STM32G474E-EVAL

MB1397

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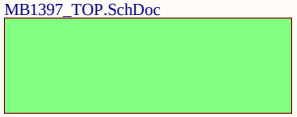
U_MB1397_TOP
MB1397_TOP.SchDoc



Legend

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

Text to be added to silkscreen.

Warning text.

Notes to generate the board layout.

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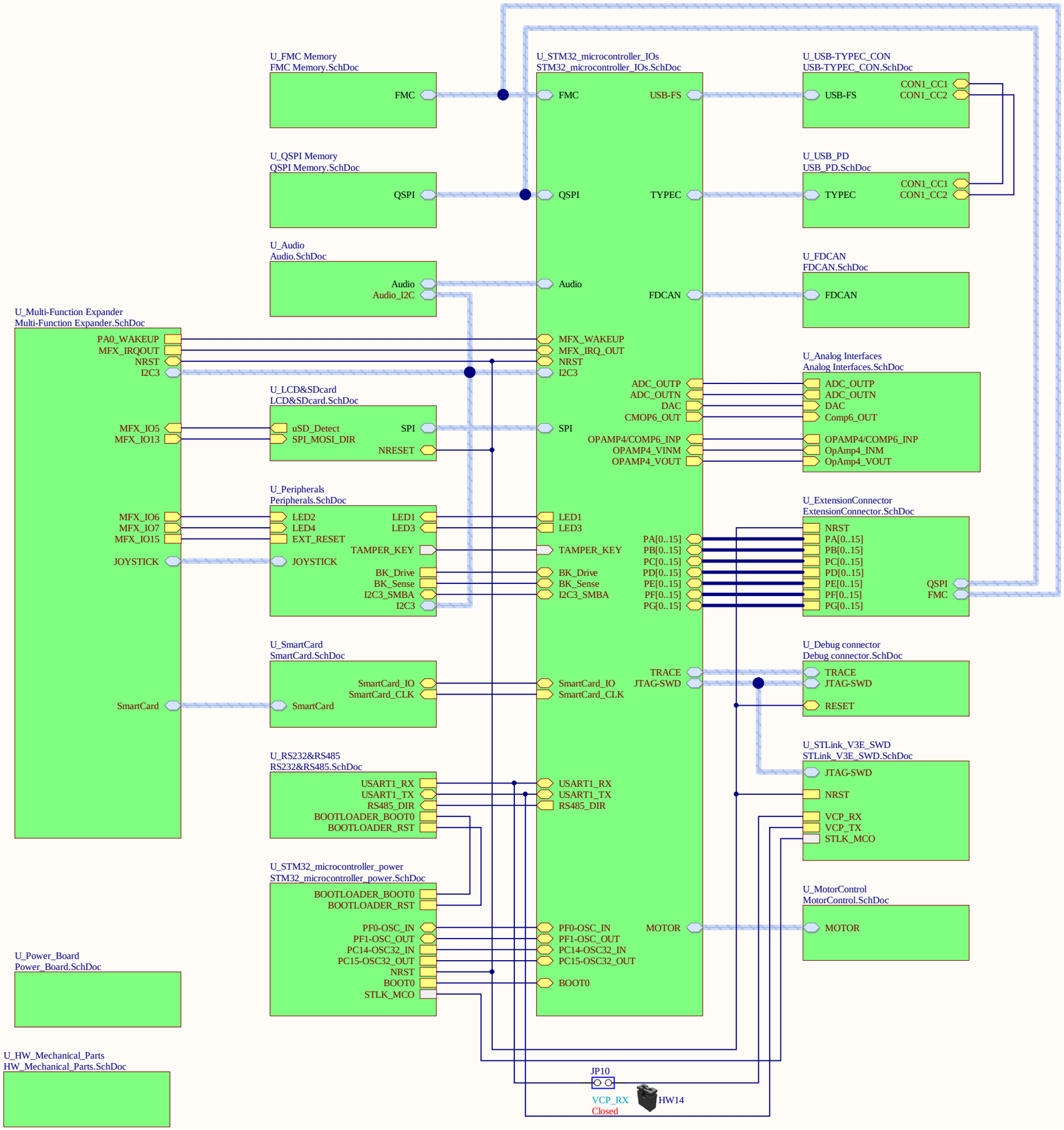
Title: **Project overview**		
Project: **STM32G474E-EVAL**		
Variant: G484E		
Revision: B-04		Reference: MB1397
Size: A4	Date: 01-NOV-18	Sheet: 1 of 22

life.augmented



Title: **MB1397 TOP**		
Project: **STM32G474E-EVAL**		
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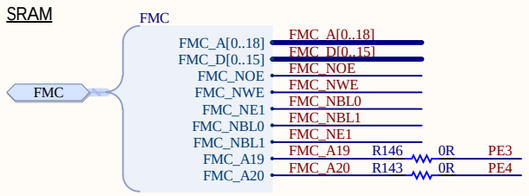
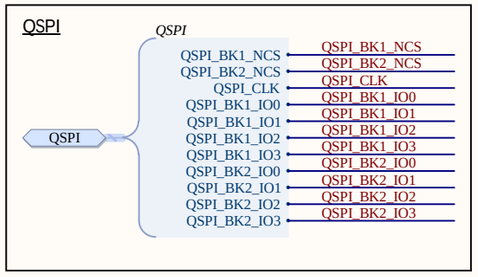
life.augmented

