STM32WBA55G-DK1

MB1802

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Legend

General comment such as function title, configuration, ...

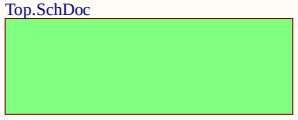
Text to be added to silkscreen.

Warning text.

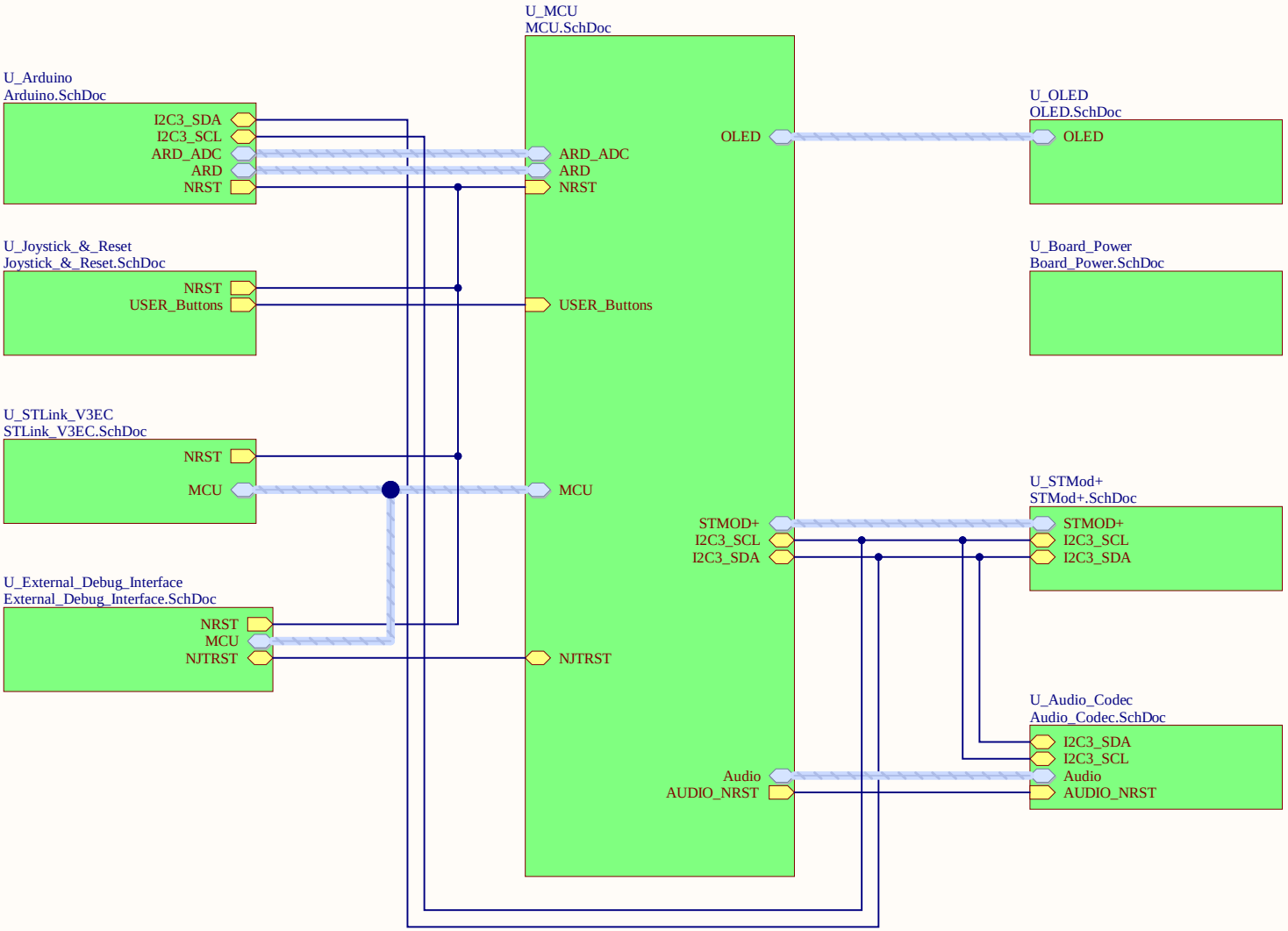
Notes to generate the board layout.

Open Platform License Agreement

U_Top
Top.SchDoc



Title: **Project_overview**			
Project: **STM32WBA55G-DK1**			
Variant: WBA55C			
Revision: B-01		Reference: MB1802	
Size: A4	Date: 22-MAY-23	Sheet: 1 of 11	



Title: **Top**		
Project: **STM32WBA55G-DK1**		
Variant: WBA55C		
Revision: B-01		Reference: MB1802
Size: A4	Date: 22-MAY-23	Sheet: 2 of 11

VDD_MCU

PH3_BOOT0

OLED.CS — PH3

R5 10K — JP6 — HW5

BOOT0 BY DEFAULT LOW FOR BOOT TO INTERNAL FLASH

VDD_MCU

R8 4K7 — R9 4K7

I2C3_SCL — I2C3_SCL

I2C3_SDA — I2C3_SDA

CN1 — CLP-125-02-F-D — Socket 25x2

			V2		
			IOREF		VDD
			PB9		VREFP
PH3	PH3				
					NRST
MCU.SWDIO	PA13	VDD			
MCU.SWCLK	PA14				
					VDD
					VDDA
			PA7	ARD_ADC.A4	I2C3_SDA — SB5 DNF — MCU.CTS
			PA6	ARD_ADC.A5	I2C3_SCL
Audio.1_CK1	ARD.D9_TIM	STMOD+.1_RST	PA9		
					VDD
					VDD
OSC32_IN	PC14				
OSC32_OUT	PC15		PA2	STMOD+.1_ADC	ARD_ADC.A0 — SB10 DNF — MCU.RTS
			PA1	STMOD+.1_TIM	ARD_ADC.A1 — USER_Buttons
OSC_OUT			PA5	STMOD+.1_SPI3_NSS	ARD_ADC.A2 — ARD.D10_TIM_SPI3_NSS
		VBAT	PA0	STMOD+.1_SPI3_SCK	ARD.D13_SPI3_SCK — OLED.SP3_SCK
MCU.VCP_RX	PA8				
MCU.VCP_TX	PB12				
					VDD — V50
					VDD

V1 — CN2 — CLP-125-02-F-D — Socket 25x2

		VDD			GND
		VDD			
			PB2		
AUDIO_NRST					GND
			PB1	ARD.D2_IO STMOD+.1_UART2_RTS	PB4 GPIO30
NJTRST		SB9 DNF	PB4	Audio.MCLK_B	PB3 GPIO32
			PB3	ARD.D3_TIM STMOD+.1_20 MCU.SWO	GND
			PA15	ARD.D5_TIM STMOD+.1_19 MCU.JTDI	
		VDD			
		VDDA			GND
			PA12		GPIO38
					GPIO40
			PB15	ARD.D8_IO STMOD+.1_UART2_CTS	GND
STMOD+.1_SPI3_MISO		ARD_ADC.A3	PB9	ARD.D12_SPI3_MISO OLED.D/C	RF_ANT_SW0 GPIO43
			PB0	ARD.D1_TX STMOD+.1_UART2_TX	RF_ANT_SW1 GPIO45
	V31				GND
	VDD				GPIO46
		VDD	PB14	Audio.SD_A	
			PA11	STMOD+.1_UART2_RX	GND
	ARD.D0_RX		PB6	Audio.SCK_B	PB6 GPIO51
			PB7	Audio.SD_B	PB7 GPIO53
			PB5	Audio.FS_B	GND
Audio.1_D1	ARD.D6_TIM	STMOD+.1_17	PA10		PC13 STMOD+.1_INT ARD.D4_INT Audio.Int
		V49			PB8 STMOD+.1_SPI3_MOSI ARD.D11_TIM_SPI3_MOSI OLED.SPI3_MOSI
		VDD			
		VDD			GND

