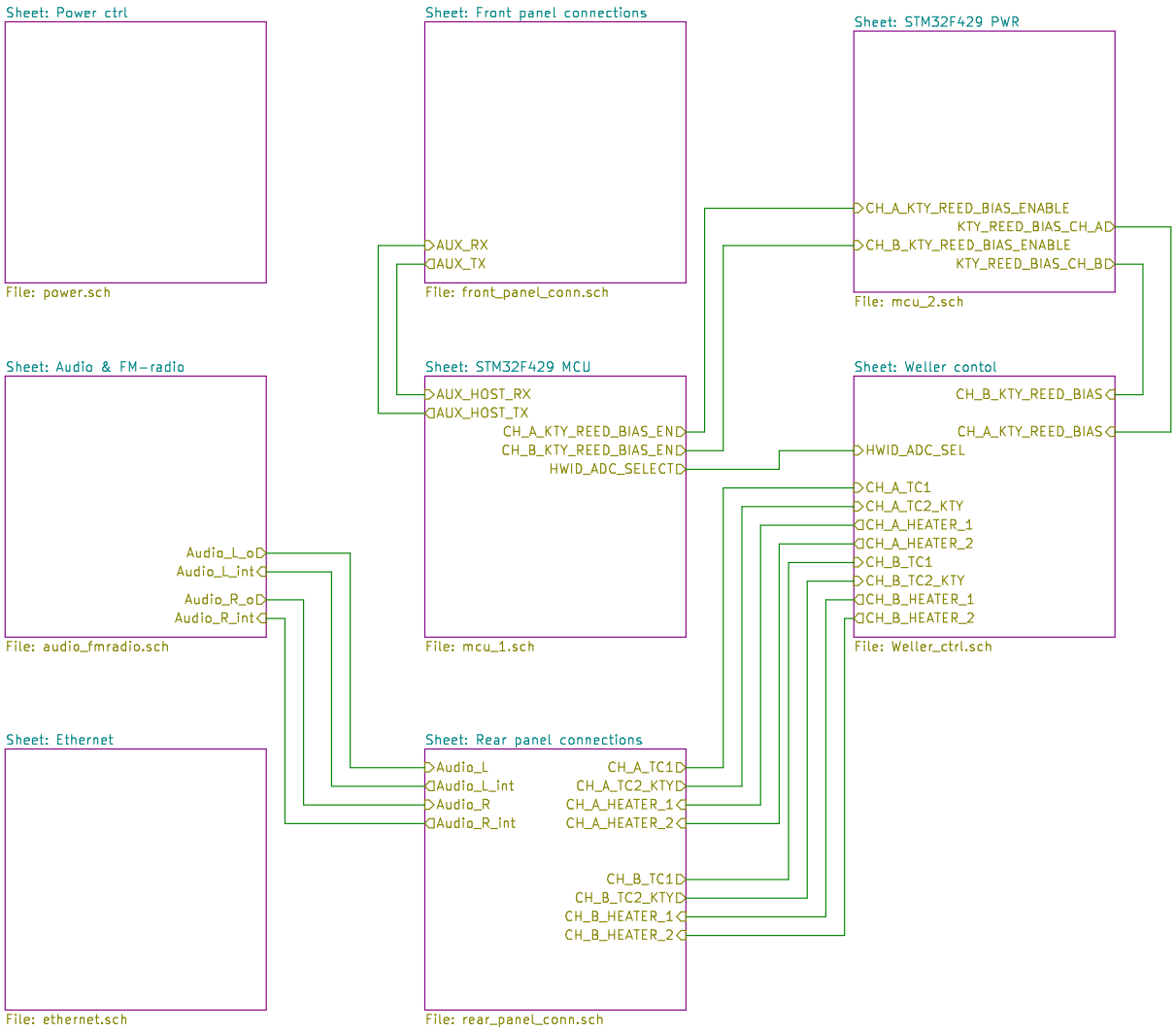


I2C-addresses (on I2C1)

TMP100 (temperature sensors) :

- 1001000 (Front panel, outside left)
- 1001010 (FP, outside right)
- 1001100 (FP, inside left)
- 1001101 (FP, inside middle)
- 1001110 (FP, inside right)
- 1001001 (Main board #1)
- 1001011 (MB #2)
- 1001111 (MB #3)

INA226 (power-channel current sensors) :

- 1000000 (ch A, heater 1)
- 1000001 (ch A, heater 2)
- 1000100 (ch B, heater 1)
- 1000101 (ch B, heater 2)

SI4735 (FM-radio rx) :

- 0010001 (if $\overline{\text{SEN}}$ pulled low [default])
- 1100011 (alternative, if SEN pulled high)

DS3231 (TCXO RTC module) :

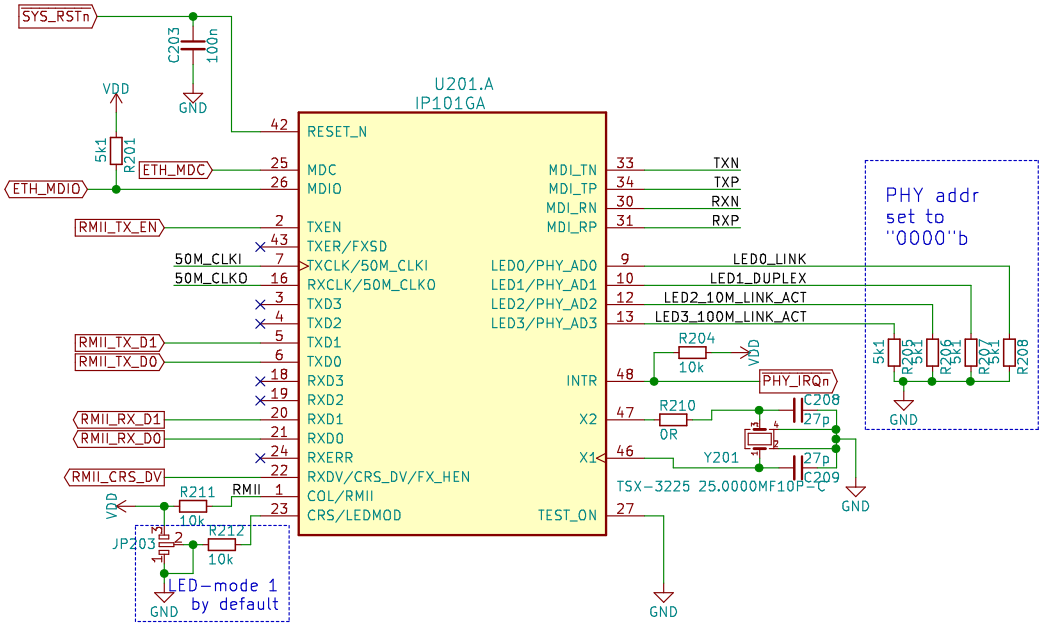
- 1101000 (DS3231)
- 1010--- (24C32, addr customized with A2-A0)
- 1010111 (24C32, default (A2-A0 open))

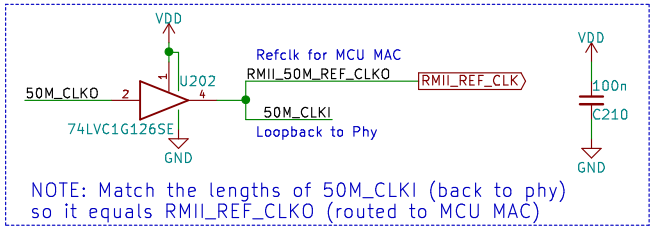
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

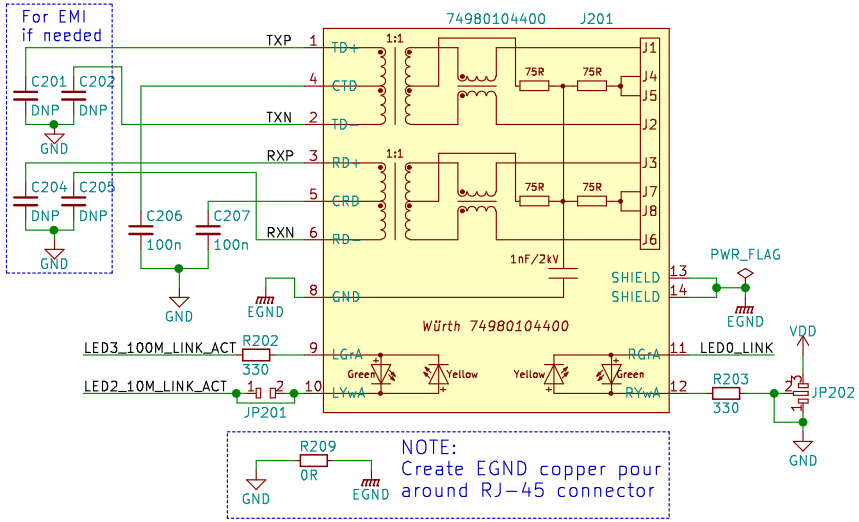
Sheet: /
File: solderstn_mb.sch

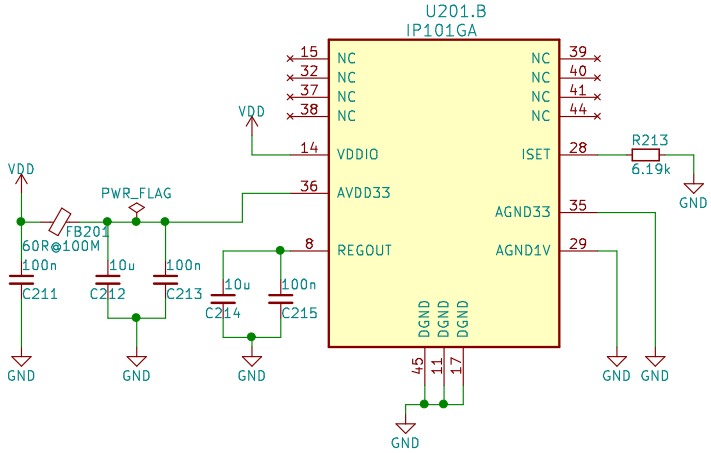
Title: DIY Soldering station, top level

Size: A4	Date: 2020-04-26	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 1/22