STM32G474QET6 MCU I/Os

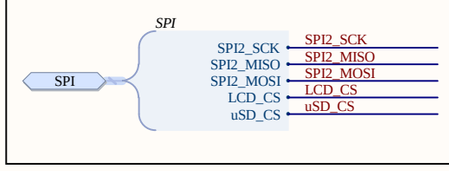
SRAM



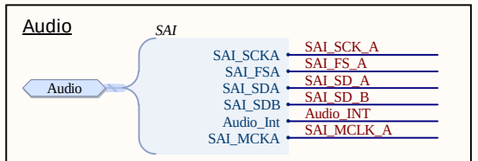
QSPI



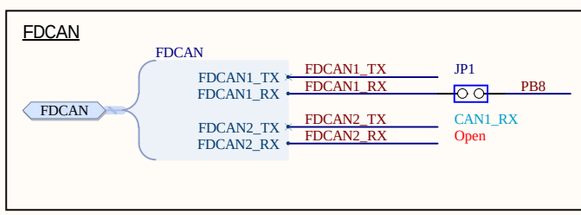
LCD and MircoSD



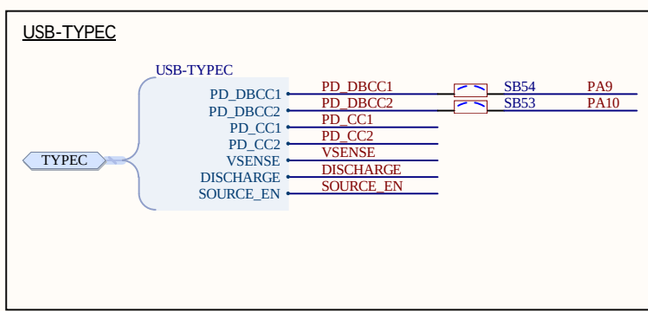
Audio



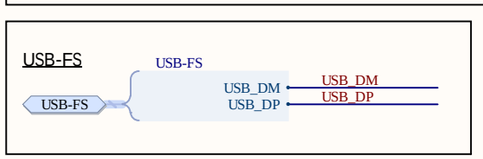
FDCAN

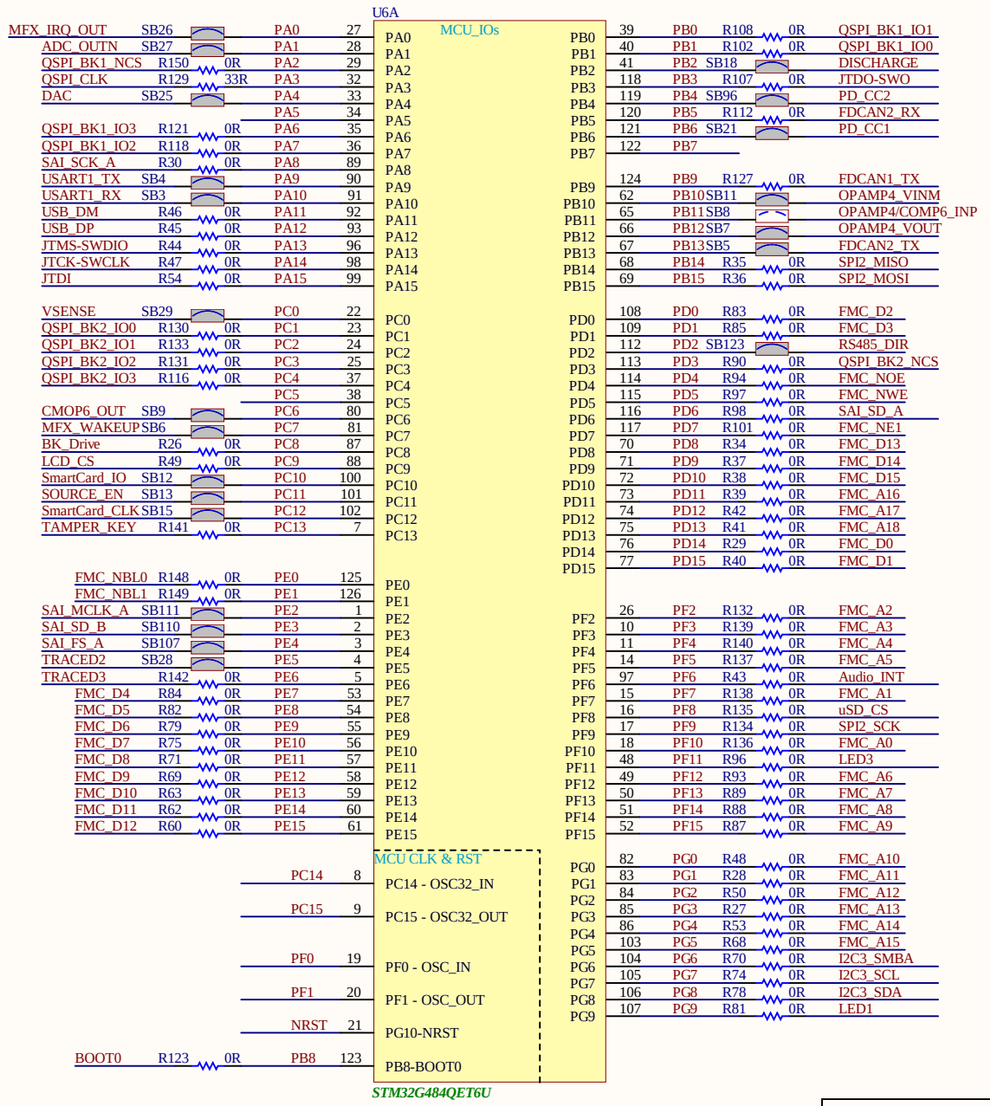


USB-TYPEC

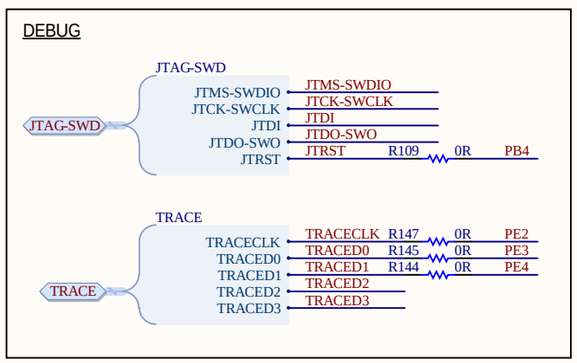


USB-FS

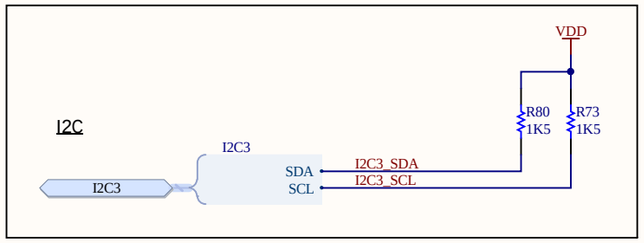




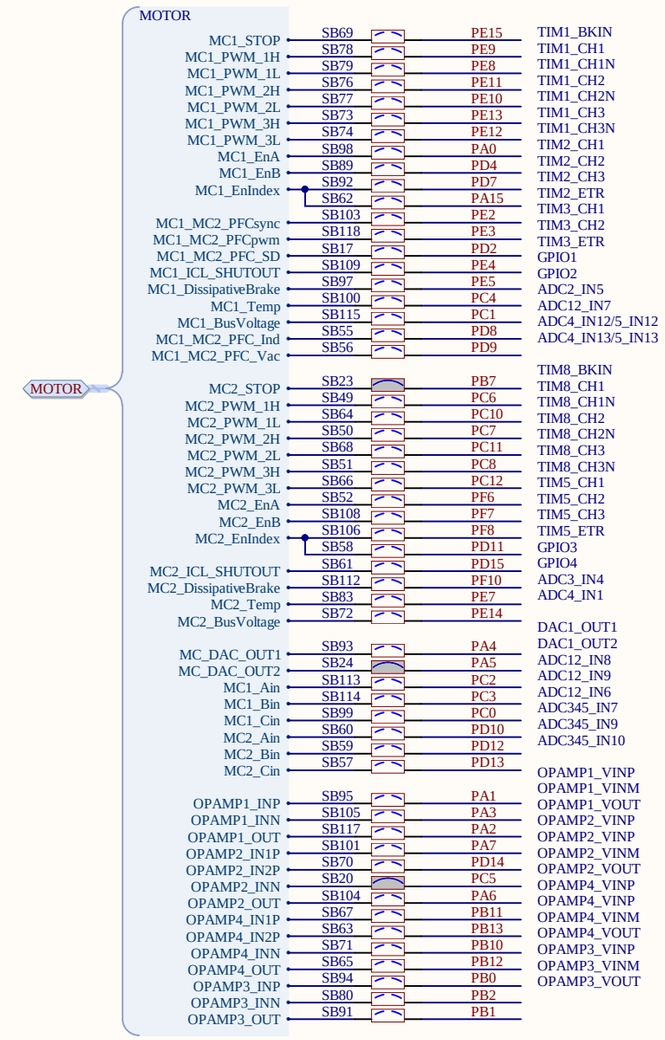
DEBUG



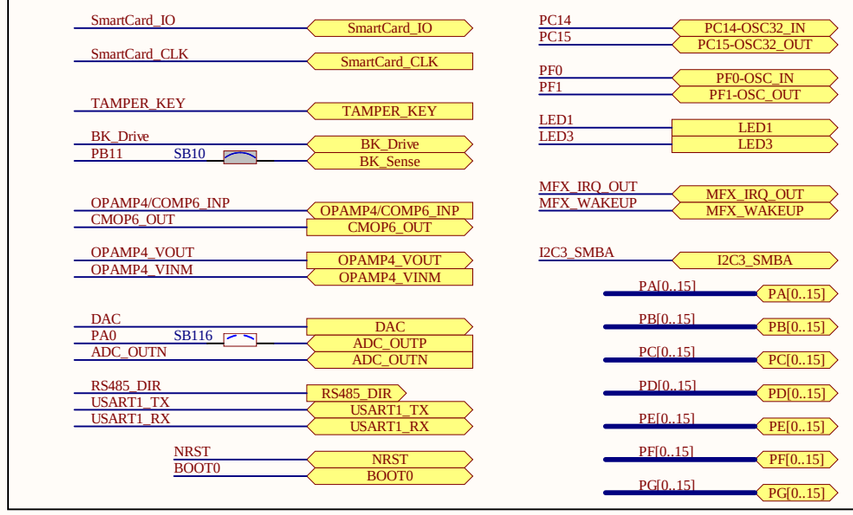
I2C



DUAL MOTOR



PORT



Title: **STM32_microcontroller_IOs**			
Project: **STM32G474E-EVAL**			
Variant: G484E			
Revision: B-04		Reference: MB1397	
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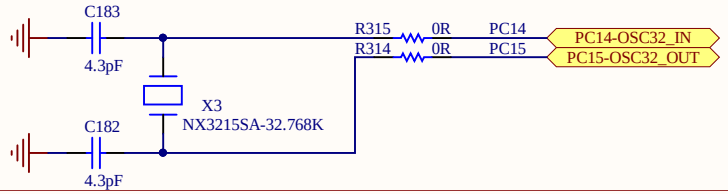
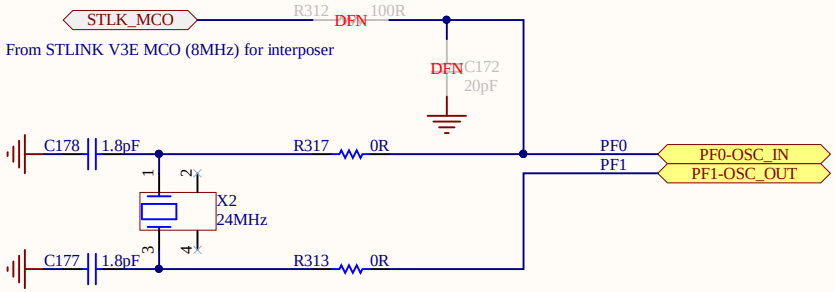
life.augmented

MCU POWER, CLOCK, RESET & BOOT

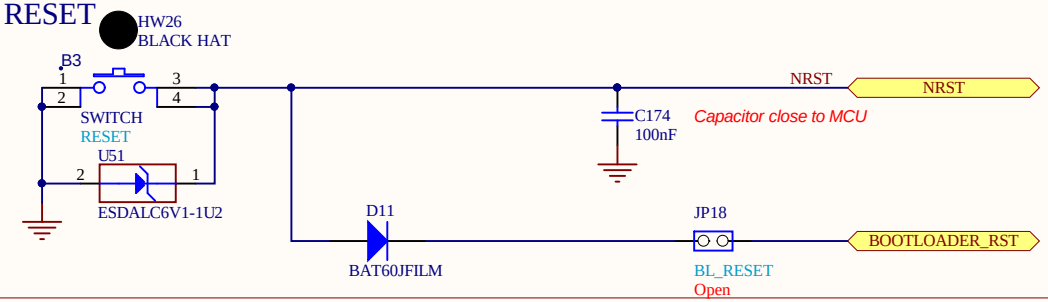
32kHz Clock



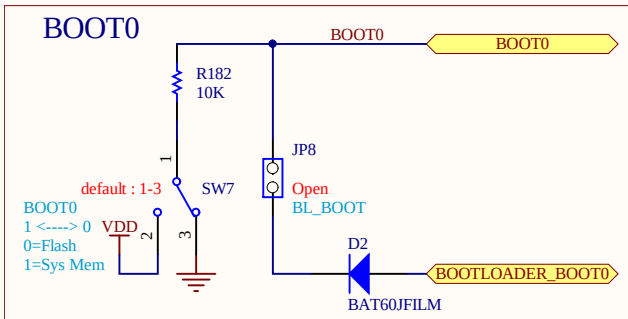
24MHz Clock



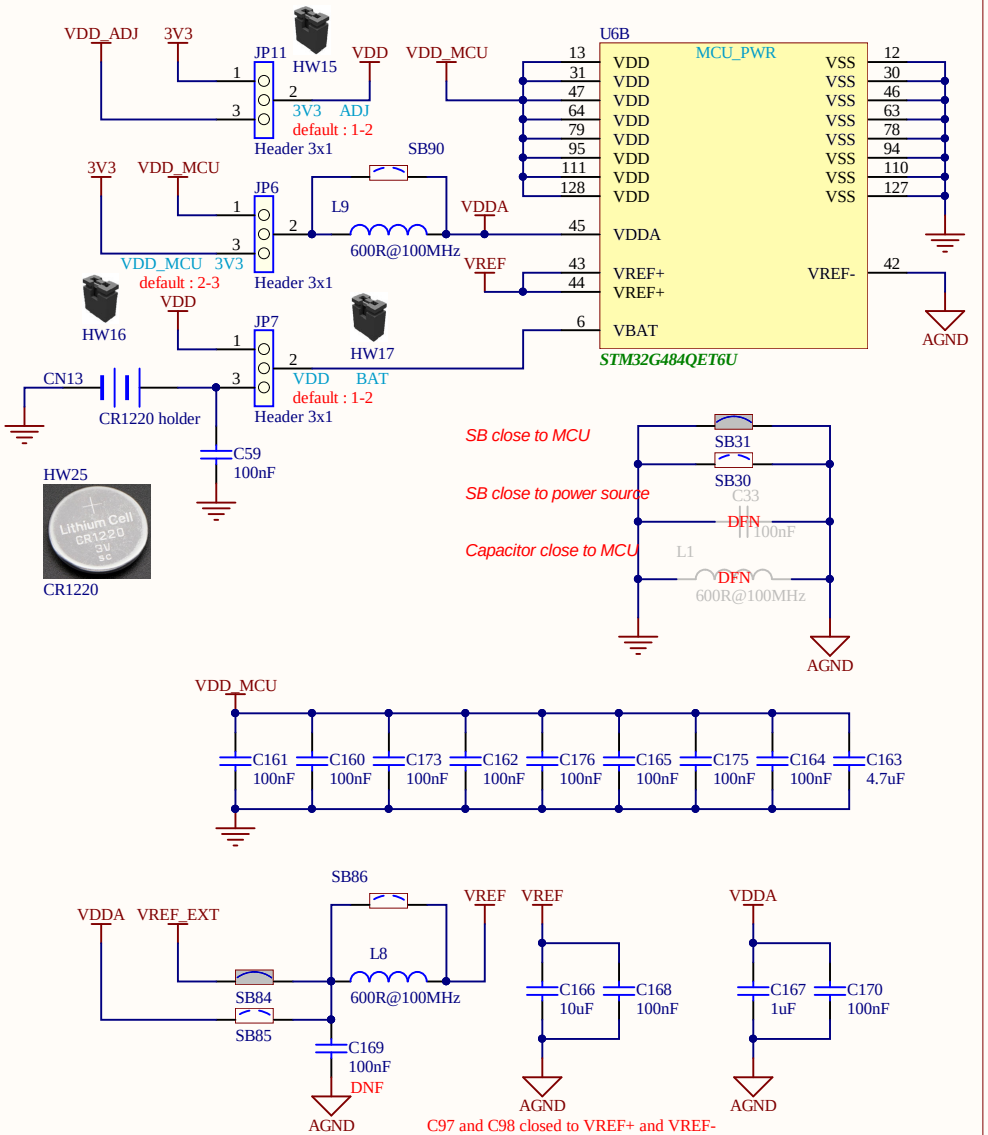
RESET



BOOT0



MCU POWER



Title: **STM32_microcontroller_power**		
Project: **STM32G474E-EVAL**		
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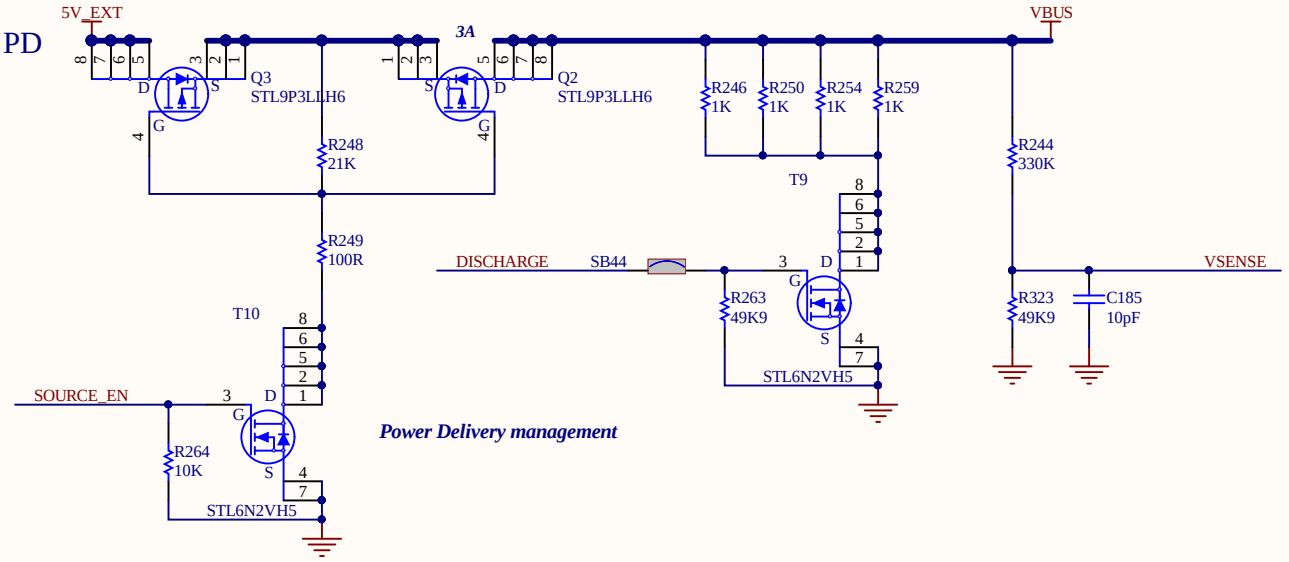
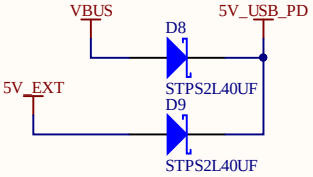
life.augmented

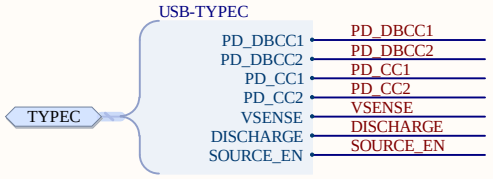
USB PD



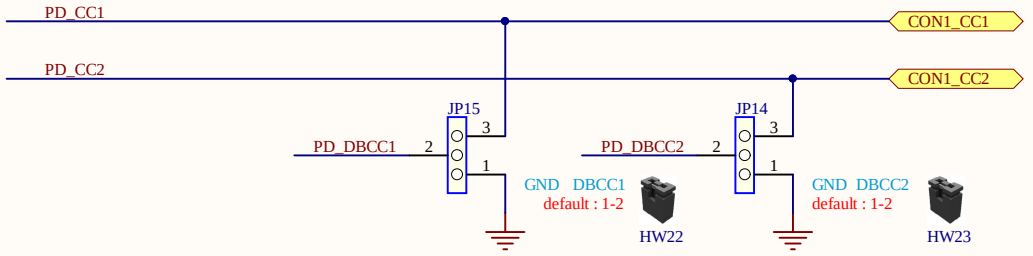
Power Delivery management



USB-TYPEC



TYPE-C Source port CC management



Title: **USB_PD**		
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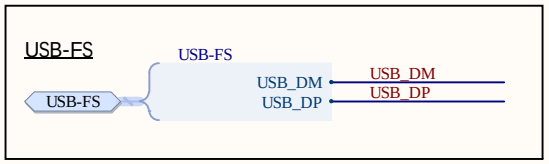
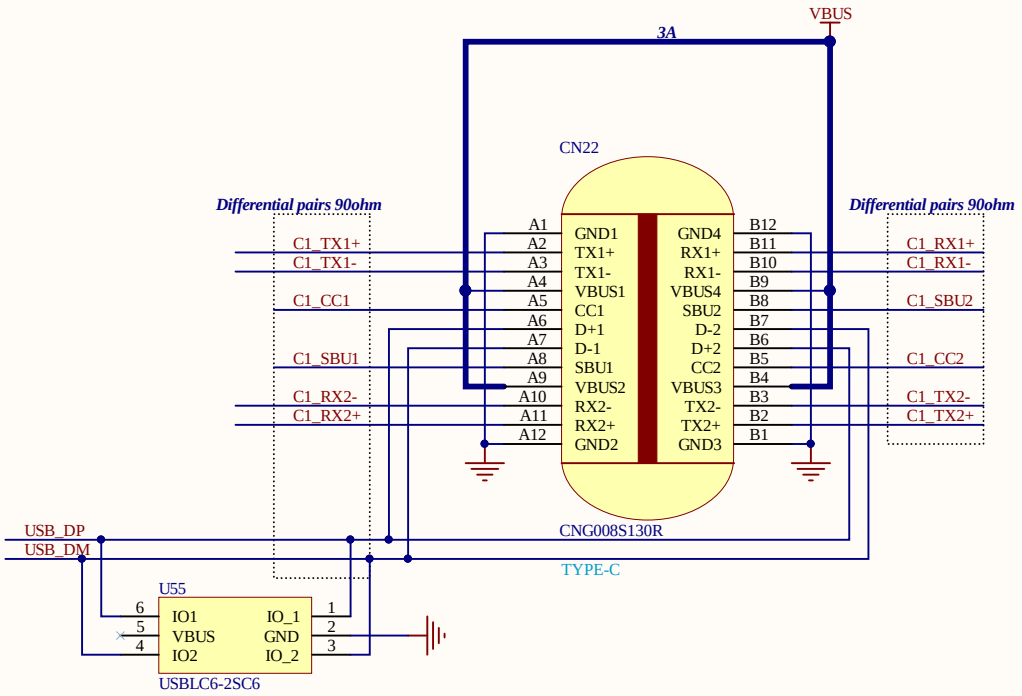
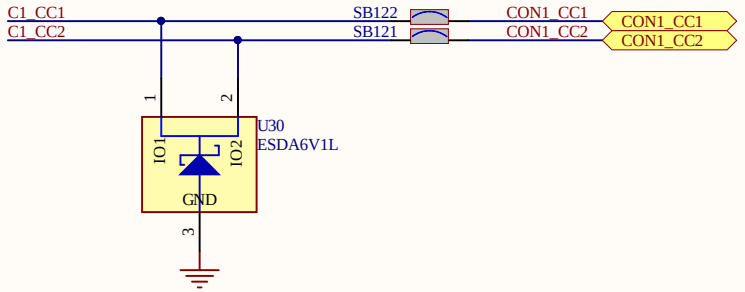
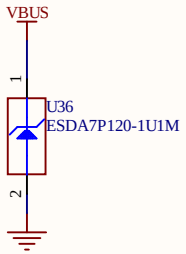
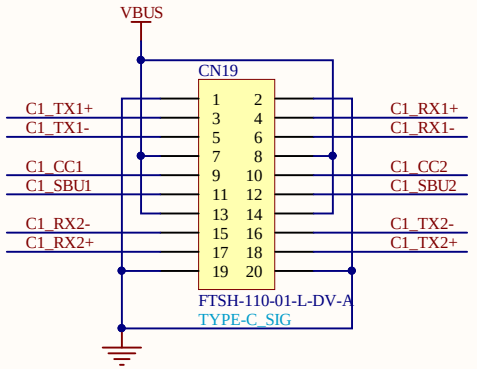
USB-TYPEC CON











