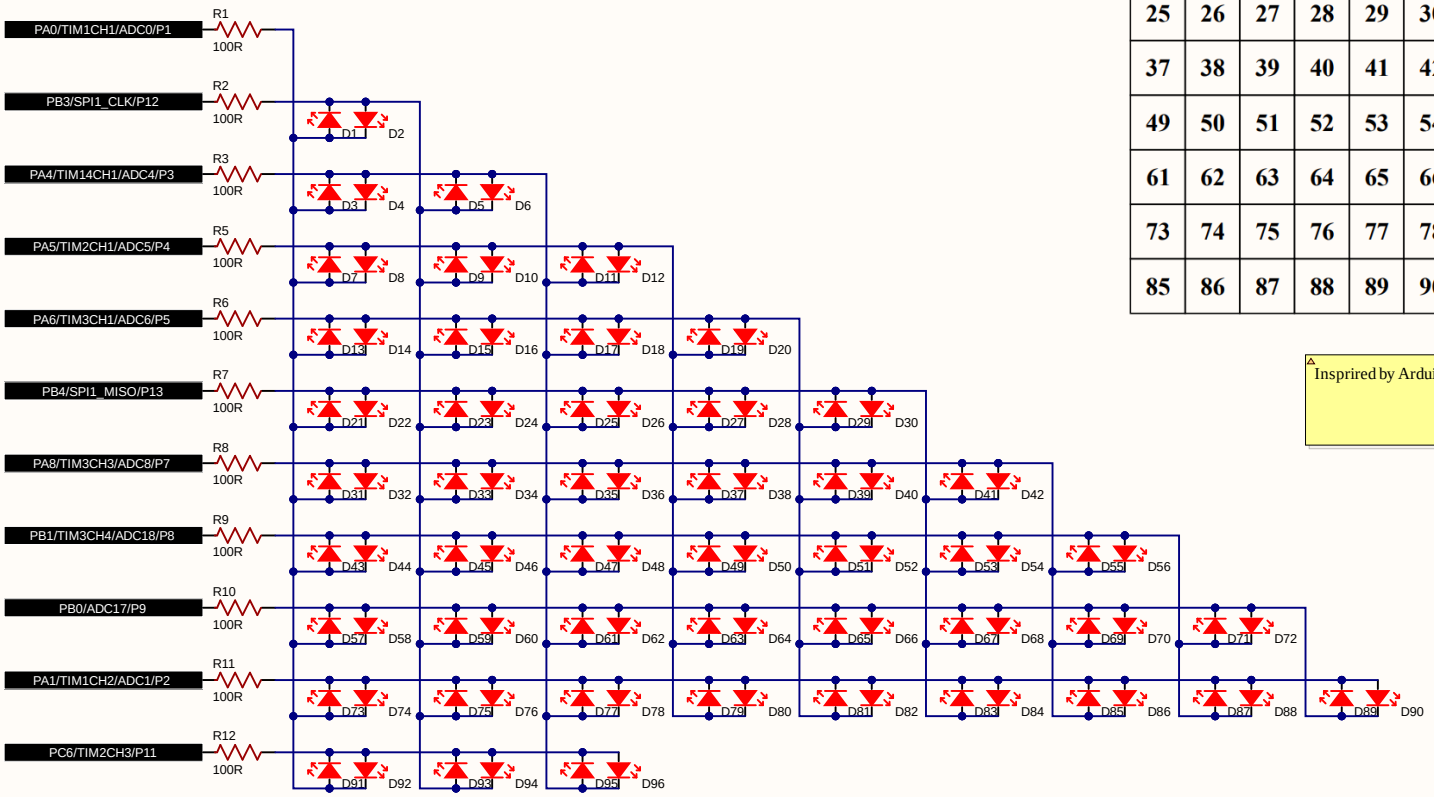
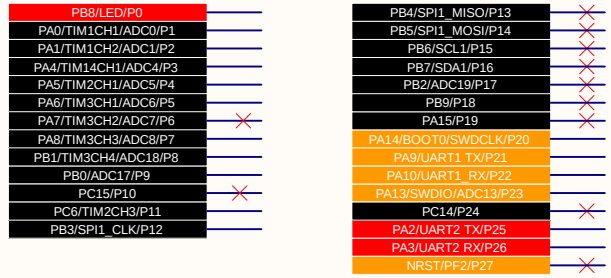
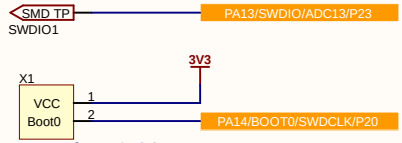


1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96

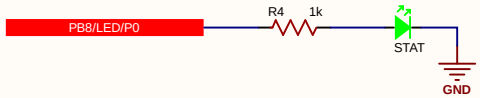
Insprired by Arduino UNO R4 WiFi LED matrix

