```
START BTN
                                                                                                                                                                                                                                      SHARP 0
                                                                                                                                                                                                                                                  SHARP 1
                                                                                                                                                                                                                                                                                 SHARP
                                                                                                                                                                                                                                                                                                                                                                                                                                     ils 0
UI_13
ils_1
                                                                                                                                                                                                                  Analog Reference
                                                                                                                                                                                                                                                                                                                                      Analog pin 10
Analog pin 11
                                                                                                                                                                                                                                                                                                                                                                Analog pin 13
                                                                                                                                                                                                                                                                                                                                                                                         Analog pin 15
                                                                                                                                                                                                                                                                                                                                                        Analog pin 12
                                                                                                                                                                                                                                                                                                                                                                                                                                             Digital pin 23
Digital pin 24
                                                                                                                                                                                                                           Analog pin 0
                                                                                                                                                                                                                                                                                                                                                                               Analog pin 14
                                                                                                                                                                                                                                                                                                    Analog pin 7
                                                                                                                                                                                                                                                                                                                             Analog pin 9
                                                                                                                                                                                                                                                                                                                                                                                                                                    Digital pin 22
                                                                                                                                                                                                                                       Analog pin 1
                                                                                                                                                                                                                                                  Analog pin 2
                                                                                                                                                                                                                                                                      Analog pin 4
                                                                                                                                                                                                                                                                                Analog pin 5
                                                                                                                                                                                                                                                                                           Analog pin 6
                                                                                                                                                                                                                                                           Analog pin 3
                                                                                                                                                                                                                                                                                                                   Analog pin 8
                                                                                                                                                                                                                                                                                                                                                                                                      GND
                                                                                                                                                                                                                                                                                                                                                                              | S | PK6 (ADC14/PCINT22) | R | PK7 (ADC15/PCINT23) | R | GND | R | VCC | L | PJ7 | R | PA0 (AD0) | L | PA1 (AD1) | R | PA2 (AD2) | R | PA3 (AD3) | R | PA3 (AD2) | R | PA3 (AD2) | R | PA3 (AD2) | R | PA3 (AD3) | R | PA3 (AD2) | R | PA3 (AD3) | R | PA3 (A
                                                                                                                                                                                                                                                                                                                                     PK2 (ADC10/PCINT18)
                                                                                                                                                                                                                                                                                                                                                B PK4 (ADC12/PCINT20)
                                                                                                                                                                                                                                                                                                                                                                  PK5 (ADC13/PCINT21)
                                                                                                                                                                                                                                                                                          ⊕ PF6 (ADC6/PCINT14)
                                                                                                                                                                                                                                                                                                                B PK0 (ADC8/PCINT16)
                                                                                                                                                                                                                                                                                                                          ® PK1 (ADC9/PCINT17)
                                                                                                                                                                                                                                                                                                     SPF7 (ADC7/PCINT15)
                                                                                                                                                                                                                                                                                 ® PF5 (ADC5/TMS)

□ PF4 (ADC4/TMK)

                                                                                                                                                                                          ☐ AVCC
⑥ GND
◎ AREF
② PFO (ADCO)
                                                                                                                                                                                                                                       哥PF2 (ADC2)
                                                                                                                                                                                                                                                            PF3 (ADC3)
                                                                                                                                       PG5 (OC0B) 1
      mot1_1 Digital pin 4 (PWM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75 PA3 (AD3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Digital pin 25 UI_12