Title: **USB-TYPEC_CON**		
Project: **STM32G474E-EVAL**		
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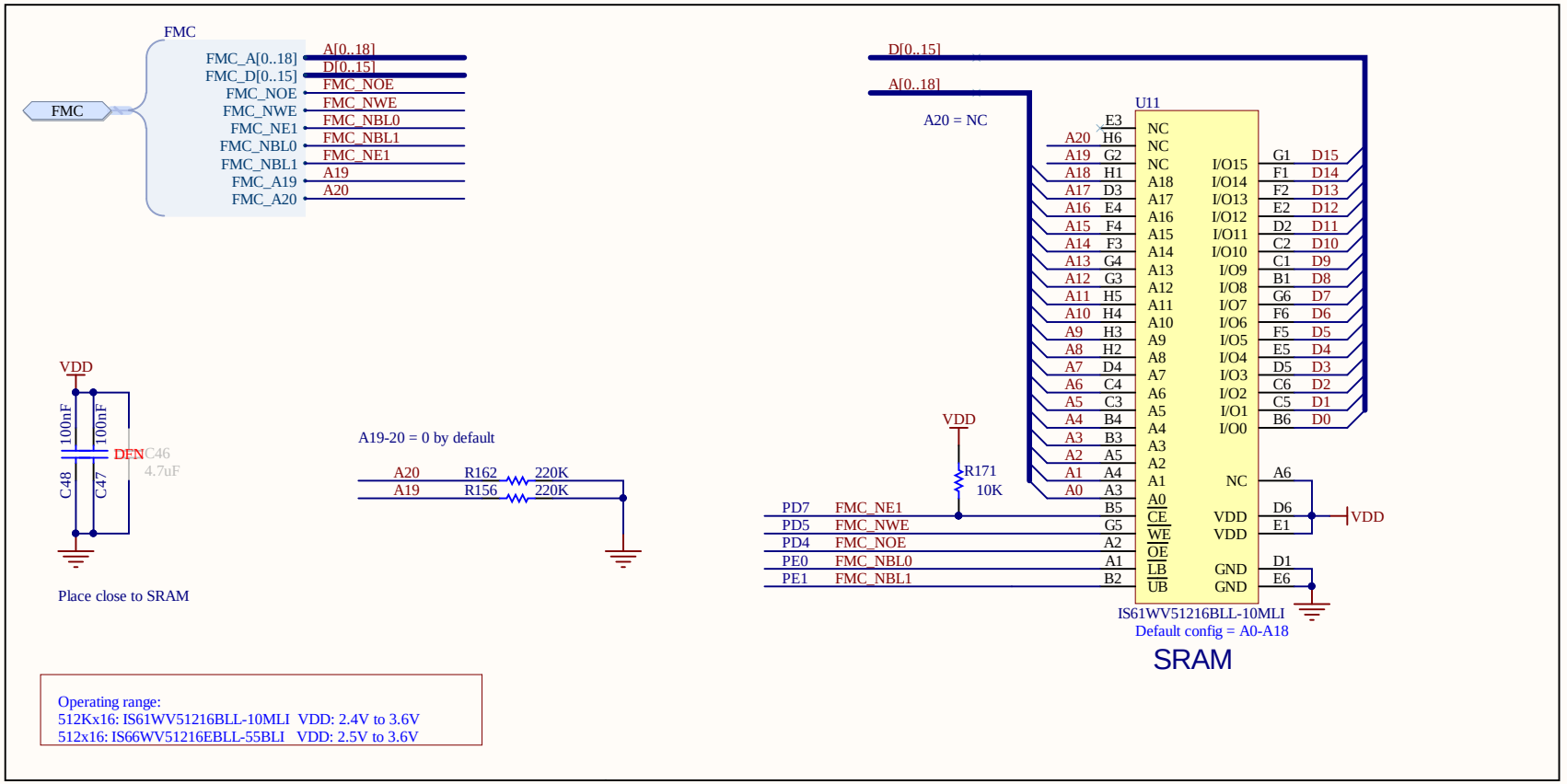
life.augmented

MEMORY



Title: **FMC Memory**		
Project: **STM32G474E-EVAL**		
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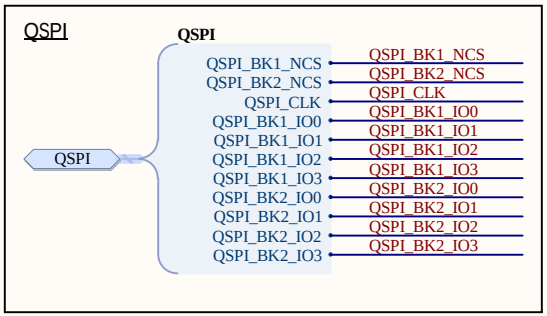
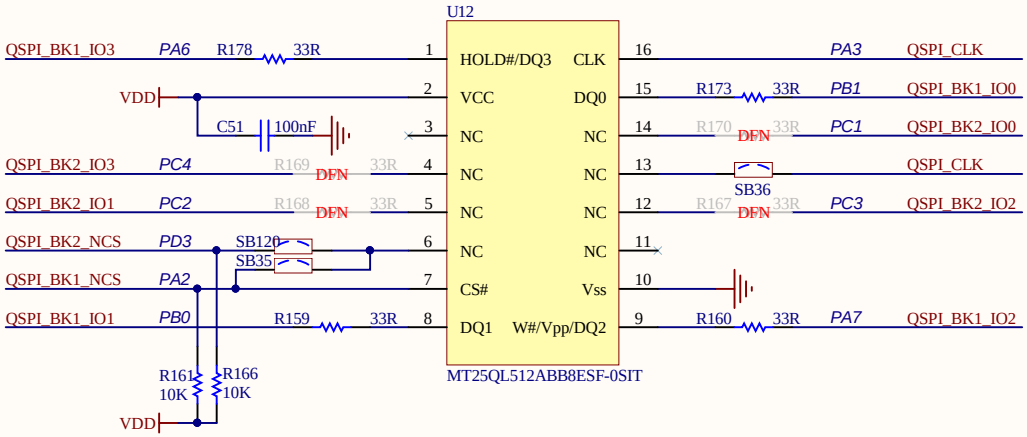
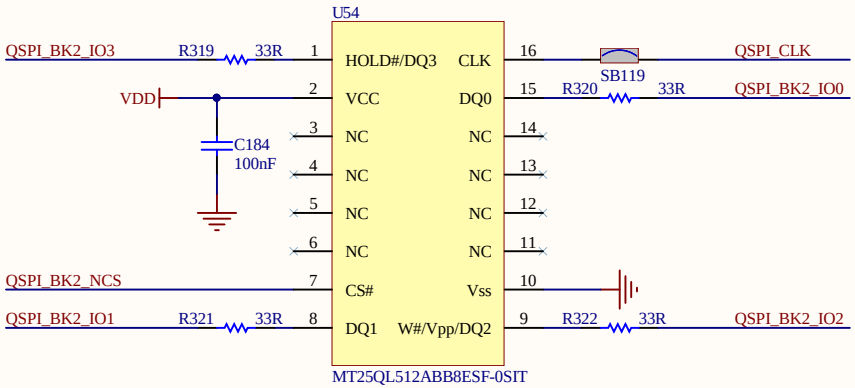
life.augmented

QSPI Memory







Operating range: 2.7V<VDD<3.6V

Twin Quad SPI Flash solutions:

One Twin Quad SPI Fllash	U12:MT25TL01GHBB8ESF-0SIT	U54:NA	R167/R168/R169/R170, SB120,SB36 ON	R319/R320/R321/R322, SB119, SB35, C184 OFF
Two Quad SPI Fllash (Default)	U12:MT25QL512ABB8ESF-0SIT	U54:MT25QL512ABB8ESF-0SIT	R319/R320/R321/R322, SB119, C184 ON	R167/R168/R169/R170, SB120, SB35, SB36 OFF

Title: **QSPI Memory**		
Project: **STM32G474E-EVAL**		
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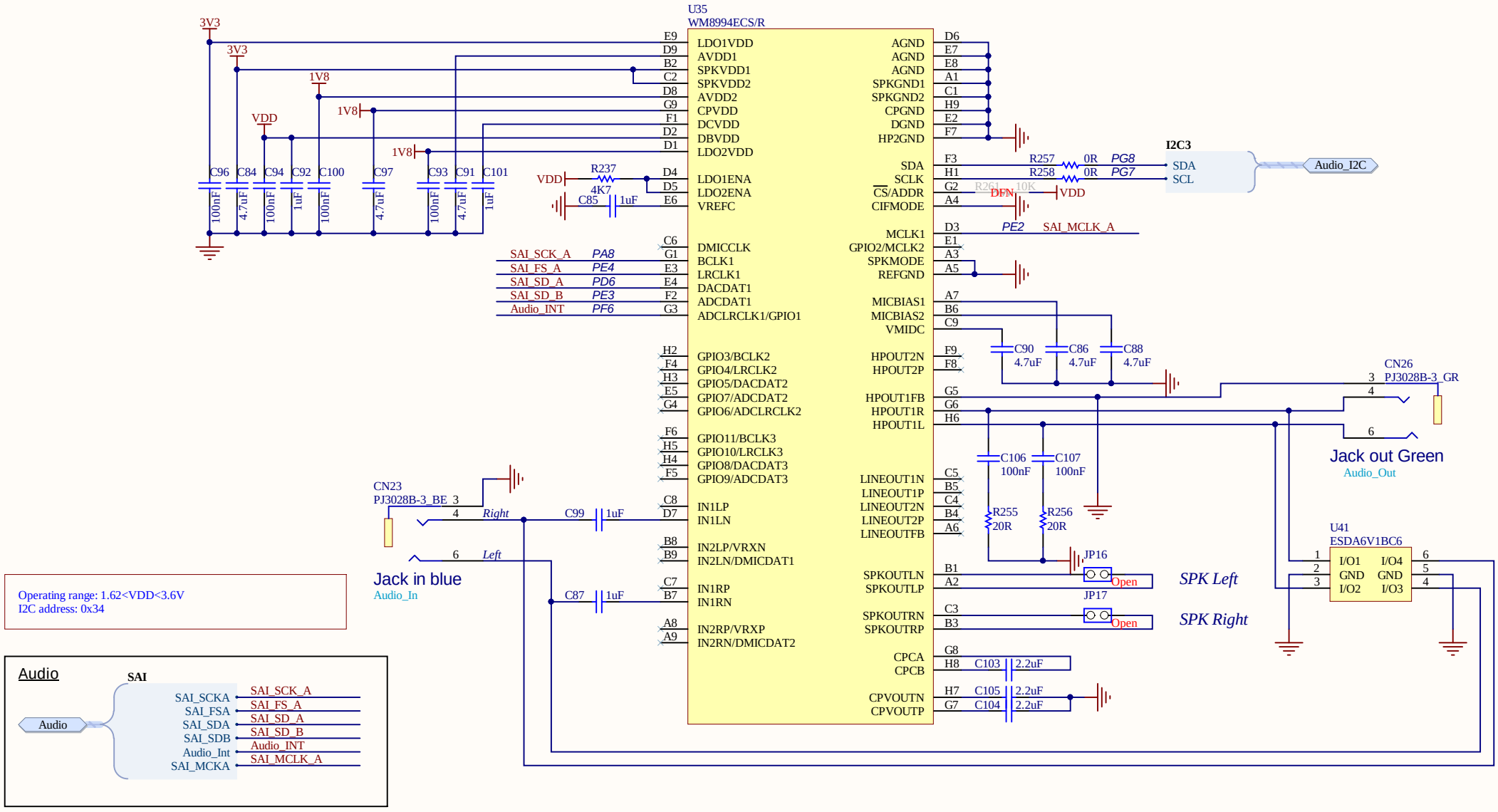
life.augmented

Audio



Operating range: 1.62<VDD<3.6V
I2C address: 0x34

Title: **Audio**		
Project: **STM32G474E-EVAL**		
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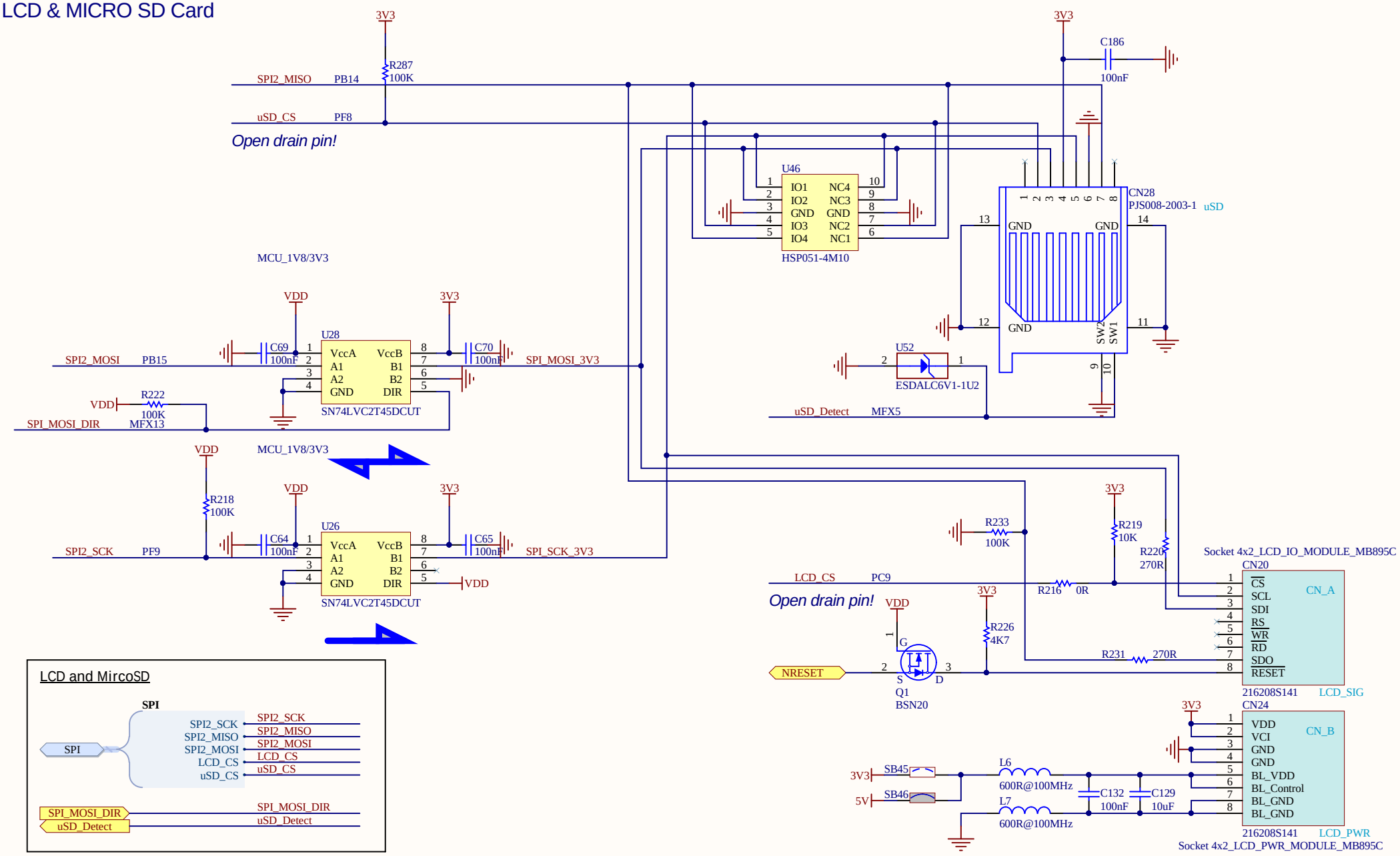
LCD & MICRO SD Card



