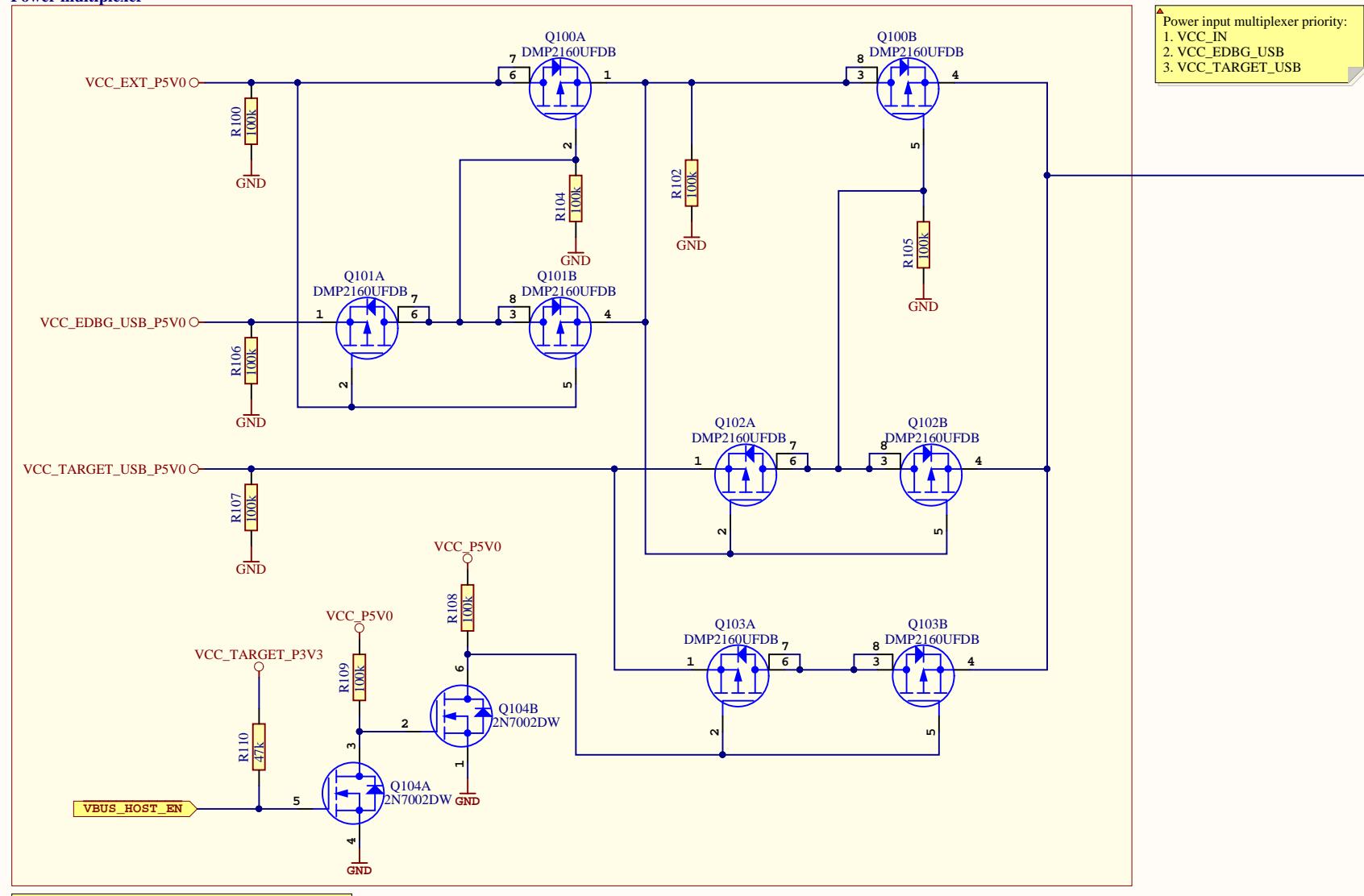
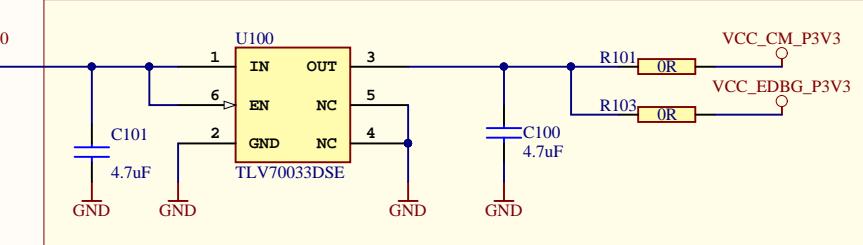
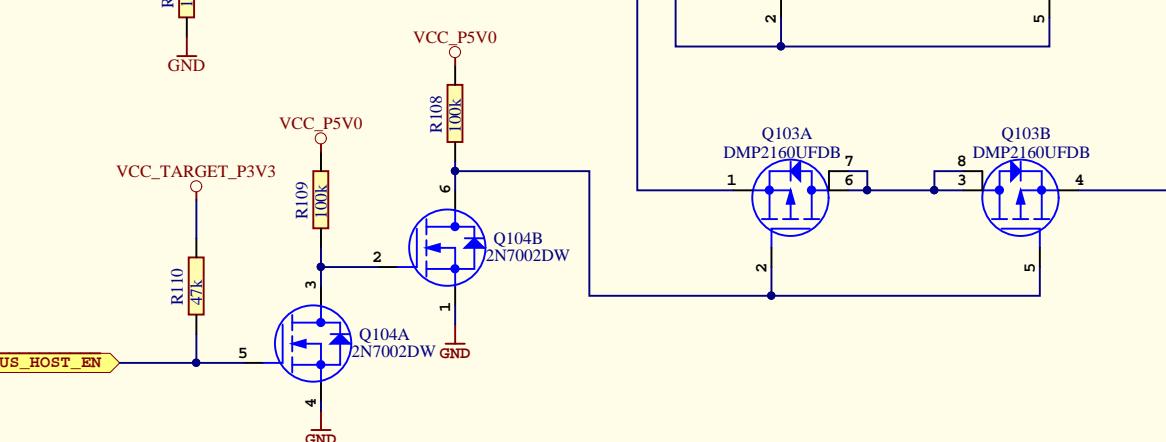


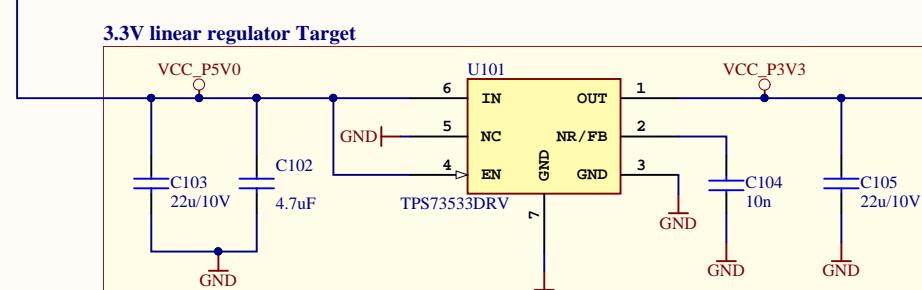
Power multiplexer**3.3V linear regulator EDBG and XAM**

Iout max = 200mA
Accuracy 2%
Low noise: 48 uVRms (10 Hz to 100 kHz)
Dropout 150mV at full load
Quiescent current 55 uA (no load)
Current limit max 860 mA
Thermal shutdown
Minimum capacitance required on output is 0.1uF (with less than 200mOhm ESR)