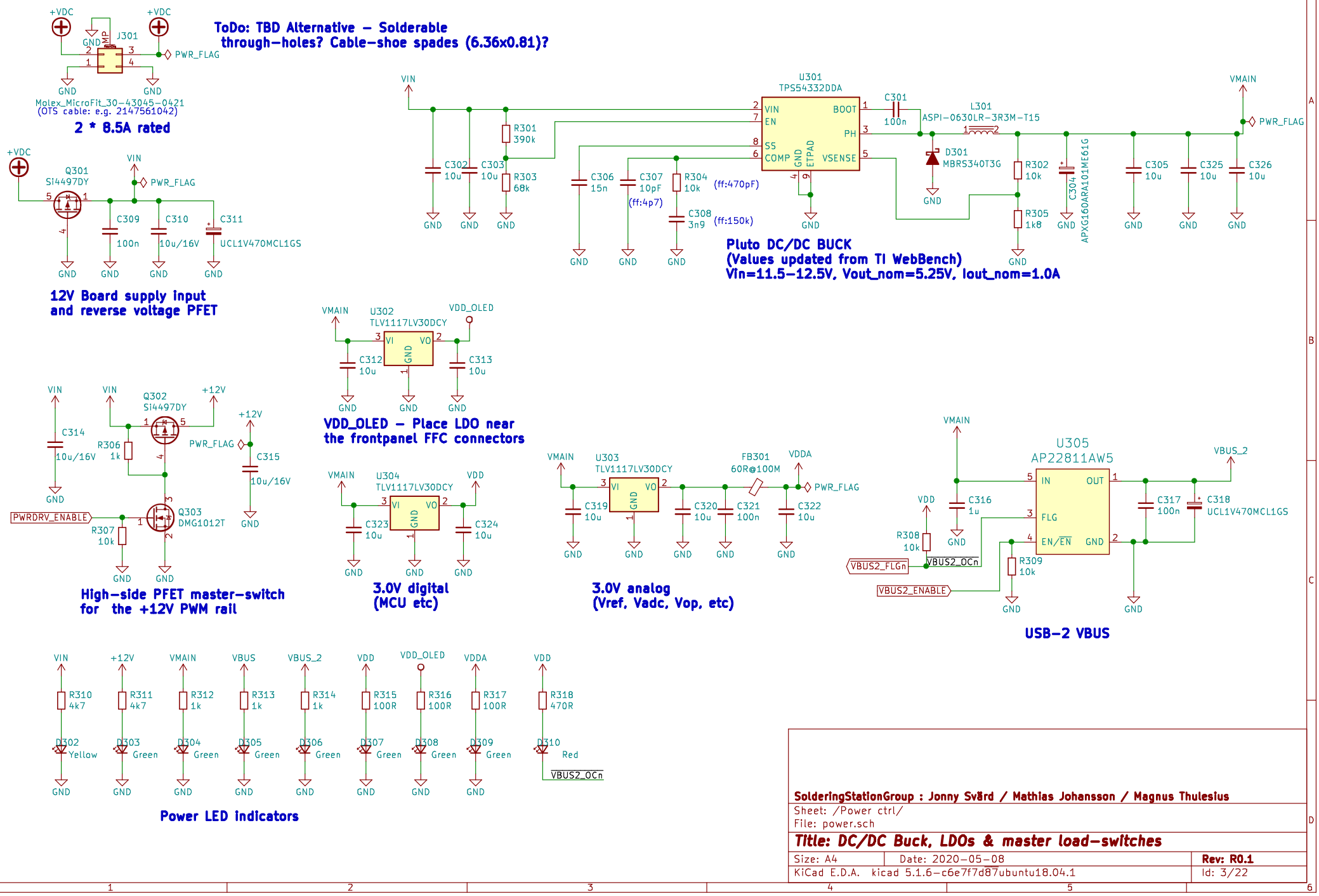


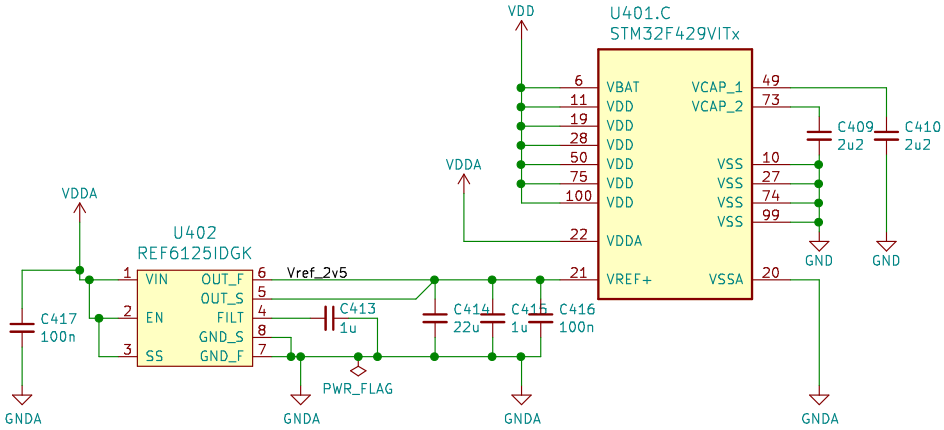




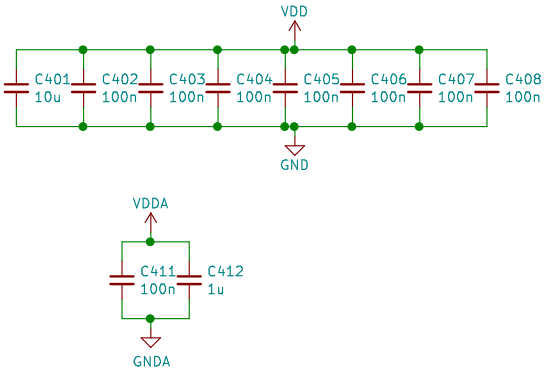


SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius		
Sheet: /Ethernet/ File: ethernet.sch		
Title: Ethernet PHY & connector		
Size: A4	Date: 2020-05-03	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 2/22

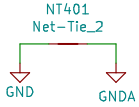

ToDo: TBD Alternative – Solderable through-holes? Cable-shoe spades (6.36x0.81)?
Molex_MicroFit_30-43045-0421
(OTS cable: e.g. 2147561042)
2 * 8.5A rated
12V Board supply input and reverse voltage PFET
Pluto DC/DC BUCK
(Values updated from TI WebBench)
Vin=11.5-12.5V, Vout_nom=5.25V, Iout_nom=1.0A
VDD_OLED – Place LDO near the frontpanel FFC connectors
High-side PFET master-switch for the +12V PWM rail
3.0V digital (MCU etc)
3.0V analog (Vref, Vadc, Vop, etc)
USB-2 VBUS
Power LED Indicators
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius
Sheet: /Power ctrl/
File: power.sch
Title: DC/DC Buck, LDOs & master load-switches
Size: A4
Date: 2020-05-08
Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1
Id: 3/22

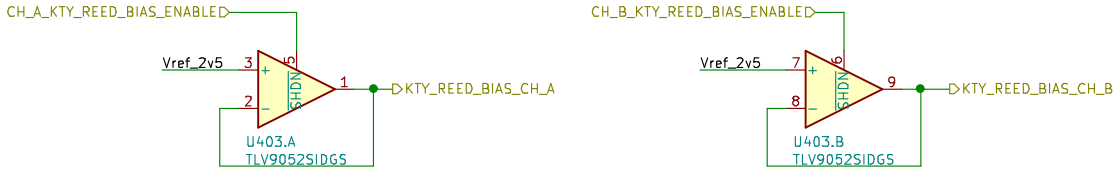


Precisin Vref. Place close to MCU. See REF6125 ds for layout suggestions.



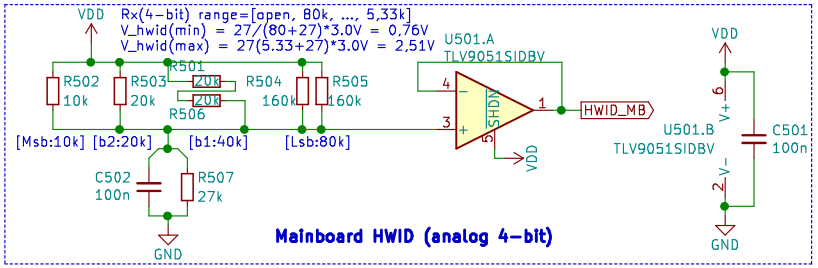
MCU decoupling – place close to MCU power pins



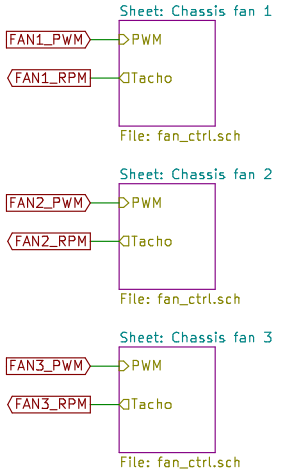


Switchable Vref for biasing KTY sensors (for cold-junction compensation), one per channel. The KTY's can then be meassured through the ordinary TC amps.

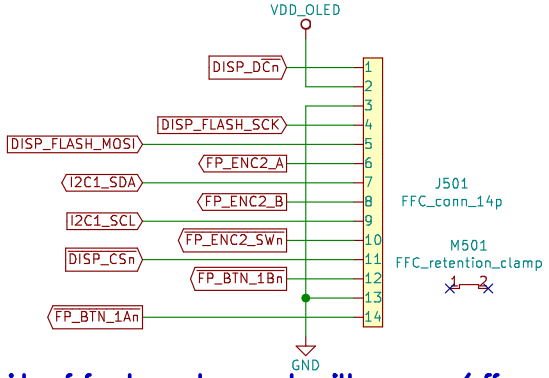
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius		
Sheet: /STM32F429 PWR/ File: mcu_2.sch		
Title: STM32F429 MCU power, decoupling, Vref		
Size: A4	Date: 2020-04-26	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 4/22



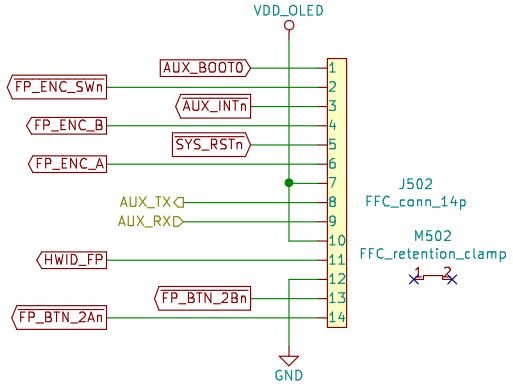
Mainboard HWID (analog 4-bit)

