3,9600,None,8,1,Dumb Terminal
AMB06 CO(adc-ppm): 654, -13.000; NO2(adc-ppm): 531, -24.000; F: 1012.13; alt: -0.1; Humid(%): 99; Temp(C): 27; Light(%): 100; bat: 100
AMB06 CO(adc-ppm): 154, 31.000; NO2(adc-ppm): 13, 2.000; F: 1012.10; alt: 0.2; Humid(%): 99; Temp(C): 27; Light(%): 100; bat: 100
AMB06 CO(adc-ppm): 174, -28.000; NO2(adc-ppm): 14, 2.000; F: 1012.23; alt: -0.9; Humid(%): 99; Temp(C): 27; Light(%): 100; bat: 100
AMB06 CO(adc-ppm): 143, -11.000; NO2(adc-ppm): 11, 2.000; F: 1012.16; alt: -0.3; Humid(%): 99; Temp(C): 27; Light(%): 100; bat: 100
AMB06 CO(adc-ppm): 114, 25.000; NO2(adc-ppm): 10, 1.000; F: 1012.14; alt: -0.2; Humid(%): 88; Temp(C): 27; Light(%): 100; bat: 100
AMB06 CO(adc-ppm): 69, -30.000; NO2(adc-ppm): 8, 1.000; F: 1012.22; alt: -0.8; Humid(%): 63; Temp(C): 27; Light(%): 101; bat: 100
AMB06 CO(adc-ppm): 66, 4.000; NO2(adc-ppm): 8, 1.000; F: 1012.32; alt: -1.7; Humid(%): 48; Temp(C): 28; Light(%): 101; bat: 100
AMB06 CO(adc-ppm): 65, -5.000; NO2(adc-ppm): 8, 1.000; F: 1012.20; alt: -0.7; Humid(%): 50; Temp(C): 29; Light(%): 101; bat: 100
State:DPEN CTS DSR RT DCD Ready TX:0 RX:2145
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Fig. 2 Moving away the sensor;



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COM3,38400,None,8,1,Dumb Terminal
AMB06 CO(adc-ppm): 336, 17.000; NO2(adc-ppm): 33, 6.000; F: 1011.66; alt: 3.8; Humid(%): 99; Temp(C): 27; Light(%): 96; bat: 100
AMB06 CO(adc-ppm): 423, -29.000; NO2(adc-ppm): 511, -28.000; F: 1011.64; alt: 4.0; Humid(%): 99; Temp(C): 32; Light(%): 81; bat: 100
AMB06 CO(adc-ppm): 429, 29.000; NO2(adc-ppm): 717, 12.000; F: 1011.81; alt: 2.6; Humid(%): 99; Temp(C): 39; Light(%): 71; bat: 100
AMB06 CO(adc-ppm): 477, -13.000; NO2(adc-ppm): 594, -11.000; F: 1011.82; alt: 2.5; Humid(%): 99; Temp(C): 30; Light(%): 85; bat: 100
AMB06 CO(adc-ppm): 616, 0.000; NO2(adc-ppm): 49, 9.000; F: 1011.96; alt: 1.3; Humid(%): 71; Temp(C): 28; Light(%): 91; bat: 100
AMB06 CO(adc-ppm): 64, -15.000; NO2(adc-ppm): 9, 1.000; F: 1011.97; alt: 1.2; Humid(%): 53; Temp(C): 28; Light(%): 99; bat: 100
AMB06 CO(adc-ppm): 63, -24.000; NO2(adc-ppm): 9, 1.000; F: 1012.06; alt: 0.5; Humid(%): 49; Temp(C): 27; Light(%): 100; bat: 100
AMB06 CO(adc-ppm): 60, 9.000; NO2(adc-ppm): 9, 1.000; F: 1012.07; alt: 0.4; Humid(%): 44; Temp(C): 27; Light(%): 100; bat: 100
AMB06 CO(adc-ppm): 60, 9.000; NO2(adc-ppm): 9, 1.000; F: 1011.99; alt: 1.1; Humid(%): 44; Temp(C): 27; Light(%): 100; bat: 100
State:DPEN CTS DSR RT DCD Ready TX:0 RX:2534
```

Fig. 3 Speeding (with the sensor at same distance);

## Conclusions:

- As we can see the helmet unit is working, however, a calibration is needed since this sensor is supposed to be used in industry environment;