|  |  |
| --- | --- |
| Test Date |  |
| Tester |  |
| Test Run # |  |
| Functions tested |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test  # | Inputs | Input | Expected  Result | Actual  Result | Pass/  Fail | Notes |
| 1 | Meassure battery voltage. | Meassure with a voltmeter the tension in the contacts of the battery | Vbattery = 11.1V; |  |  |  |
| 2 | Meassure power regulators voltage | Meassure with a voltmeter the tension in the contacts of the voltage regulator | V1 = 3.3V;  V2 = 5V; |  |  |  |
| 3 | Test distance sensors | Compare measured distance with real distance. Also test detection with different angles. | Distance measured = Real Distance |  |  |  |
| 4 | GPS | Compare GPS coordinates of the module with real GPS coordinates, obtained with google maps or with the GPS of the phone | GPS Position = Real position |  |  | Beware of interference. Must be done in exterior |
| 5 | GPS | Measure the time request to obtain the first lecture and for position updates | Time to first lecture  Time for updates |  |  |  |
| 6 | GPS | Interpretive other factors, like velocity, altitude and orientation. | Correct measure? |  |  |  |
| 7 | Mobile connection | Test if we recive signal | Connection established? |  |  |  |
| 8 | Mobile connection | Try so send and receive throught the internet signals from the phone to the device | Information received? |  |  |  |
| 9 | Test motors | Send the orders to move the motor | Motor moves? |  |  |  |
|  |  | 1. Right motor ahead 2. Right motor back 3. Left motor ahead 4. Right motor back | 1. Yes/no 2. Yes/no 3. Yes/no 4. Yes/no |  |  |  |
| 10 | Test motors | Test if the velocity of both motors is the same | Same velocity? |  |  |  |
|  |  | 1. Right and left ahead 2. Right and left back | 1. Yes/No 2. Yes/no |  |  |  |
| 11 | Test system | Test if the vehicle is able to avoid obstacles autonomously | Avoid the obstacle? |  |  |  |
|  |  | 1. Object in front of the vehicle at a long distance 2. Object in front of the vehicle at a short distance 3. Object not it collision course, but close from being | 1. Yes/No 2. Yes/No 3. Yes/No |  |  |  |
| 12 | Test system | Test if the vehicle is able to go to a desired GPS coordinate autonomously in rect line. | Yes/no |  |  | Mark a desired final coordinate and let in in a point with direct vision of the objective. |
| 13 | Test system | Test if the vehicle is able to go to a desired GPS coordinate autonomously avoiding obstacles in the middle. This is the final test and should be done in diferent conditions, distances, with routes of different difficulty, length and different number of obstacles. | Yes/no. |  |  | In case of fail we should try to apply a concrete test to the failure point. |