HW6

OLED.RST — JP7 — PA12

ARD.D7_IO — STMOD+.1_18

Shunt Fitted 1-2

VDDA — C1 1uF

V2 — C7 100nF — C2 1uF

V1 — C4 1uF — C9 100nF

V31 — C5 1uF — C10 100nF

V50 — C3 1uF — C8 100nF

V49 — C6 1uF — C11 100nF

VBAT VREFP VDD VDDA VDD_MCU

Audio

MCLK_B	Audio.MCLK_B	PB4
SCK_B	Audio.SCK_B	PB6
FS_B	Audio.FS_B	PB5
SD_B	Audio.SD_B	PB7
SD_A	Audio.SD_A	PB14
1_CK1	Audio.1_CK1	PA9
1_D1	Audio.1_D1	PA10

ARD_ADC

A0	ARD_ADC.A0	PA2
A1	ARD_ADC.A1	PA1
A2	ARD_ADC.A2	PA5
A3	ARD_ADC.A3	PB9
A4	ARD_ADC.A4	PA7
A5	ARD_ADC.A5	PA6

MCU

PA2	MCU.RTS	RTS
PA7	MCU.CTS	CTS
		MCO
PA13	MCU.SWDIO JTMS	SWDIO
PB3	MCU.SWO JTDO	SWO
PA14	MCU.SWCLK JTCK	SWCLK
PA15	MCU.JTDI JTDI	JTDI
PB12	MCU.VCP_TX	VCP_TX
PA8	MCU.VCP_RX	VCP_RX

STMOD+

1_UART2_CTS	STMOD+.1_UART2_CTS	PB15
1_SPI3_NSS	STMOD+.1_SPI3_NSS	PA5
1_UART2_TX	STMOD+.1_UART2_TX	PB0
1_SPI3_MOSI	STMOD+.1_SPI3_MOSI	PB8
1_UART2_RX	STMOD+.1_SPI3_RX	PA11
1_SPI3_MISO	STMOD+.1_SPI3_MISO	PB9
1_UART2_RTS	STMOD+.1_UART2_RTS	PB1
1_SPI3_SCK	STMOD+.1_SPI3_SCK	PA0
1_INT	STMOD+.1_INT	PC13
1_RST	STMOD+.1_RST	PA9
1_ADC	STMOD+.1_ADC	PA2
1_TIM	STMOD+.1_TIM	PA1
1_17	STMOD+.1_17	PA10
1_18	STMOD+.1_18	PA12
1_19	STMOD+.1_19	PA15
1_20	STMOD+.1_20	PB3

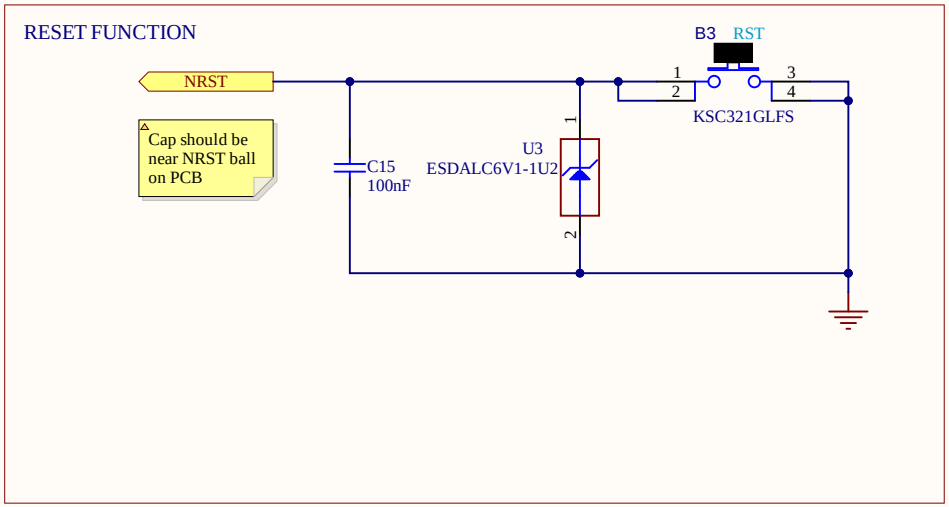
ARD

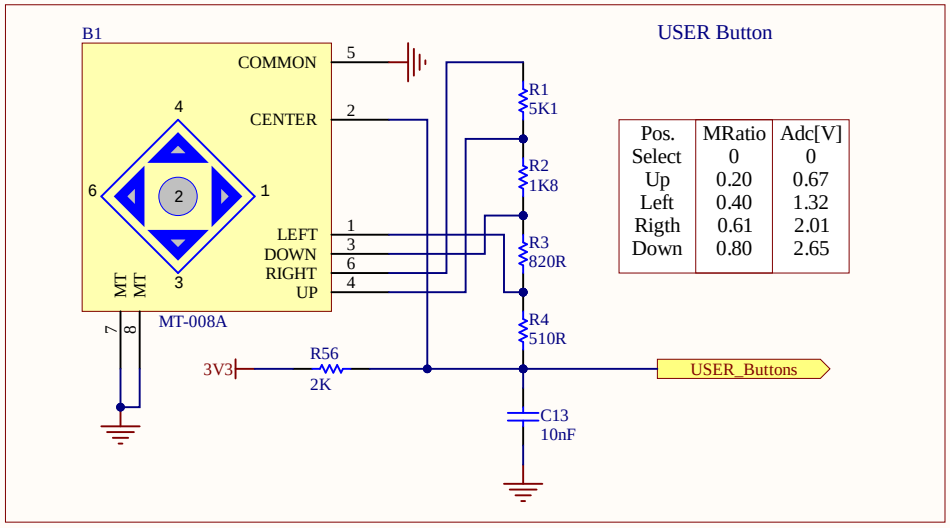
D13_SPI3_SCK	ARD.D13_SPI3_SCK	PA0
D12_SPI3_MISO	ARD.D12_SPI3_MISO	PB9
D11_TIM_SPI3_MOSI	ARD.D11_TIM_SPI3_MOSI	PB8
D10_TIM_SPI3_NSS	ARD.D10_TIM_SPI3_NSS	PA5
D9_TIM	ARD.D9_TIM	PA9
D8_IO	ARD.D8_IO	PB15
D7_IO	ARD.D7_IO	PA12
D6_TIM	ARD.D6_TIM	PA10
D5_TIM	ARD.D5_TIM	PA15
D4_INT	ARD.D4_INT	PC13
D3_TIM	ARD.D3_TIM	PB3
D2_IO	ARD.D2_IO	PB1
D1_TX	ARD.D1_TX	PB0
D0_RX	ARD.D0_RX	PA11

