PA7/TIM3CH2/ADC7/P6
BTN_UP TL9210AF180Q
GND

PA4/TIM14CH1/ADC4/P3
BTN_DN TL9210AF180Q
GND

PA6/TIM3CH1/ADC6/P5
BTN_LF TL9210AF180Q
GND

PA5/TIM2CH1/ADC5/P4
BTN_RT TL9210AF180Q
GND

PA0/TIM1CH1/ADC0/P1
BTN_A TL9210AF180Q
GND

PA1/TIM1CH2/ADC1/P2
BTN_B TL9210AF180Q
GND

LDR   3V3
PA14/BOOT0/SWDCLK/P20
MINI PUSHBUTTON

PB0/ADC17/P9   R8 320R   LED1
PA8/TIM3CH3/ADC8/P7 R12 320R   LED2
PB1/TIM3CH4/ADC18/P8 R9 320R LED3
PB4/SPI1_MISO/P13   R18 320R   R3 320R LED4
PB2/ADC19/P17   LED5
PB6/SCL1/P15   R13 320R R5 320R LED6
PB5/SPI1_MOSI/P14   LED7
PB3/SPI1_CLK/P12   R19 320R LED8
GND

5V

VBUS
D+   PA12/SDA2/USBD_P
D-   PA11/SCL2/USBD_N
CC1
CC2
SBU1
SBU2
R1   R2
5.1K   5.1K
GND
USB - C
GND GND GND

5V   U2   3V3
VIN VOUT1
VOUT2
C3   C4
25V   6.3V
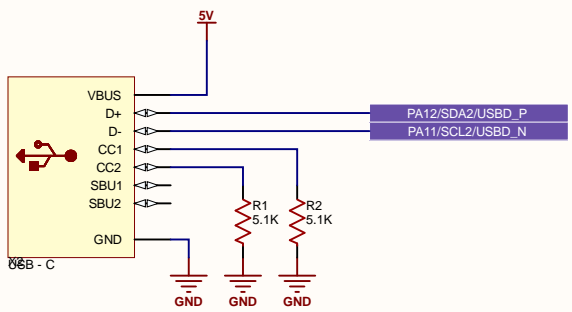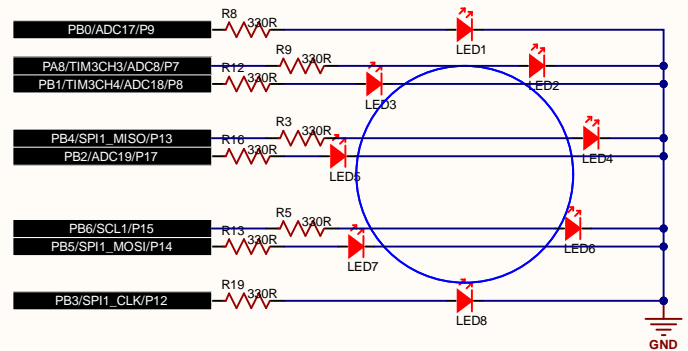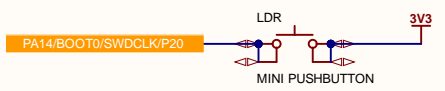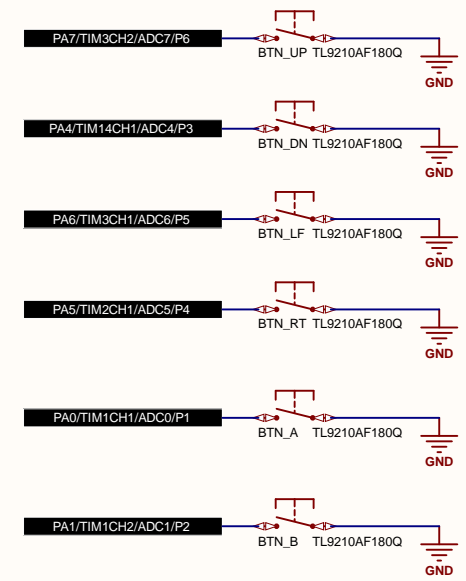10uF   22uF
LM1117MP-3.3
GND   GND   GND

Title: *Controller*
Part #: GDL-SPCTRLR-B
Revision: B   Date: 12/4/2025   Sheet 1 of 4
©2025 GHI Electronics, LLC   -   Michigan, USA

GHi electronics
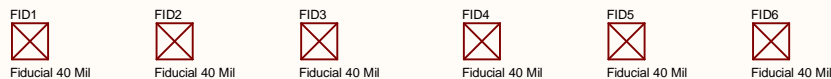Where Hardware Meets Software

