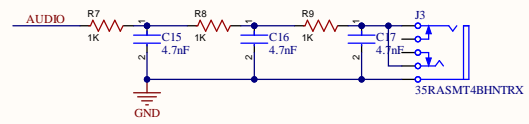
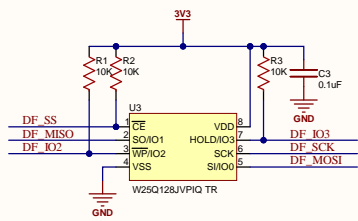
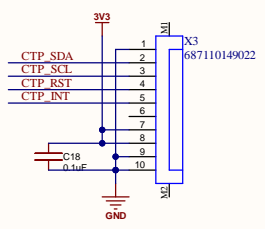
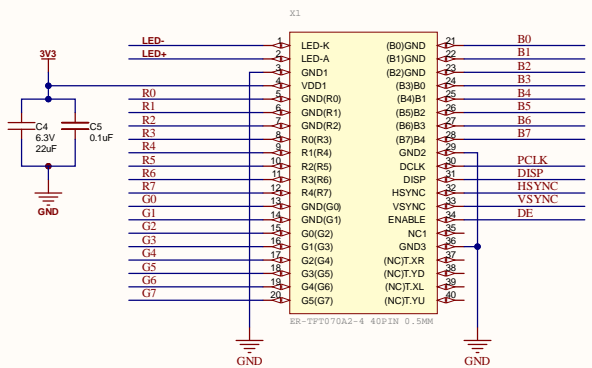
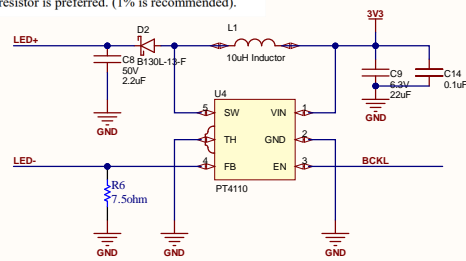


Sun readable IPS display has more LEDs and need a lot more current. We are using regular display.



**Setting the LED current**

The LED current is controlled by the feedback resistor. The feedback reference is 300mV. The LED current is 300mV/R<sub>FB</sub>. In order to have accuracy LED current, precision resistor is preferred. (1% is recommended).



| PIN NO. | SIGNAL |
|---------|--------|
| 1       | GND    |
| 2       | SDA    |
| 3       | SCL    |
| 4       | RESET  |
| 5       | INT    |
| 6       | NC     |
| 7       | VDD    |
| 8       | VDD    |
| 9       | GND    |
| 10      | GND    |

1

2

3

4

A

A

B

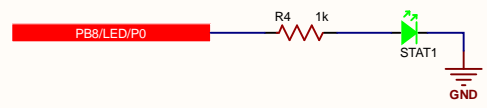
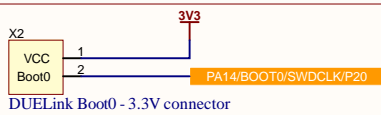
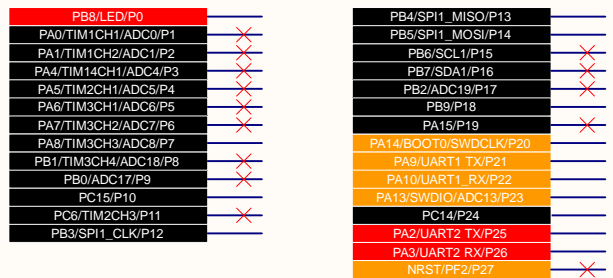
B

C

C

D

D



|  |                 |              |
|--|-----------------|--------------|
| Title: <i>DUELink Misc</i>                 |                 |              |
| Part #: N/A                                |                 |              |
| Revision: A                                | Date: 3/17/2025 | Sheet 2 of 5 |
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**Software Features:**

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

Pulse feedback: 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 PWM: Any pin

SW UART: Pins 1 RX, 2 TX, 3 DBG

Wakeup Pins: P1, P3

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

Output compare: P2 (PA1)  
 Input capture: TBD

Neopixel: Any pin (blocking mode)