OLED

PH3	OLED.CS	CS_DISP
PA12	OLED.RST	RST_DISP
PB9	OLED.D/C	D/C_DISP
PA0	OLED.SP3_SCK	SPI3_SCK
PB8	OLED.SPI3_MOSI	SPI3_MOSI

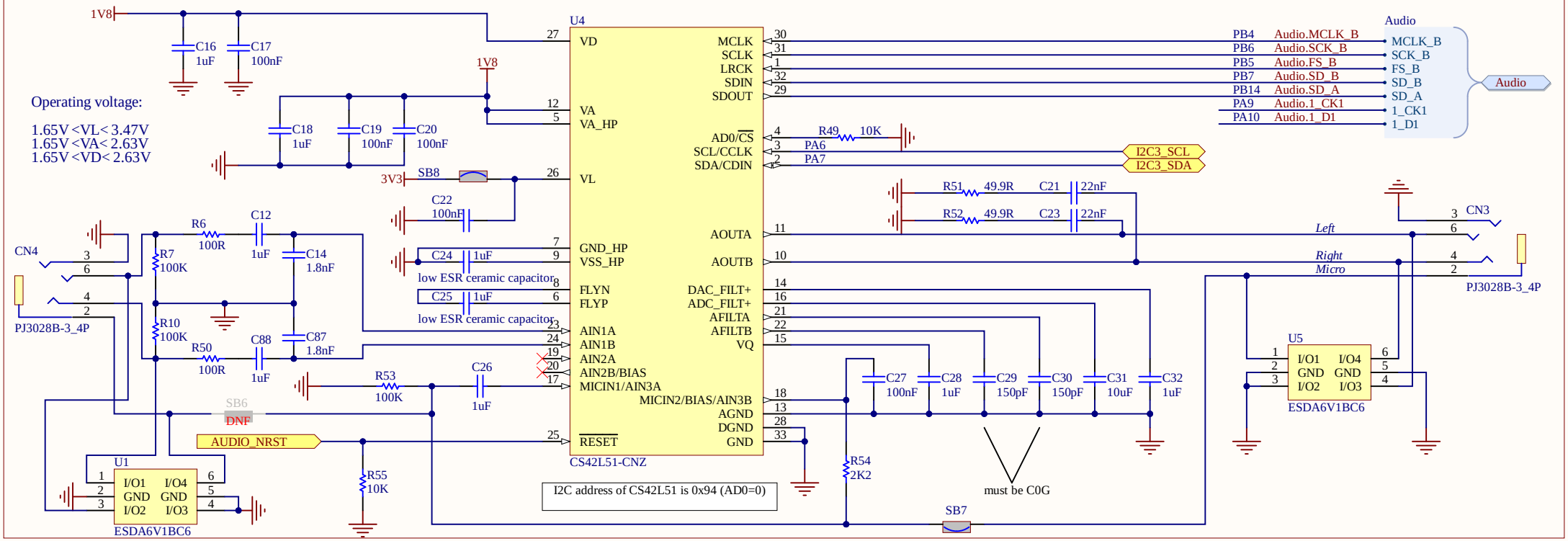
Title: **MCU**			
Project: **STM32WBA55G-DK1**			
Variant: WBA55C			
Revision: B-01		Reference: MB1802	
Size: A3	Date: 22-MAY-23	Sheet: 3 of 11	





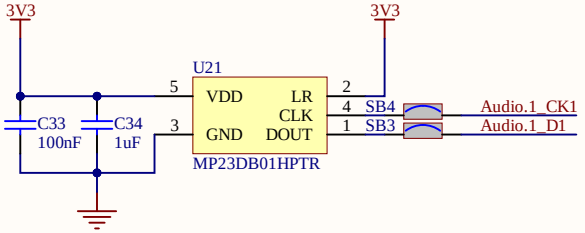
Title: **Joystick_&_RESET**		
Project: **STM32WBA55G-DK1**		
Variant: WBA55C		
Revision: B-01		Reference: MB1802
Size: A4	Date: 22-MAY-23	Sheet: 4 of 11