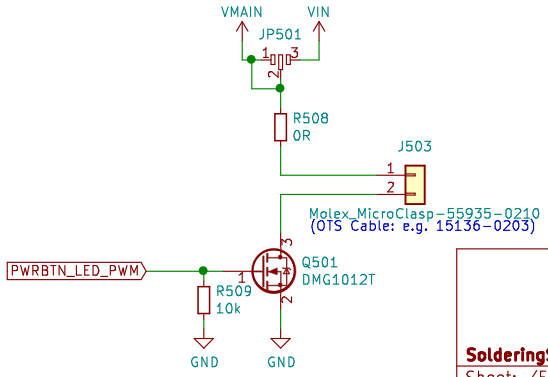


Place vDD_OLED LDO close to FFC connectors

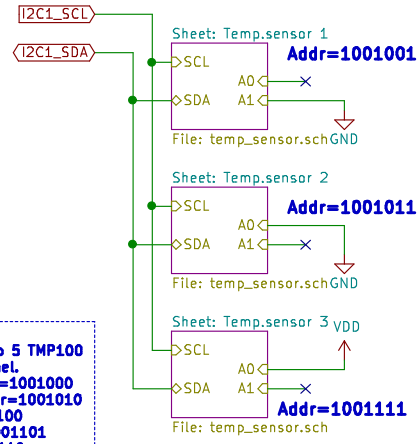


The left-side of front panel supports either an on/off Power-button OR optionally a 2nd rotary encoder. HWID_FP should be used to indicate which option is chosen





FancyBtn LED connector (PWM ctrl low-side; 5V/12V selectable V+)



Note:
There're additional up-to 5 TMP100 sensors on the front panel.
Display-side, left : addr=1001000
Display-side, right : addr=1001010
inside, left : addr=1001100
inside, middle : addr=1001101
inside, right: addr=1001110

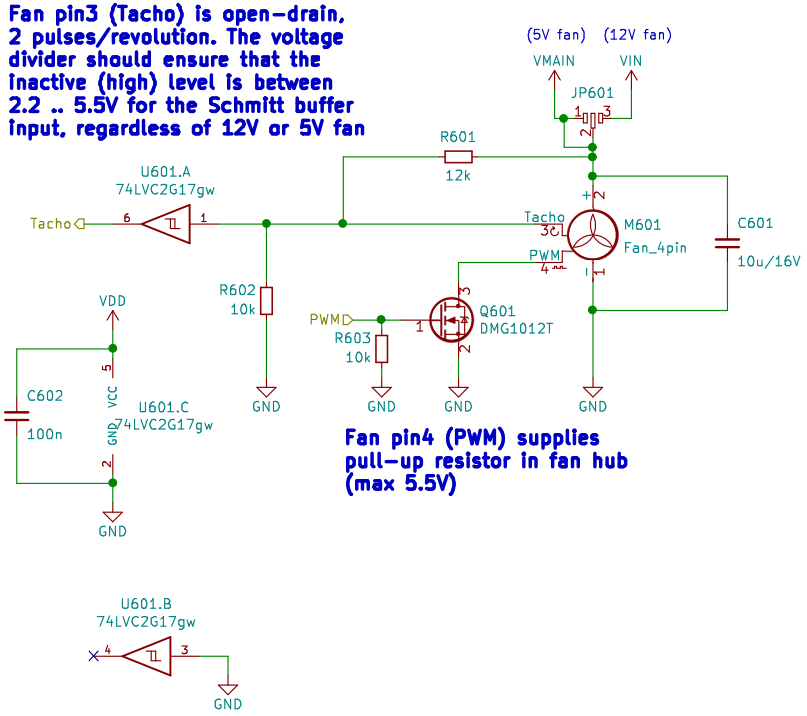
Ambient temperature sensors (TMP100)

SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Front panel connections/
File: front_panel_conn.sch

Title: Front-side and internal connectors

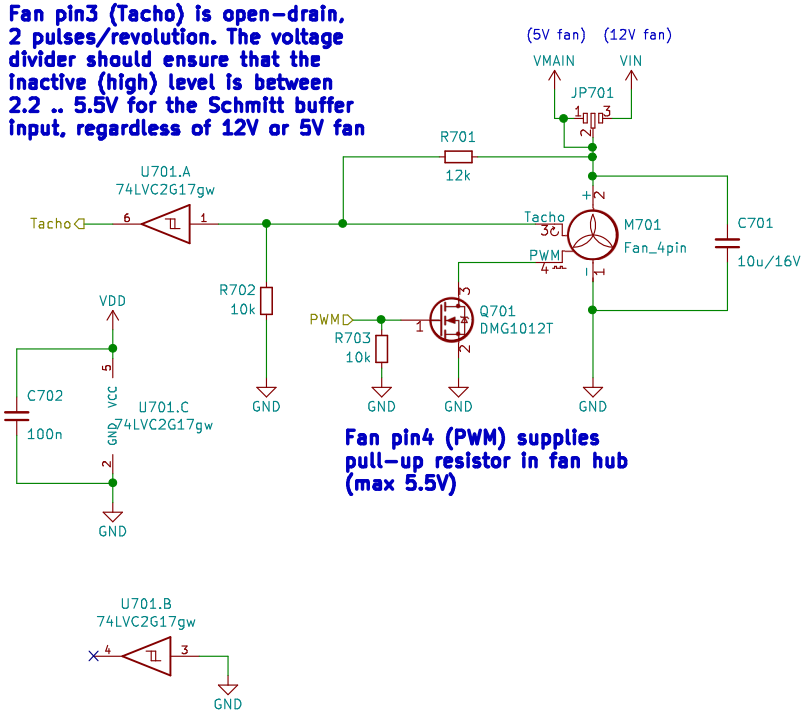
Size: A4	Date: 2020-08-03	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 5/22



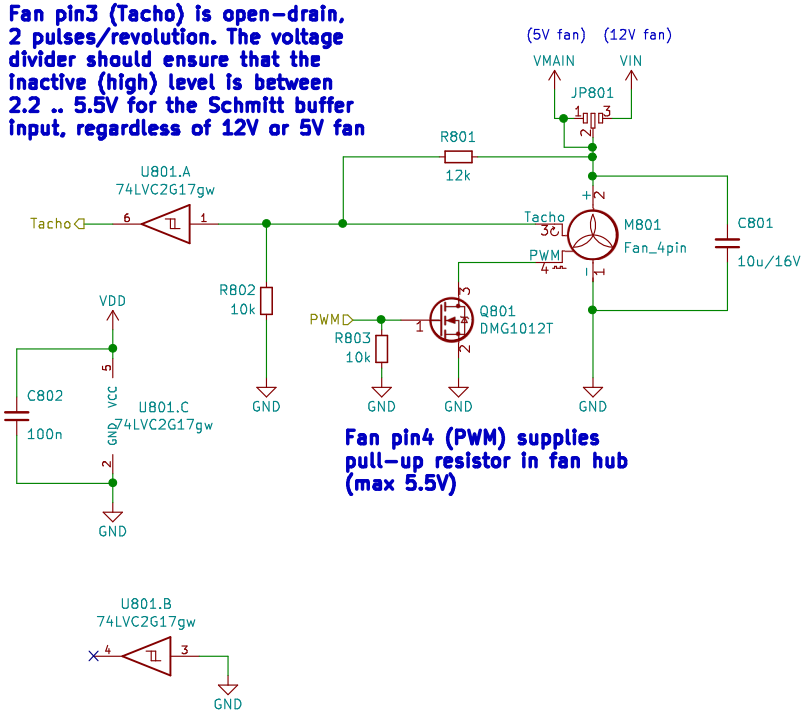
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius	
Sheet: /Front panel connections/Chassis fan 1/	
File: fan_ctrl.sch	
Title: Fan controller	
Size: A4	Date: 2020-08-09
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1	Id: 6/22

Rev: R0.1

Fan pin3 (Tacho) is open-drain,
2 pulses/revolution. The voltage
divider should ensure that the
inactive (high) level is between
2.2 .. 5.5V for the Schmitt buffer
input, regardless of 12V or 5V fan

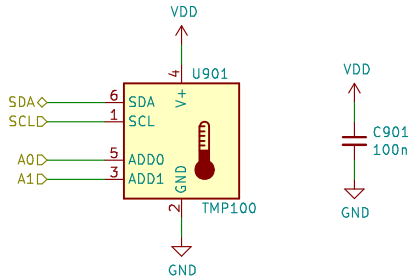


SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius		
Sheet: /Front panel connections/Chassis fan 2/		
File: fan_ctrl.sch		
Title: Fan controller		
Size: A4	Date: 2020-08-09	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 7/22



SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius	
Sheet: /Front panel connections/Chassis fan 3/	
File: fan_ctrl.sch	
Title: Fan controller	
Size: A4	Date: 2020-08-09
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1	Id: 8/22

Rev: R0.1

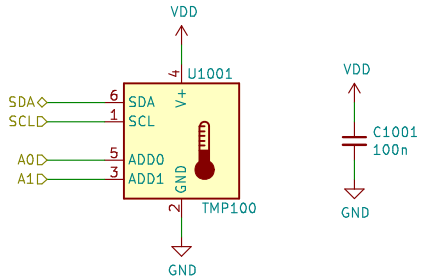


SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Front panel connections/Temp.sensor 1/
File: temp_sensor.sch

Title:

Size: A4	Date:	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 9/22

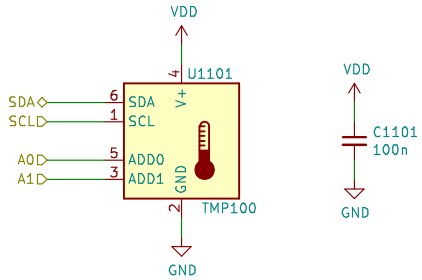


SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Front panel connections/Temp.sensor 2/
File: temp_sensor.sch

Title:

Size: A4	Date:	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 10/22



SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Front panel connections/Temp.sensor 3/
File: temp_sensor.sch

Title:

Size: A4	Date:	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 11/22

Notes:
RJ45 ethernet – located on ethernet page

Audiojack 3.5mm (sub-PCB)
DBGUART / SWD (dsub-9?)
FM-ant? (AM-ferrit extern..?)
USB1 (device)
USB2 (host)
Force Bootloader/rst
2x Amphenol Weller-jacks!

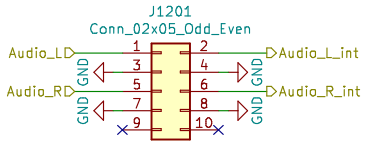
ToDo:

CH_A_HEATER_1
CH_A_HEATER_2
4x solderable quick-disconnect cable tabs (6.35x0.81), right-angle:
HT1 / GND / HT2 / GND

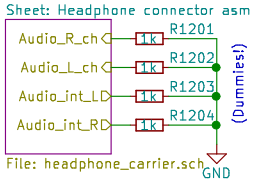
CH_A_TC1
CH_A_TC2_KTY
5x1 or 4x1 pin picoblade/pico-clasp/micro-clasp..?
gnd/tc1_reed/gnd/tc2_kty/(ESD ref. pin 5?)