LCD and MircoSD

Title: **LCD & SD Card**		
Project: **STM32G474E-EVAL**		
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Revision: B-04		Reference: MB1397
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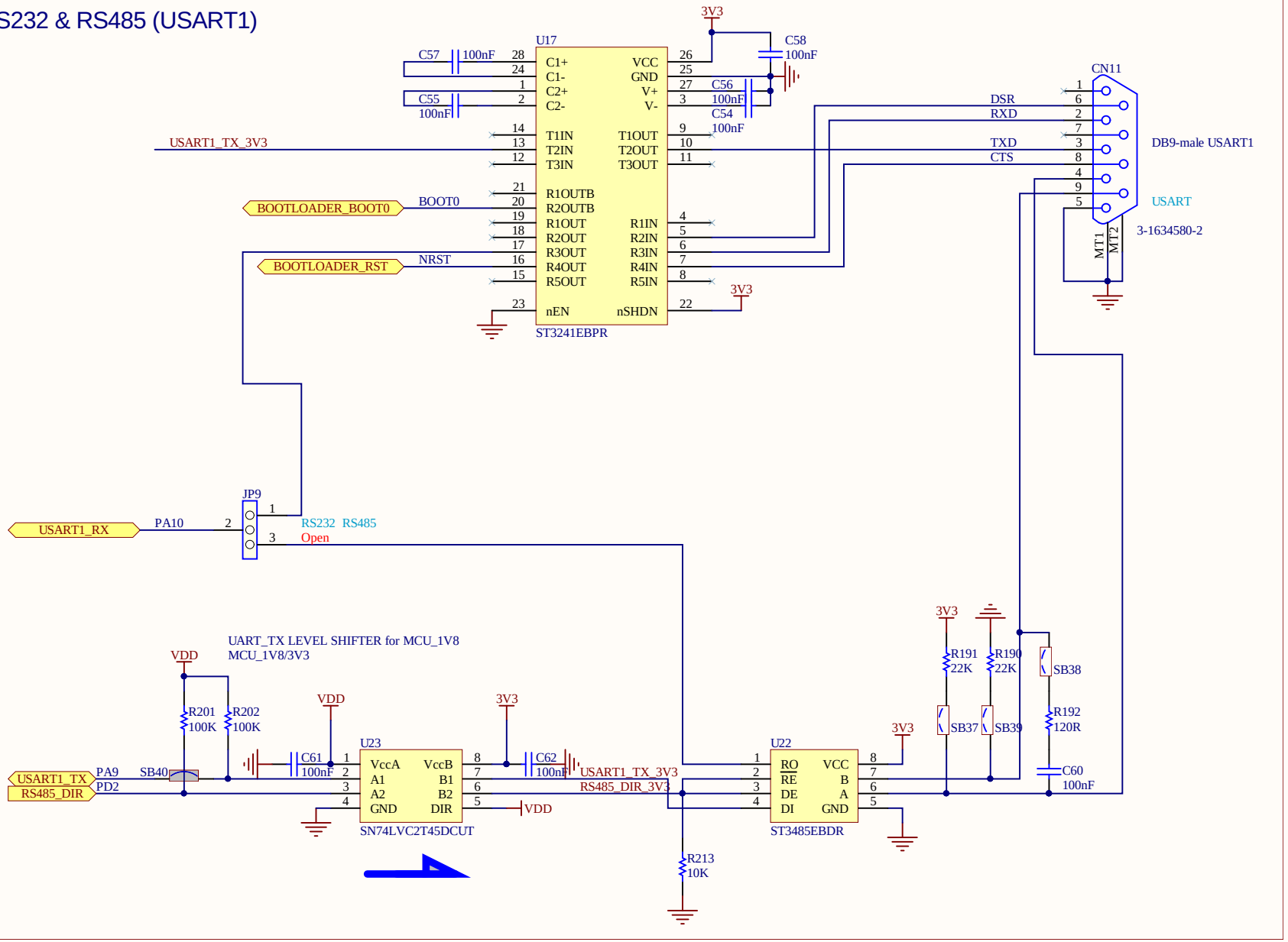
life.augmented

RS232 & RS485 (USART1)



Title: **RS232 & RS485**			
Project: **STM32G474E-EVAL**			
Variant: G484E			
Revision: B-04		Reference: MB1397	
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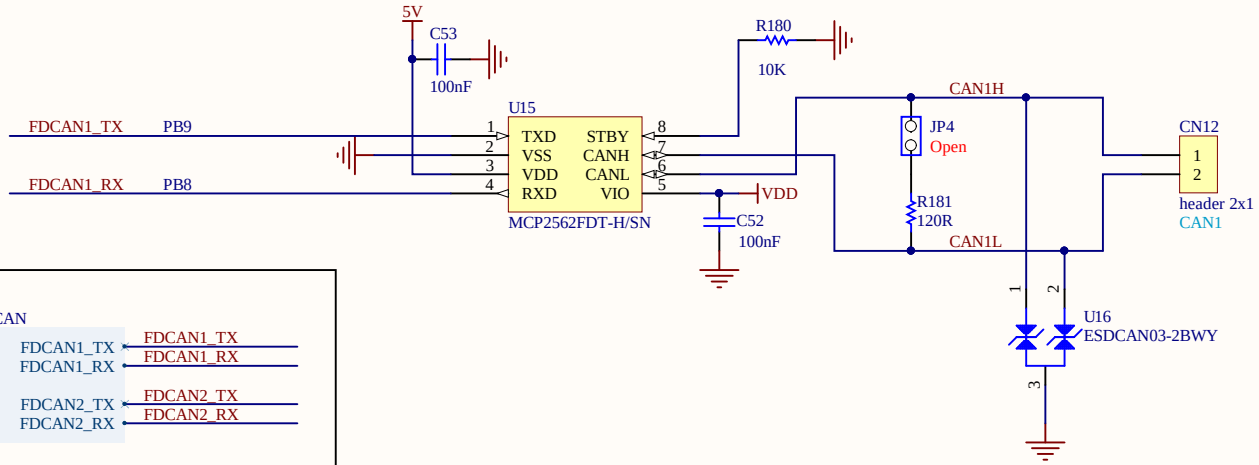
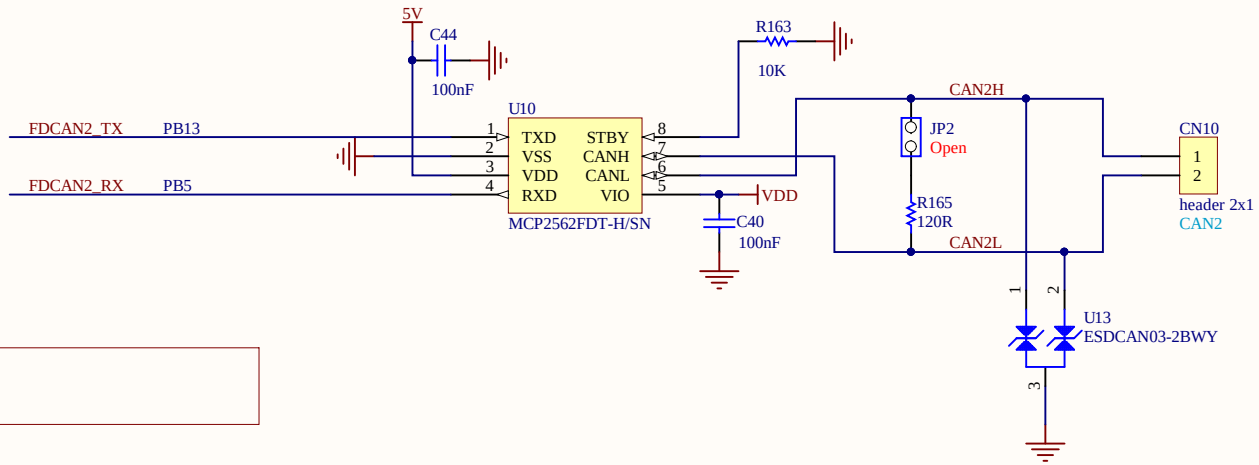
life.augmented

2x CAN FD





Operating range: VDD>1.8V

Title: **FDCAN**		
Project: **STM32G474E-EVAL**		
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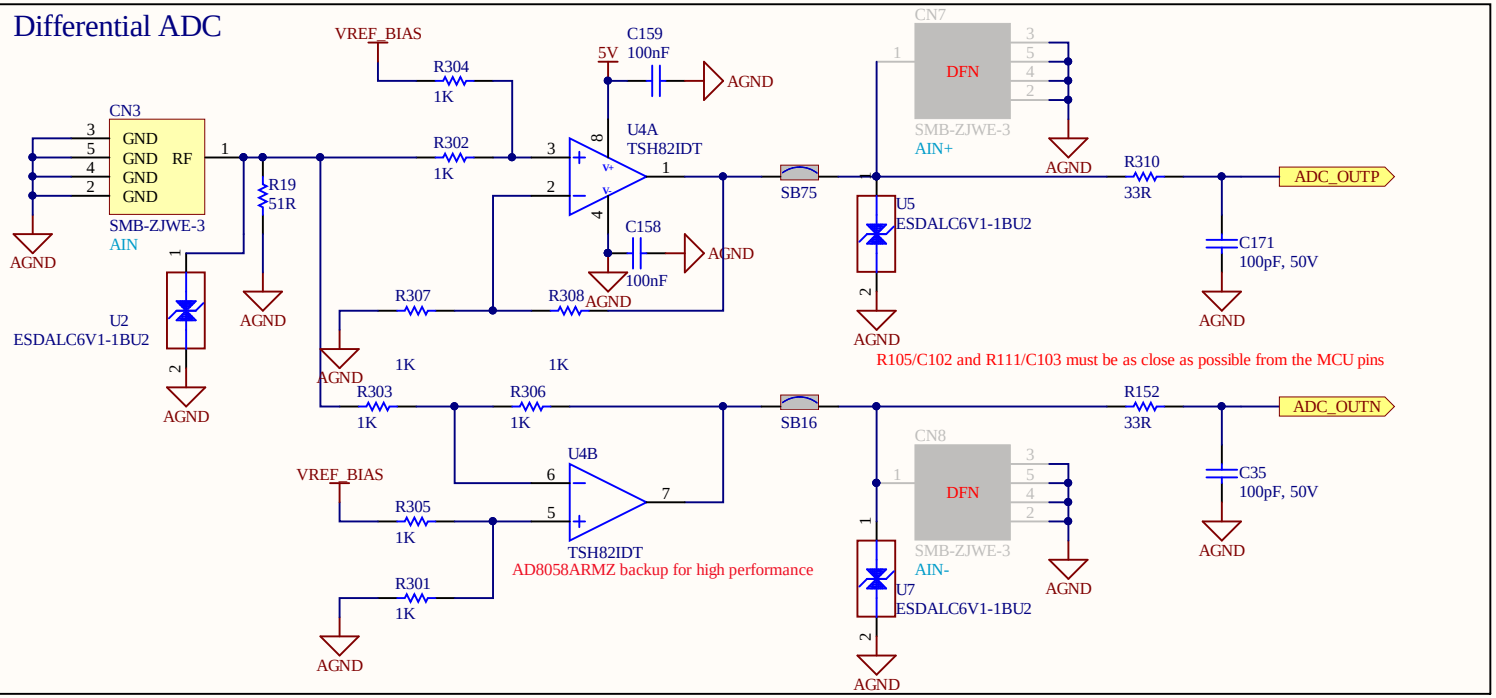
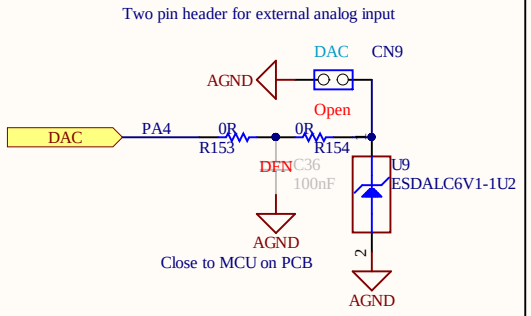
life.augmented