AUDIO CODEC



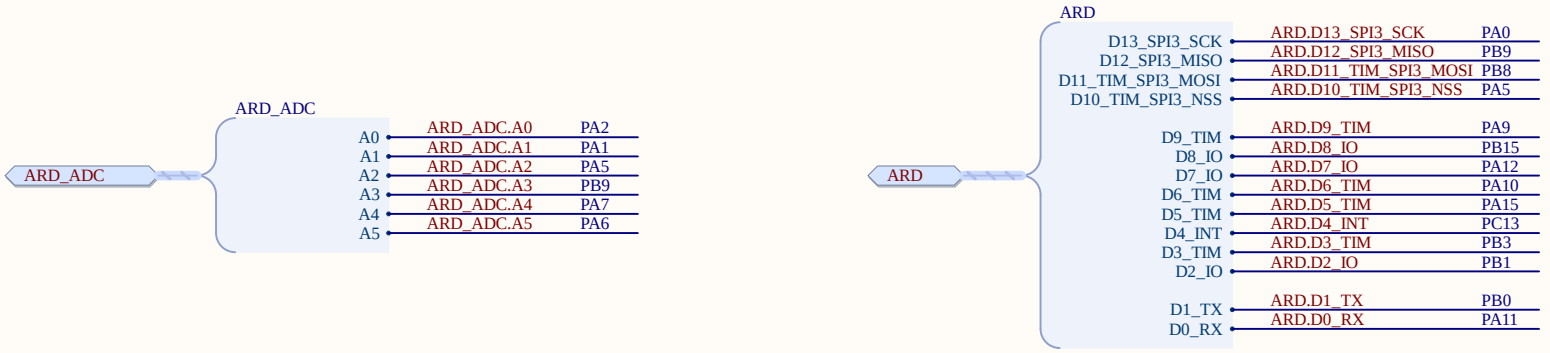
On-board MEMS microphone

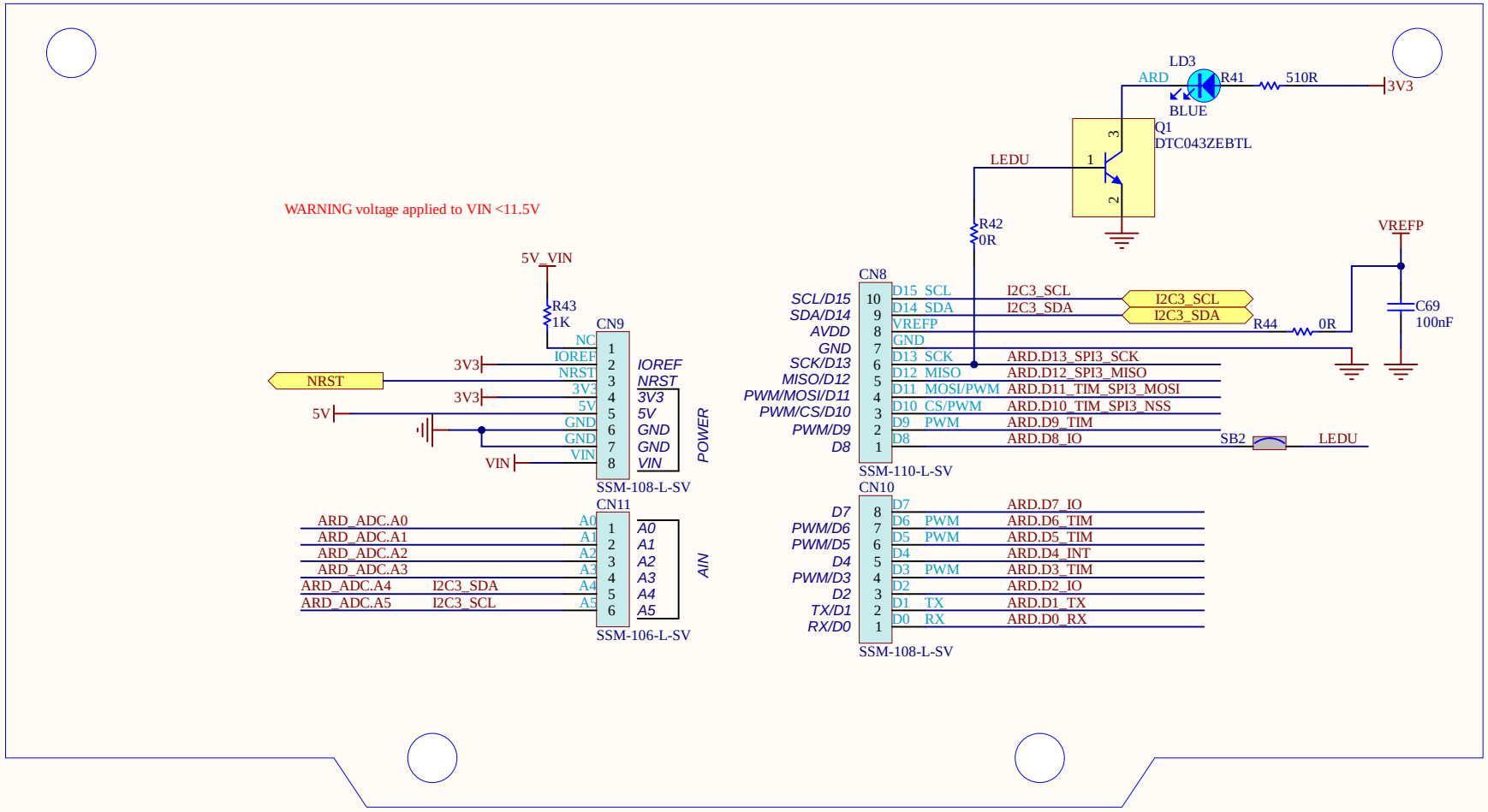
Operating voltage: 1.6V <VDD< 3.6V



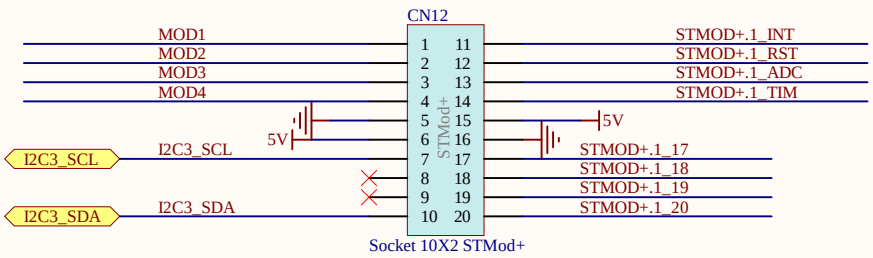
Title: **Audio_Codec**		
Project: **STM32WBA55G-DK1**		
Variant: WBA55C		
Revision: B-01		Reference: MB1802
Size: A4	Date: 22-MAY-23	Sheet: 5 of 11

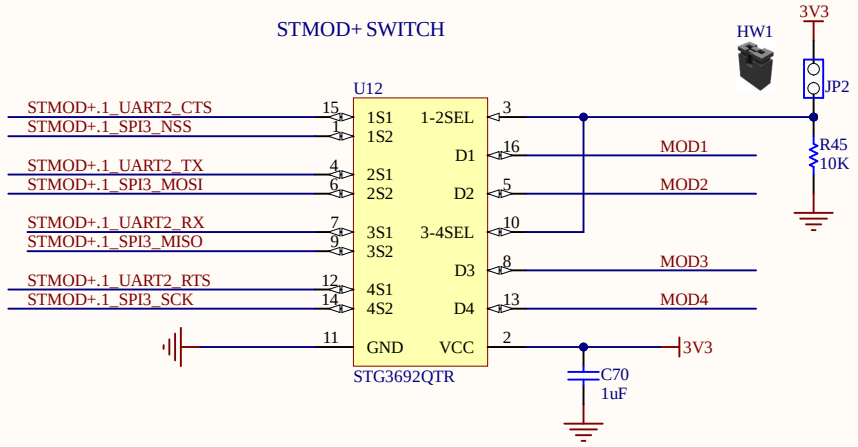
ARDUINO





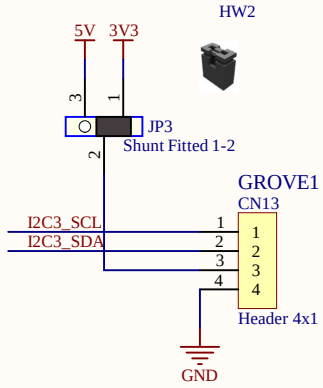
Title: **Arduino**		
Project: **STM32WBA55G-DK1**		
Variant: WBA55C		
Revision: B-01		Reference: MB1802
Size: A4	Date: 22-MAY-23	Sheet: 6 of 11

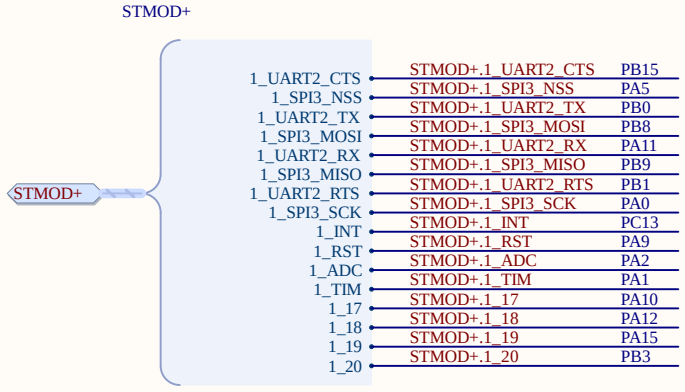




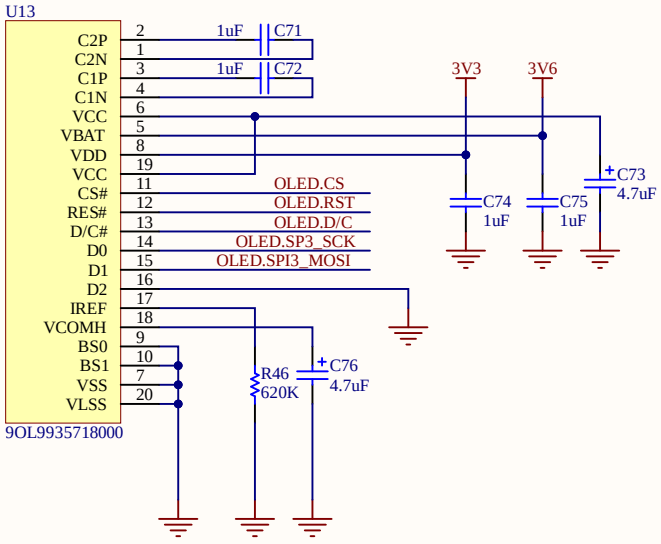
	SPI (*)	UART
Jumper JP2	JP2 OFF	JP2 ON
MOD1	NSS	CTS
MOD2	MOSI	TX
MOD3	MISO	RX
MOD4	SCK	RTS