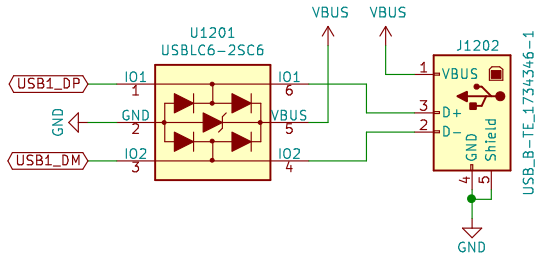
CH_B_HEATER_1
CH_B_HEATER_2
4x solderable quick-disconnect cable tabs (6.35x0.81), right-angle:
HT1 / GND / HT2 / GND

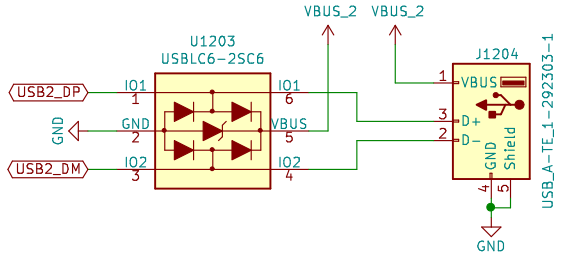
CH_B_TC1
CH_B_TC2_KTY
5x1 or 4x1 pin picoblade/pico-clasp/micro-clasp..?
gnd/tc1_reed/gnd/tc2_kty/(ESD ref. pin 5?)

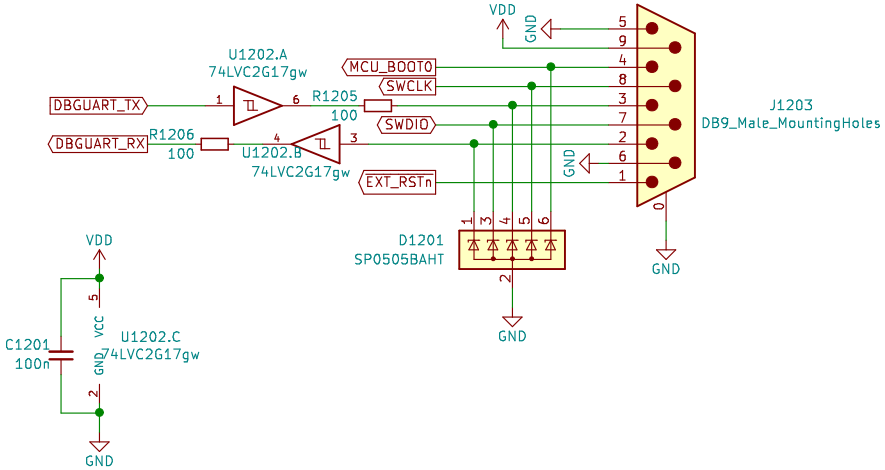


Headphone 3.5mm connector on a break-away sub-PCB. Audio signals get routed out to the 3.5mm connector, through the plug-switches and optionally back to internal speakers conns if there's no plug inserted







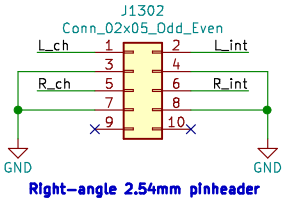


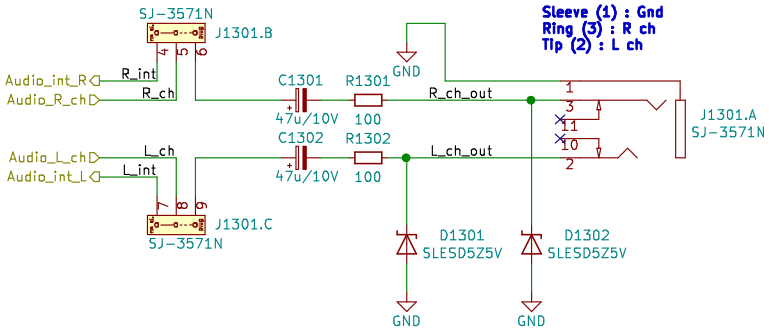
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Rear panel connections/
File: rear_panel_conn.sch

Title: Backside connectors

Size: A4	Date: 2020-08-14	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 12/22

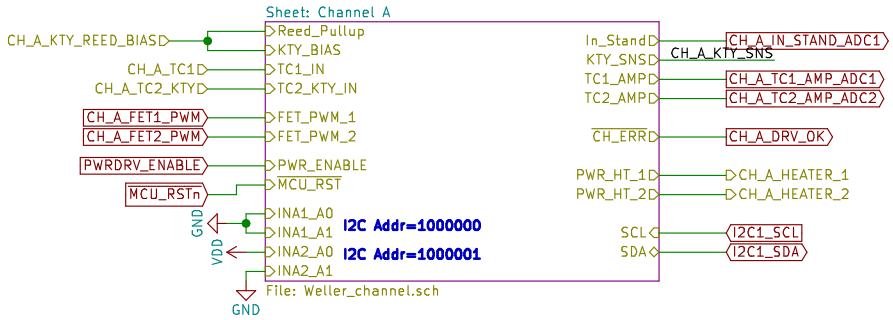


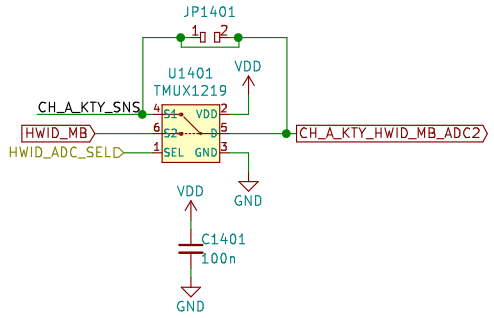


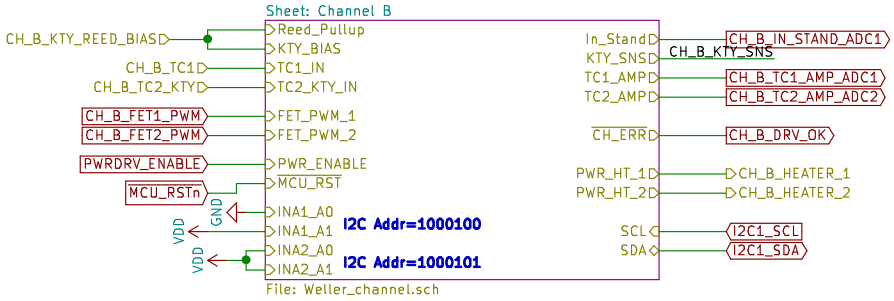
Sheet: /Rear panel connections/Headphone connector asm/
File: headphone_carrier.sch

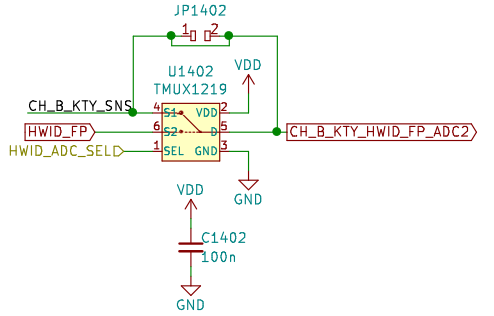
Title: Rearpanel headphone assembly

Size: A4	Date: 2020-08-19	**Rev:**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 13/22







