

## CITROEN STEERING WHEEL COMMANDS FRONT



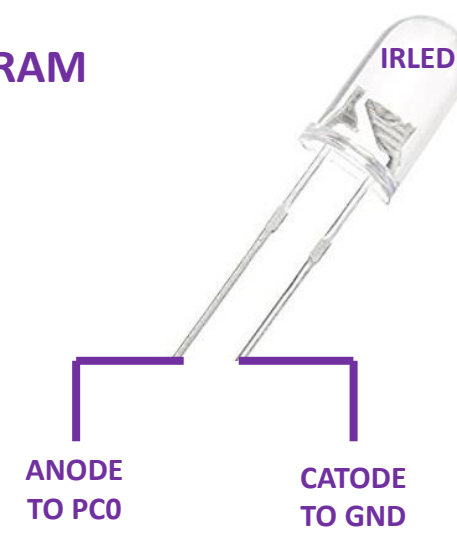
Added on the rear a button  
for TEL  
Between com and pc2



## CITROEN STEERING WHEEL COMMANDS REAR

pc5 pc1 pc6 pc7 pc2  
pc3 pc4 3v3 pc8

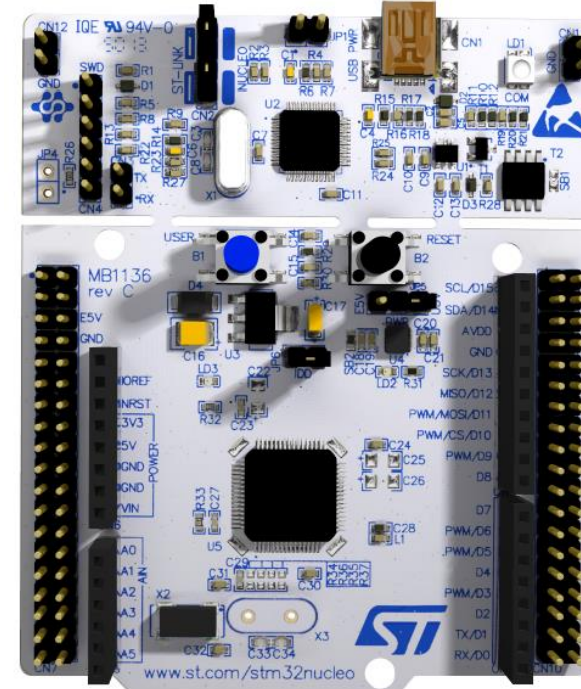
## WIRING DIAGRAM



## NUCLEO-F401RE

| CN7   |     | CN6 |   |       |       |  | CN5  |     | CN10 |    |      |  |
|-------|-----|-----|---|-------|-------|--|------|-----|------|----|------|--|
| PC10  | 1   | 2   |   | PC11  |       |  | PC9  | 10  | 1    | 2  | PC8  |  |
| PC12  | 3   | 4   |   | PD2   |       |  | PB8  | 9   | 3    | 4  | PC6  |  |
| VDD   | 5   | 6   |   | E5V   |       |  | PB9  | 8   | 5    | 6  | PC5  |  |
| BOOT0 | 7   | 8   |   | GND   |       |  | AVDD | 7   | 7    | 8  | U5V  |  |
| NC    | 9   | 10  | 1 | NC    | NC    |  | GND  | 6   | 9    | 10 | NC   |  |
| NC    | 11  | 12  | 2 | IOREF | IOREF |  | D13  | 5   | 11   | 12 | PA12 |  |
| PA13  | 13  | 14  | 3 | RESET | RESET |  | D12  | 4   | 13   | 14 | PA11 |  |
| PA14  | 15  | 16  | 4 | +3V3  | +3V3  |  | D11  | 3   | 15   | 16 | PB12 |  |
| PA15  | 17  | 18  | 5 | +5V   | +5V   |  | D10  | 2   | 17   | 18 | NC   |  |
| GND   | 19  | 20  | 6 | GND   | GND   |  | D9   | 1   | 19   | 20 | GND  |  |
| PB7   | 21  | 22  | 7 | GND   | GND   |  | D8   | 10  | 21   | 22 | PB2  |  |
| PC13  | 23  | 24  | 8 | VIN   | VIN   |  | D7   | 9   | 23   | 24 | PB1  |  |
| PC14  | 25  | 26  |   | NC    |       |  | D6   | 8   | 25   | 26 | PB15 |  |
| PC15  | 27  | 28  | 1 | PA0   | A0    |  | D5   | 7   | 27   | 28 | PB14 |  |
| PH0   | 29  | 30  | 2 | PA1   | A1    |  | D4   | 6   | 29   | 30 | PB13 |  |
| PH1   | 31  | 32  | 3 | PA4   | A2    |  | D3   | 5   | 31   | 32 | AGND |  |
| VBAT  | 33  | 34  | 4 | PB0   | A3    |  | D2   | 4   | 33   | 34 | PC4  |  |
| PC2   | 35  | 36  | 5 | PC1   | A4    |  | D1   | 3   | 35   | 36 | NC   |  |
| PC3   | 37  | 38  | 6 | PC0   | A5    |  | D0   | 2   | 37   | 38 | NC   |  |
|       | CN8 |     |   |       |       |  |      | CN9 |      |    |      |  |

