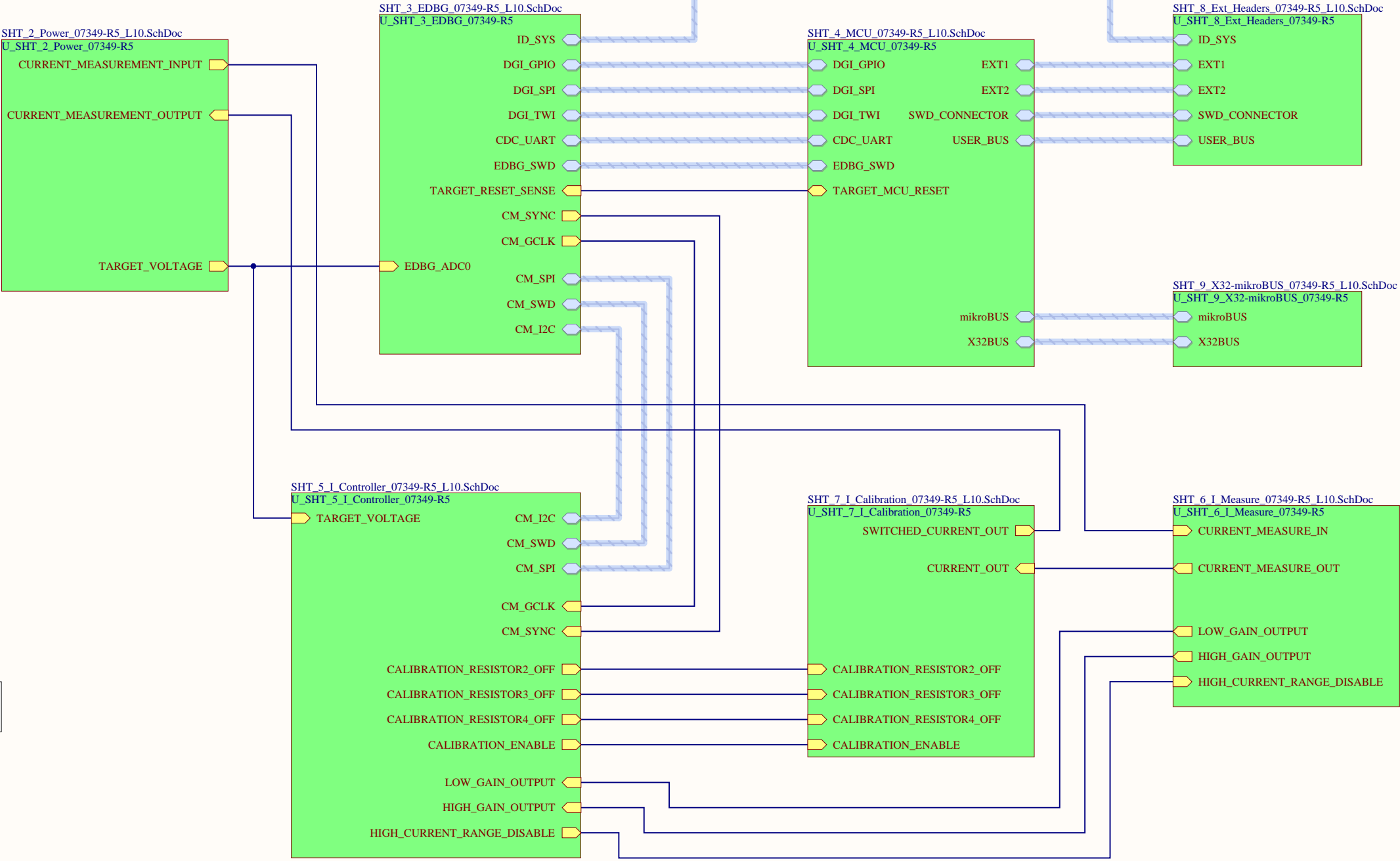
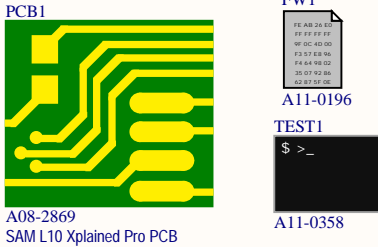