Title: *LED MT12208*		
Part #: GDL-LLEDMT1208-A		
Revision: A	Date: 8/4/2025	Sheet 1 of 5





DUELink Boot0 - 3.3V connector



FID1 Fiducial 40 Mil

FID2 Fiducial 40 Mil

FID3 Fiducial 40 Mil

FID4 Fiducial 40 Mil

FID5 Fiducial 40 Mil

FID6 Fiducial 40 Mil

Title: *Misc*			
Part #: N/A			
Revision: A	Date: 8/4/2025	Sheet 2 of 5	

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

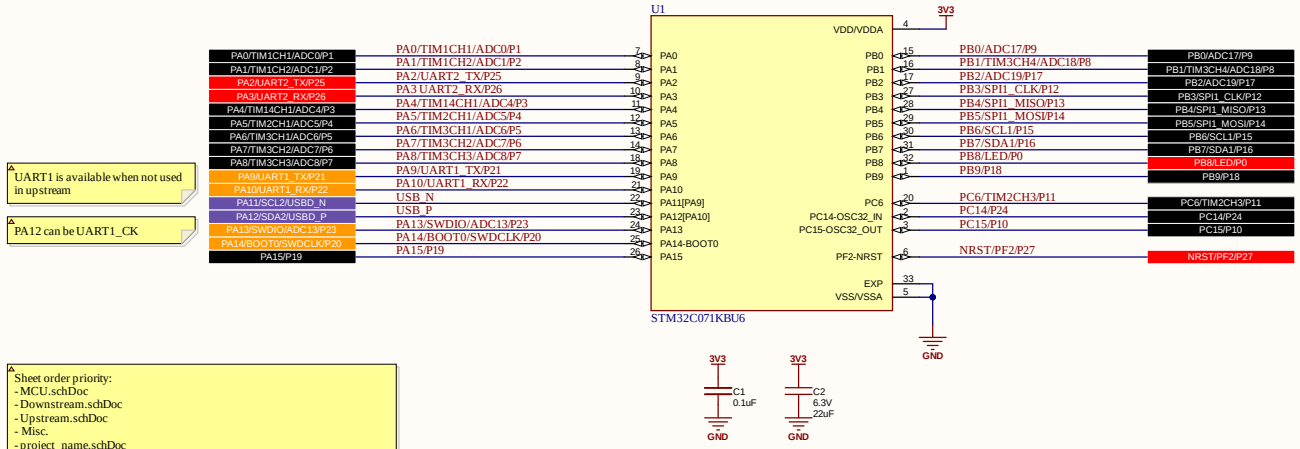
Neopixel: Any pin (blocking mode)

IR reciever: 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
```

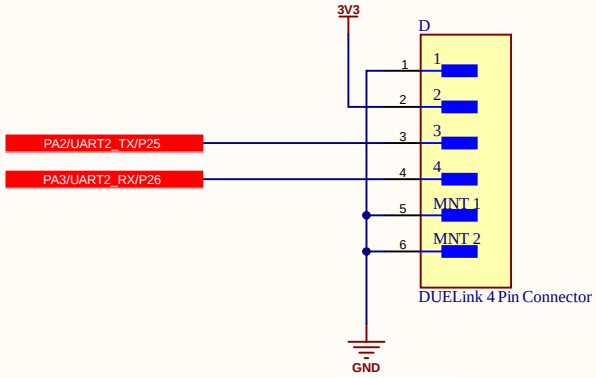


UART1 is available when not used in upstream

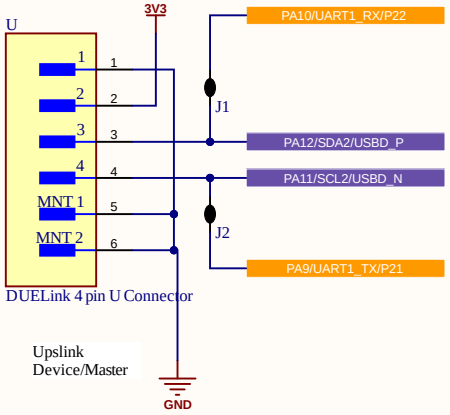
PA12 can be UART1_CK

Sheet order priority:
- MCU.schDoc
- Downstream.schDoc
- Upstream.schDoc
- Misc.
- project_name.schDoc

Title: *DUELink MCU*		
Part #: STM32071KBU6		
Revision: v14	Date: 8/4/2025	Sheet 3 of 5



Title: *DUELink Downlink*			
Part #: N/A			
Revision: A	Date: 8/4/2025	Sheet 4 of 5	



Title: *DUELink Uplink*			
Part #: N/A			
Revision: A	Date: 8/4/2025	Sheet 5 of 5	