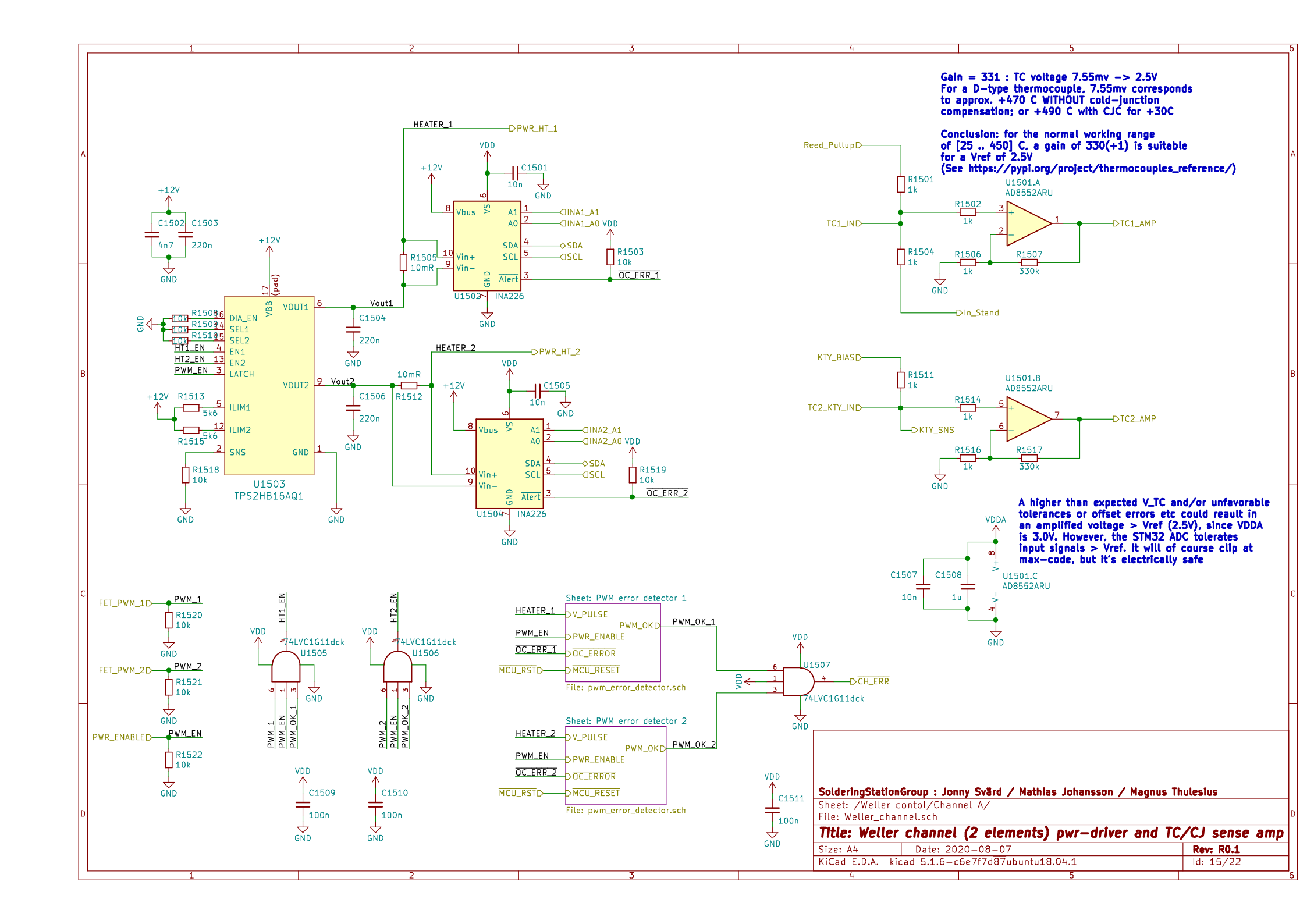


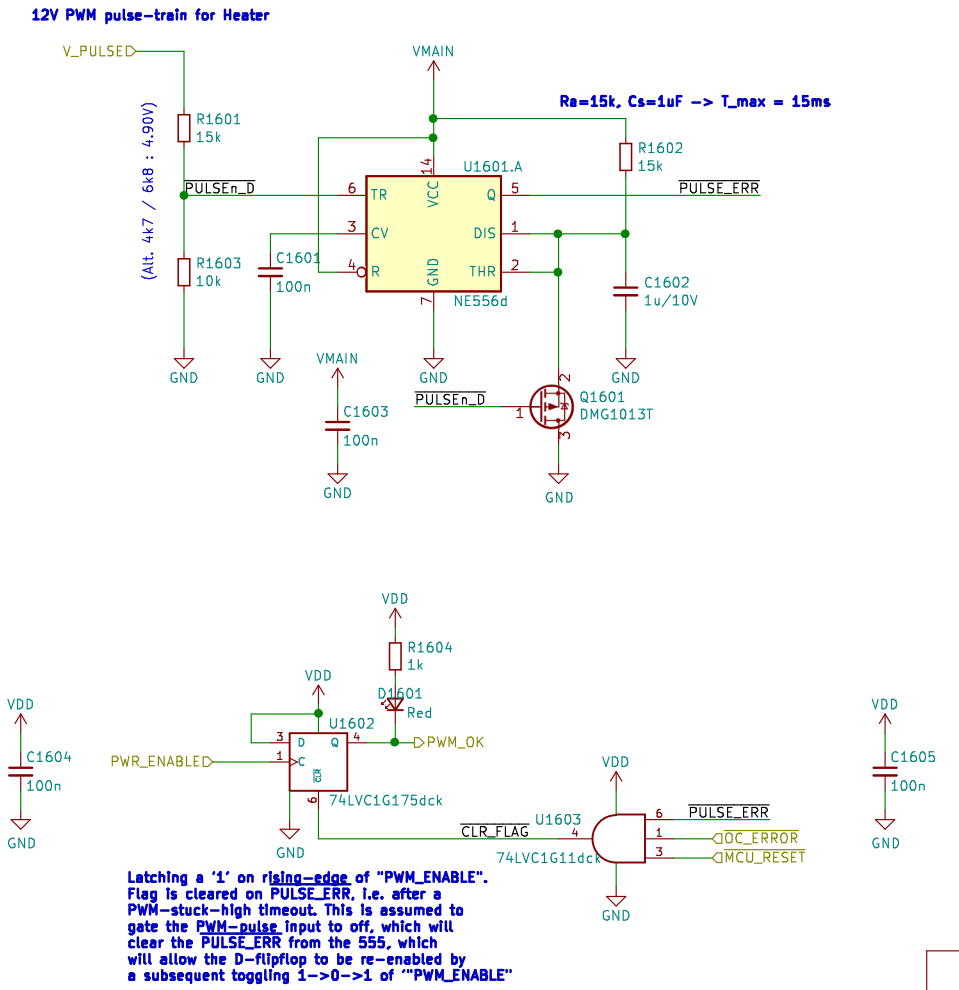
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Weller contol/
File: Weller_ctrl.sch

Title: Dual Weller WMRP or WMRT capable channels

Size: A4	Date: 2020-08-07	**Rev: R0.1**
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 14/22


Gain = 331 : TC voltage 7.55mv -> 2.5V
For a D-type thermocouple, 7.55mv corresponds
to approx. +470 C WITHOUT cold-junction
compensation; or +490 C with CJC for +30C
Conclusion: for the normal working range
of [25 .. 450] C, a gain of 330(+1) is suitable
for a Vref of 2.5V
(See https://pypi.org/project/thermocouples_reference/)
A higher than expected V_TC and/or unfavorable
tolerances or offset errors etc could reault in
an amplified voltage > Vref (2.5V), since VDDA
is 3.0V. However, the STM32 ADC tolerates
input signals > Vref. It will of course clip at
max-code, but it's electrically safe
U1503
TPS2HB16AQ1
U1502
INA226
U1504
INA226
U1501.A
AD8552ARU
U1501.B
AD8552ARU
U1501.C
AD8552ARU
U1505
74LVC1G11dck
U1506
74LVC1G11dck
U1507
74LVC1G11dck
Sheet: PWM error detector 1
File: pwm_error_detector.sch
Sheet: PWM error detector 2
File: pwm_error_detector.sch
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius
Sheet: /Weller contol/Channel A/
File: Weller_channel.sch
Title: Weller channel (2 elements) pwr-driver and TC/CJ sense amp
Size: A4
Date: 2020-08-07
Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1
Id: 15/22



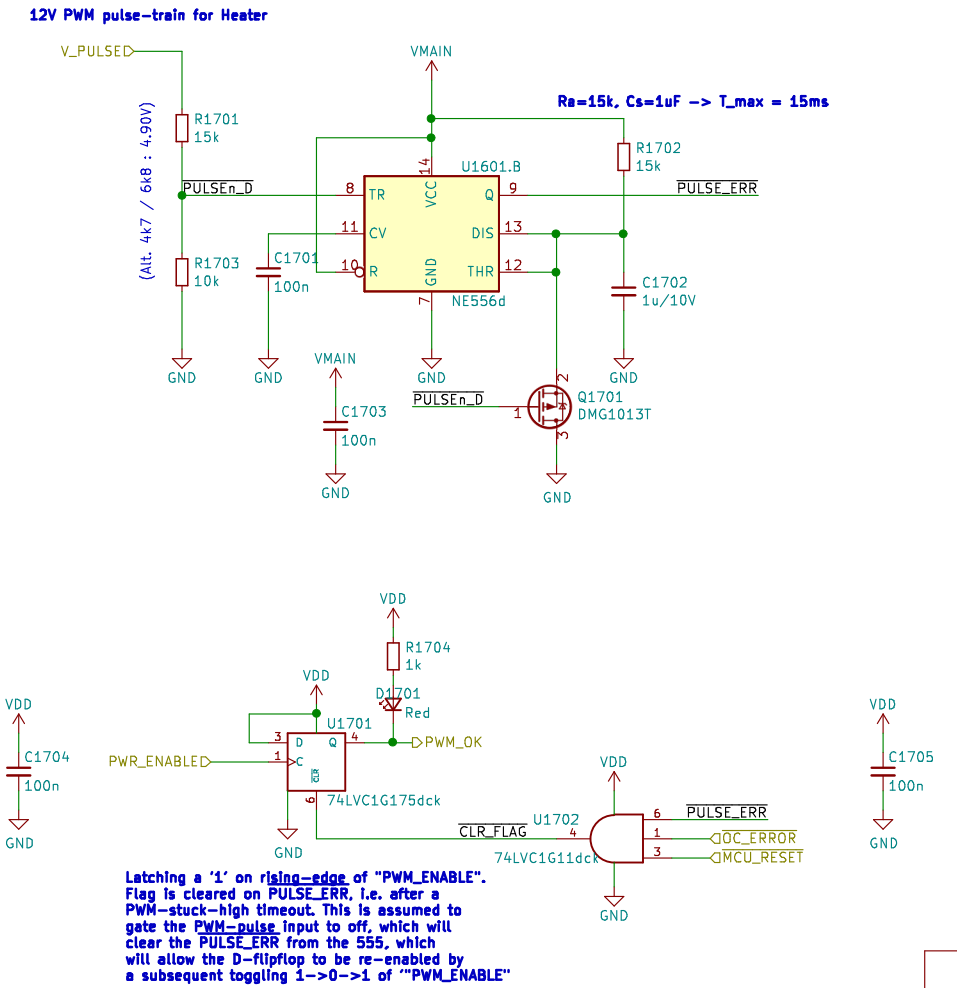
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Weller contol/Channel A/PWM error detector 1/

File: pwm_error_detector.sch

Title: HW PWM stuck-high detection with latched flag

Size: A4	Date: 2020-08-12	Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 16/22



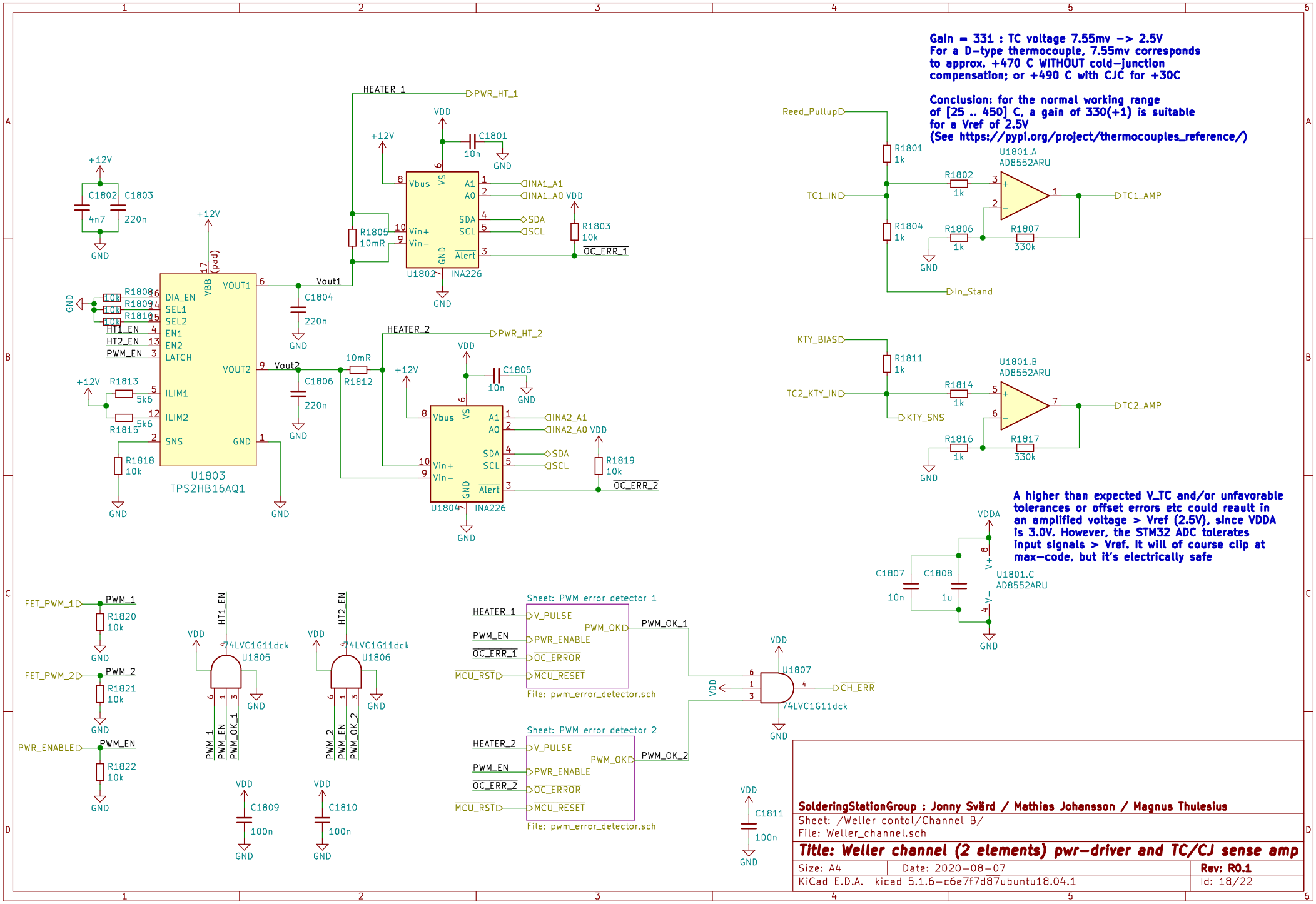
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