PB8/LED/P0
PA0/TIM1CH1/ADC0/P1
PA1/TIM1CH2/ADC1/P2
PA4/TIM14CH1/ADC4/P3
PA5/TIM2CH1/ADC5/P4
PA6/TIM3CH1/ADC6/P5
PA7/TIM3CH2/ADC7/P6
PA8/TIM3CH3/P7
PB1/TIM3CH4/ADC18/P8
PB0/ADC17/P9
PC15/P10
PC6/TIM2CH3/P11
PB3/SPI1_CLK/P12

PB4/SPI1_MISO/P13
PB5/SPI1_MOSI/P14
PB6/SCL1/P15
PB7/SDA1/P16
PB2/ADC19/P17
PB9/P18
PA15/P19
PA14/BOOT0/SWDCLK/P20
PA9/UART1_TX/P21
PA10/UART1_RX/P22
PA13/SWDIO/ADC13/P23
PC14/P24
PA2/UART2 TX/P25
PA3/UART2 RX/P26
NRST/PF2/P27

SMD TP   PA13/SWDIO/ADC13/P23
SWDIO1

X1
3V3
VCC   1
Boot0 2   PA14/BOOT0/SWDCLK/P20

DUELink Boot0 - 3.3V connector

PB8/LED/P0   R4 1k   STAT1
                                  GND

FID1   FID2   FID3   FID4   FID5   FID6
Fiducial 40 Mil Fiducial 40 Mil Fiducial 40 Mil Fiducial 40 Mil Fiducial 40 Mil Fiducial 40 Mil

Title: *MISC*
Part #: N/A
Revision: B   Date: 12/4/2025   Sheet 2 of 4

GHi electronics
Where Hardware Meets Software

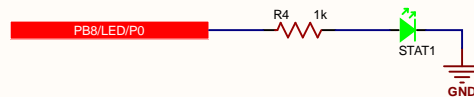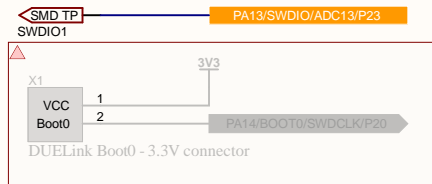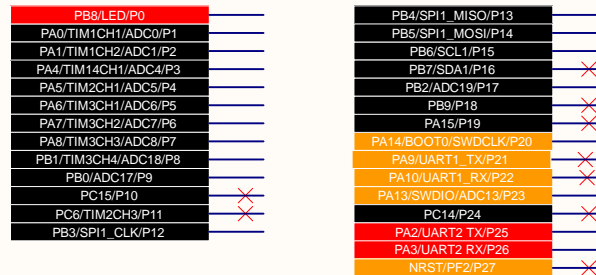**Software Features:**

ADC: P1, P2, P3, P4, P5, P6, P7, P8, P9, P17

Touch: Can be any pin but hardware need 100pF + 1Mohm
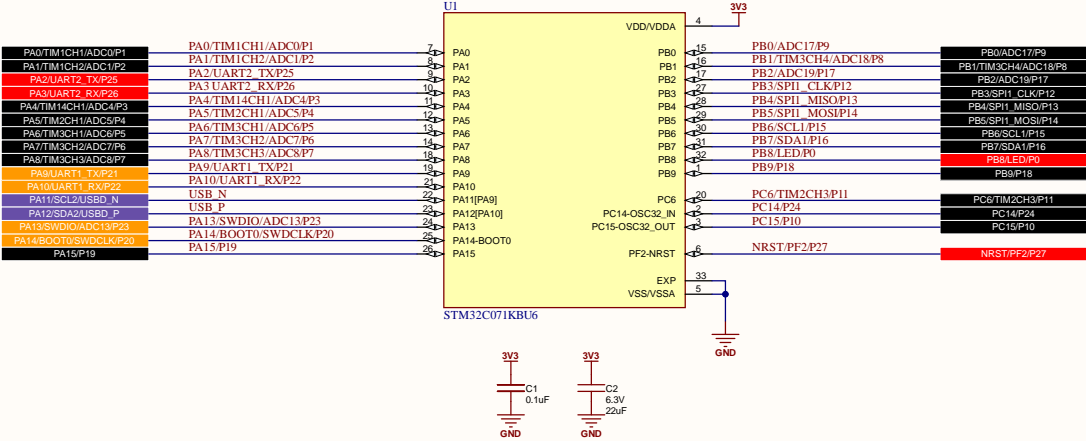
HW PWM: P1, P2, P3, P4, P5, P6, P7, P8, P11
 * P1, P2: TIM1
 * P3: TIM14
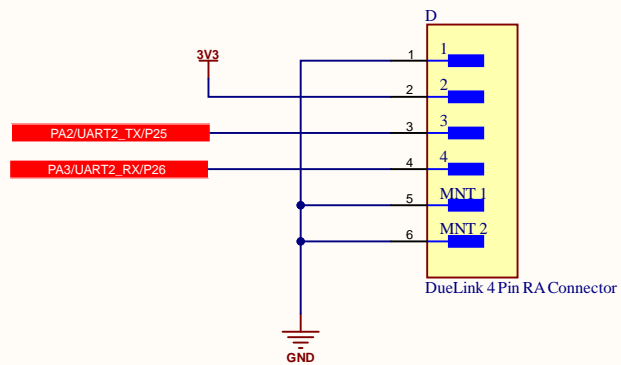 * P4, P11: TIM2
 * P5,6,7,8: TIM3