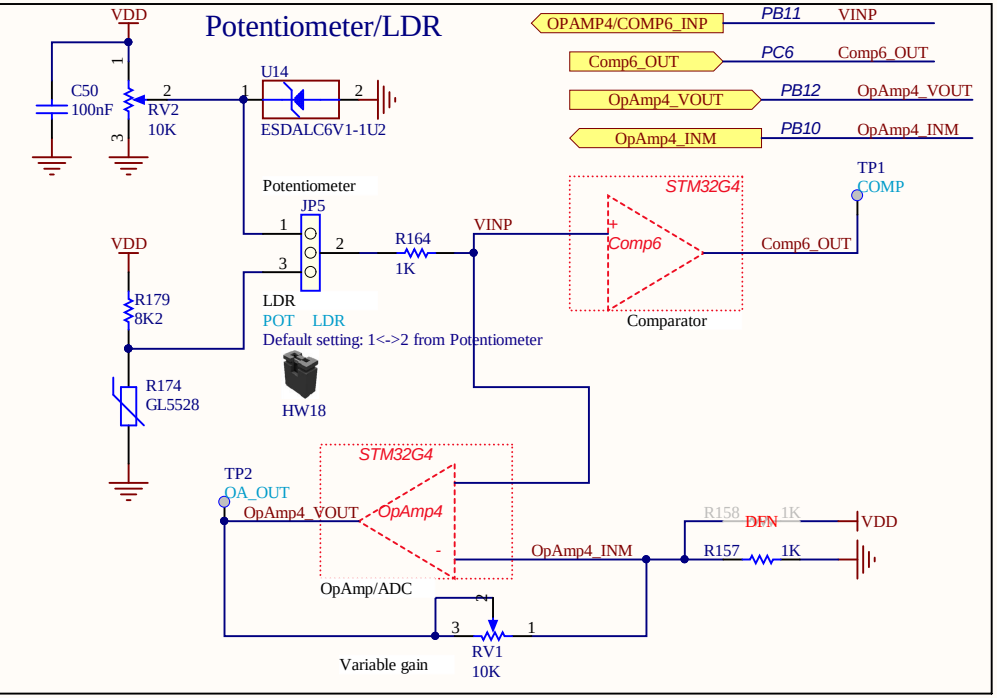
Differential ADC

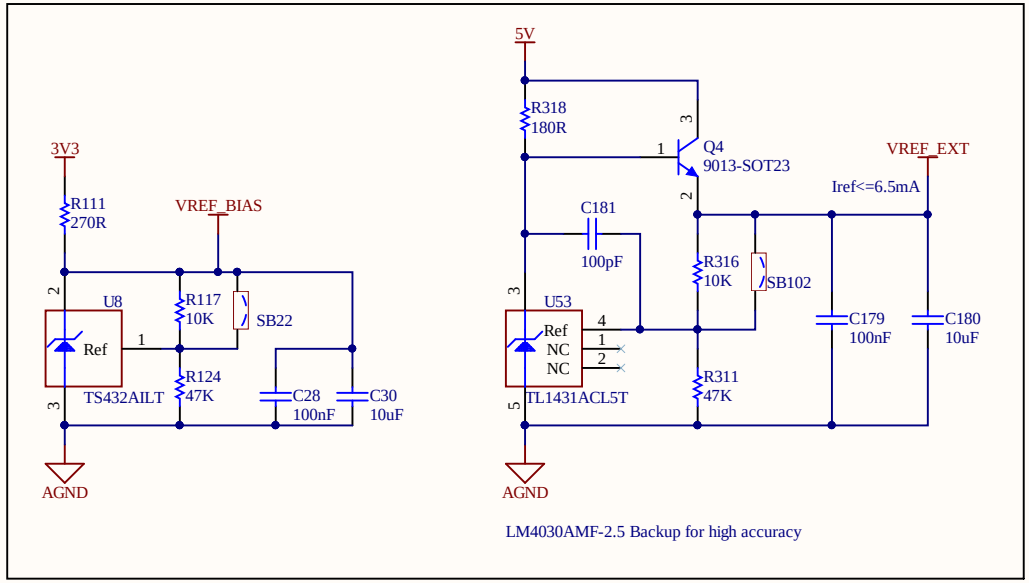


DAC connector



Potentiometer/LDR





Title: **Analog Interfaces**		
Project: **STM32G474E-EVAL**		
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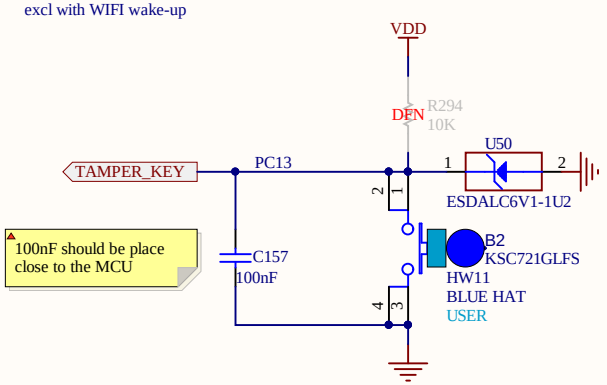
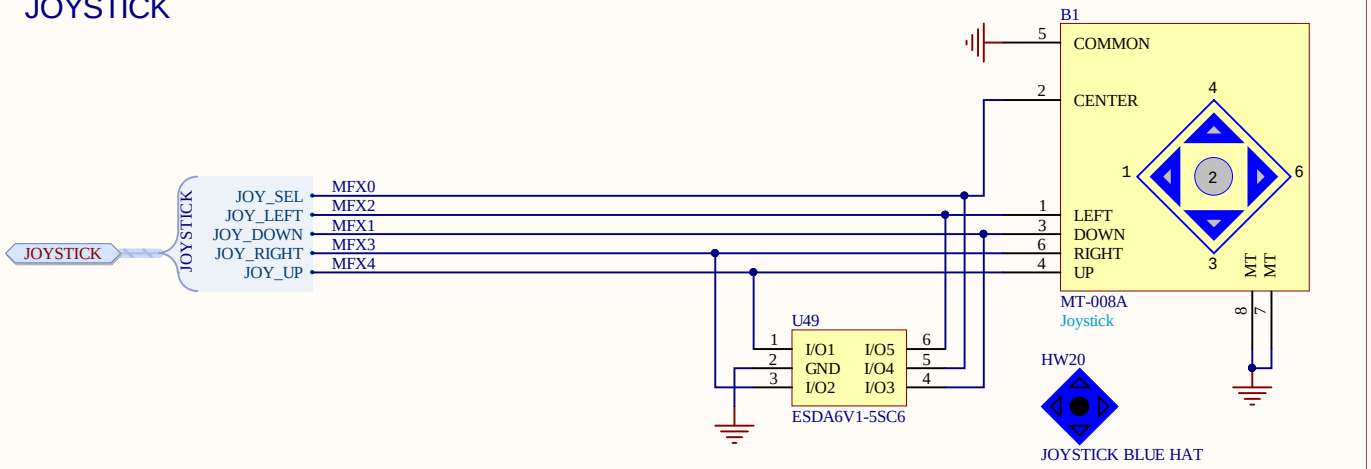
TAMPER & KEY BUTTON

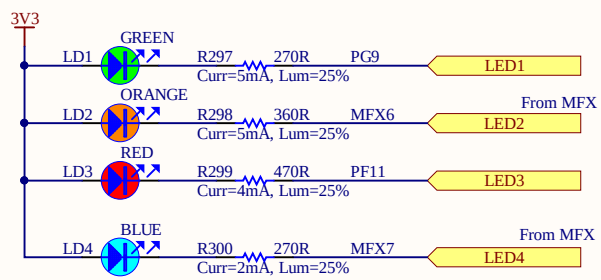
excl with WIFI wake-up



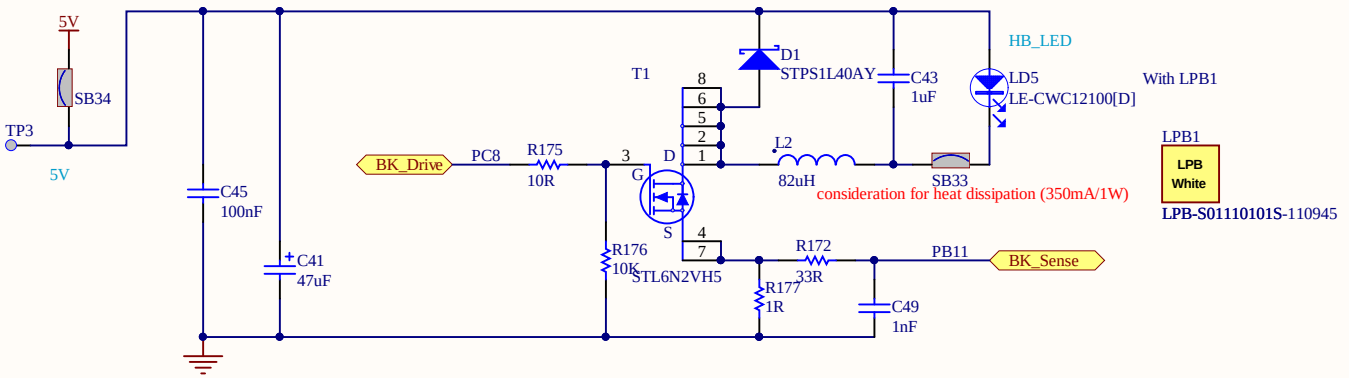
JOYSTICK



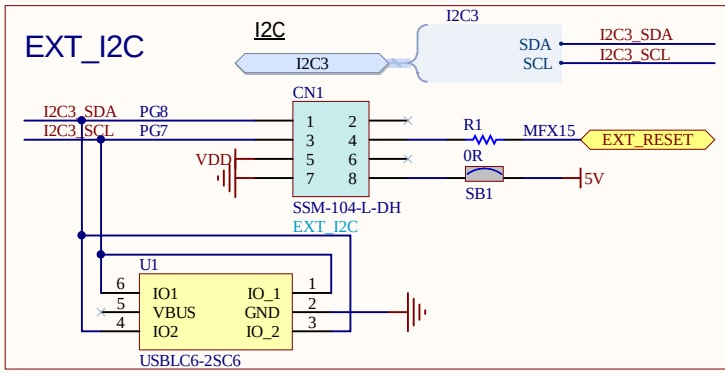
LEDs



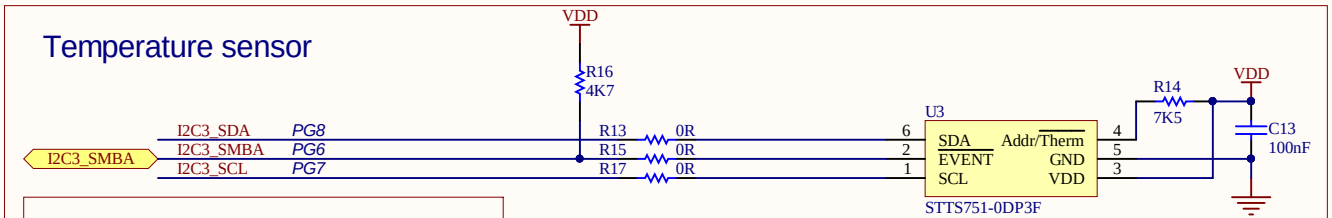
LED BUCK converter



EXT_I2C



Temperature sensor



Title: **Peripherals**		
Project: **STM32G474E-EVAL**		
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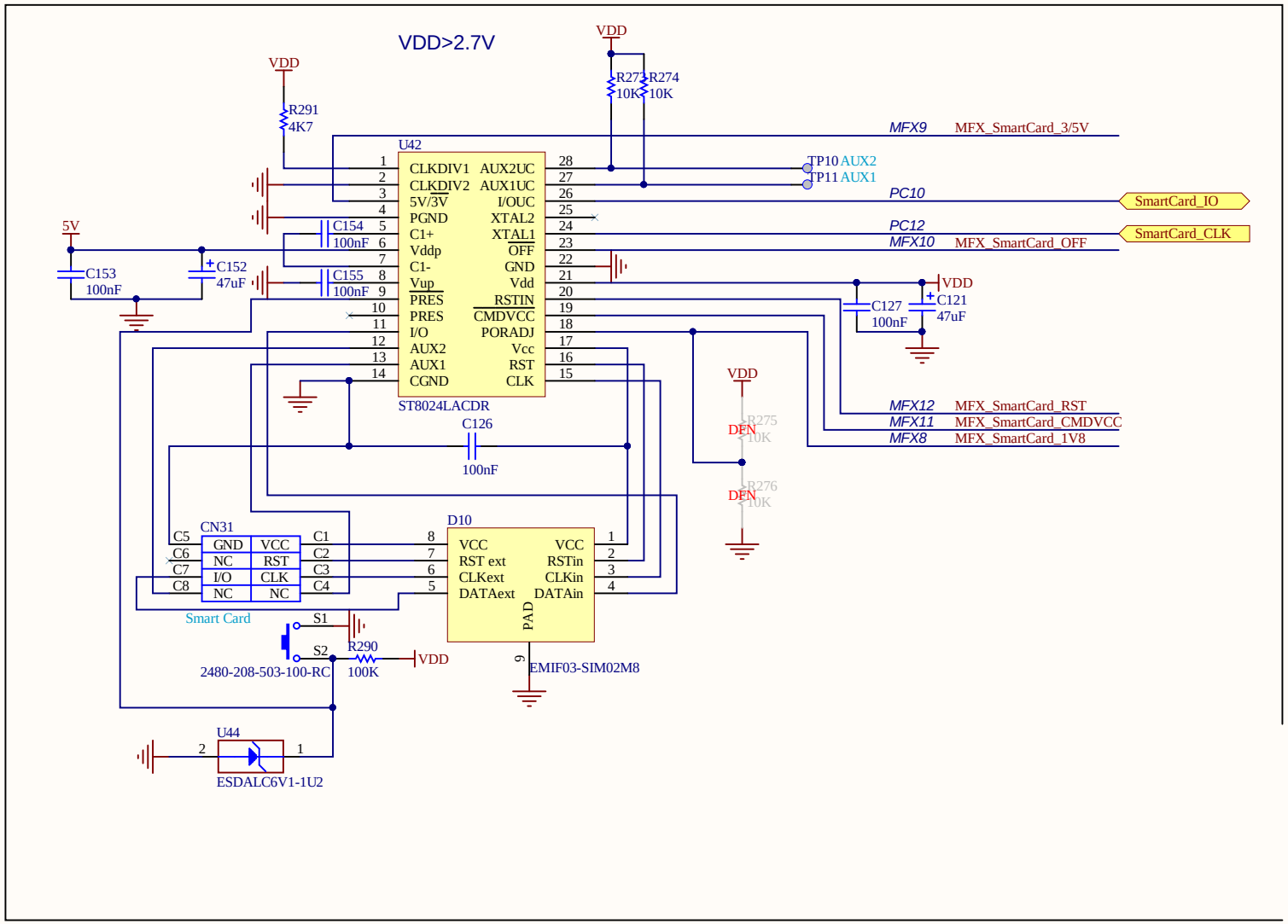
life.augmented

Smart Card



SmartCard

MFX_SmartCard_1V8 — SmartCard_1V8
MFX_SmartCard_3/5V — SmartCard_3/5V
MFX_SmartCard_OFF — SmartCard_OFF
MFX_SmartCard_CMDVCC — SmartCard_CMDVCC
MFX_SmartCard_RST — SmartCard_RST
→ SmartCard