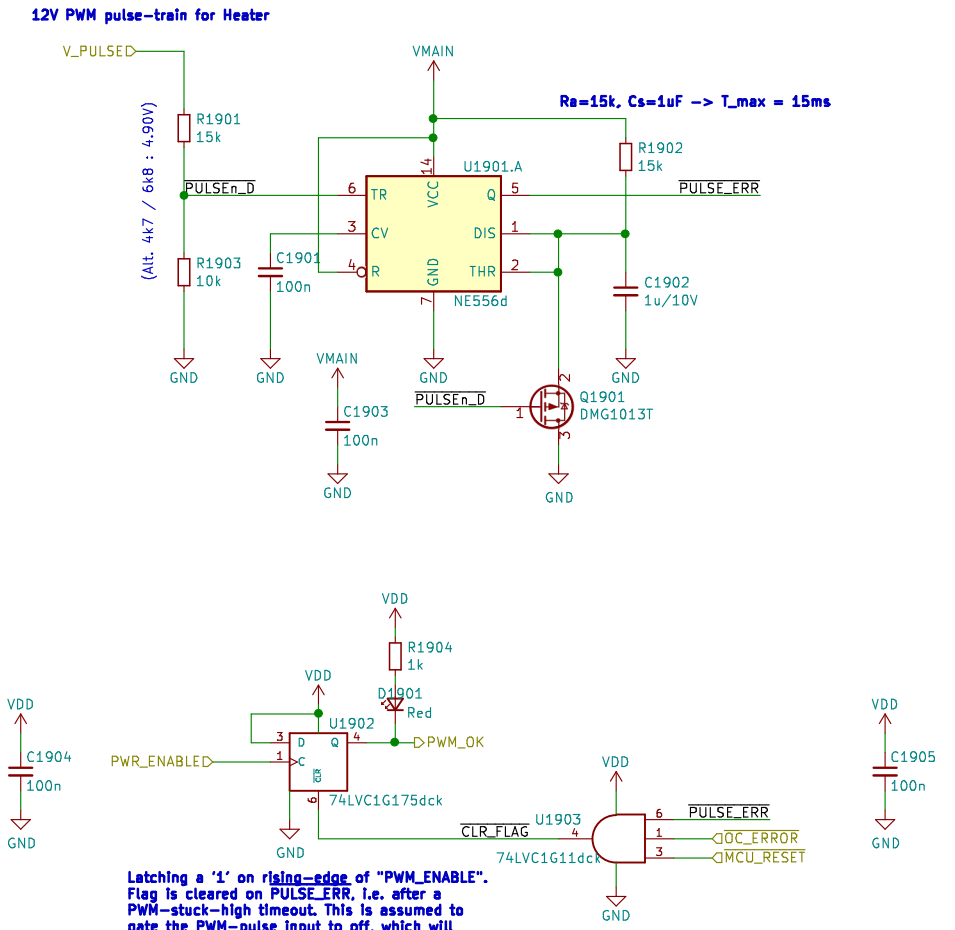
Sheet: /Weller contol/Channel A/PWM error detector 2/

File: pwm_error_detector.sch

Title: HW PWM stuck-high detection with latched flag

Size: A4	Date: 2020-08-12	Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 17/22


Gain = 331 : TC voltage 7.55mv -> 2.5V
For a D-type thermocouple, 7.55mv corresponds to approx. +470 C WITHOUT cold-junction compensation; or +490 C with CJC for +30C
Conclusion: for the normal working range of [25 .. 450] C, a gain of 330(+1) is suitable for a Vref of 2.5V
(See https://pypi.org/project/thermocouples_reference/)
A higher than expected V_TC and/or unfavorable tolerances or offset errors etc could reault in an amplified voltage > Vref (2.5V), since VDDA is 3.0V. However, the STM32 ADC tolerates input signals > Vref. It will of course clip at max-code, but it's electrically safe
HEATER_1
PWR_HT_1
HEATER_2
PWR_HT_2
U1803
TPS2HB16AQ1
U1802
INA226
U1804
INA226
U1801.A
AD8552ARU
U1801.B
AD8552ARU
U1801.C
AD8552ARU
U1805
74LVC1G11dck
U1806
74LVC1G11dck
U1807
74LVC1G11dck
Sheet: PWM error detector 1
File: pwm_error_detector.sch
Sheet: PWM error detector 2
File: pwm_error_detector.sch
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius
Sheet: /Weller contol/Channel B/
File: Weller_channel.sch
Title: Weller channel (2 elements) pwr-driver and TC/CJ sense amp
Size: A4
Date: 2020-08-07
Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1
Id: 18/22



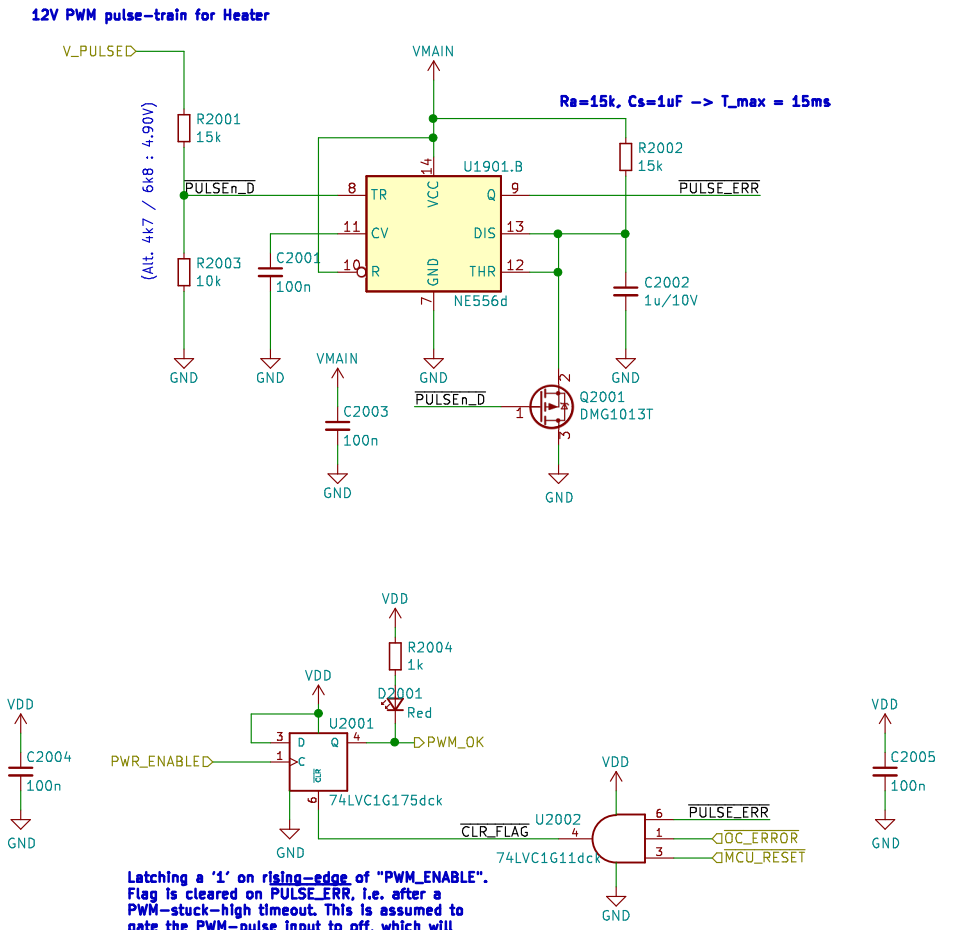
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Weller contol/Channel B/PWM error detector 1/

File: pwm_error_detector.sch

Title: HW PWM stuck-high detection with latched flag

Size: A4	Date: 2020-08-12	Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 19/22