SW UART: Pins 1 RX, 2 TX

Wakeup Pins: P1, P3

Interrupts on: P1, P2, P3, P4, P5, P6, P7, P12

U1 — STM32C071KBU6

Left side pin labels:
- PA0/TIM1CH1/ADC0/P1
- PA1/TIM1CH2/ADC1/P2
- PA2/UART2_TX/P25
- PA3/UART2_RX/P26
- PA4/TIM14CH1/ADC4/P3
- PA5/TIM2CH1/ADC5/P4
- PA6/TIM3CH1/ADC6/P5
- PA7/TIM3CH2/ADC7/P6
- PA8/TIM3CH3/ADC8/P7
- PA9/UART1_TX/P21
- PA10/UART1_RX/P22
- PA11/SCL2/USBD_N
- PA12/SDA2/USBD_P
- PA13/SWDIO/ADC13/P23
- PA14/BOOT0/SWDCLK/P20
- PA15/P19

Net labels (left of U1):
- PA0/TIM1CH1/ADC0/P1
- PA1/TIM1CH2/ADC1/P2
- PA2/UART2_TX/P25
- PA3 UART2_RX/P26
- PA5/TIM2CH1/ADC5/P4
- PA6/TIM3CH1/ADC6/P5
- PA7/TIM3CH2/ADC7/P6
- PA8/TIM3CH3/ADC8/P7
- PA9/UART1_TX/P21
- PA10/UART1_RX/P22
- USB_N
- USB_P
- PA13/SWDIO/ADC13/P23
- PA14/BOOT0/SWDCLK/P20
- PA15/P19

U1 pins (left):
- 7 PA0
- 8 PA1
- 9 PA2
- 10 PA3
- 11 PA4
- 12 PA5
- 13 PA6
- 14 PA7
- 18 PA8
- 19 PA9
- 21 PA10
- 22 PA11[PA9]
- 23 PA12[PA10]
- 24 PA13
- 25 PA14-BOOT0
- 26 PA15

U1 pins (right):
- PB0 — 15
- PB1 — 16
- PB2 — 17
- PB3 — 27
- PB4 — 28
- PB5 — 29
- PB6 — 30
- PB7 — 31
- PB8 — 32
- PB9 — 1
- PC6 — 20
- PC14-OSC32_IN — 2
- PC15-OSC32_OUT — 3
- PF2-NRST — 6
- EXP — 33
- VSS/VSSA — 5
- VDD/VDDA — 4

Right side net labels:
- PB0/ADC17/P9
- PB1/TIM3CH4/ADC18/P8
- PB2/ADC19/P17
- PB3/SPI1_CLK/P12
- PB4/SPI1_MISO/P13
- PB5/SPI1_MOSI/P14
- PB6/SCL1/P15
- PB7/SDA1/P16
- PB8/LED/P0
- PB9/P18
- PC6/TIM2CH3/P11
- PC14/P24
- PC15/P10
- NRST/PF2/P27

Right side pin labels:
- PB0/ADC17/P9
- PB1/TIM3CH4/ADC18/P8
- PB2/ADC19/P17
- PB3/SPI1_CLK/P12
- PB4/SPI1_MISO/P13
- PB5/SPI1_MOSI/P14
- PB6/SCL1/P15
- PB7/SDA1/P16
- PB8/LED/P0
- PB9/P18
- PC6/TIM2CH3/P11
- PC14/P24
- PC15/P10
- NRST/PF2/P27

3V3

UART1 is available when not used in Uplink

C1 0.1uF — 3V3 / GND
C2 6.3V 22uF — 3V3 / GND

GND

Title: *DUELink MCU*
Part #: STM32071KBU6
Revision: v14   Date: 12/4/2025   Sheet 3 of 4
©2025 GHI Electronics, LLC   -   Michigan, USA

GHi electronics — Where Hardware Meets Software

1	2	3	4

D

3V3

1	1
2	2
3	3
4	4
5	MNT 1
6	MNT 2

PA2/UART2_TX/P25

PA3/UART2_RX/P26

DueLink 4 Pin RA Connector

GND