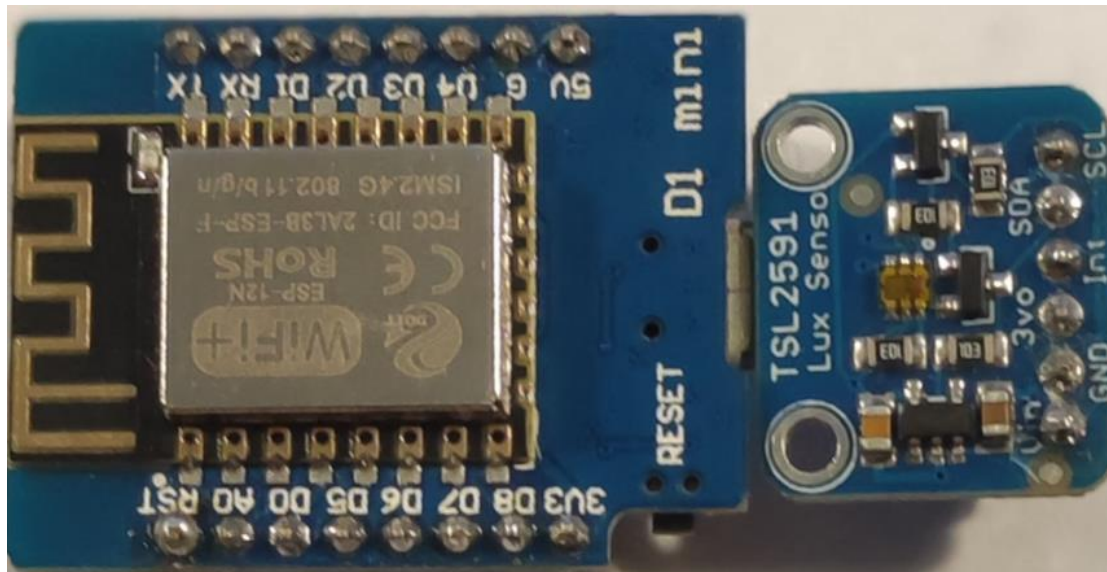


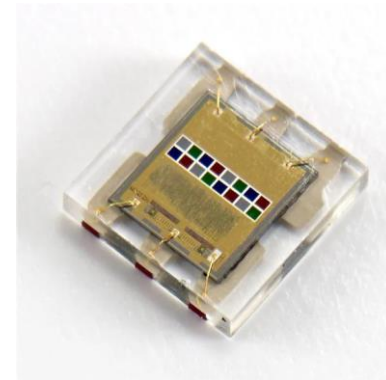
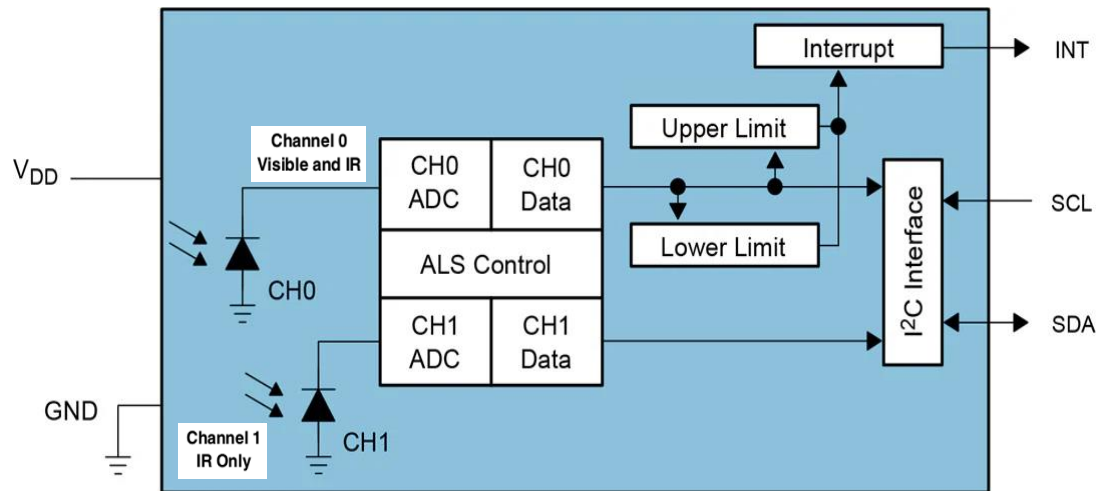
# Fotómetro