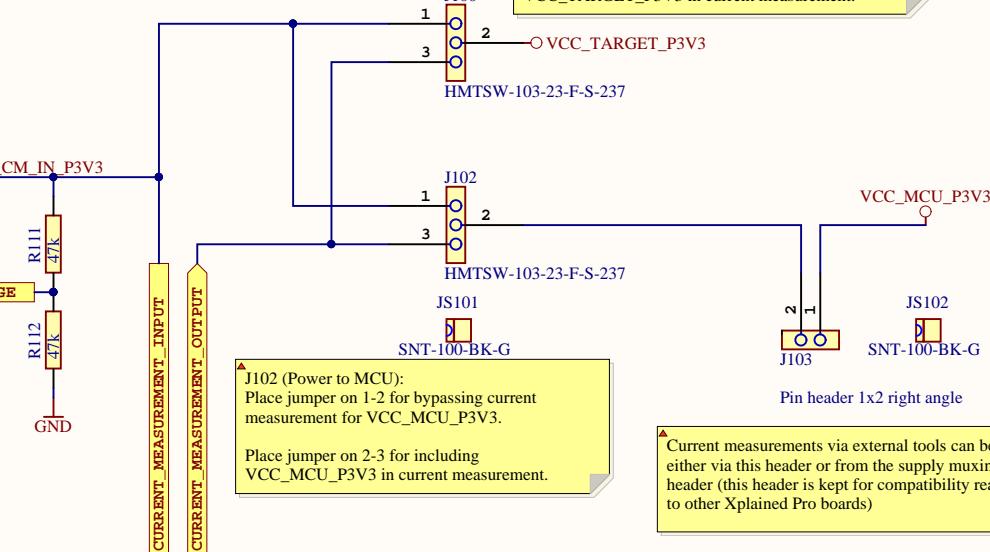


Pulling #VBUS_HOST_EN low will enable power from the board to the USB connector through Q103.
#VBUS_HOST_EN is automatically controlled by the ID pin in the USB cable, the control signal can also be overridden by setting PC19 low.

The target peripheral and the MCU can be powered either directly from the regulator or from the current measurement circuitry (XAM). When powered from the current measurement the supply voltage will vary from 3.3 V to 3.2 V due to voltage drop over the current measurement shunt resistor.

3.3V linear regulator Target

500mA low noise LDO voltage regulator
Noise: 28uVRms
Accuracy 2%
Dropout 280 mV at full load
Quiescent current 46 uA
Current limit 1170 mA
Thermal shutdown



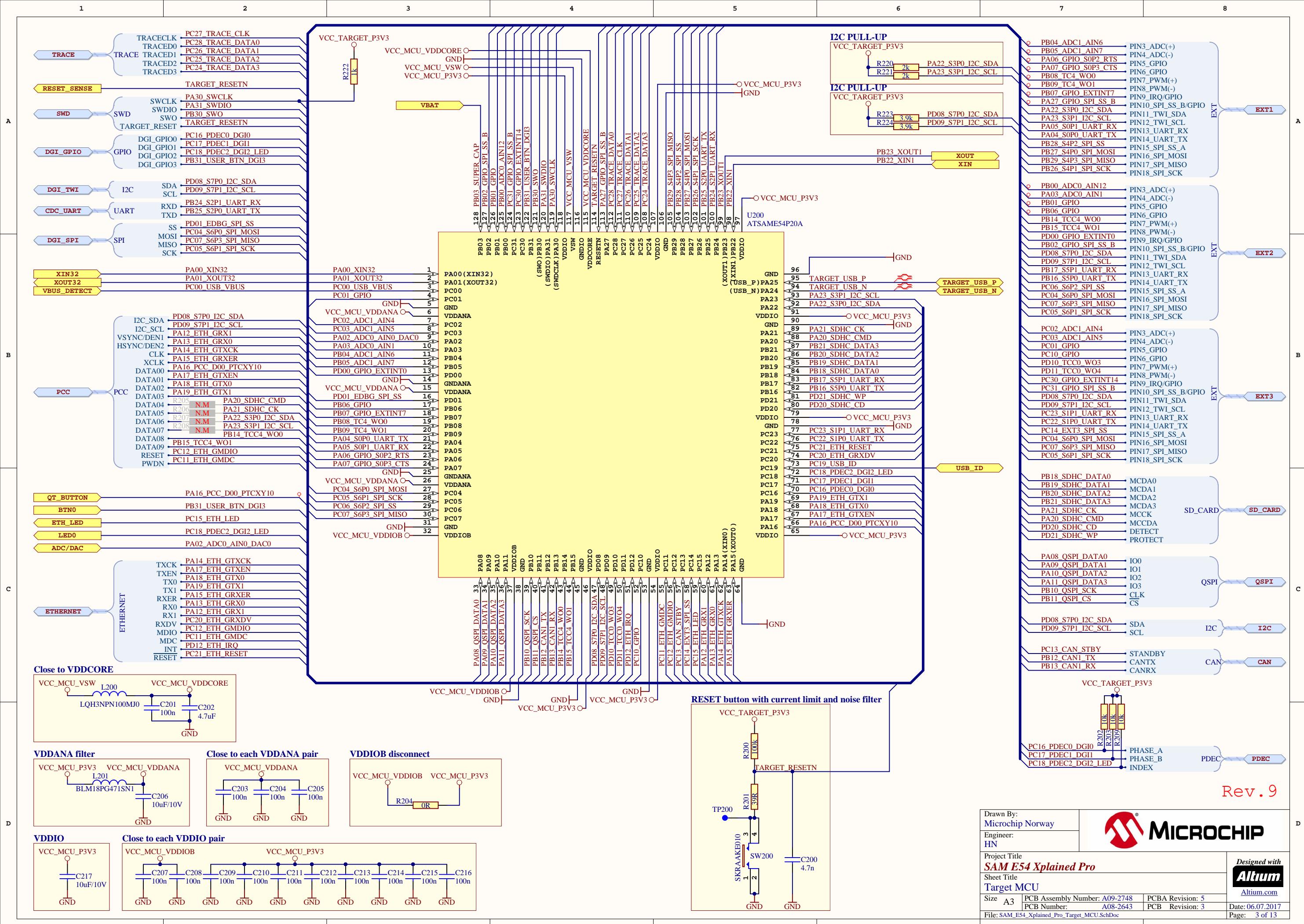
J101 (Power to peripherals): Place jumper on 1-2 for bypassing current measurement for VCC_TARGET_P3V3.
Place jumper on 2-3 for including VCC_TARGET_P3V3 in current measurement.

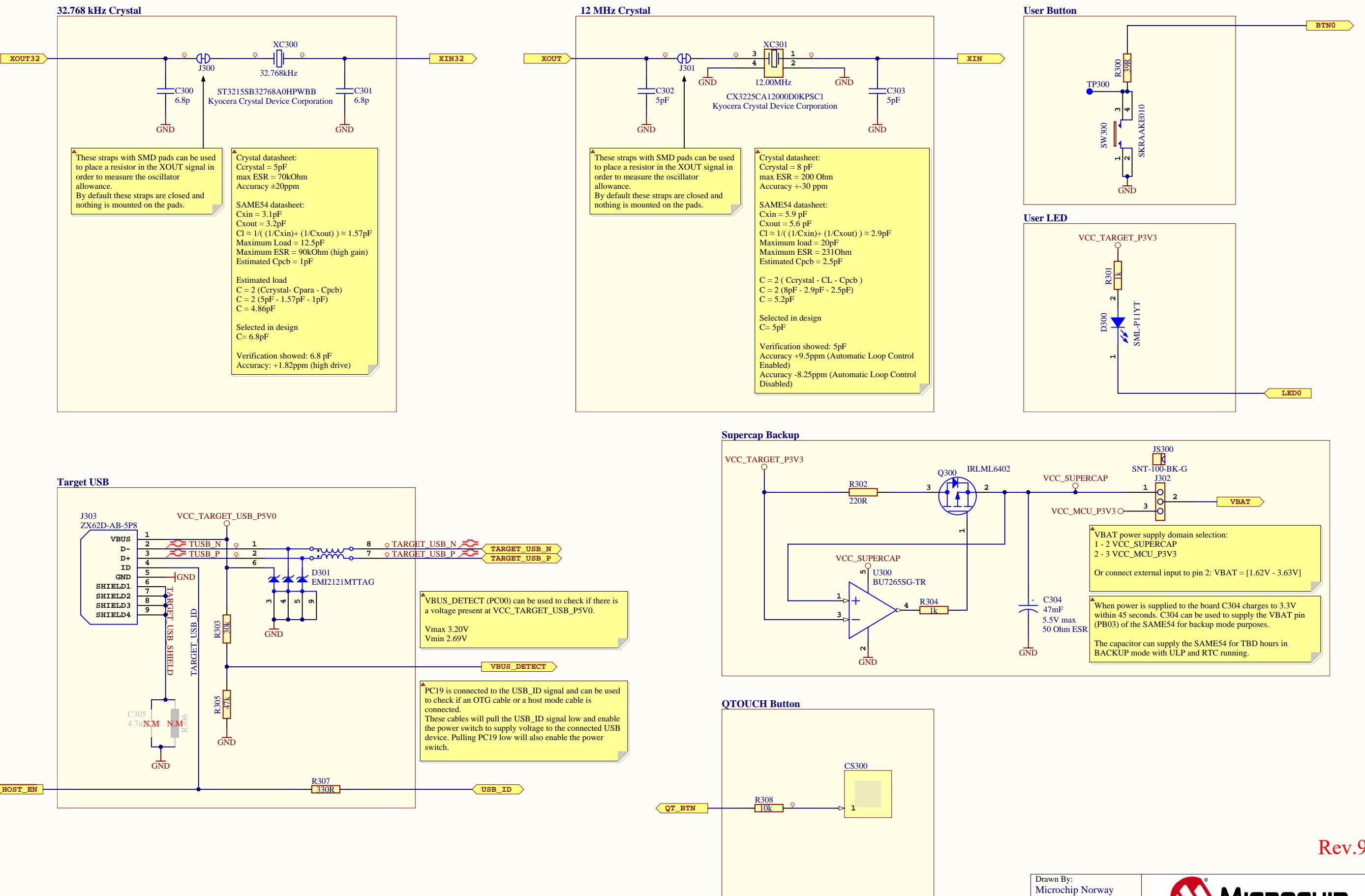
J100 SNT-100-BK-G
J101 SNT-100-BK-G
J102 SNT-100-BK-G
JS101 SNT-100-BK-G
JS102 SNT-100-BK-G