Operating range: VDD>2.7V

Title: **Smart Card**		
Project: **STM32G474E-EVAL**		
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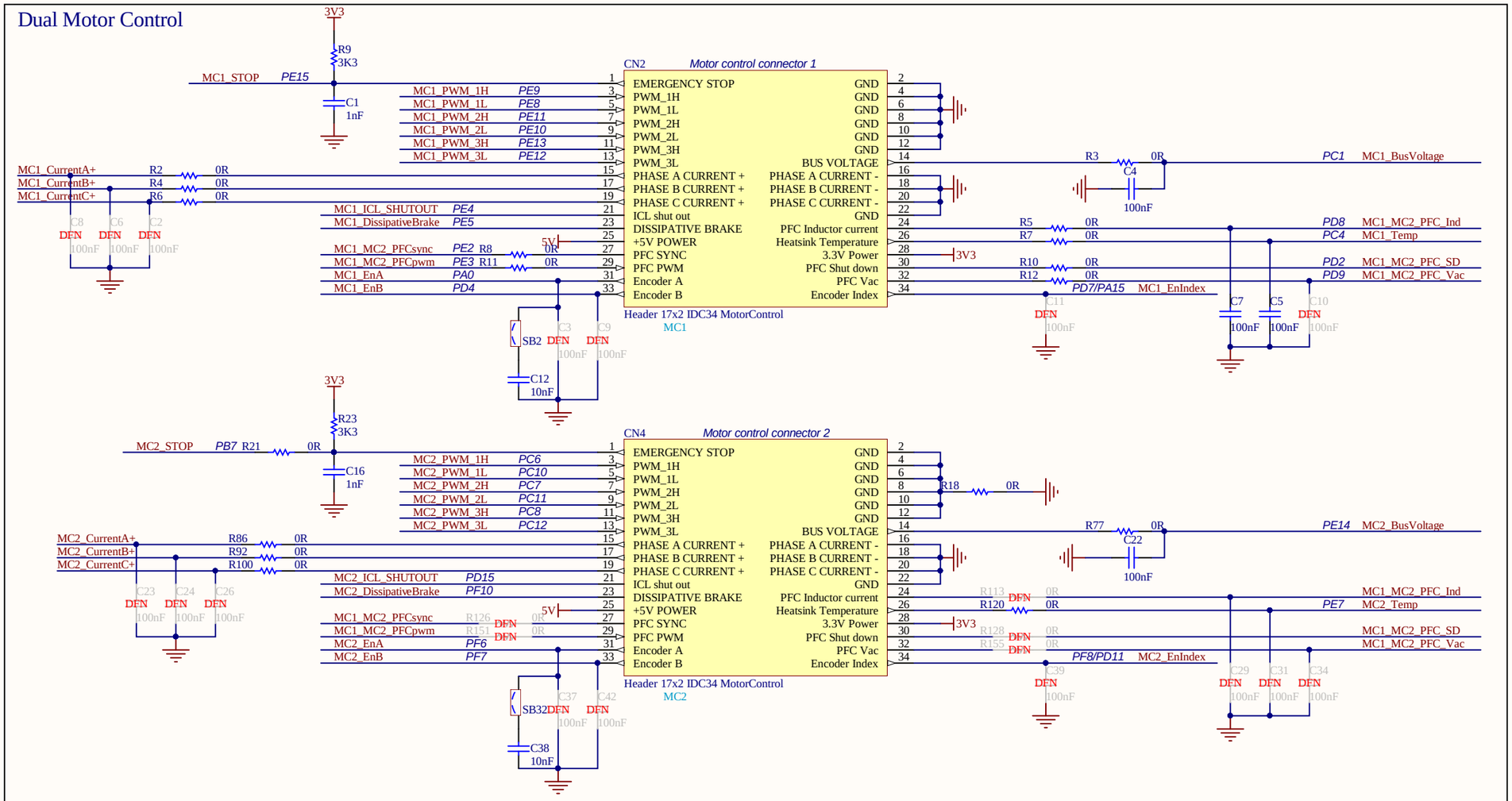
life.augmented

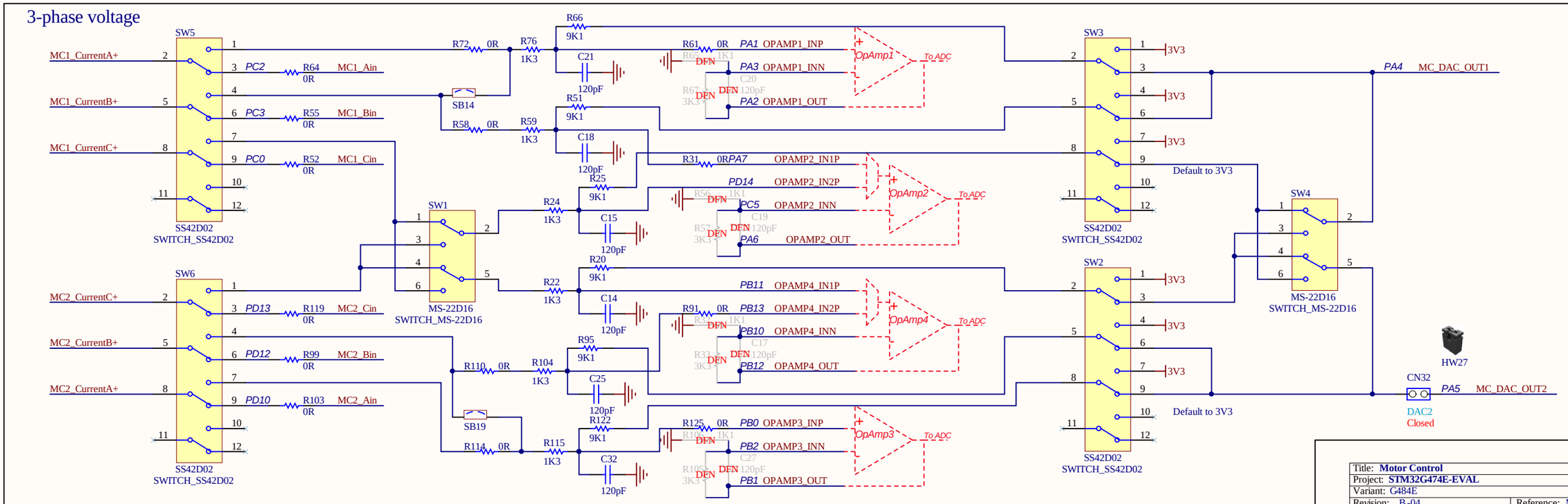
MOTOR

MOTOR		DUAL MOTOR
MC1_STOP	MC1_STOP	TIM1_BKIN
MC1_PWM_1H	MC1_PWM_1H	TIM1_CH1
MC1_PWM_1L	MC1_PWM_1L	TIM1_CH1N
MC1_PWM_2H	MC1_PWM_2H	TIM1_CH2
MC1_PWM_2L	MC1_PWM_2L	TIM1_CH2N
MC1_PWM_3H	MC1_PWM_3H	TIM1_CH3
MC1_PWM_3L	MC1_PWM_3L	TIM1_CH3N
MC1_EnA	MC1_EnA	TIM2_CH1
MC1_EnB	MC1_EnB	TIM2_CH2
MC1_EnIndex	MC1_EnIndex	TIM2_CH3
		TIM2_ETR
MC1_MC2_PFCsync	MC1_MC2_PFCsync	TIM3_CH1
MC1_MC2_PFCpwm	MC1_MC2_PFCpwm	TIM3_CH2
MC1_MC2_PFC_SD	MC1_MC2_PFC_SD	TIM3_ETR
MC1_ICL_SHUTOUT	MC1_ICL_SHUTOUT	GPIO1
MC1_DissipativeBrake	MC1_DissipativeBrake	GPIO2
MC1_Temp	MC1_Temp	ADC2_IN5
MC1_BusVoltage	MC1_BusVoltage	ADC12_IN7
MC1_MC2_PFC_Ind	MC1_MC2_PFC_Ind	ADC4_IN12/5_IN12
MC1_MC2_PFC_Vac	MC1_MC2_PFC_Vac	ADC4_IN13/5_IN13
		TIM8_BKIN
MC2_STOP	MC2_STOP	TIM8_CH1
MC2_PWM_1H	MC2_PWM_1H	TIM8_CH1N
MC2_PWM_1L	MC2_PWM_1L	TIM8_CH2
MC2_PWM_2H	MC2_PWM_2H	TIM8_CH2N
MC2_PWM_2L	MC2_PWM_2L	TIM8_CH3
MC2_PWM_3H	MC2_PWM_3H	TIM8_CH3N
MC2_PWM_3L	MC2_PWM_3L	TIM5_CH1
MC2_EnA	MC2_EnA	TIM5_CH2
MC2_EnB	MC2_EnB	TIM5_CH3
MC2_EnIndex	MC2_EnIndex	TIM5_ETR
		GPIO3
MC2_ICL_SHUTOUT	MC2_ICL_SHUTOUT	GPIO4
MC2_DissipativeBrake	MC2_DissipativeBrake	ADC3_IN4
MC2_Temp	MC2_Temp	ADC4_IN1
MC2_BusVoltage	MC2_BusVoltage	
		DAC1_OUT1
MC_DAC_OUT1	MC_DAC_OUT1	DAC1_OUT2
MC_DAC_OUT2	MC_DAC_OUT2	ADC12_IN8
MC1_Ain	MC1_Ain	ADC12_IN9
MC1_Bin	MC1_Bin	ADC12_IN6
MC1_Cin	MC1_Cin	ADC345_IN7
MC2_Ain	MC2_Ain	ADC345_IN9
MC2_Bin	MC2_Bin	ADC345_IN10
MC2_Cin	MC2_Cin	
		OPAMP1_VINP
OPAMP1_INP	OPAMP1_INP	OPAMP1_VINM
OPAMP1_INN	OPAMP1_INN	OPAMP1_VOUT
OPAMP1_OUT	OPAMP1_OUT	OPAMP2_VINP
OPAMP2_IN1P	OPAMP2_IN1P	OPAMP2_VINM
OPAMP2_IN2P	OPAMP2_IN2P	OPAMP2_VOUT
OPAMP2_INN	OPAMP2_INN	OPAMP4_VINP
OPAMP2_OUT	OPAMP2_OUT	OPAMP4_VINM
OPAMP4_IN1P	OPAMP4_IN1P	OPAMP4_VOUT
OPAMP4_IN2P	OPAMP4_IN2P	OPAMP3_VINP
OPAMP4_INN	OPAMP4_INN	OPAMP3_VINM
OPAMP4_OUT	OPAMP4_OUT	OPAMP3_VOUT
OPAMP3_INP	OPAMP3_INP	
OPAMP3_INN	OPAMP3_INN	
OPAMP3_OUT	OPAMP3_OUT	

Dual Motor Control



3-phase voltage

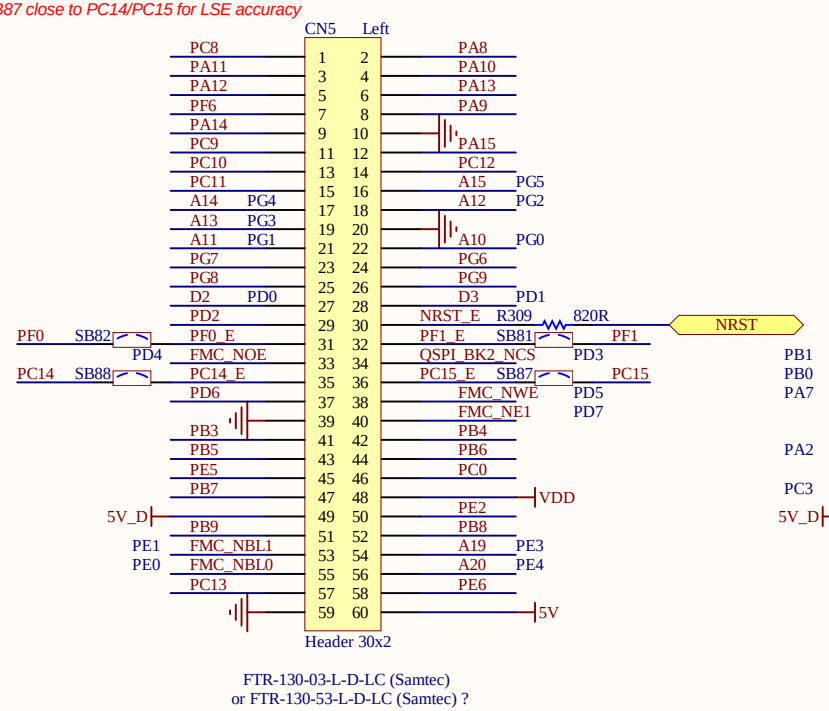


Title: **Motor Control**			
Project: **STM32G474E-EVAL**			
Variant: G484E			
Revision: B-04		Reference: MB1397	
Size: A3	Date: 01-NOV-18	Sheet: 16 of 22	

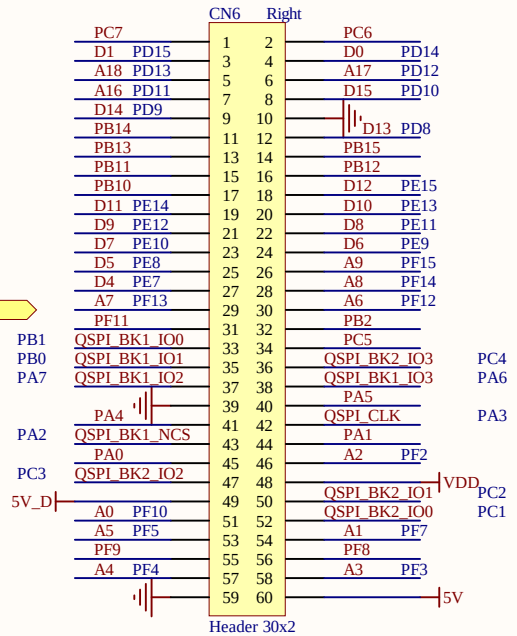
life.augmented

MCU EXTENSION CONNECTORS

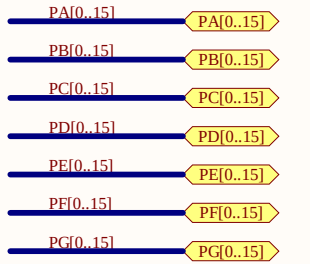
SB82 and SB81 close to PF0/PF1 for HSE accuracy
SB88 and SB87 close to PC14/PC15 for LSE accuracy

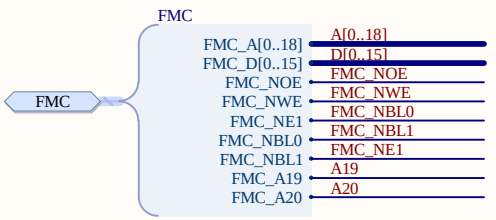


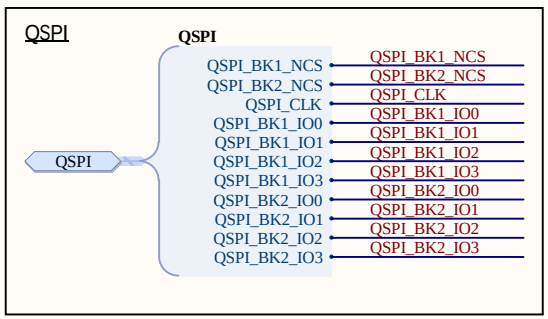
FTR-130-03-L-D-LC (Samtec)
or FTR-130-53-L-D-LC (Samtec) ?



TSW-130-07-G-DSamtec)
or FTR-130-53-L-D-LC (Samtec) ?