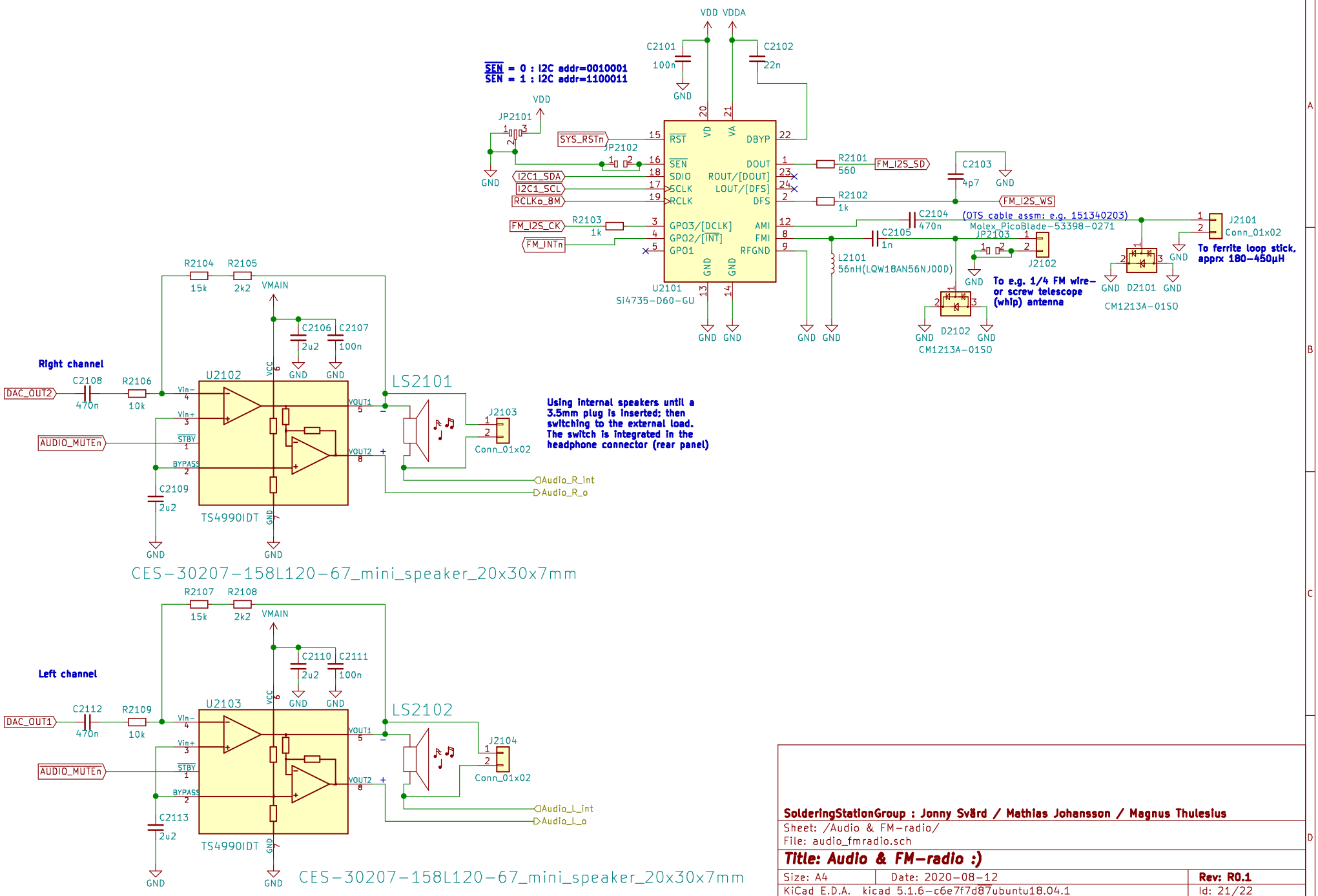
Latching a '1' on rising-edge of "PWM_ENABLE".
Flag is cleared on PULSE_ERR, i.e. after a
PWM-stuck-high timeout. This is assumed to
gate the PWM-pulse input to off, which will
clear the PULSE_ERR from the 555, which
will allow the D-flipflop to be re-enabled by
a subsequent toggling 1->0->1 of '"PWM_ENABLE"

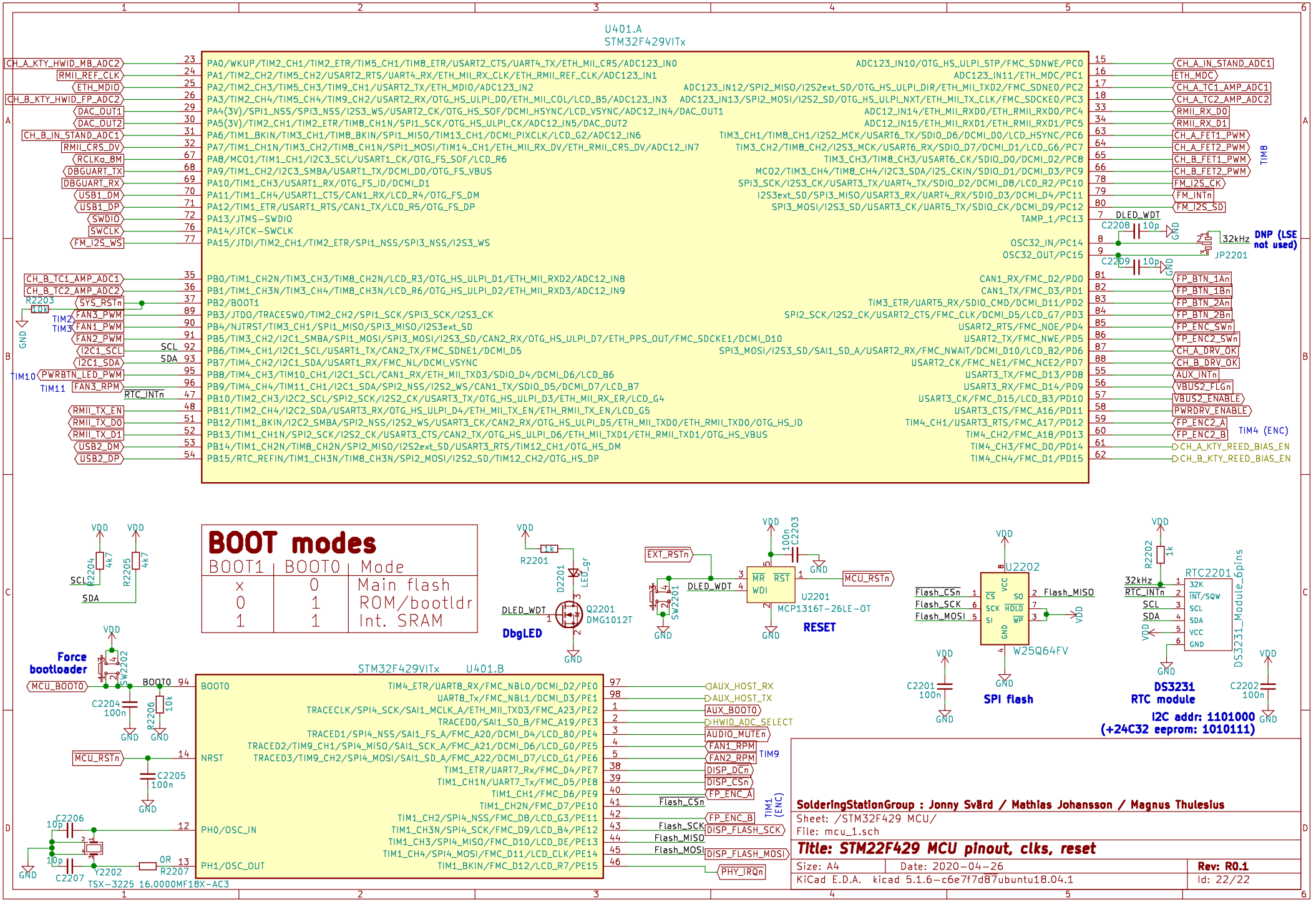
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius

Sheet: /Weller contol/Channel B/PWM error detector 2/
File: pwm_error_detector.sch

Title: HW PWM stuck-high detection with latched flag

Size: A4	Date: 2020-08-12	Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1		Id: 20/22


SEN = 0 : I2C addr=0010001
SEN = 1 : I2C addr=1100011
VDD VDDA
C2101 100n
C2102 22n
JP2101
JP2102
SYS_RSTn
I2C1_SDA
I2C1_SCL
RCLKo_8M
FM_I2S_CK
FM_INTn
R2103 1k
U2101
SI4735-D60-GU
RST
SEN
SDIO
SCLK
RCLK
GPO3/[DCLK]
GPO2/[INT]
GPO1
VD
VA
DBYP
DOUT
ROUT/[DOUT]
LOUT/[DFS]
DFS
AMI
FMI
RFGND
GND
R2101 560
FM_I2S_SD
R2102 1k
FM_I2S_WS
C2103 4p7
C2104 470n
C2105 1n
L2101 56nH(LQW18AN56NJ00D)
(OTS cable assm: e.g. 151340203)
Molex_PicoBlade-53398-0271
JP2103
J2102
To e.g. 1/4 FM wire- or screw telescope (whip) antenna
D2102
CM1213A-01SO
D2101
CM1213A-01SO
J2101
Conn_01x02
To ferrite loop stick, apprx 180-450µH
Right channel
R2104 15k
R2105 2k2
VMAIN
C2106 2u2
C2107 100n
DAC_OUT2
C2108 470n
R2106 10k
U2102
Vin-
Vin+
STBY
BYPASS
VCC
VOUT1
VOUT2
TS4990IDT
C2109 2u2
AUDIO_MUTEn
LS2101
J2103
Conn_01x02
Audio_R_int
Audio_R_o
Using internal speakers until a 3.5mm plug is inserted; then switching to the external load. The switch is integrated in the headphone connector (rear panel)
CES-30207-158L120-67_mini_speaker_20x30x7mm
Left channel
R2107 15k
R2108 2k2
VMAIN
C2110 2u2
C2111 100n
DAC_OUT1
C2112 470n
R2109 10k
U2103
TS4990IDT
C2113 2u2
AUDIO_MUTEn
LS2102
J2104
Conn_01x02
Audio_L_int
Audio_L_o
CES-30207-158L120-67_mini_speaker_20x30x7mm
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius
Sheet: /Audio & FM-radio/
File: audio_fmradio.sch
Title: Audio & FM-radio :)
Size: A4
Date: 2020-08-12
Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1
Id: 21/22