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# Fotómetro

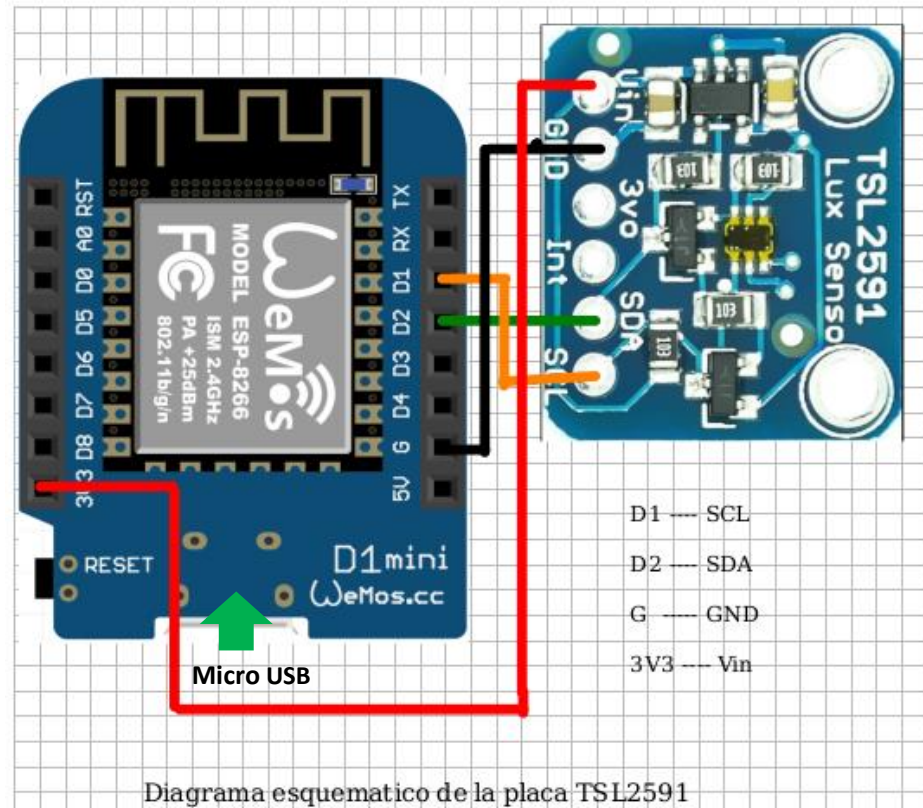
- Basado en el IC TSL2591