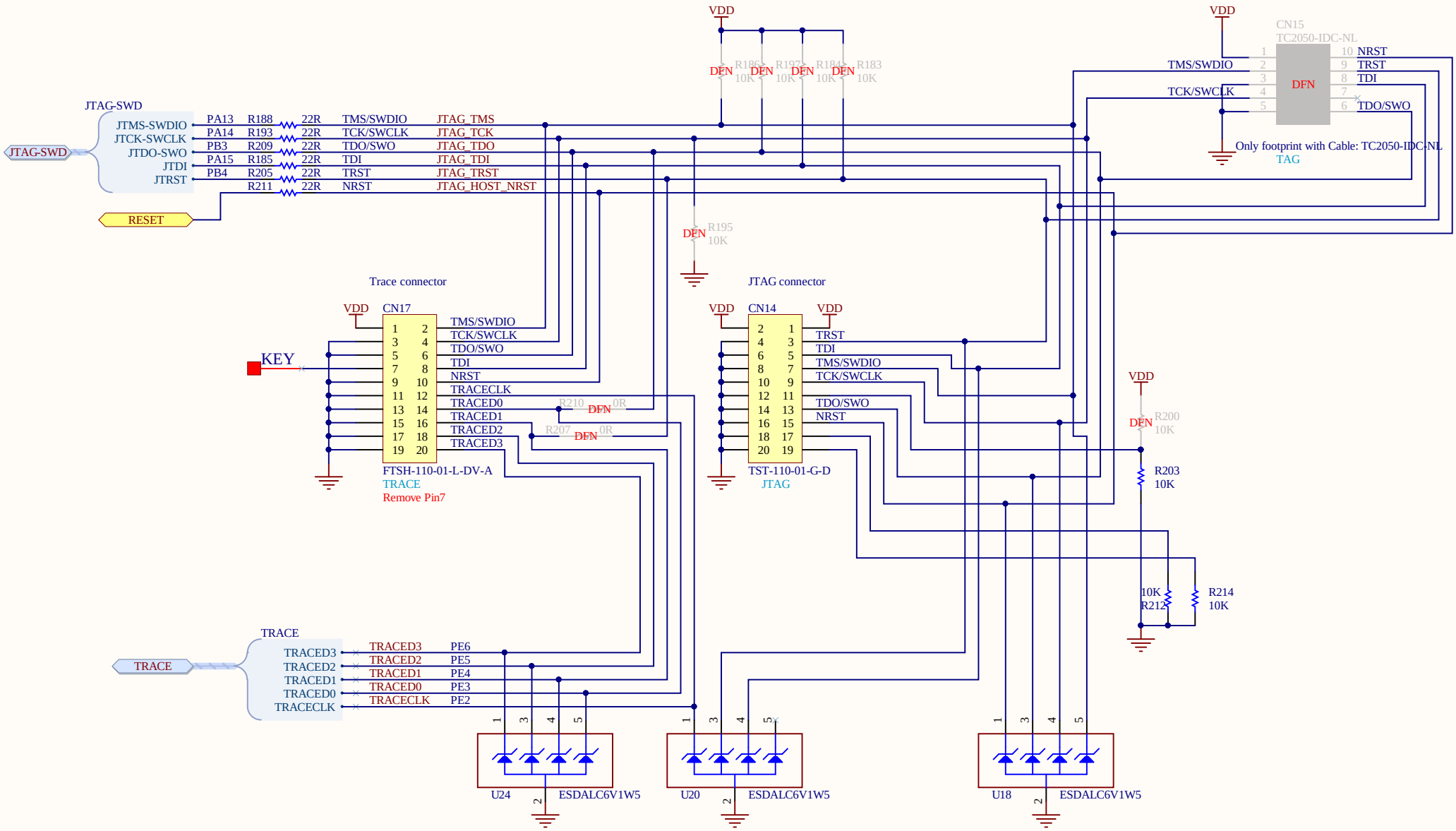




Title: **Extension Connectors**			
Project: **STM32G474E-EVAL**			
Variant: G484E			
Revision: B-04		Reference: MB1397	
Size: A4	Date: 01-NOV-18	Sheet: 17 of 22	

life.augmented

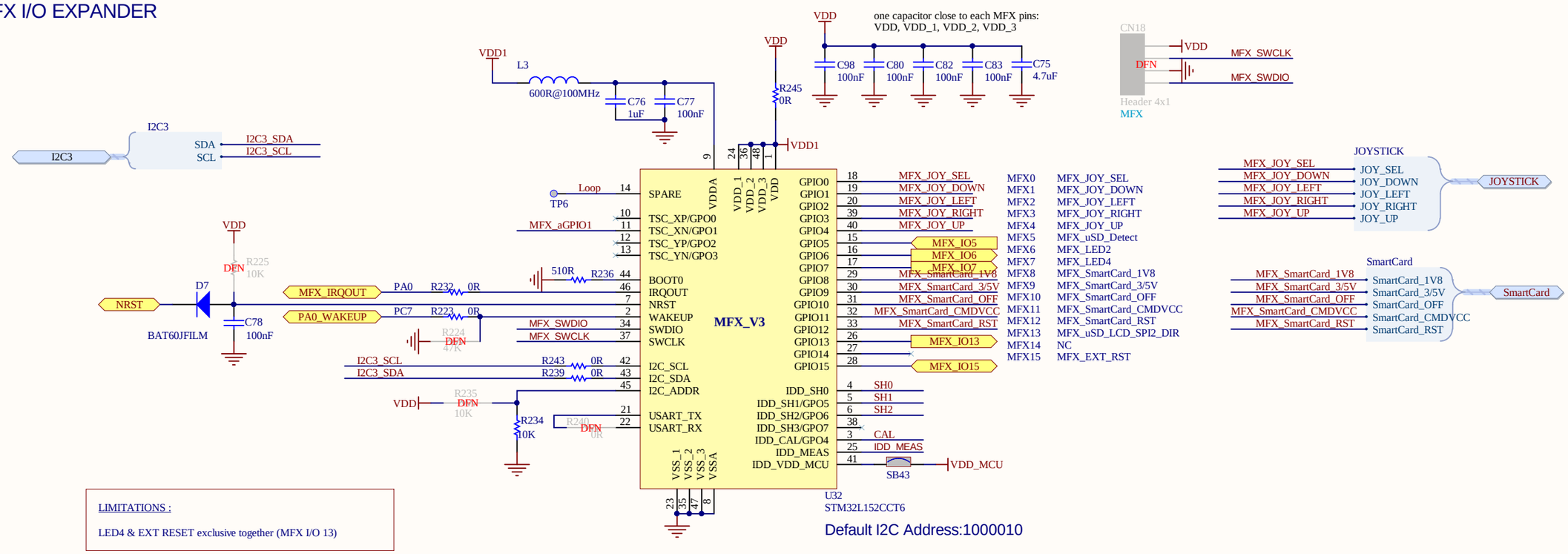
JTAG & TRACE



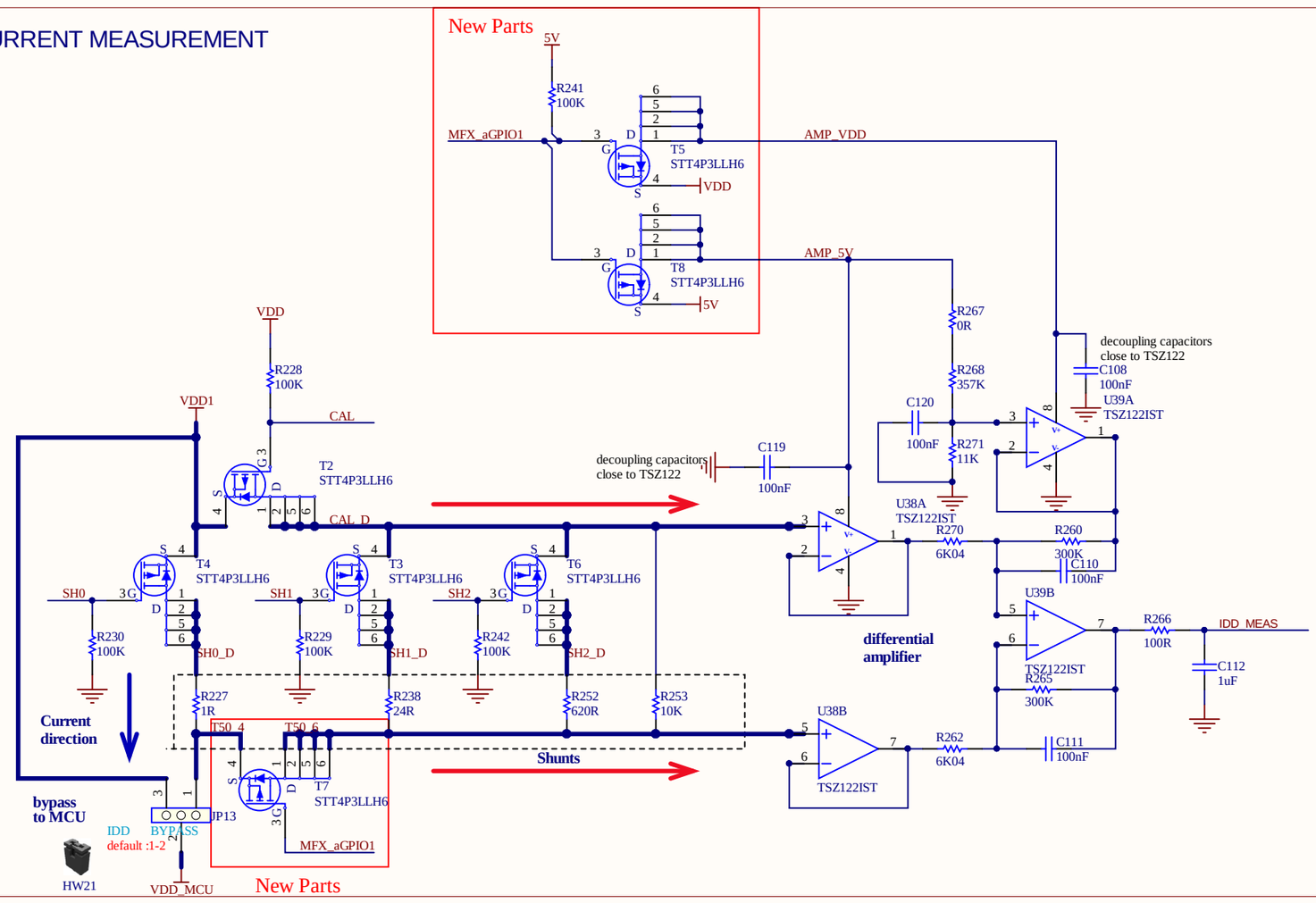
Title: **Debug connector**		
Project: **STM32G474E-EVAL**		
Variant: G484E		
Revision: B-04	Reference: MB1397	
Size: A4	Date: 01-NOV-18	Sheet: 18 of 22

life.augmented

MFX I/O EXPANDER



MFX CURRENT MEASUREMENT

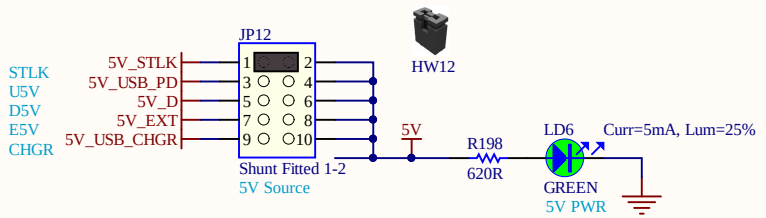


Title: **Multi-Function Expander**		
Project: **STM32G474E-EVAL**		
Variant: G484E		
Revision: B-04		Reference: MB1397
Size: A3	Date: 01-NOV-18	Sheet: 19 of 22