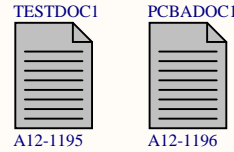
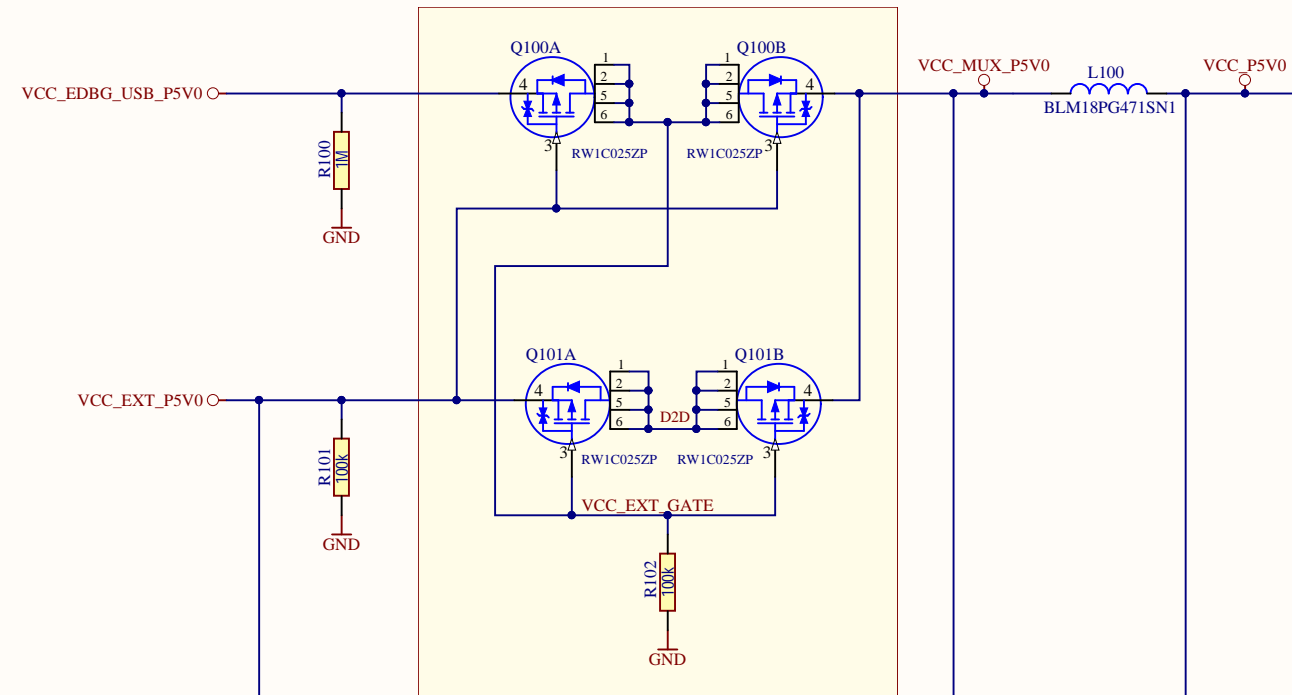