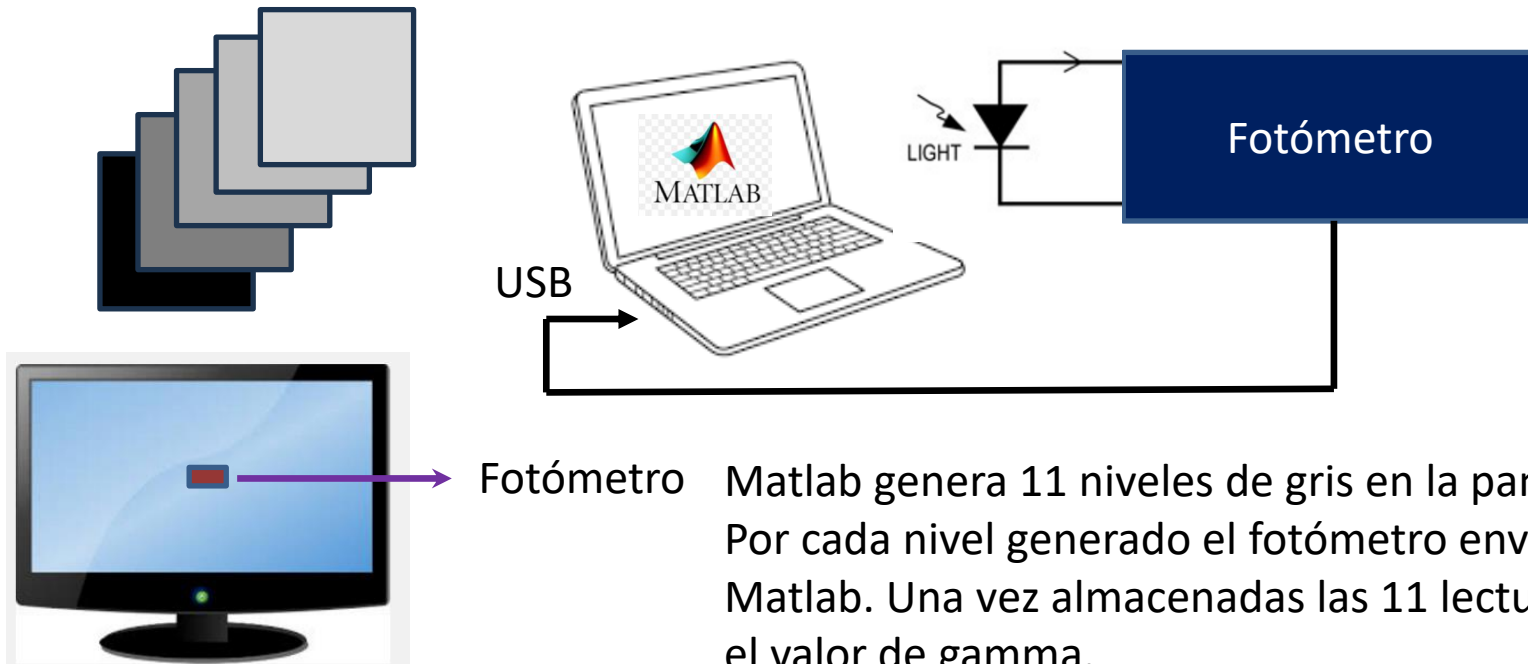
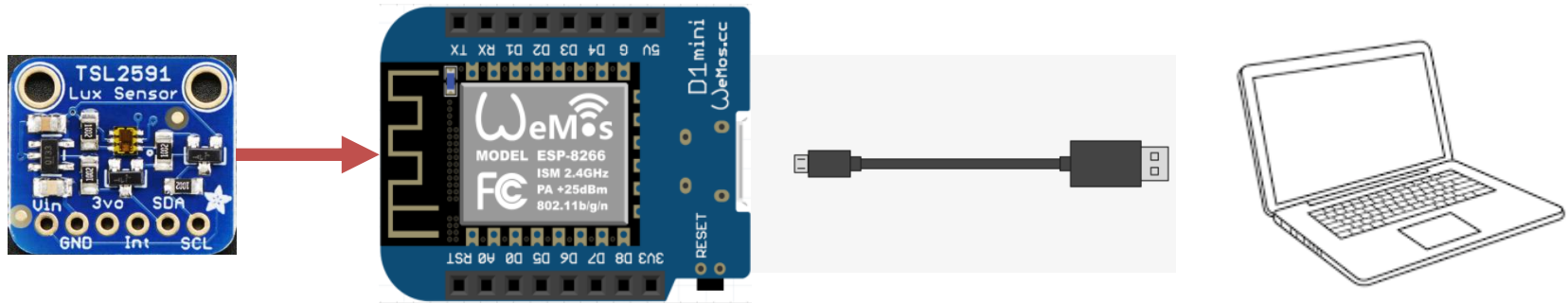
## Hardware Setup

- 1- Wire the following circuit.
- 2- Flash **tsl2591.ino** on D1 mini.