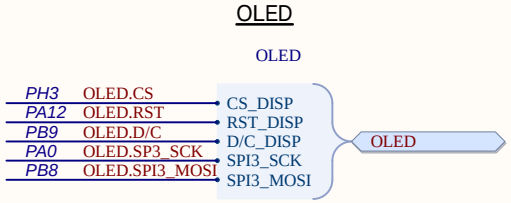
(*) default configuration





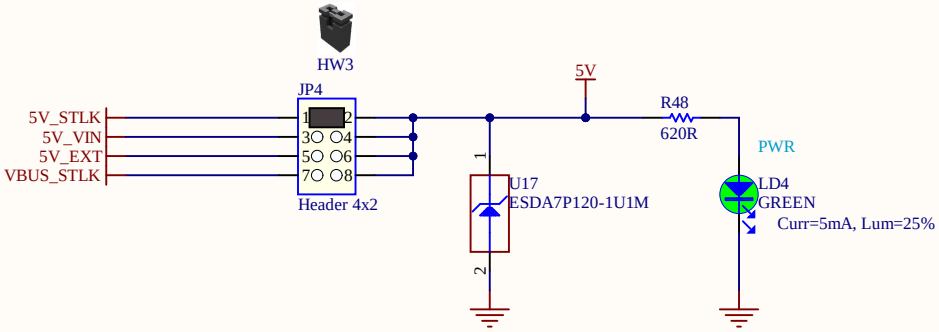
Title: **STMod+**		
Project: **STM32WBA55G-DK1**		
Variant: WBA55C		
Revision: B-01		Reference: MB1802
Size: A4	Date: 22-MAY-23	Sheet: 7 of 11



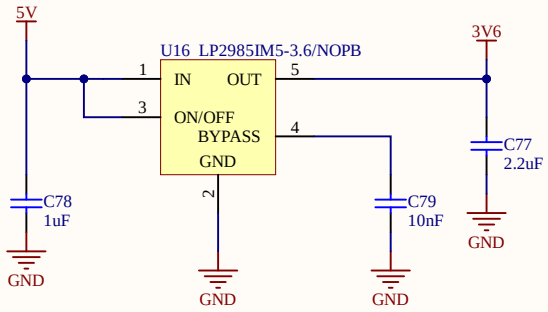


Title: **OLED**		
Project: **STM32WBA55G-DK1**		
Variant: WBA55C		
Revision: B-01		Reference: MB1802
Size: A4	Date: 22-MAY-23	Sheet: 8 of 11

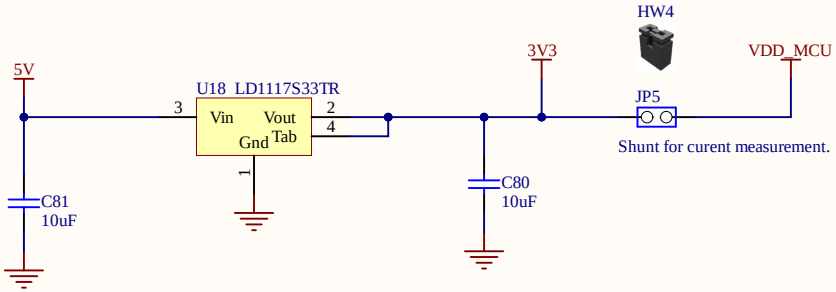
5V PWR SOURCE SELECTION



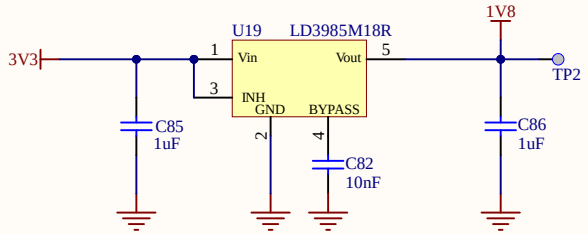
PWR SOURCE: 3V6 / 150mA(OLED)



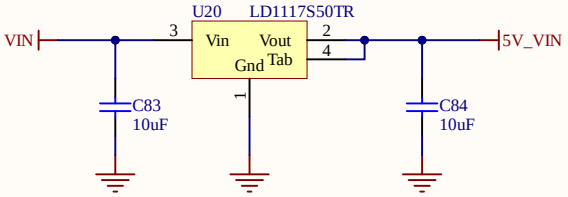
3V3 PWR SOURCE: 3V3 / 800mA



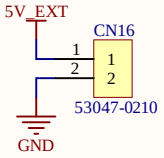
1V8 / 150mA (Audio codec)