U401.A
STM32F429VITx
PA0/WKUP/TIM2_CH1/TIM2_ETR/TIM5_CH1/TIM8_ETR/USART2_CTS/UART4_TX/ETH_MII_CRS/ADC123_IN0
PA1/TIM2_CH2/TIM5_CH2/USART2_RTS/UART4_RX/ETH_MII_RX_CLK/ETH_RMII_REF_CLK/ADC123_IN1
PA2/TIM2_CH3/TIM5_CH3/TIM9_CH1/USART2_TX/ETH_MDIO/ADC123_IN2
PA3/TIM2_CH4/TIM5_CH4/TIM9_CH2/USART2_RX/OTG_HS_ULPI_D0/ETH_MII_COL/LCD_B5/ADC123_IN3
PA4(3V)/SPI1_NSS/SPI3_NSS/I2S3_WS/USART2_CK/OTG_HS_SOF/DCMI_HSYNC/LCD_VSYNC/ADC12_IN4/DAC_OUT1
PA5(3V)/TIM2_CH1/TIM2_ETR/TIM8_CH1N/SPI1_SCK/OTG_HS_ULPI_CK/ADC12_IN5/DAC_OUT2
PA6/TIM1_BKIN/TIM3_CH1/TIM8_BKIN/SPI1_MISO/TIM13_CH1/DCMI_PIXCLK/LCD_G2/ADC12_IN6
PA7/TIM1_CH1N/TIM3_CH2/TIM8_CH1N/SPI1_MOSI/TIM14_CH1/ETH_MII_RX_DV/ETH_RMII_CRS_DV/ADC12_IN7
PA8/MCO1/TIM1_CH1/I2C3_SCL/USART1_CK/OTG_FS_SOF/LCD_R6
PA9/TIM1_CH2/I2C3_SMBA/USART1_TX/DCMI_D0/OTG_FS_VBUS
PA10/TIM1_CH3/USART1_RX/OTG_FS_ID/DCMI_D1
PA11/TIM1_CH4/USART1_CTS/CAN1_RX/LCD_R4/OTG_FS_DM
PA12/TIM1_ETR/USART1_RTS/CAN1_TX/LCD_R5/OTG_FS_DP
PA13/JTMS-SWDIO
PA14/JTCK-SWCLK
PA15/JTDI/TIM2_CH1/TIM2_ETR/SPI1_NSS/SPI3_NSS/I2S3_WS
ADC123_IN10/OTG_HS_ULPI_STP/FMC_SDNWE/PC0
ADC123_IN11/ETH_MDC/PC1
ADC123_IN12/SPI2_MISO/I2S2ext_SD/OTG_HS_ULPI_DIR/ETH_MII_TXD2/FMC_SDNE0/PC2
ADC123_IN13/SPI2_MOSI/I2S2_SD/OTG_HS_ULPI_NXT/ETH_MII_TX_CLK/FMC_SDCKE0/PC3
ADC12_IN14/ETH_MII_RXD0/ETH_RMII_RXD0/PC4
ADC12_IN15/ETH_MII_RXD1/ETH_RMII_RXD1/PC5
TIM3_CH1/TIM8_CH1/I2S2_MCK/USART6_TX/SDIO_D6/DCMI_D0/LCD_HSYNC/PC6
TIM3_CH2/TIM8_CH2/I2S3_MCK/USART6_RX/SDIO_D7/DCMI_D1/LCD_G6/PC7
TIM3_CH3/TIM8_CH3/USART6_CK/SDIO_D0/DCMI_D2/PC8
MCO2/TIM3_CH4/TIM8_CH4/I2C3_SDA/I2S_CKIN/SDIO_D1/DCMI_D3/PC9
SPI3_SCK/I2S3_CK/USART3_TX/UART4_TX/SDIO_D2/DCMI_D8/LCD_R2/PC10
I2S3ext_SD/SPI3_MISO/USART3_RX/UART4_RX/SDIO_D3/DCMI_D4/PC11
SPI3_MOSI/I2S3_SD/USART3_CK/UART5_TX/SDIO_CK/DCMI_D9/PC12
TAMP_1/PC13
OSC32_IN/PC14
OSC32_OUT/PC15
PB0/TIM1_CH2N/TIM3_CH3/TIM8_CH2N/LCD_R3/OTG_HS_ULPI_D1/ETH_MII_RXD2/ADC12_IN8
PB1/TIM1_CH3N/TIM3_CH4/TIM8_CH3N/LCD_R6/OTG_HS_ULPI_D2/ETH_MII_RXD3/ADC12_IN9
PB2/BOOT1
PB3/JTDO/TRACESWO/TIM2_CH2/SPI1_SCK/SPI3_SCK/I2S3_CK
PB4/NJTRST/TIM3_CH1/SPI1_MISO/SPI3_MISO/I2S3ext_SD
PB5/TIM3_CH2/I2C1_SMBA/SPI1_MOSI/SPI3_MOSI/I2S3_SD/CAN2_RX/OTG_HS_ULPI_D7/ETH_PPS_OUT/FMC_SDCKE1/DCMI_D10
PB6/TIM4_CH1/I2C1_SCL/USART1_TX/CAN2_TX/FMC_SDNE1/DCMI_D5
PB7/TIM4_CH2/I2C1_SDA/USART1_RX/FMC_NL/DCMI_VSYNC
PB8/TIM4_CH3/TIM10_CH1/I2C1_SCL/CAN1_RX/ETH_MII_TXD3/SDIO_D4/DCMI_D6/LCD_B6
PB9/TIM4_CH4/TIM11_CH1/I2C1_SDA/SPI2_NSS/I2S2_WS/CAN1_TX/SDIO_D5/DCMI_D7/LCD_B7
PB10/TIM2_CH3/I2C2_SCL/SPI2_SCK/I2S2_CK/USART3_TX/OTG_HS_ULPI_D3/ETH_MII_RX_ER/LCD_G4
PB11/TIM2_CH4/I2C2_SDA/USART3_RX/OTG_HS_ULPI_D4/ETH_MII_TX_EN/ETH_RMII_TX_EN/LCD_G5
PB12/TIM1_BKIN/I2C2_SMBA/SPI2_NSS/I2S2_WS/USART3_CK/CAN2_RX/OTG_HS_ULPI_D5/ETH_MII_TXD0/ETH_RMII_TXD0/OTG_HS_ID
PB13/TIM1_CH1N/SPI2_SCK/I2S2_CK/USART3_CTS/CAN2_TX/OTG_HS_ULPI_D6/ETH_MII_TXD1/ETH_RMII_TXD1/OTG_HS_VBUS
PB14/TIM1_CH2N/TIM8_CH2N/SPI2_MISO/I2S2ext_SD/USART3_RTS/TIM12_CH1/OTG_HS_DM
PB15/RTC_REFIN/TIM1_CH3N/TIM8_CH3N/SPI2_MOSI/I2S2_SD/TIM12_CH2/OTG_HS_DP
CH_A_KTY_HWID_MB_ADC2
RMII_REF_CLK
ETH_MDIO
CH_B_KTY_HWID_FP_ADC2
DAC_OUT1
DAC_OUT2
CH_B_IN_STAND_ADC1
RMII_CRS_DV
RCLKo_8M
DBGUART_TX
DBGUART_RX
USB1_DM
USB1_DP
SWDIO
SWCLK
FM_I2S_WS
CH_A_IN_STAND_ADC1
ETH_MDC
CH_A_TC1_AMP_ADC1
CH_A_TC2_AMP_ADC2
RMII_RX_D0
RMII_RX_D1
CH_A_FET1_PWM
CH_A_FET2_PWM
CH_B_FET1_PWM
CH_B_FET2_PWM
FM_I2S_CK
FM_INTn
FM_I2S_SD
TIM8
DLED_WDT
C2208
10p
GND
32kHz
DNP (LSE not used)
JP2201
C2209
10p
GND
CH_B_TC1_AMP_ADC1
CH_B_TC2_AMP_ADC2
R2203
10k
SYS_RSTn
FAN3_PWM
FAN1_PWM
FAN2_PWM
I2C1_SCL
I2C1_SDA
PWRBTN_LED_PWM
FAN3_RPM
RTC_INTn
RMII_TX_EN
RMII_TX_D0
RMII_TX_D1
USB2_DM
USB2_DP
TIM2
TIM3
TIM10
TIM11
SCL
SDA
FP_BTN_1An
FP_BTN_1Bn
FP_BTN_2An
FP_BTN_2Bn
FP_ENC_SWn
FP_ENC2_SWn
CH_A_DRV_OK
CH_B_DRV_OK
AUX_INTn
VBUS2_FLGn
VBUS2_ENABLE
PWRDRV_ENABLE
FP_ENC2_A
FP_ENC2_B
TIM4 (ENC)
CH_A_KTY_REED_BIAS_EN
CH_B_KTY_REED_BIAS_EN
VDD
4k7
R2204
R2205
SCL
SDA
BOOT modes
BOOT1 | BOOT0 | Mode
x | 0 | Main flash
0 | 1 | ROM/bootldr
1 | 1 | Int. SRAM
R2201
1k
D2201
LED_gr
DLED_WDT
Q2201
DMG1012T
DbgLED
EXT_RSTn
SW2201
C2203
100n
MR
RST
WDI
U2201
MCP1316T-26LE-OT
MCU_RSTn
RESET
U2202
Flash_CSn
Flash_SCK
Flash_MOSI
Flash_MISO
CS
SCK
SI
SO
HOLD
WP
VCC
W25Q64FV
SPI flash
C2201
100n
R2202
1k
RTC2201
32kHz
RTC_INTn
SCL
SDA
INT/SQW
DS3231_Module_6pins
DS3231
RTC module
C2202
100n
I2C addr: 1101000
(+24C32 eeprom: 1010111)
Force bootloader
MCU_BOOT0
SW2202
BOOT0
94
C2204
100n
R2206
10k
STM32F429VITx U401.B
BOOT0
NRST
PH0/OSC_IN
PH1/OSC_OUT
TIM4_ETR/UART8_RX/FMC_NBL0/DCMI_D2/PE0
UART8_Tx/FMC_NBL1/DCMI_D3/PE1
TRACECLK/SPI4_SCK/SAI1_MCLK_A/ETH_MII_TXD3/FMC_A23/PE2
TRACED0/SAI1_SD_B/FMC_A19/PE3
TRACED1/SPI4_NSS/SAI1_FS_A/FMC_A20/DCMI_D4/LCD_B0/PE4
TRACED2/TIM9_CH1/SPI4_MISO/SAI1_SCK_A/FMC_A21/DCMI_D6/LCD_G0/PE5
TRACED3/TIM9_CH2/SPI4_MOSI/SAI1_SD_A/FMC_A22/DCMI_D7/LCD_G1/PE6
TIM1_ETR/UART7_Rx/FMC_D4/PE7
TIM1_CH1N/UART7_Tx/FMC_D5/PE8
TIM1_CH1/FMC_D6/PE9
TIM1_CH2N/FMC_D7/PE10
TIM1_CH2/SPI4_NSS/FMC_D8/LCD_G3/PE11
TIM1_CH3N/SPI4_SCK/FMC_D9/LCD_B4/PE12
TIM1_CH3/SPI4_MISO/FMC_D10/LCD_DE/PE13
TIM1_CH4/SPI4_MOSI/FMC_D11/LCD_CLK/PE14
TIM1_BKIN/FMC_D12/LCD_R7/PE15
MCU_RSTn
C2205
100n
C2206
10p
C2207
10p
Y2202
TSX-3225 16.0000MF18X-AC3
0R
R2207
AUX_HOST_RX
AUX_HOST_TX
AUX_BOOT0
HWID_ADC_SELECT
AUDIO_MUTEn
FAN1_RPM
FAN2_RPM
TIM9
DISP_DCn
DISP_CSn
FP_ENC_A
Flash_CSn
FP_ENC_B
Flash_SCK
DISP_FLASH_SCK
Flash_MISO
Flash_MOSI
DISP_FLASH_MOSI
PHY_IRQn
TIM1 (ENC)
SolderingStationGroup : Jonny Svärd / Mathias Johansson / Magnus Thulesius
Sheet: /STM32F429 MCU/
File: mcu_1.sch
Title: STM22F429 MCU pinout, clks, reset
Size: A4
Date: 2020-04-26
Rev: R0.1
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1
Id: 22/22