Board: LOLIN(WEMOS)D1 R2 & mini  
CPU :ESP8266



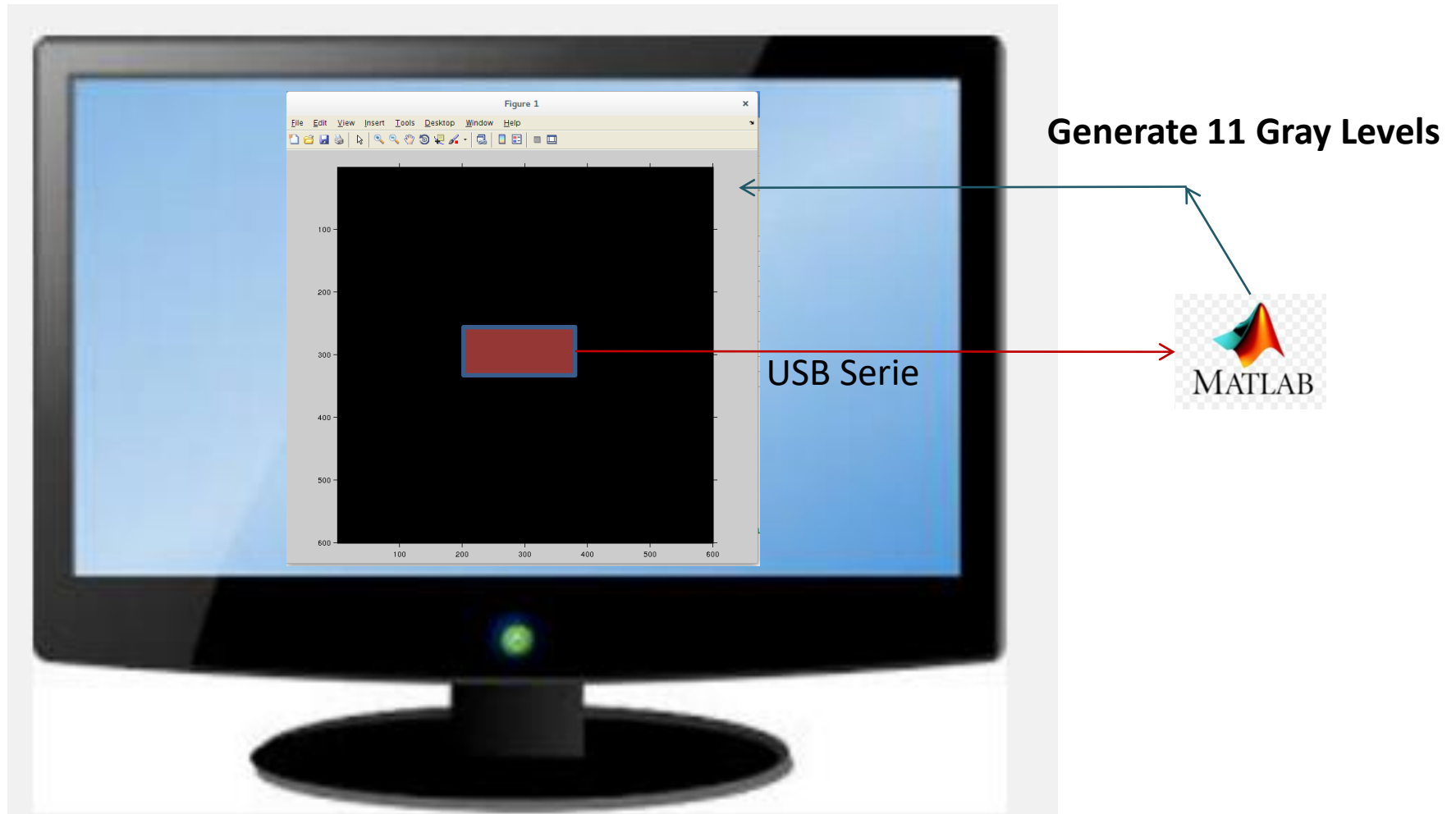
## Hardware Setup



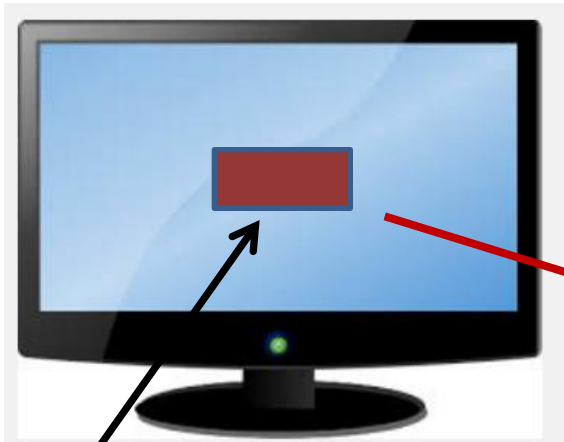
Fotómetro Matlab genera 11 niveles de gris en la pantalla. Por cada nivel generado