Label PCBA

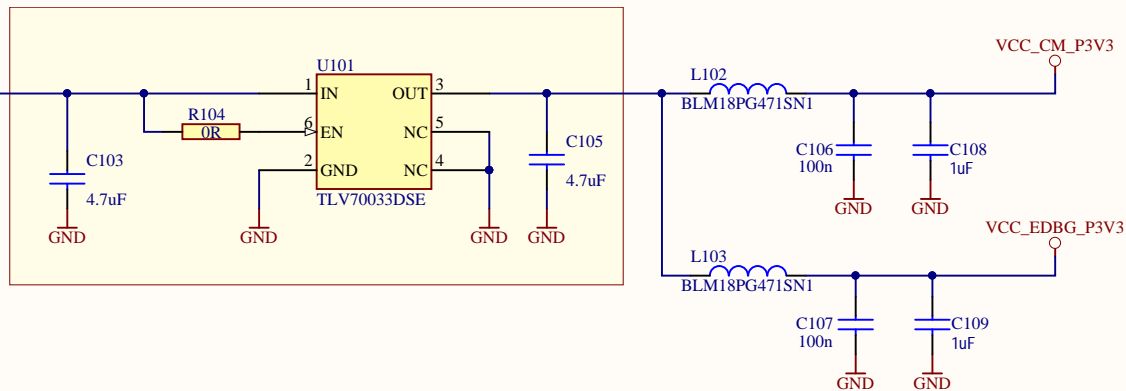


Drawn By: Roger Hathaway		MICROCHIP	
Engineer: Roger Hathaway			
PartNumber: 07-07349_L10		Project Title SAM L10 Xplained Pro	
Sheet Title Top Level Block Diagram			
Size B	Sch #03-07349_L10 Revision:5	Date: 7/6/2018 2:34:31 PM Sheet 1 of 9	Designed with Altium Altium.com
File: SHT_1_Top Level_07349-R5_L10.SchDoc			

Power Multiplexer



3.3V linear regulator EDBG and CM

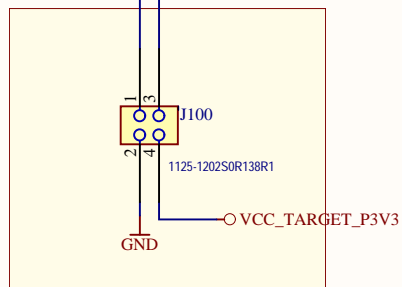


▲ Iout max = 200mA
 Accuracy 2%
 Low noise: 48 uVrms (10 Hz to 100 kHz)
 Dropout 150mV at full load
 Quiescent current 55 uA (no load)
 Current limit max 860 mA
 Thermal shutdown
 Minimum capacitance required on output is 0.1uF (with less than 200mOhm ESR)

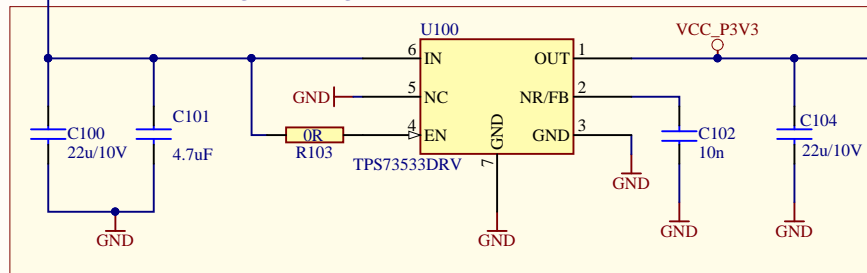
▲ Power supply muxing
 The target peripheral and the MCU can be powered either directly from the regulator or from the current measurement circuitry. When powered from the current measurement the supply voltage will vary from 3.3 V to 3.2 V due to the voltage drop over the current measurement shunt resistor.

▲ 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.

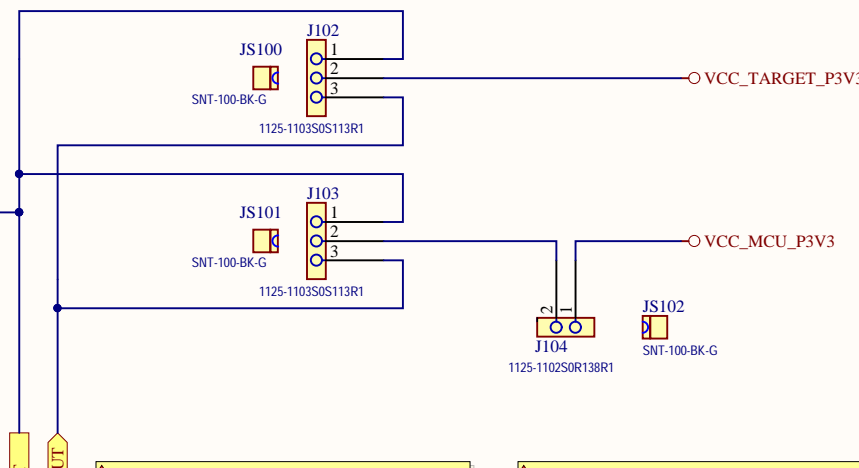
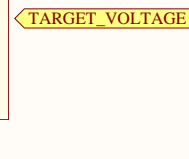
Power Connector