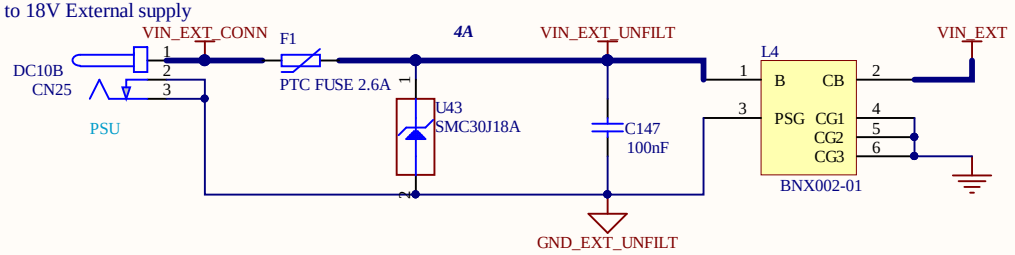
life.augmented

BOARD POWER

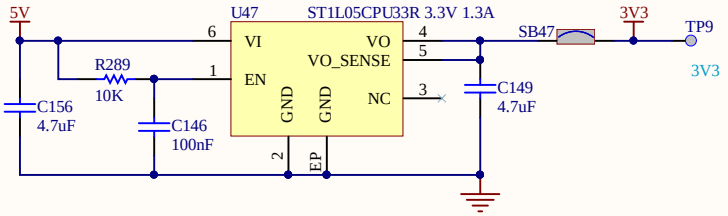
5V Power Supply options



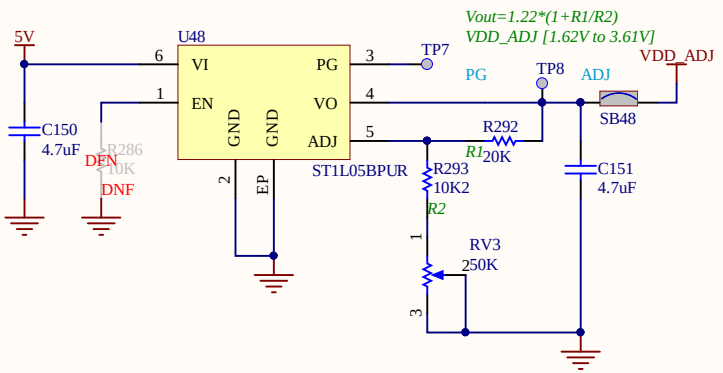
5V to 18V External supply

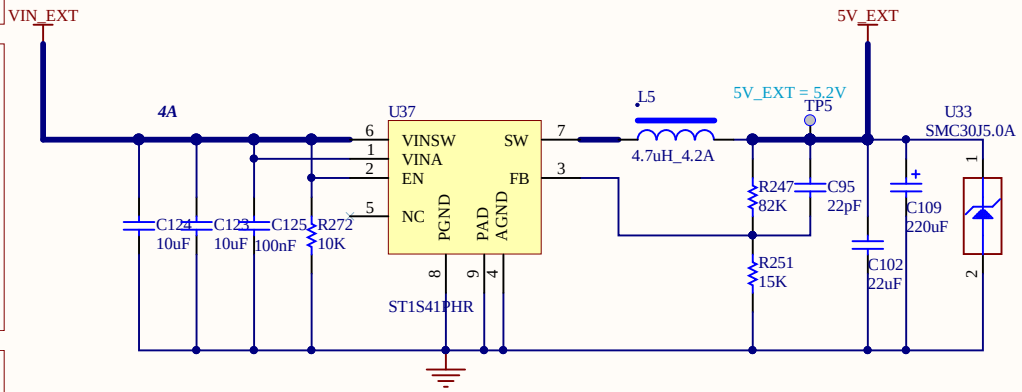


3V3 Supply

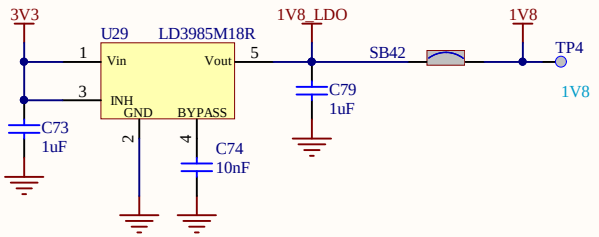


VDD ADJ Supply





1V8

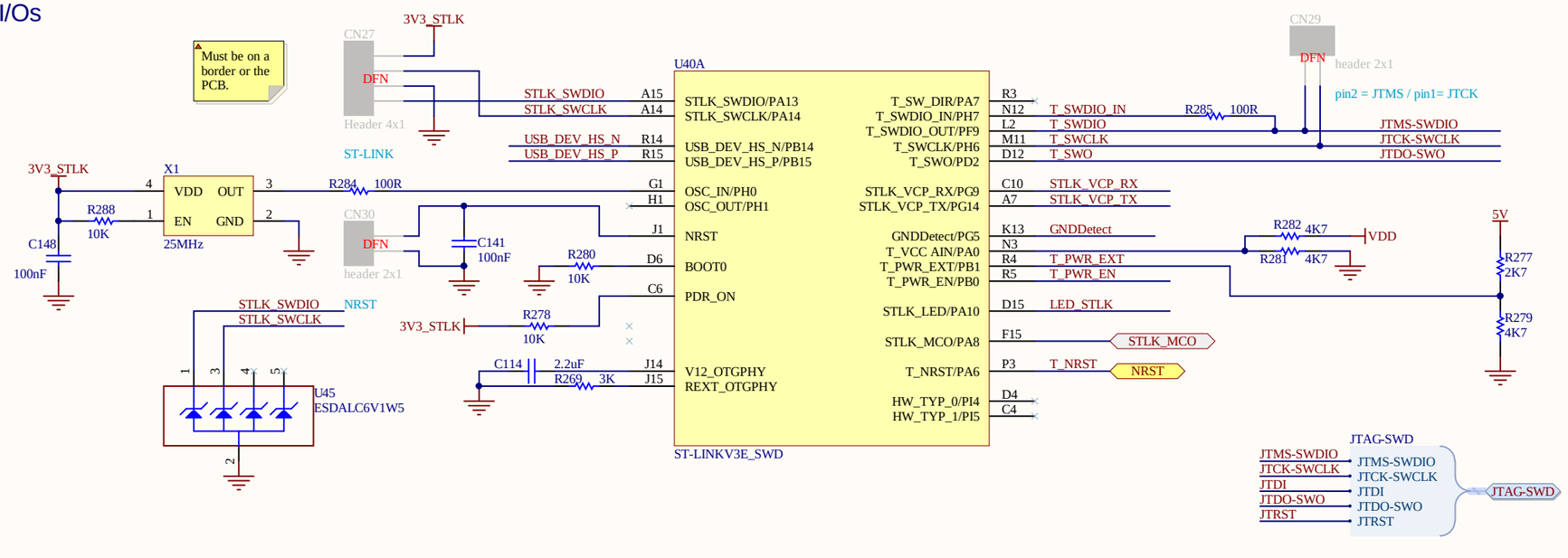


Title: **Board Power**		
Project: **STM32G474E-EVAL**		
Variant: G484E		
Revision: B-04		Reference: MB1397
Size: A4	Date: 01-NOV-18	Sheet: 20 of 22

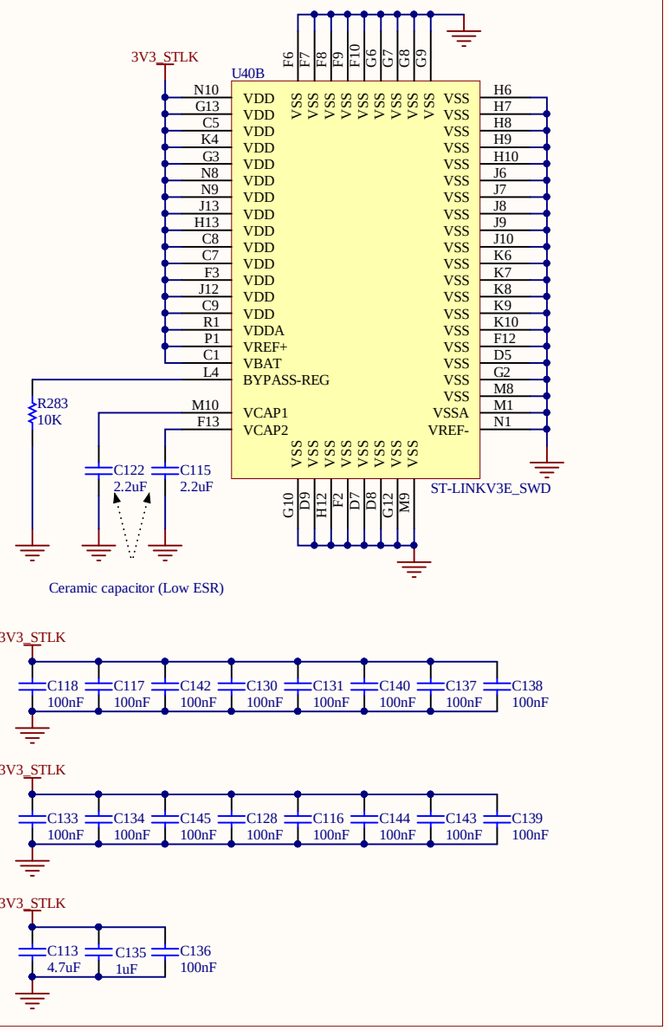
life.augmented

STLINK V3E SWD

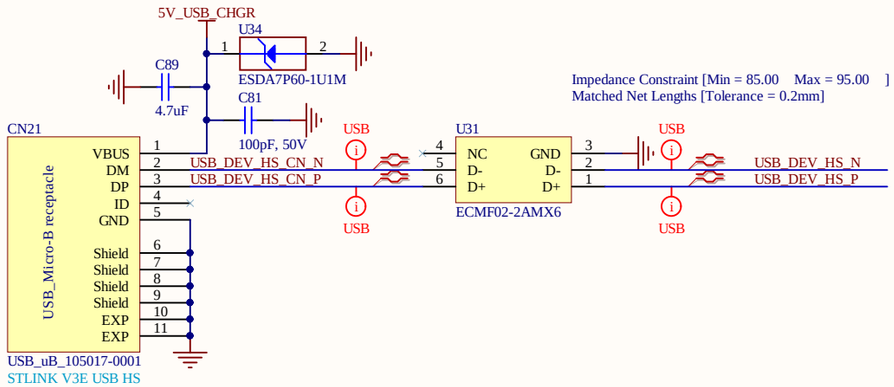
I/Os



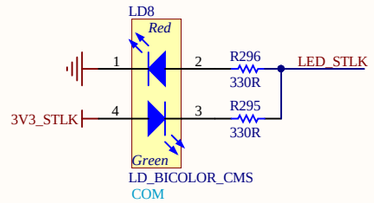
POWER



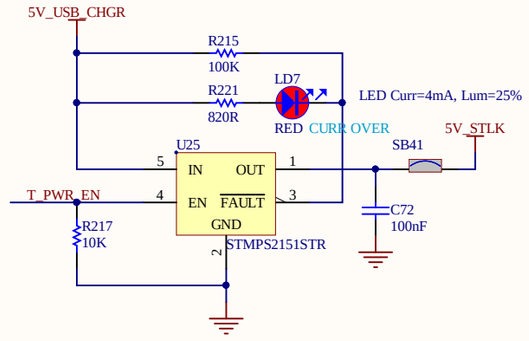
USB HS



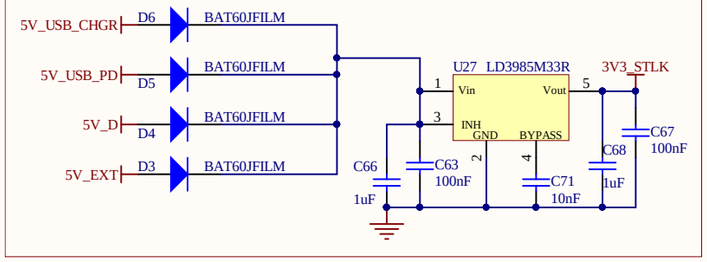
LED



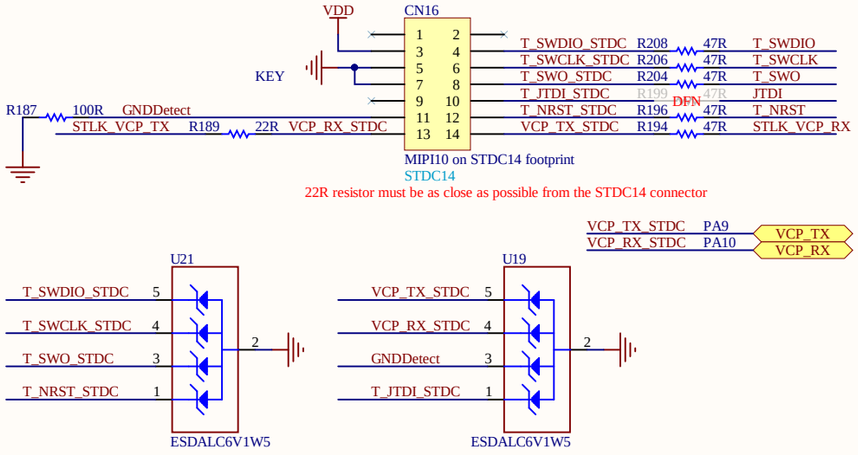
5V ST-LINK



3.3V ST-LINK



STDC14 RECEIVER

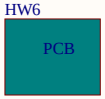


Title: **ST-LINK V3 SWD Module**		
Project: **STM32G474E-EVAL**		
Variant: G484E		
Revision: B-04		Reference: MB1397
Size: A3	Date: 01-NOV-18	Sheet: 21 of 22

life.augmented

HW Mechanical parts

HW6



PCB

HW7
MB1397-G474E-B01 syywwxxxxx QR code

BOARD REF

HW8
STM32G474E-EVAL

BOARD CPN

HW2

LOGO ST

HW5

LOGO CE

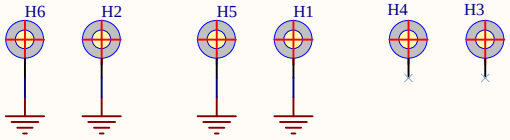
HW4

LOGO ESD

HW3

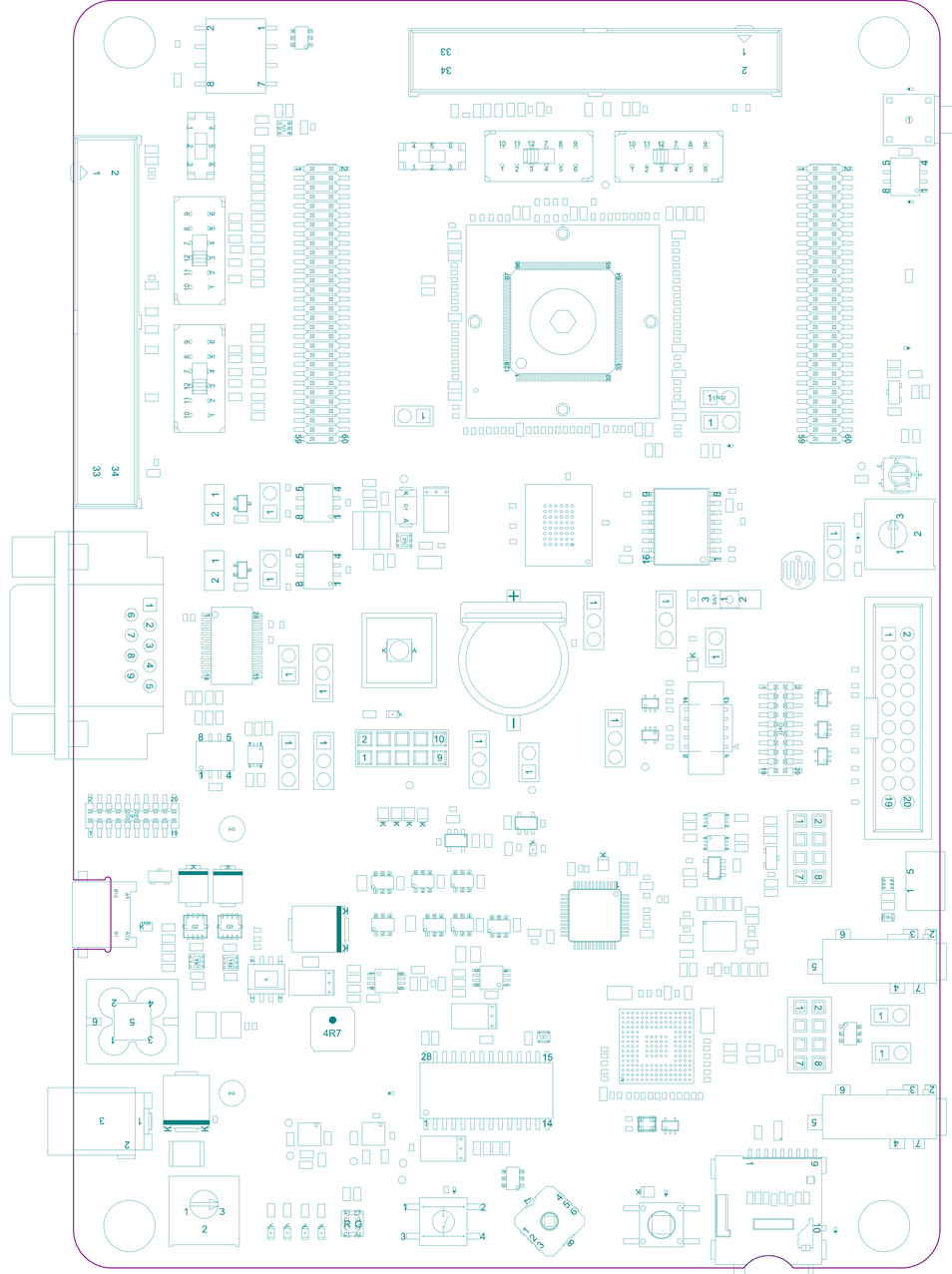
LOGO ROHS

H6 H2 H5 H1 H4 H3



Title: **HW_Mechanical_Parts**			
Project: **STM32G474E-EVAL**			
Variant: G484E			
Revision: B-04		Reference: MB1397	
Size: A4	Date: 01-NOV-18	Sheet: 22 of 22	

life.augmented



2

LAYER 2 (GND PLANE)

FAB DARWING & DRILL LEGEND

LAB DARWIN & DRILL LEGEND