                                                  Digital pin 0 (RX0) PE0 (RXD0/PCINT8) 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        74 PA4 (AD4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ils_2
    USB RX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Digital pin 26
                                                                                                                                           PE1 (TXD0) 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73 PA5 (AD5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Digital pin 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     UI_11
     USB TX
                                                   Digital pin 1 (TX0)
                                                                                                                        PE2 (XCK0/AIN0) 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         72 PA6 (AD6)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ils 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Digital pin 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Digital pin 29 UI_10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        71 PA7 (AD7)
       mot1_2
                                                                                                                        PE3 (OC3A/AIN1) 5
                                               Digital pin 5 (PWM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        70 PG2 (ALE)
                                                                                                                          PE4 (OC3B/INT4) 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Digital pin 39 UI 5
       cod1 A
                                               Digital pin 2 (PWM)
                                                                                                                            PE5 (OC3C/INT5) 7
                                               Digital pin 3 (PWM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69 PJ6 (PCINT 15)
        cod1 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       68 PJ5 (PCINT14)
                                                                                                                                     PE6 (T3/INT6) 8
                                                                                                           PE7 (CLKO/ICP3/INT7) 9
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                                                                                                                                                               VCC 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       66 PJ3 (PCINT12)
                                                                                    VCC
                                                                                   GND
                                                                                                                                                              GND 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65 PJ2 (XCK3/PCINT11)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Digital pin 14 (TX3) EXT_TX
            BT RX Digital pin 17 (RX2)
                                                                                                                                         PH0 (RXD2) 12
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            BT TX Digital pin 16 (TX2)
                                                                                                                                         PH1 (TXD2) 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63 PJ0 (RXD3/PCINT9)
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                                                                                                                                         PH2 (XCK2) 14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 VCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VCC
                                                                                                                                         PH3 (OC4A) 15
 mot1_en Digital pin 6 (PWM)
                                                                                                                                         PH4 (OC4B) 16
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       mot2 1
                                            Digital pin 7 (PWM)
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      mot2 2
                                             Digital pin 8 (PWM)
                                                                                                                                         PH5 (OC4C) 17
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                                               Digital pin 9 (PWM)
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 mot2_en
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    SPI_SS0
                                                                                                                           PB0 (SS/PCINT0) 19
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    SPI_SCK Digital pin 52 (SCK)
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SPI_MOSI Digital pin 51 (MOSI)
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                                                                                                                   PB3 (MISO/PCINT3) 22
   SPIMISO Digital pin 50 (MISO)
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      mot3_1 Digital pin 10 (PWM)
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       mot3_2 Digital pin 11 (PWM)
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                                                                                                                                                                                       LED_ind Digital pin 13 (PWM) PB7 (OCOA/OCIC/PCINT7) B PH7 (T44) B PG4 (TOSC1) B PG7 (T54) B PL7 (T54) B PL7 (T54) B PL7 (T54) B PL7 (T55) B 
                                                                                                                 PB6 (OC1B/PCINT6) 25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     UI 4
 mot3_en Digital pin 12 (PWM)
                                                                                                                                                                                                                                                                                                                         PL3 (OC5A) (%)
PL4 (OC5B) (%)
PL5 (OC5C) (%)
PL6 (%)
PD0 (SCL/INTO) (%)
PD1 (SDA/INT1) (%)
PD2 (RXDI/INT2) (%)
PD3 (TXD1/INT3) (%)
                                                                                                                                                                                                                                                                                                                                                                                                                        PD4 (ICP1) ½PD5 (XCK1) %PD6 (T1) %PD7 (T0) ©G
                                                                                                                                                                                                                                                                                                                                                                                                                                    PD5 (XCK1)
                                                                                                                                                                                                                                                                                                     Digital pin 38
                                                                                                                                                                                                                                                                                                                                                  Digital pin 44 (PWM)
                                                                                                                                                                                                                                                                                                                                                                      Digital pin 42
                                                                                                                                                                                                                                                                                                                                                                                                    Digital pin 19 (RX1)
                                                                                                                                                                                                                                                                                                                                                                                                               Digital pin 18 (TX1)
                                                                                                                                                                                                                                                                                                                                                                                 Digital pin 21 (SCL)
                                                                                                                                                                                                                                                                                                                                                                                          Digital pin 20 (SDA)
                                                                                                                                                                                                                                                                                                                                                           Digital pin 43
                                                                                                                                                                                                                                                                                                                                                                                         cod3_B/SDA_HW cod2_A cod2_B
                                                                                                                                                                                                                                                                                                                                                   SPI 553 1
                                                                                                                                                                                                                                                                                                                                                                              cod3 A/SCL HW
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