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

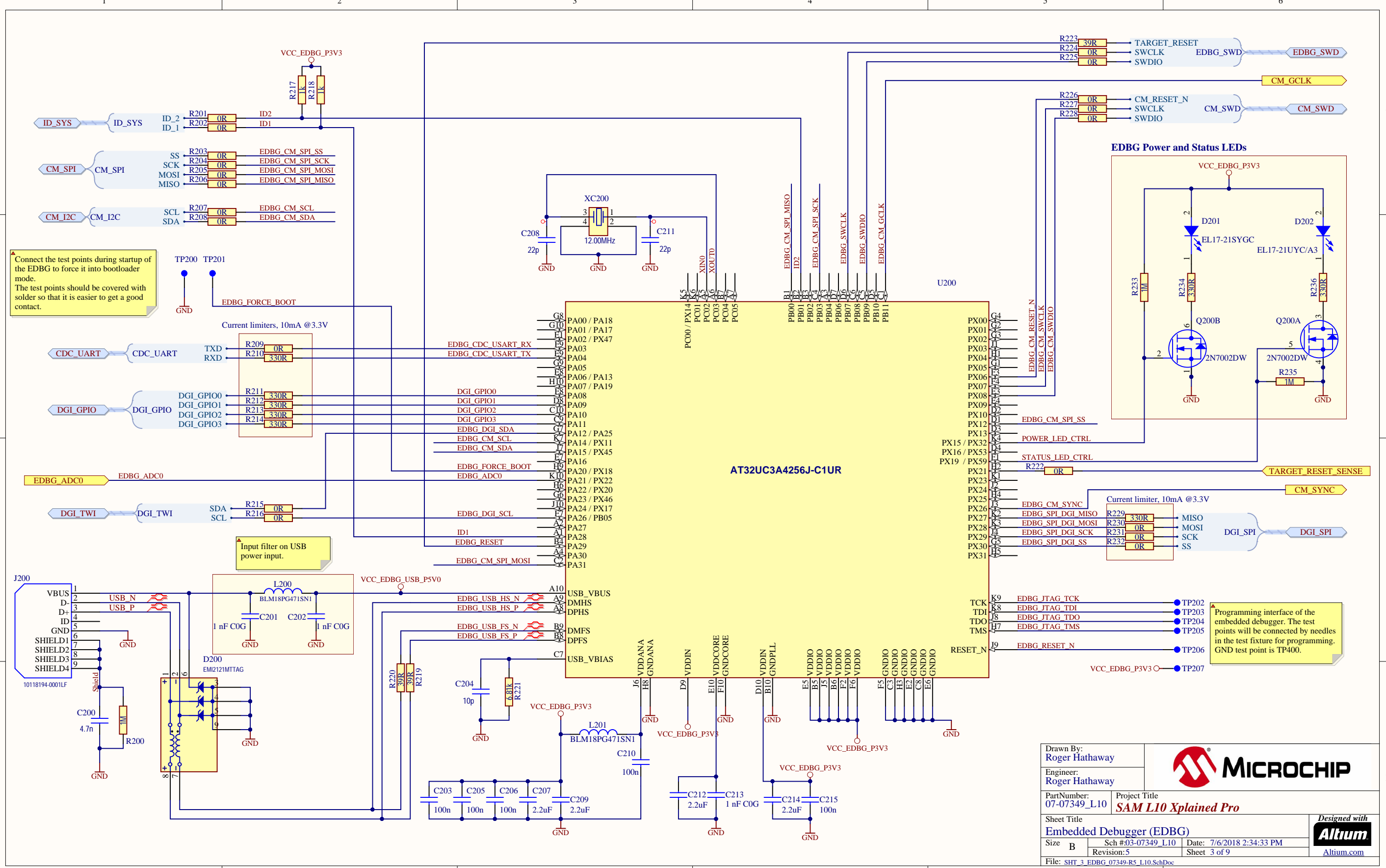


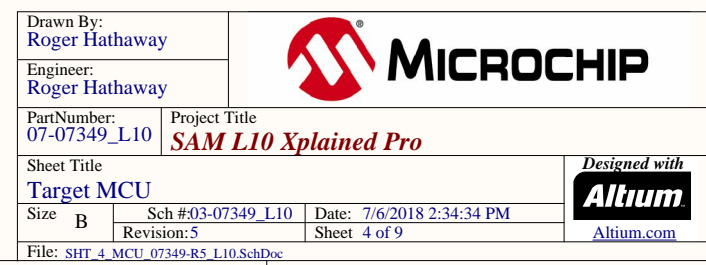
▲ J102 (Power to MCU):
 Place jumper on 1-2 for bypassing current measurement for VCC_MCU_P3V3.
 Place jumper on 2-3 for including VCC_MCU_P3V3 in current measurement.