Pin header 1x2 right angle

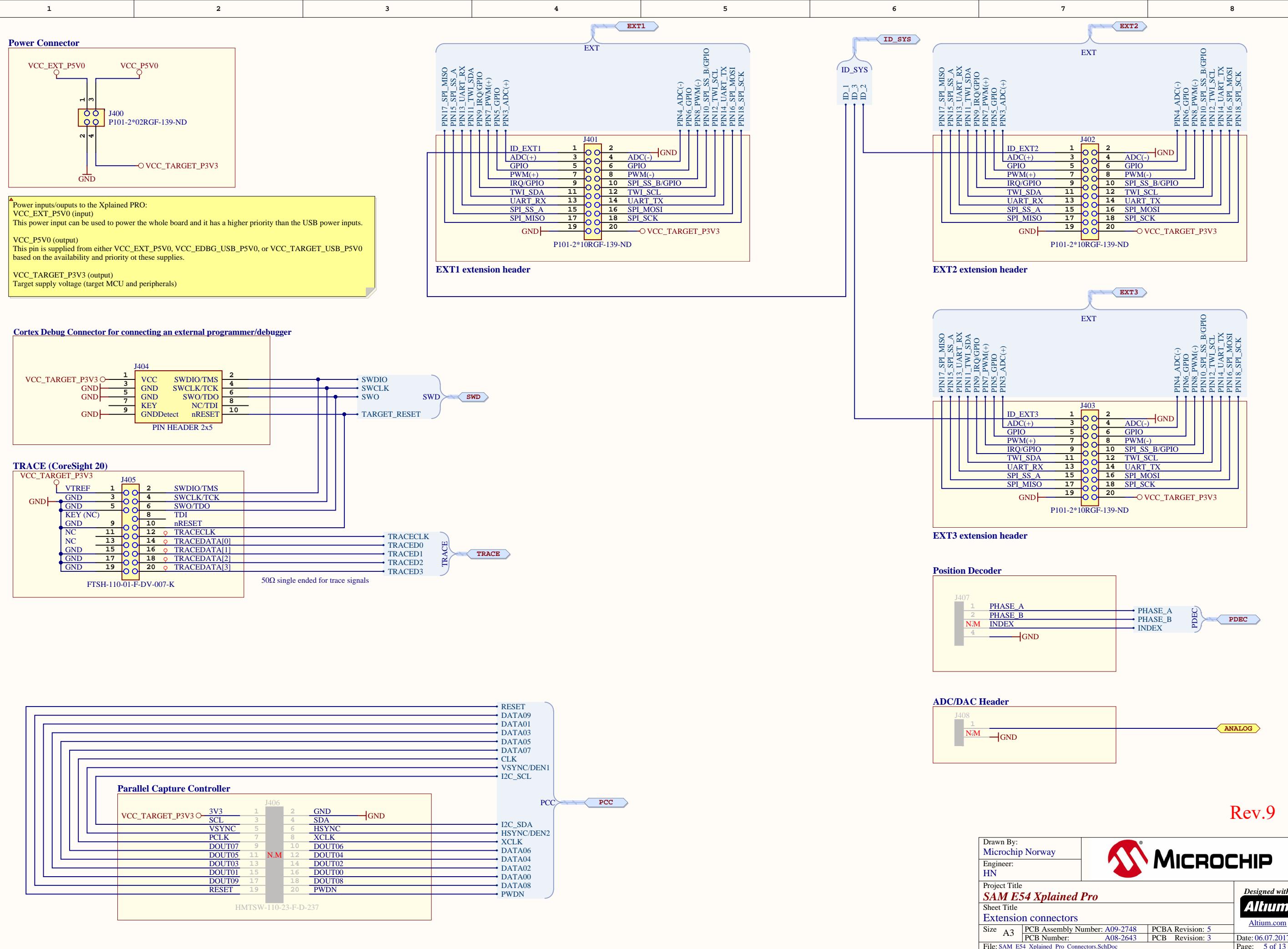
Current measurements via external tools can be done either via this header or from the supply muxing header (this header is kept for compatibility reasons to other Xplained Pro boards)