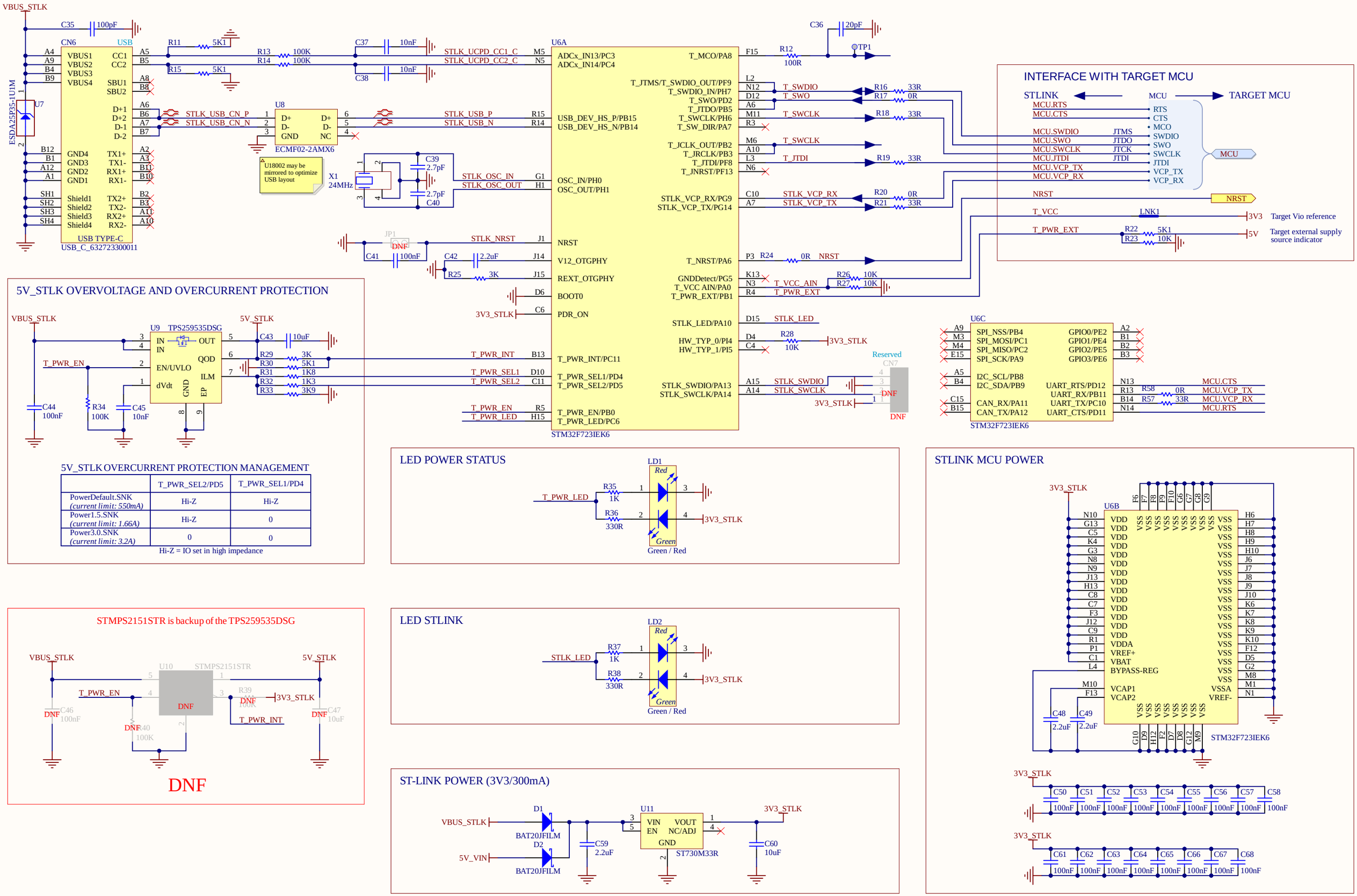
VIN FROM ARDUINO up to 12V: OUTPUT 5V / Up to 800mA (depend of VIN)



External 5V



Title: **Board_Power**		
Project: **STM32WBA55G-DK1**		
Variant: WBA55C		
Revision: B-01		Reference: MB1802
Size: A4	Date: 22-MAY-23	Sheet: 9 of 11

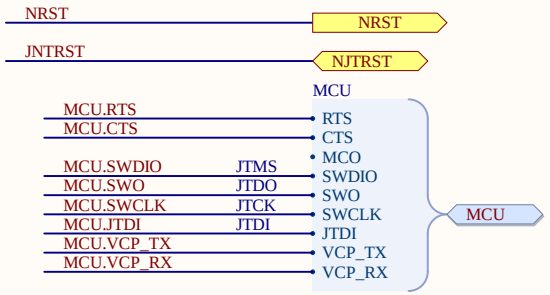


	T_PWR_SEL2/PD5	T_PWR_SEL1/PD4
PowerDefault.SNK *(current limit: 550mA)*	Hi-Z	Hi-Z
Power1.5.SNK *(current limit: 1.66A)*	Hi-Z	0
Power3.0.SNK *(current limit: 3.2A)*	0	0

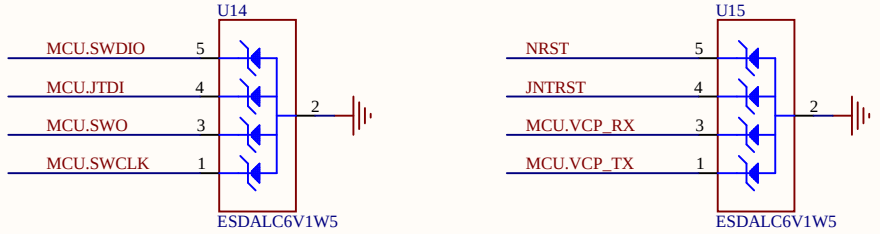
Hi-Z = IO set in high impedance

Title: **STLink_V3EC**		
Project: **STM32WBA55G-DK1**		
Variant: WBA55C		
Revision: B-01		Reference: MB1802
Size: A3	Date: 22-MAY-23	Sheet: 10 of 11