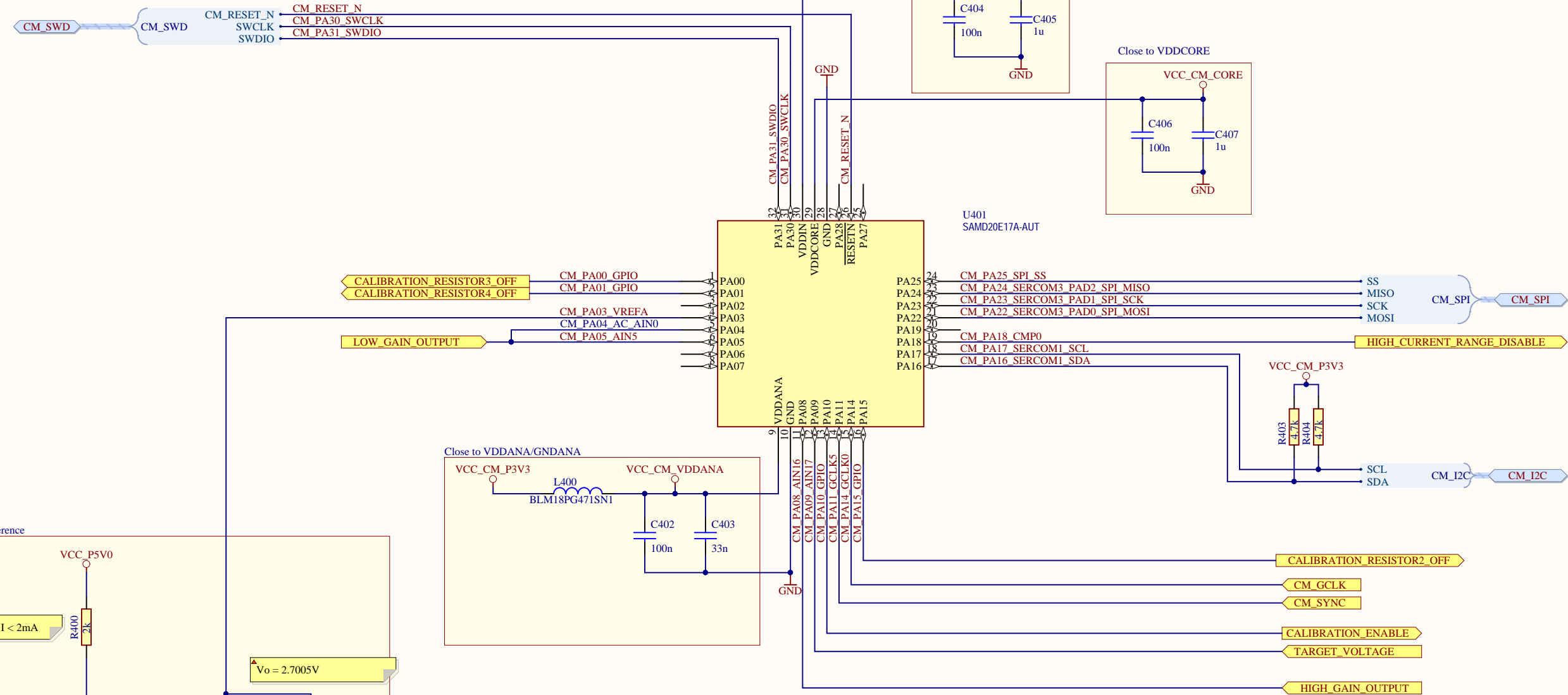
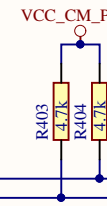
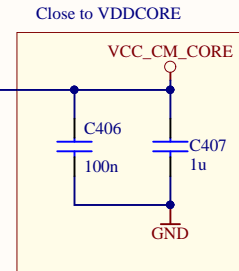
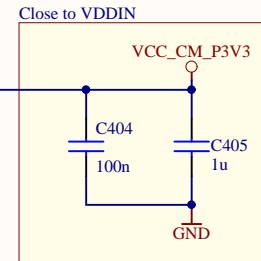
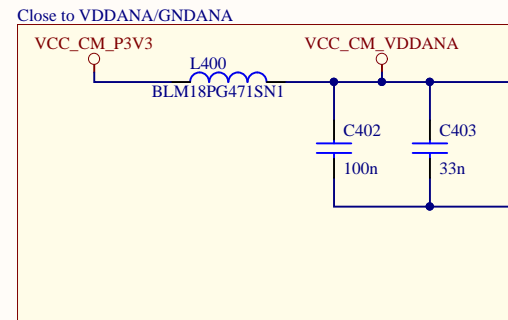