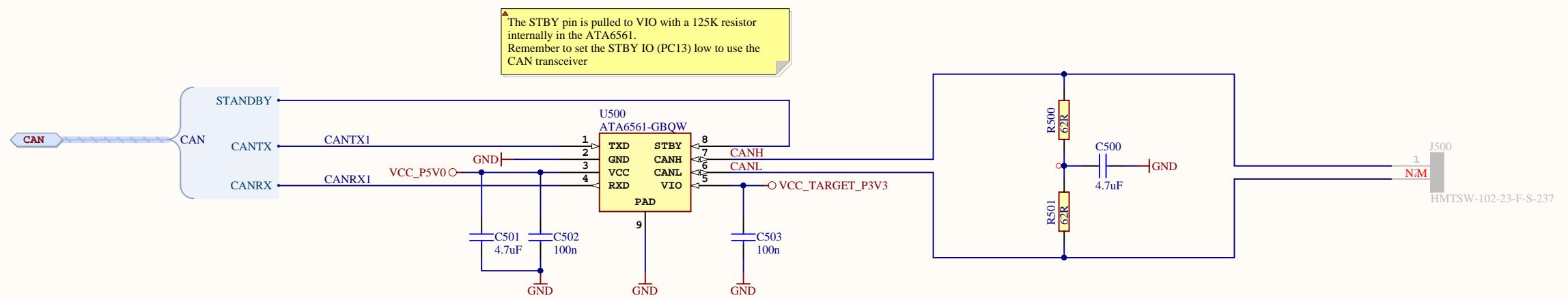
Rev.9





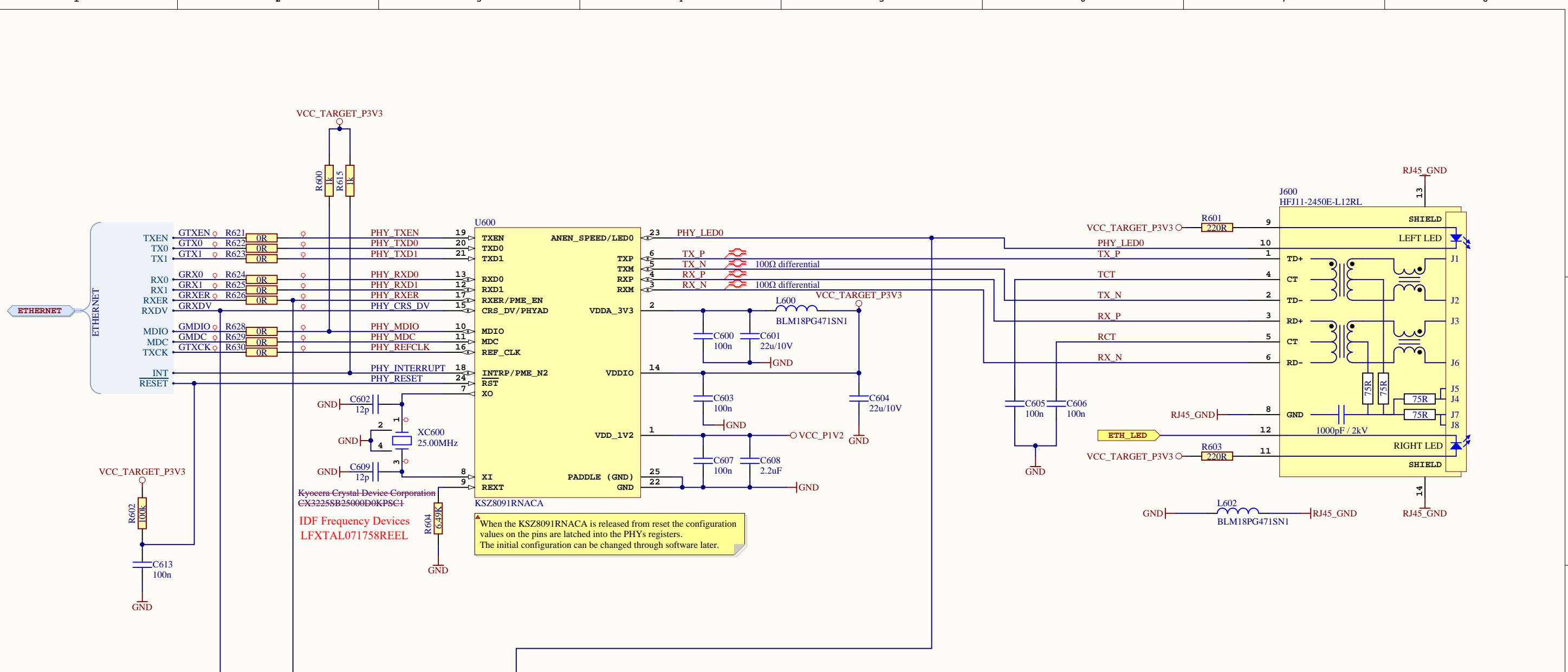
Rev.9





Rev.9

Drawn By: Microchip Norway	 MICROCHIP
Engineer: HN	
Project Title SAM E54 Xplained Pro	Designed with Altium Altium.com
Sheet Title CAN	
Size A3	PCB Assembly Number: A09-2748
	PCB Number: A08-2643
	PCB Revision: 5
	Date: 06.07.2017
	File: SAM_E54_Xplained_Pro_CAN.SchDoc
	Page: 6 of 13

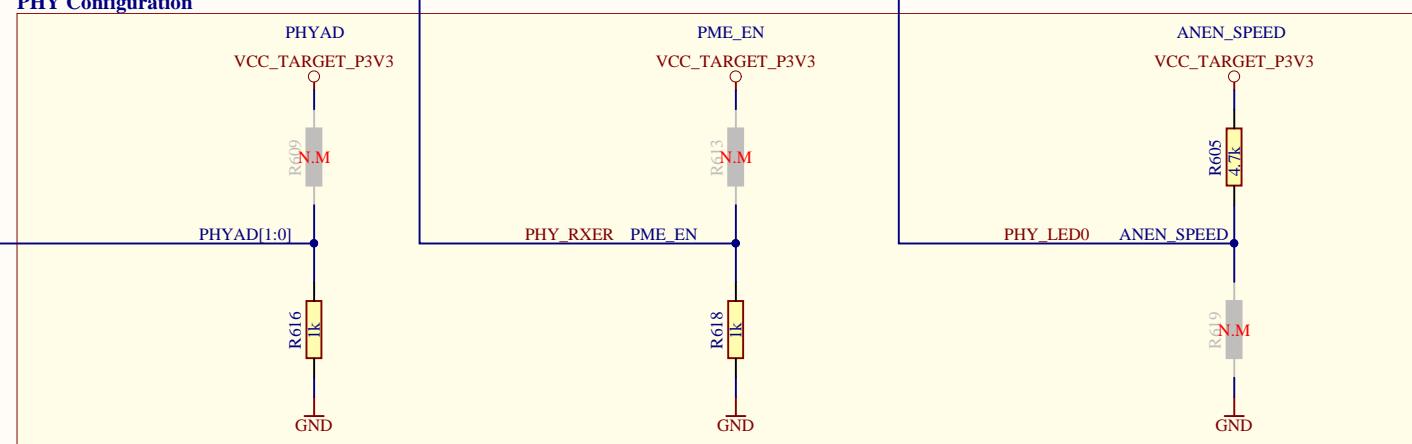


▲ PHYAD[1:0] is used to set the PHYs address:
Pull-up = 0001b (3h)