IR receiver: P1

```

// PB8 - P0 -> LED
// PA0 - P1 -> TIM1_CH1 ADC0
// PA1 - P2 -> TIM1_CH2 ADC1
// PA4 - P3 -> TIM14_CH1 ADC4
// PA5 - P4 -> TIM2_CH1 ADC5
// PA6 - P5 -> TIM3_CH1 ADC6
// PA7 - P6 -> TIM3_CH2 ADC7
// PA8 - P7 -> TIM3_CH3 ADC8
// PB1 - P8 -> TIM3_CH4 ADC18
// PB0 - P9 -> ADC17
// PC15 - P10
// PC6 - P11
// PB3 - P12 -> SPI1_CLK
// PB4 - P13 -> SPI1_MISO
// PB5 - P14 -> SPI1_MOSI
// PB6 - P15 -> I2C1_SCL
// PB7 - P16 -> I2C1_SDA

// PB2 - P17 -> ADC19
// PB9 - P18
// PA15 - P19
// PA14 - P20 -> SWCLK BOOT0

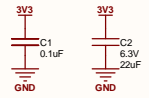
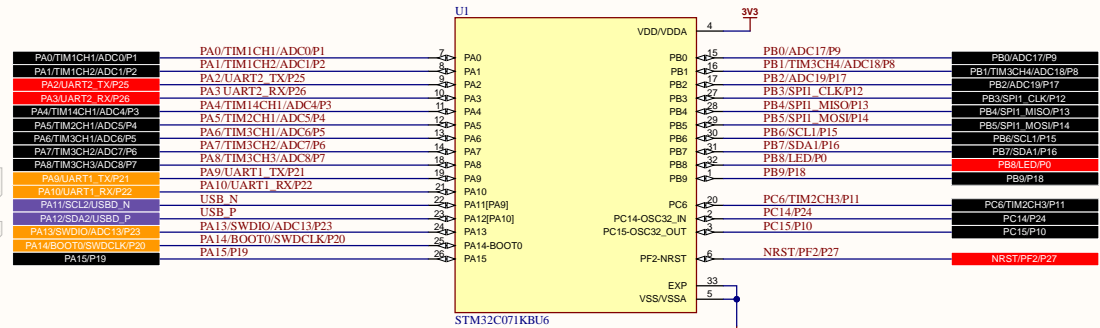
// PA9 - P21 -> UART1 TX - Can be used when no Upstream
// PA10 - P22 -> UART1 - Can be used when no Upstream
// PA13 - P23 -> SWDIO ADC13
// PF2 - P24 -> NRST - Reserved for emergency
  
```

UART1 is available when not used in upstream

PA12 can be UART1\_CK

**Sheet order priority:**

- MCU.schDoc
- Downstream.schDoc
- Upstream.schDoc
- Misc.
- project\_name.schDoc



1

2

3

4

A

A

B

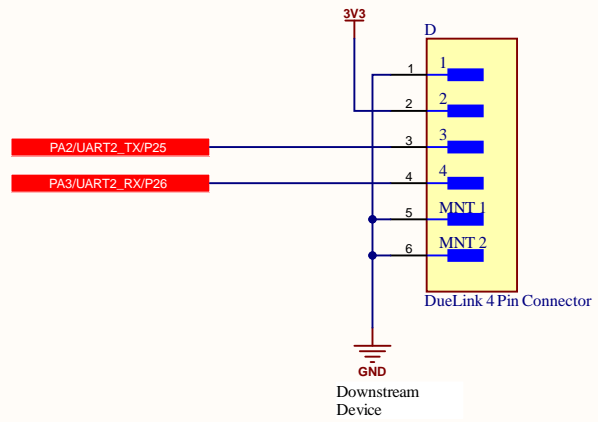
B



C

C

D

D



|                                  |                 |              |   |   |
|----------------------------------|-----------------|--------------|---|---|
| Title: <i>DUELink Downstream</i> |                 |              |  |  |
| Part #: Downstream JST Connector |                 |              |   |   |
| Revision: A                      | Date: 3/17/2025 | Sheet 4 of 5 | ©2025 GHI Electronics, LLC - Michigan, USA  |   |

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A

A

B

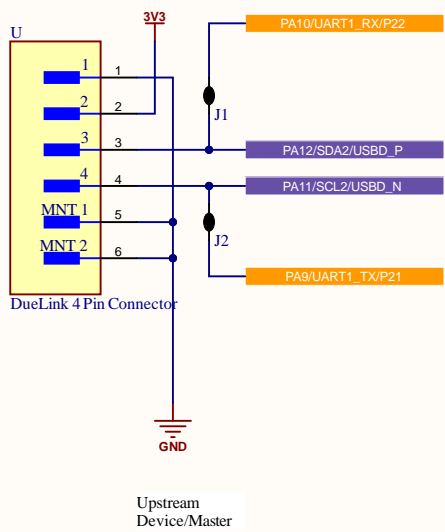
B

C

C

D

D



|                                |                 |              |
|--------------------------------|-----------------|--------------|
| Title: <i>DUELink Upstream</i> |                 |              |
| Part #: Upstream JST Connector |                 |              |
| Revision: A                    | Date: 3/17/2025 | Sheet 5 of 5 |



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