el fotómetro envía la lectura a Matlab. Una vez almacenadas las 11 lecturas se calcula el valor de gamma.

# Tests

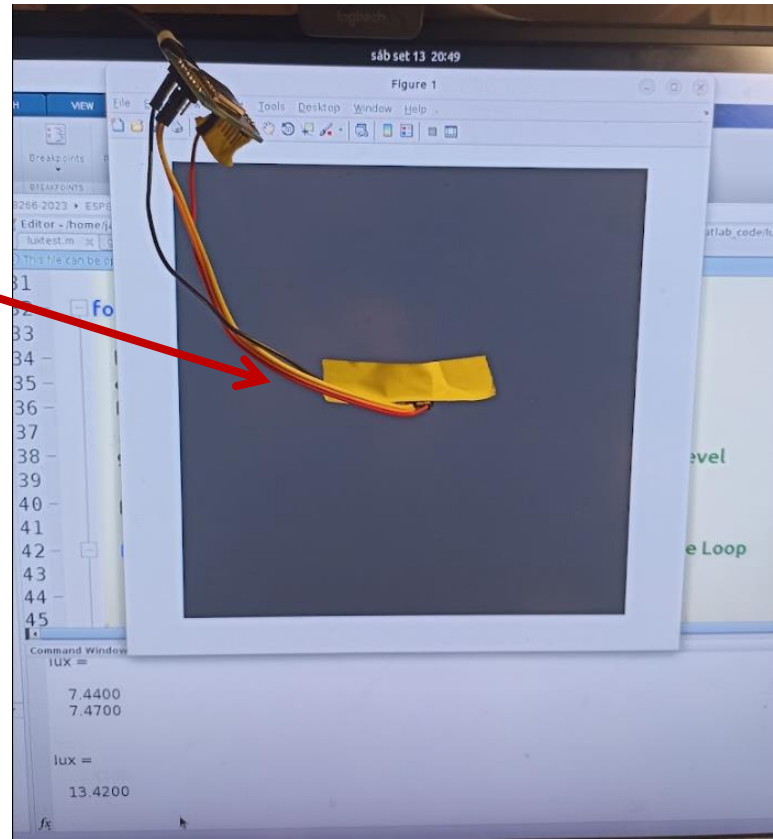
## Automated Gamma Measurement for LCD display using Matlab: Measurement Loop