Pull-down (default) = 0000b (0h)

▲ PME_EN is used to set PME output for Wake-On-LAN:
Pull-up = Enable
Pull-down (default) = Disable

▲ ANEN_SPEED is used to Auto-Negotiation and Speed Mode
Pull-up (default) = Enable Auto-Negotiation and set 100Mbps speed
Pull-down = Disable Auto-Negotiation and set 10Mbps speed

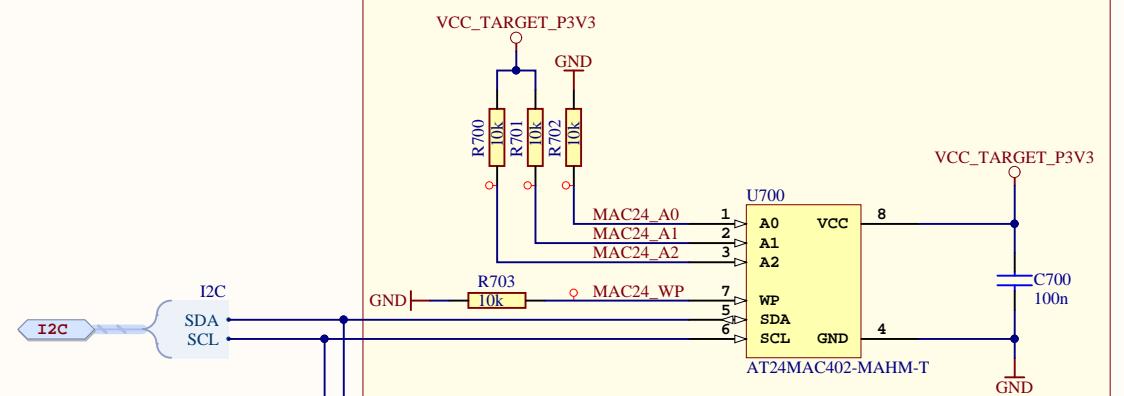
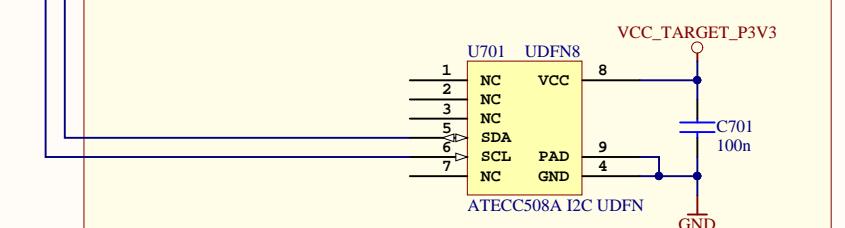
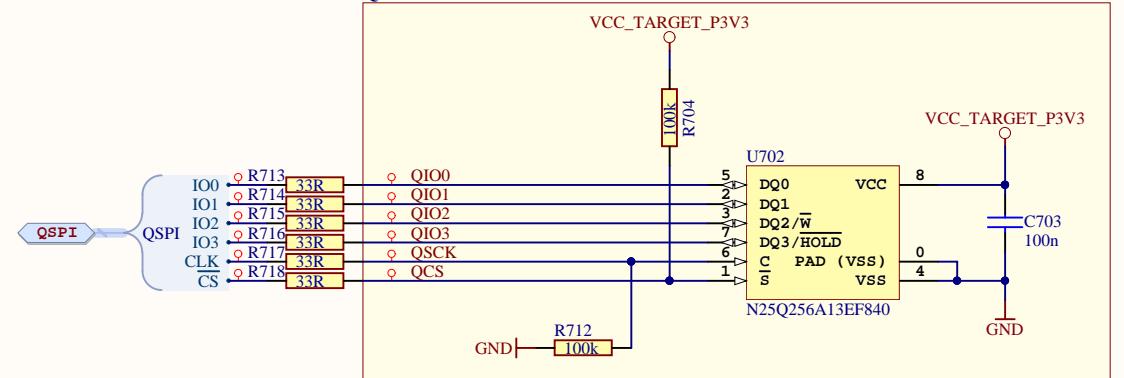
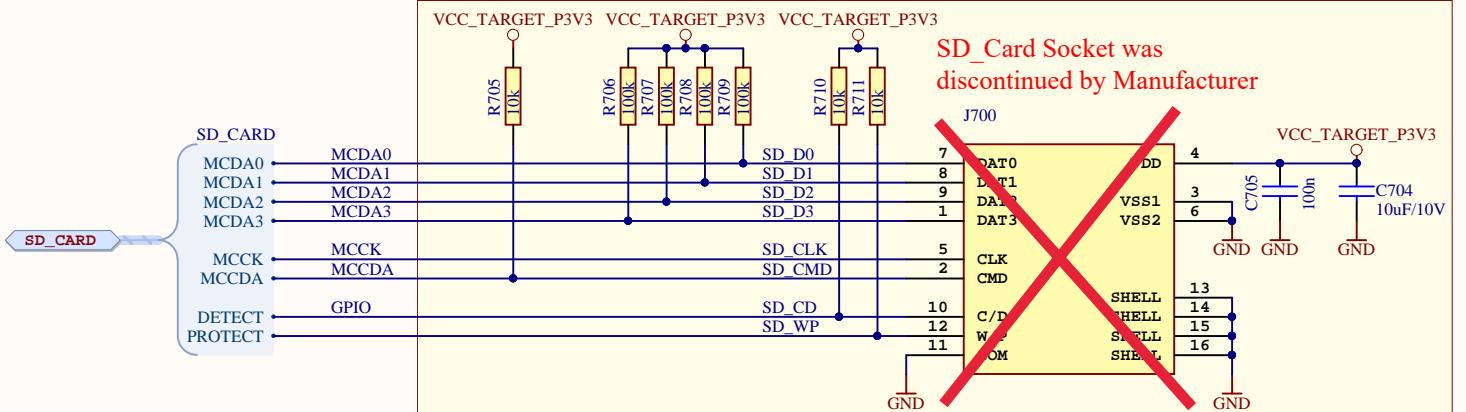
PHY Configuration