Arduino Morpho



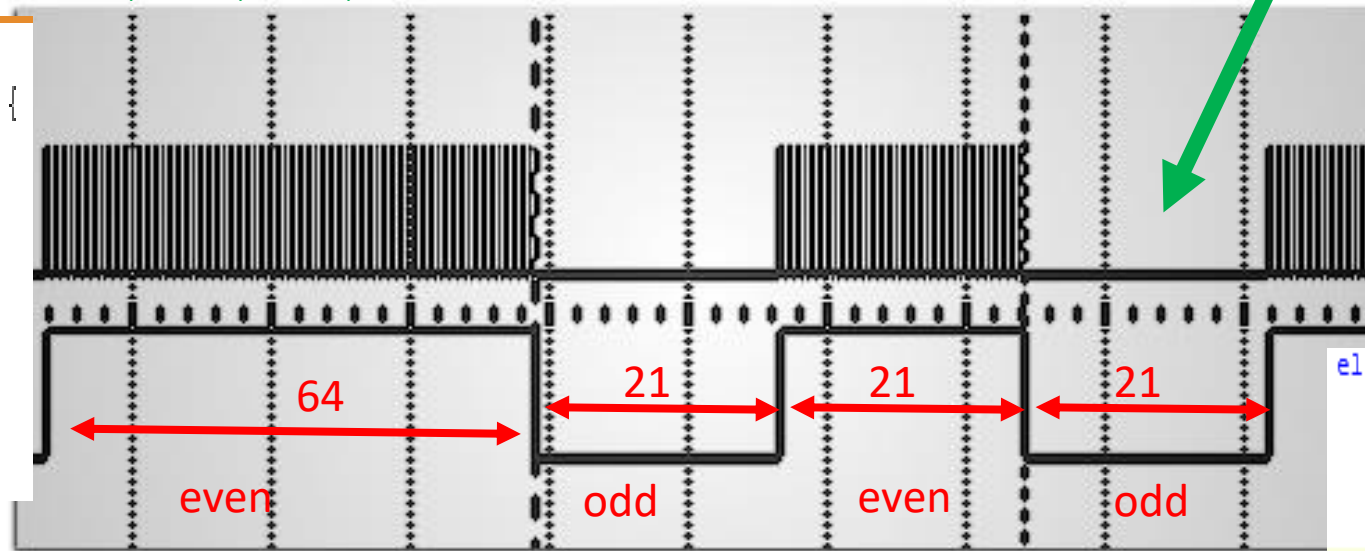
# CREATE THE INFRARED WAVEFORM

if the position of BIT in  
ARRAYSEND is even, turn on/off  
the IRLED and BOARD LED  
following a 38000Hz  
modulation(13usON/13usOFF) for  
a number of cycles = BIT value

if the position of BIT in  
ARRAYSEND is odd, turn off the  
IRLED and BOARD LED following  
a 38000Hz  
modulation(13us+13us=26us  
OFF) for a number of cycles = BIT value

13usON/13usOFF/ 13usON/13usOFF.....

```
if ( BIT % 2==0) {  
for (n =1; n <= ARRAY_SEND[BIT]; n++){  
    myled =1;  
    led =1;  
    wait_us (13);  
    myled =0;  
    led =0;  
    wait_us (13);  
}}
```



```
else {  
for (n =1; n <= ARRAY_SEND[BIT]; n++){  
    myled =0;  
    led =0;  
    wait_us (26);  
}}
```

```
int ARRAY_SOURCE[] = {342,171,21,64,21,21,21,21,21,64,21,64,21,64,21,21,21,64,21,21,21,64,21,64,21,21,  
int ARRAY_TEL[] = {342,171,21,64,21,21,21,21,21,64,21,64,21,64,21,21,21,64,21,21,21,64,21,64,21,21,  
int ARRAY_VOLUP[] = {342,171,21,64,21,21,21,21,21,64,21,64,21,64,21,21,21,64,21,21,21,64,21,64,21,21,
```