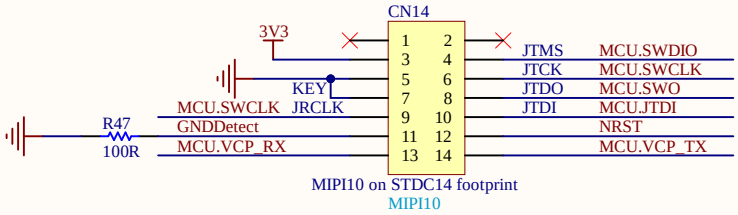
EXTERNAL DEBUGER INTERFACE



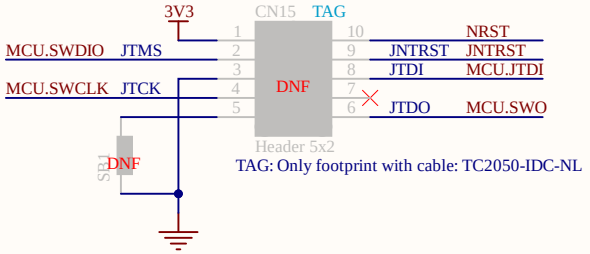
ESD PROTECTIONS



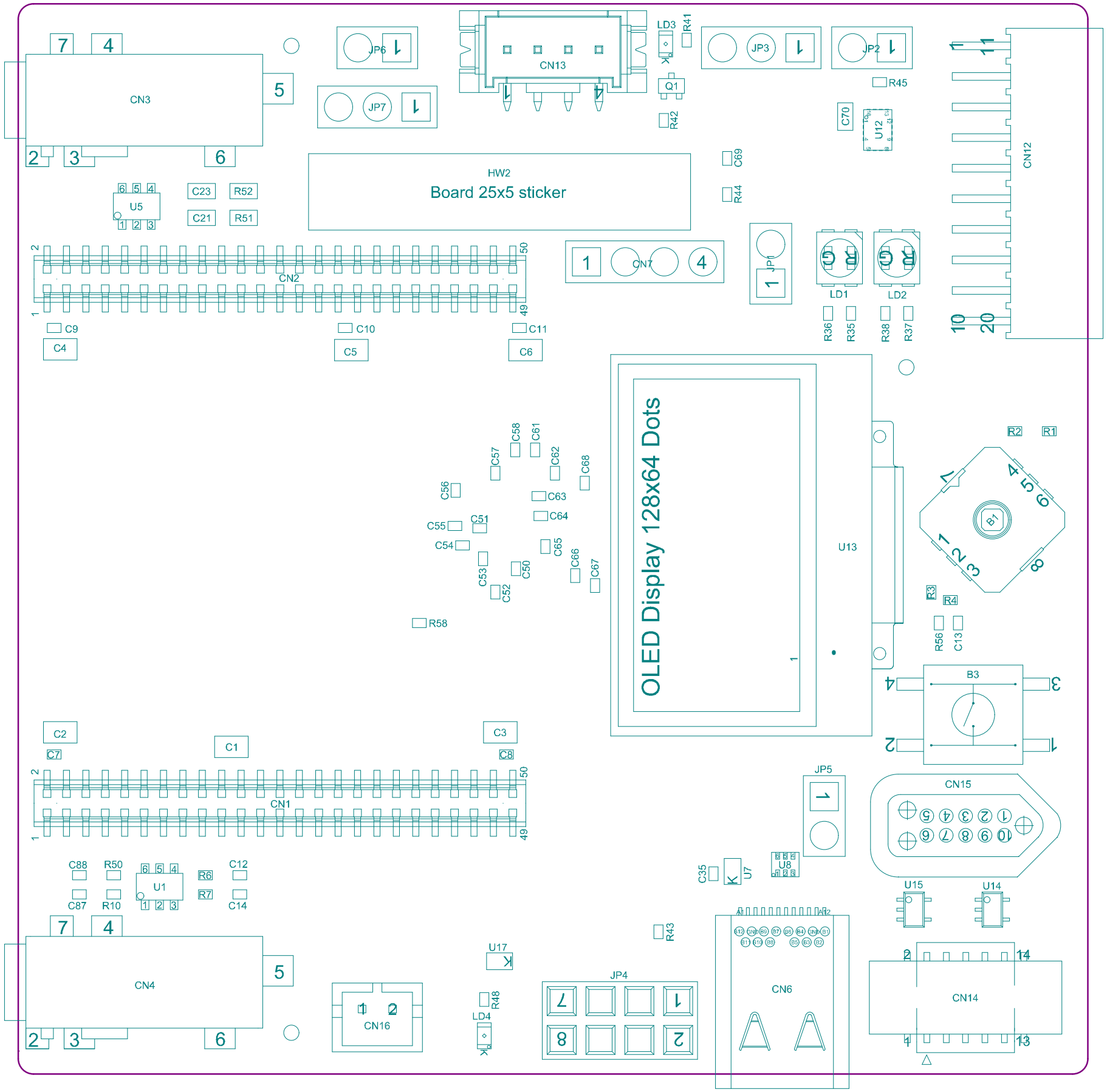
STDC14 RECEIVER (Optional)



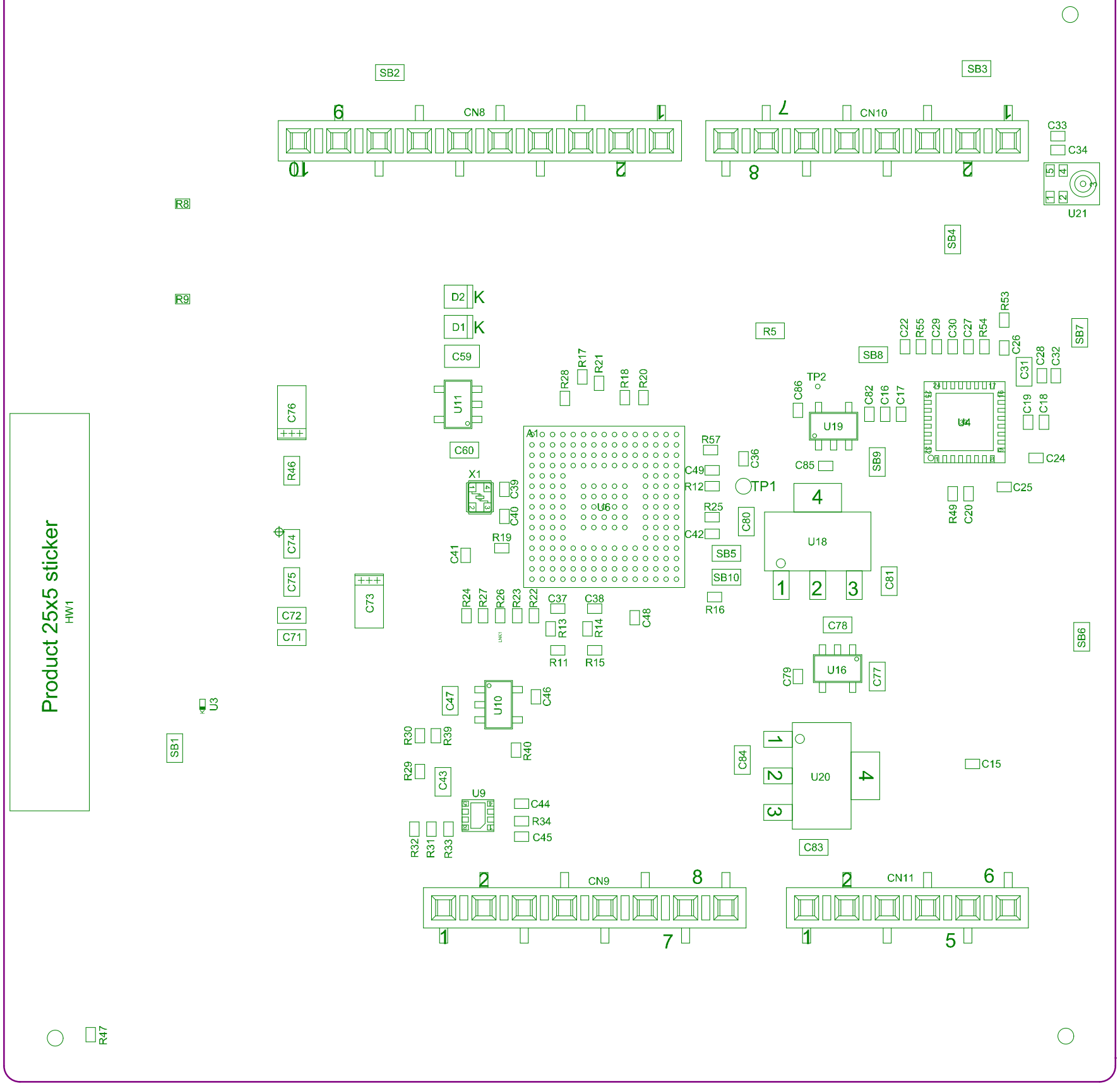
TAG RECEIVER (Optional)