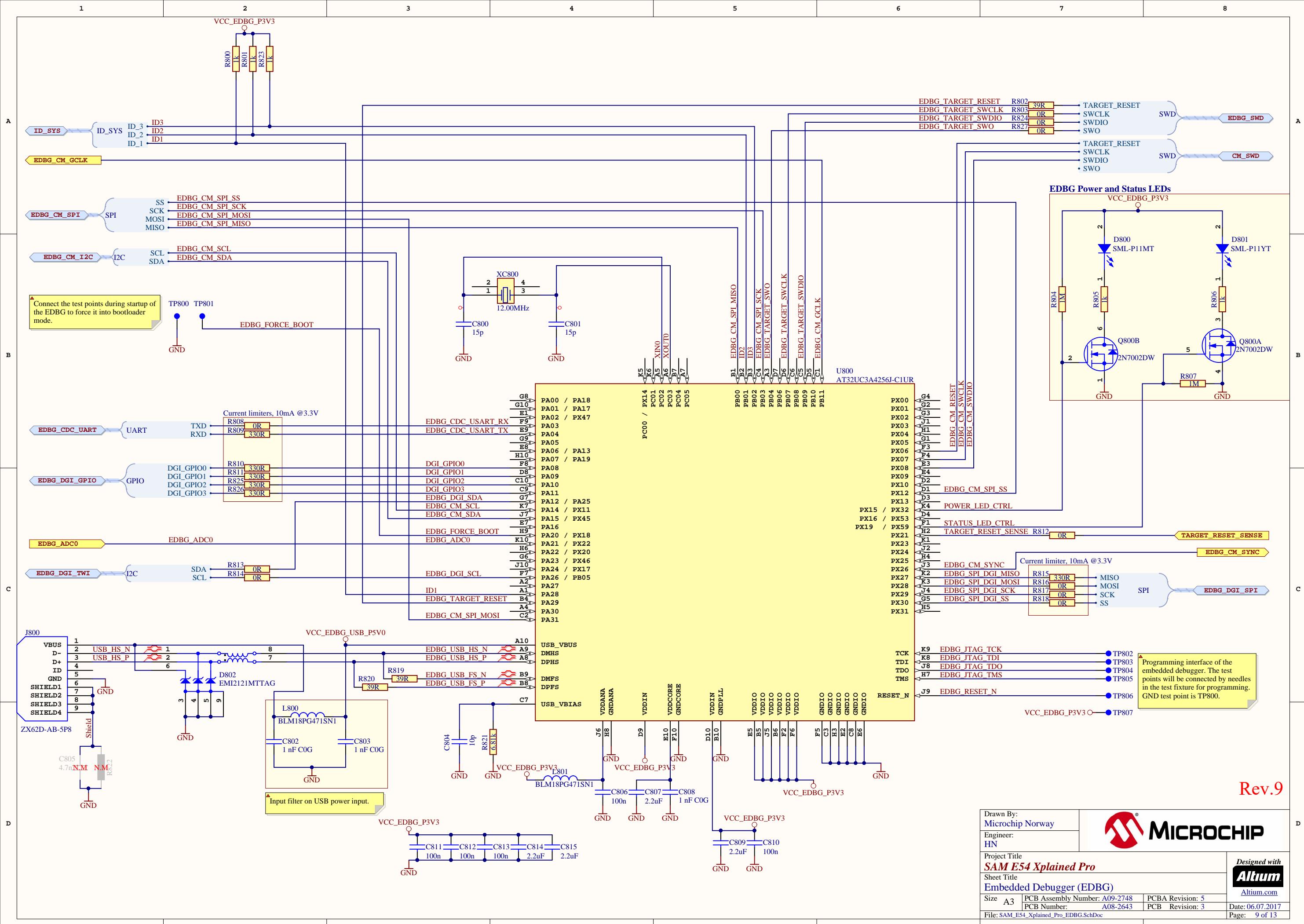
Rev.9

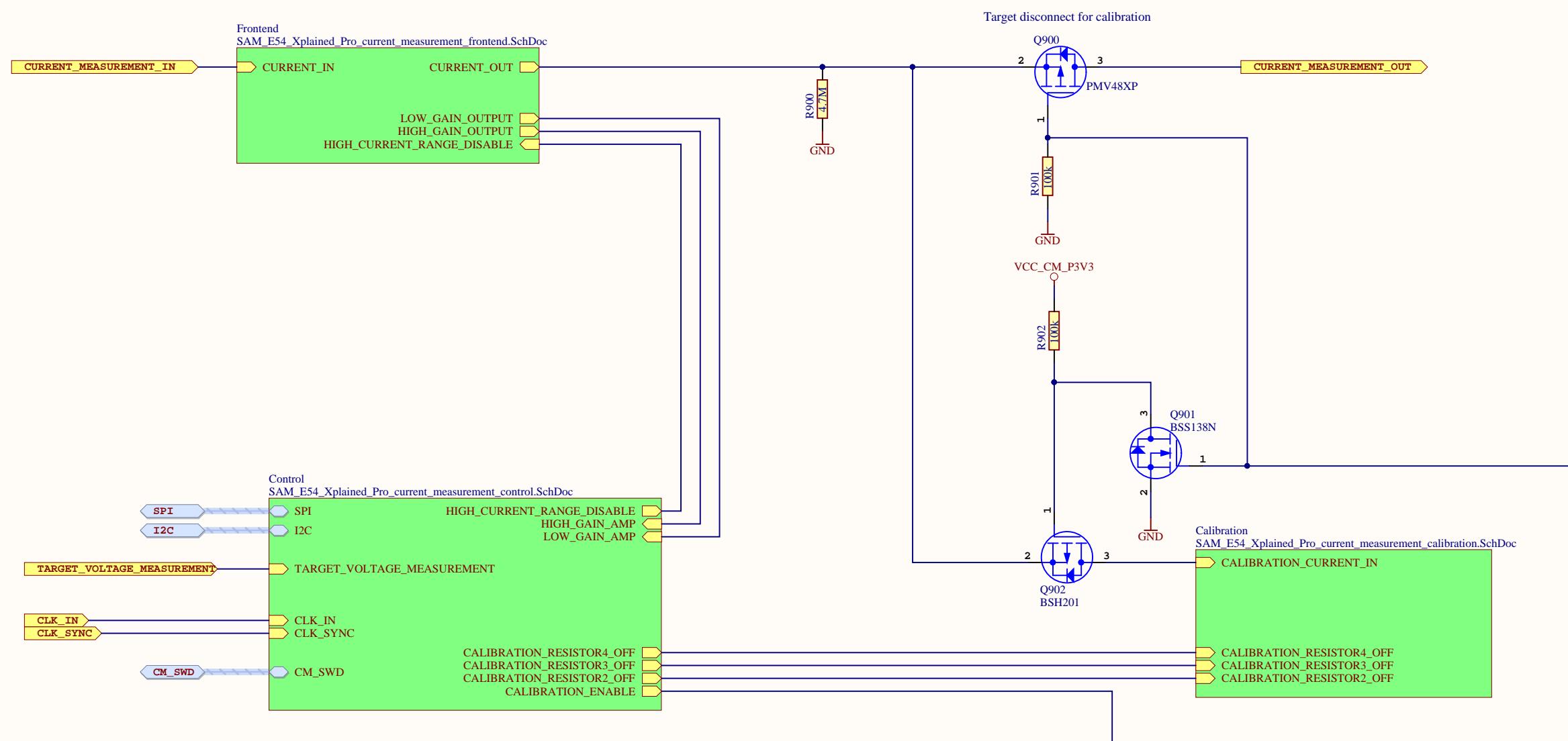
Drawn By: Microchip Norway	MICROCHIP
Engineer: HN	
Project Title SAM E54 Xplained Pro	
Sheet Title Ethernet	
Size A3	PCB Assembly Number: A09-2748
	PCB Number: A08-2643
	PCB Revision: 5
File: SAM_E54_Xplained_Pro_Ethernet.SchDoc	Date: 06.07.2017
	Page: 7 of 13

Designed with
Altium
Altium.com

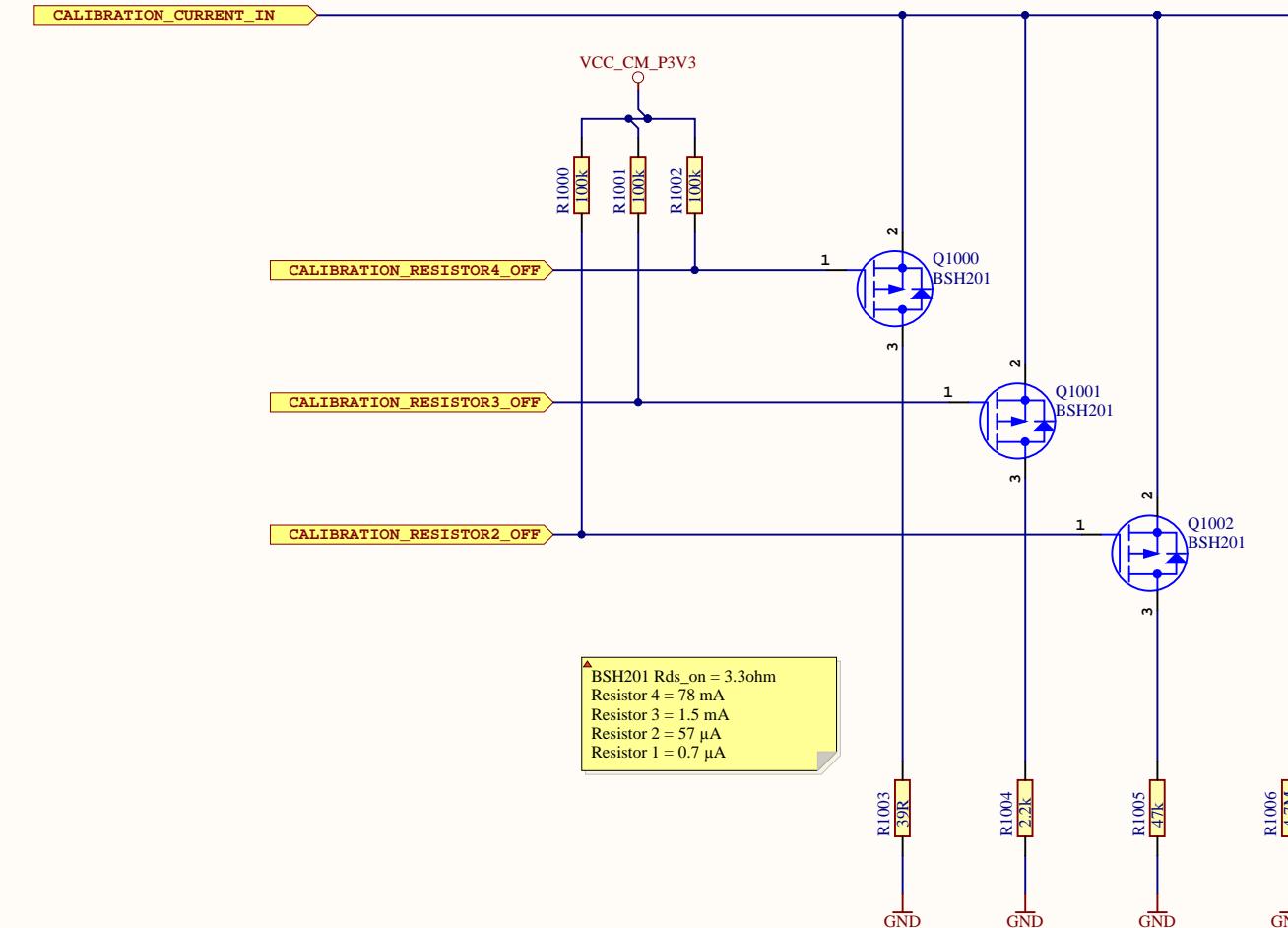
Serial EEPROM with EIA-48 MAC address**ATECC508 Crypto****QSPI Flash****SD-CARD**