# Montaje

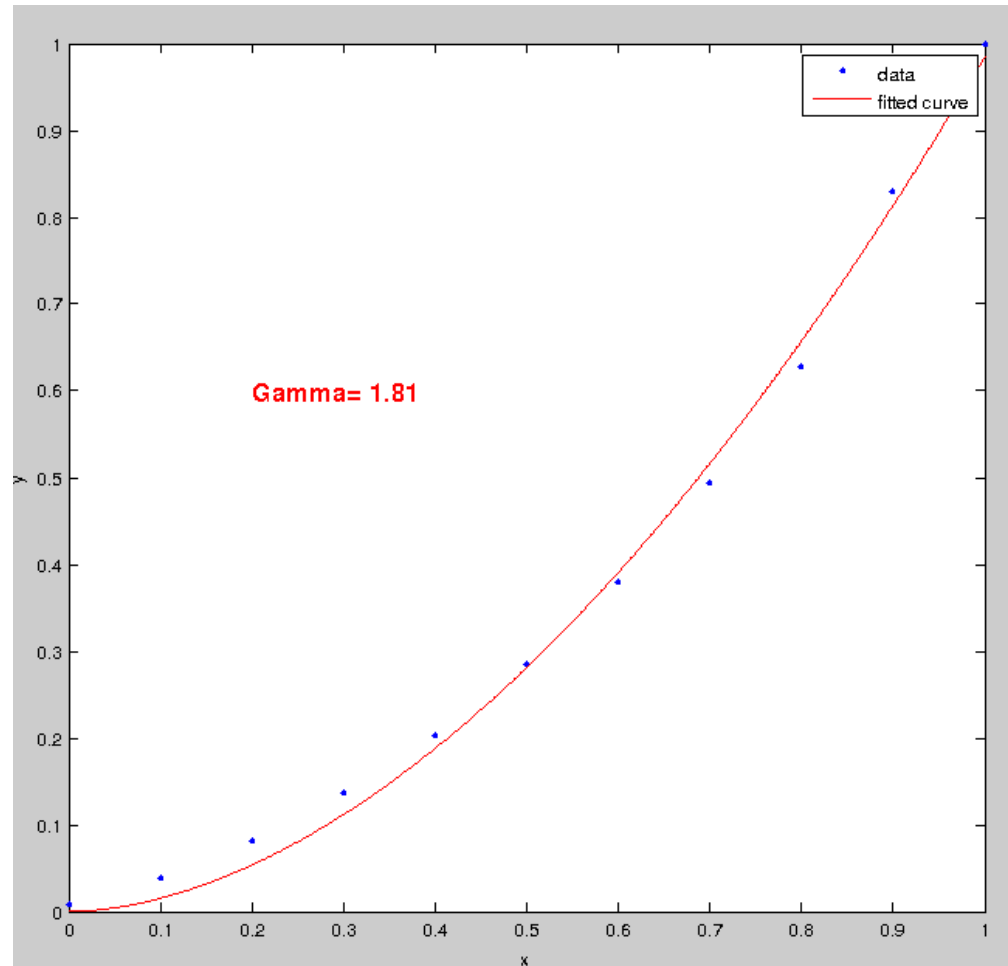


Fotómetro



# Tests: Samsung T24C550

Automated Gamma Measurement for LCD display using Matlab  
Results:



# Tests: Samsung T24C550

Automated Gamma Measurement for LCD display using Matlab  
Results:

| Gamma Control | Measured Gamma |
|---------------|----------------|
| -3            | 1.6            |
| 0             | 1.8            |
| +3            | 2.1            |