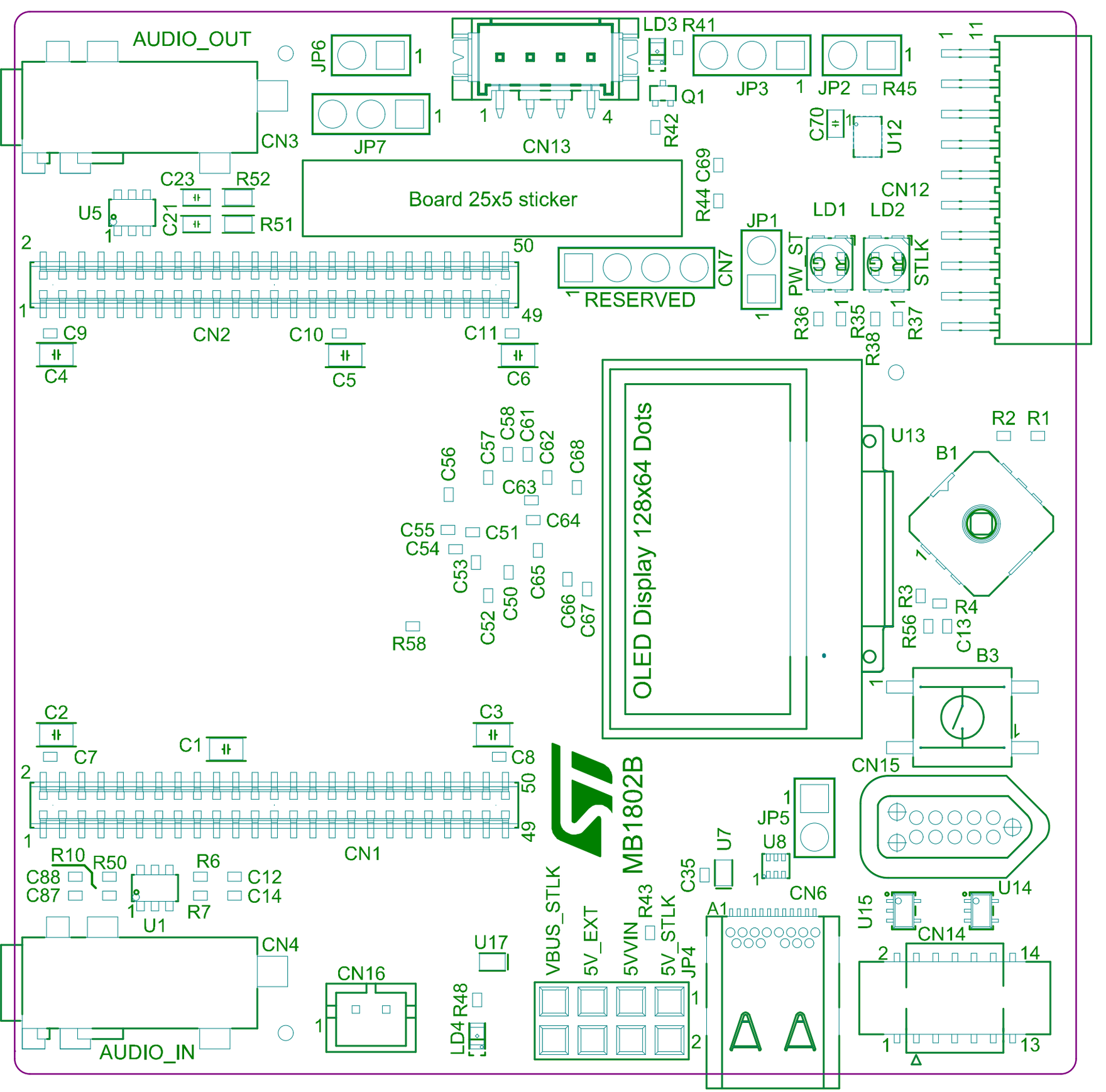
Title: **External_Debug_Interface**			
Project: **STM32WBA55G-DK1**			
Variant: WBA55C			
Revision: B-01		Reference: MB1802	
Size: A4	Date: 22-MAY-23	Sheet: 11 of 11	



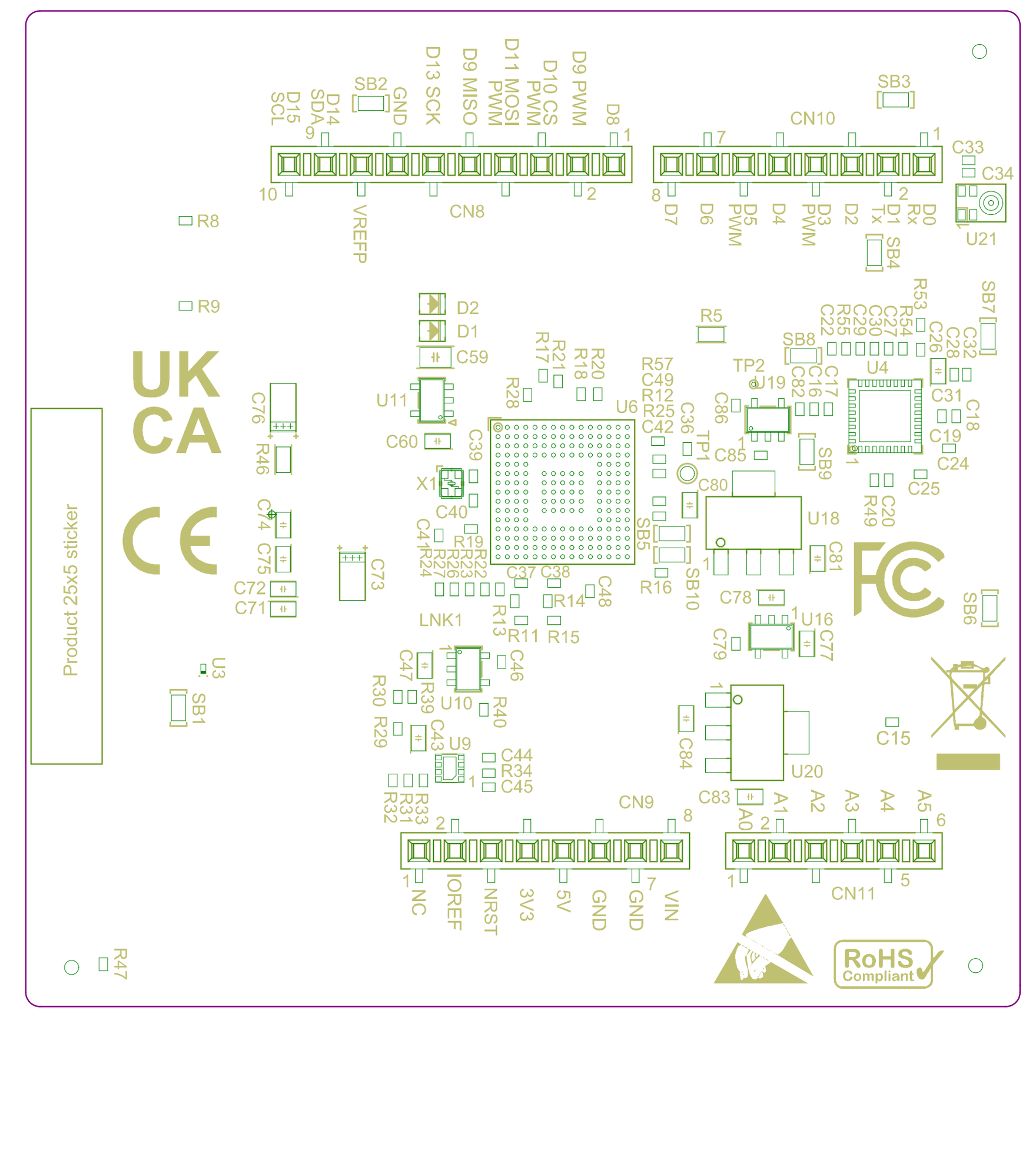
Project: STM32WBA55G-DK1	
Layer: M14-Top Assembly	Gerber: .GM14
Variant: WBA55C	Ref: MB1802
Date: 22-MAY-23	Rev: B



Project: STM32WBA55G-DK1	
Layer: M15-Bottom Assembly	Gerber:.GM15
Variant: WBA55C	Ref: MB1802
Date: 22-MAY-23	Rev: B



Top Overlay .GTO



Bottom Overlay .GBO