Rev.9



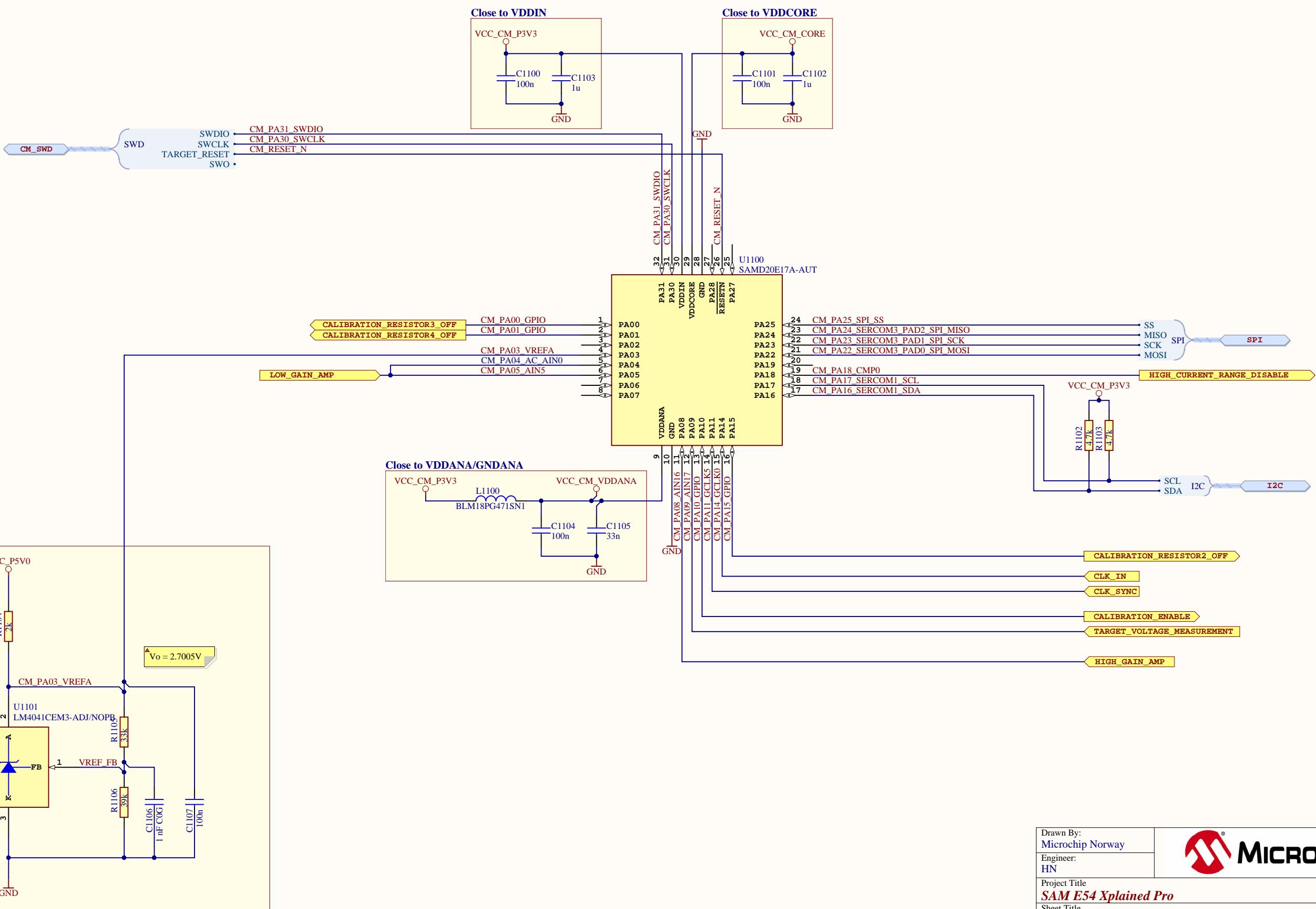


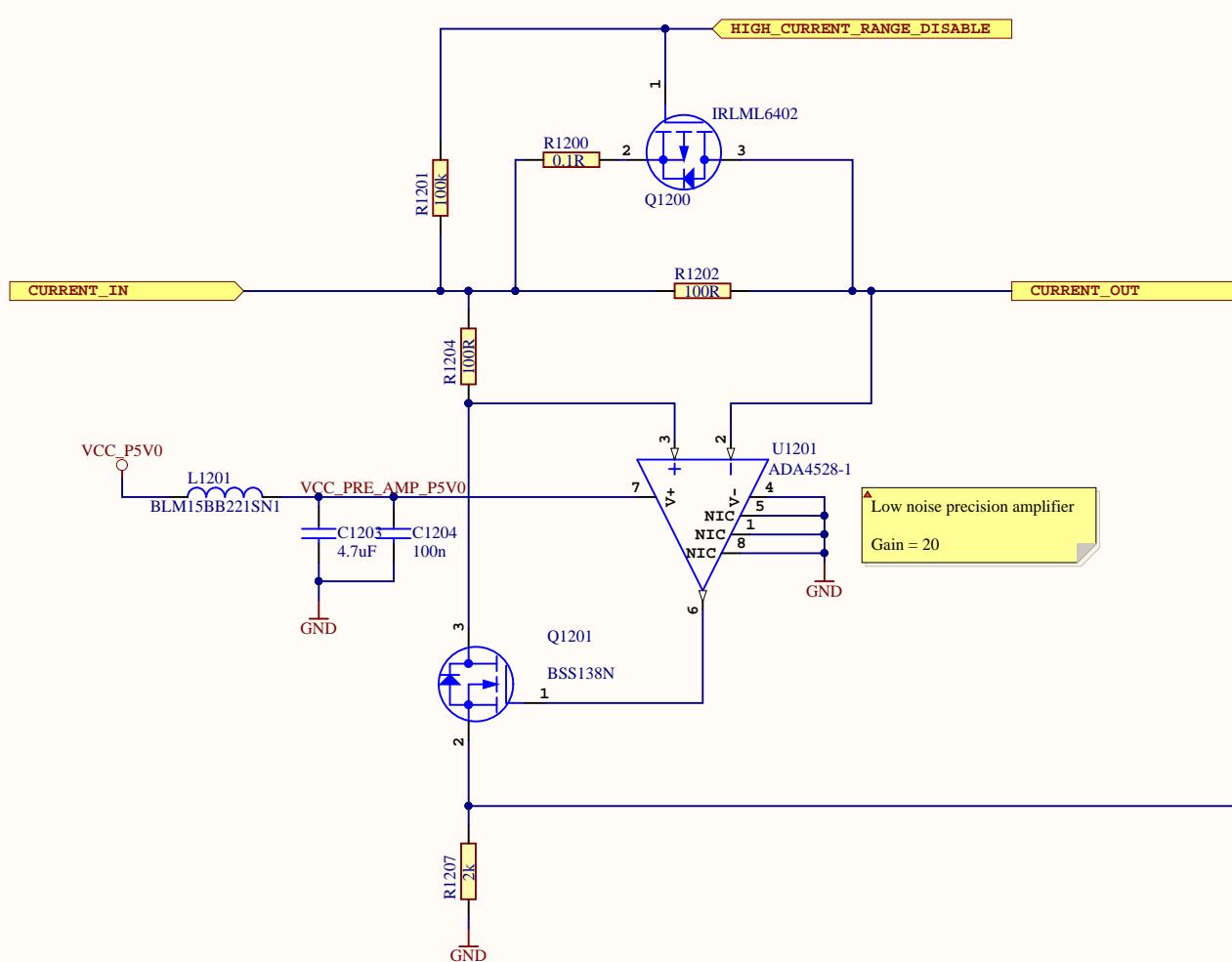
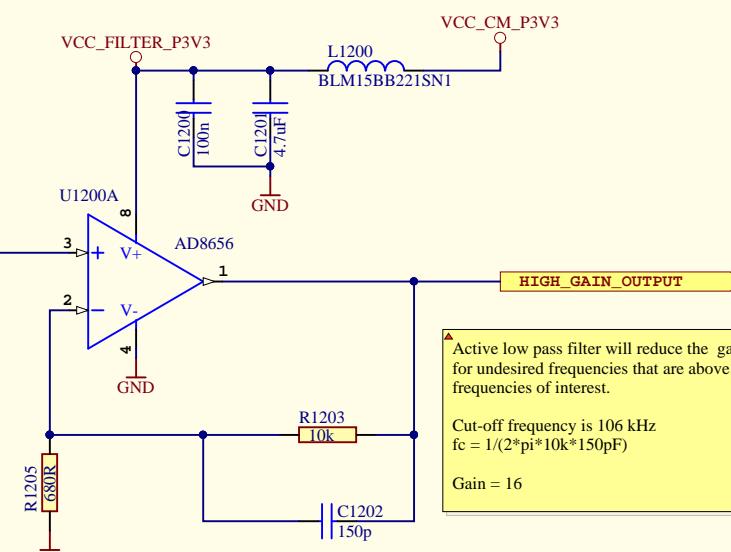
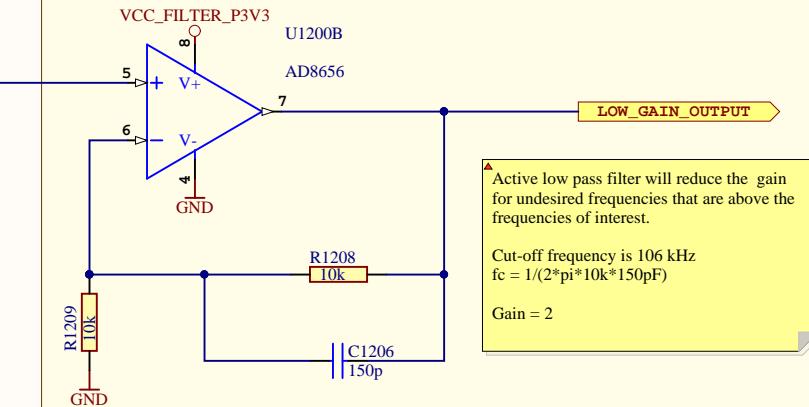
Rev.9