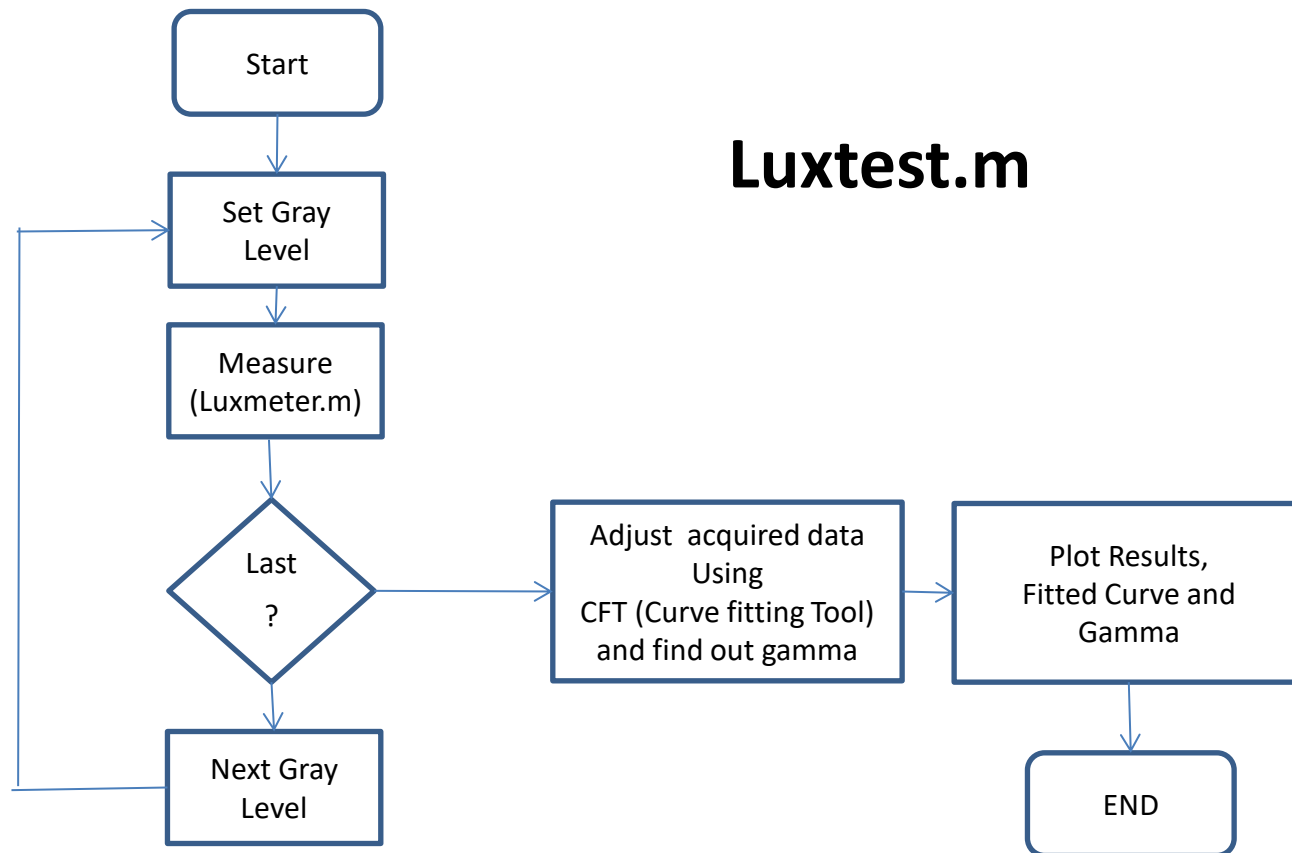


# Matlab Files

**Luxtest.m** : Photometer Measurement Program

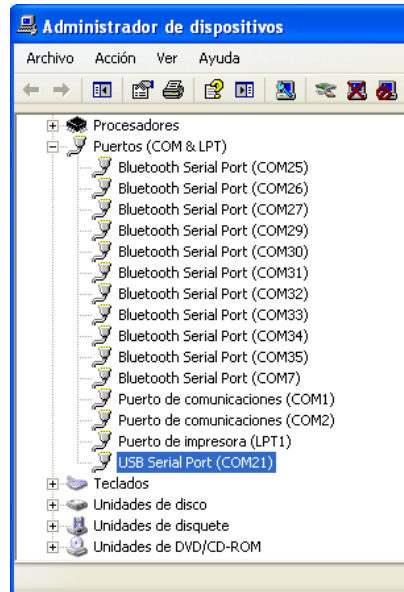
**Luxmeter.m** : Returns Light Luminosity in lux

**Generarte\_gray.m** : Sets Gray level on screen.



# Measurement setup and use

- 1- Connect the photometer to USB to computer USB port
- 2- Find out the USB serial port on computer (COMxx)



- 3- Edit and modify serial port on luxmeter.m  
`ser = serial('COM1');` % Windows port style  
`ser = serial('/dev/ttyUSB0');` % Linux port style
- 4- Attach photometer as close a possible to monitor
- 5- Open matlab and run luxtest.m

# Measurement setup and use

Notes: Each sample is taken every 2 seconds (defined on firmware)  
Two samples are taken per gray level and averaged  
(see Nmeas on luxtest.m)