Rev.9

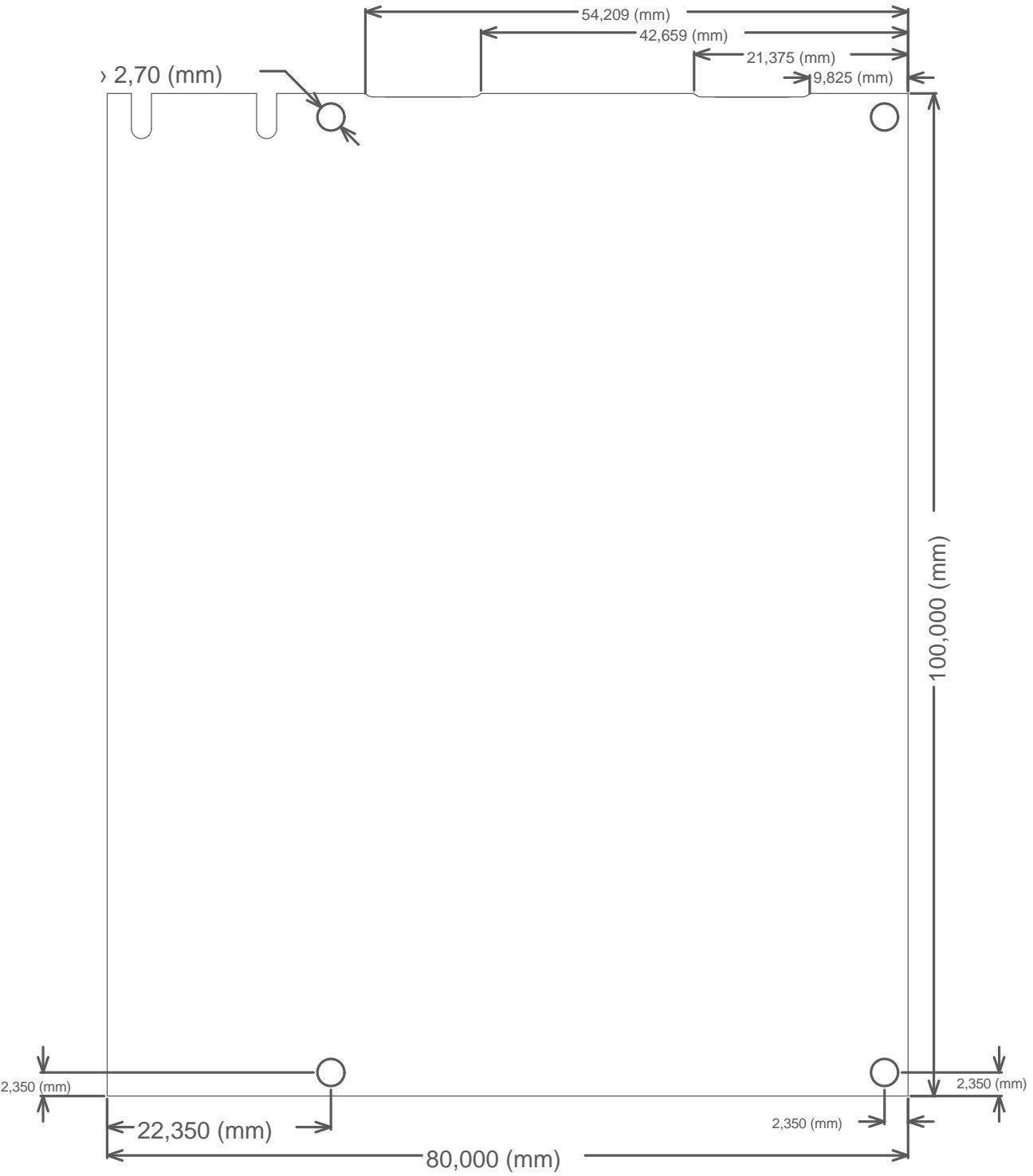
Drawn By: Microchip Norway	 MICROCHIP	
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Current measurement calibration		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
	Date: 06.07.2017	
	File: SAM_E54_Xplained_Pro_current_measurement_calibration.SchDoc	Page: 11 of 13



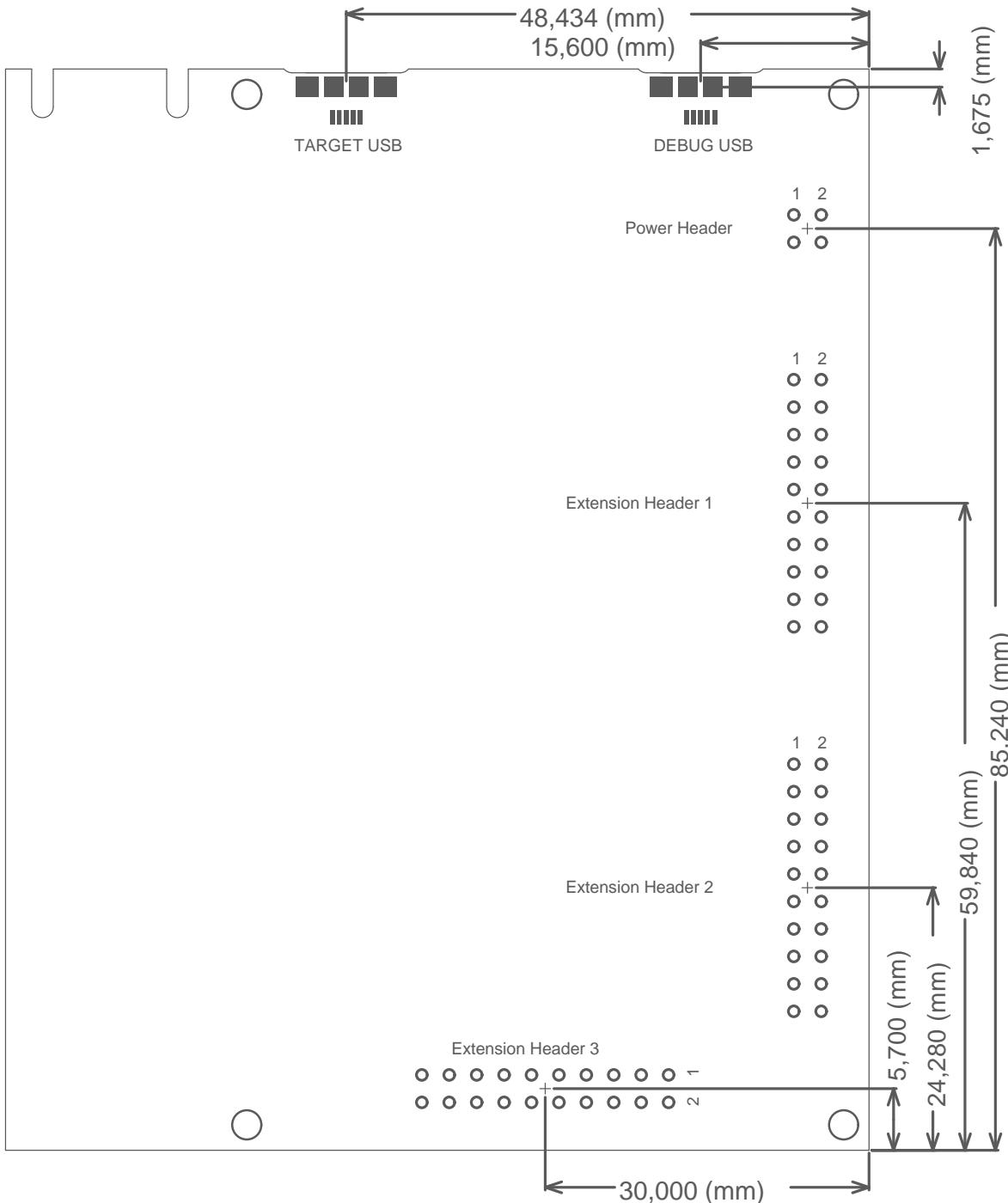
**Active low pass filter with gain****Active low pass filter with gain**

Rev. 9

Mechanical Dimensions



Connector Placement



GND

POWER DB00
STATUS DB01

PWR

J400

5.0V_IN GND 1
5.0V VCC 3
SAME54 SWD DEBUG

J404

1 2 EXT1

+
19 20

J401

ADC

DAC

GND

1 2 EXT2

+

J402

GND



MICROCHIP

SAME54 X PLAINED PRO