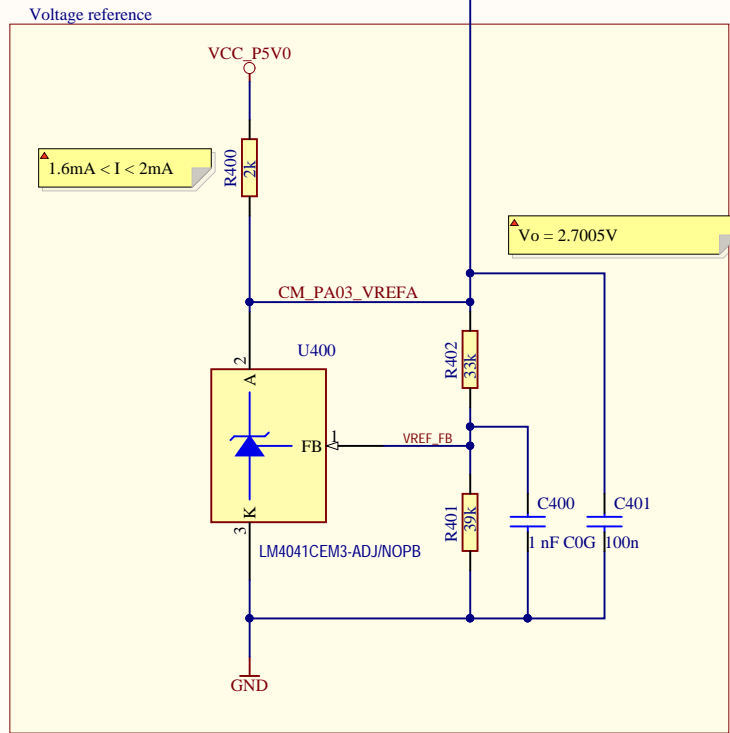
▲ Current measurements via external tools can be done either via this header or from the supply muxing header (this header is kept for compatibility reasons to the other Xplained Pro boards)

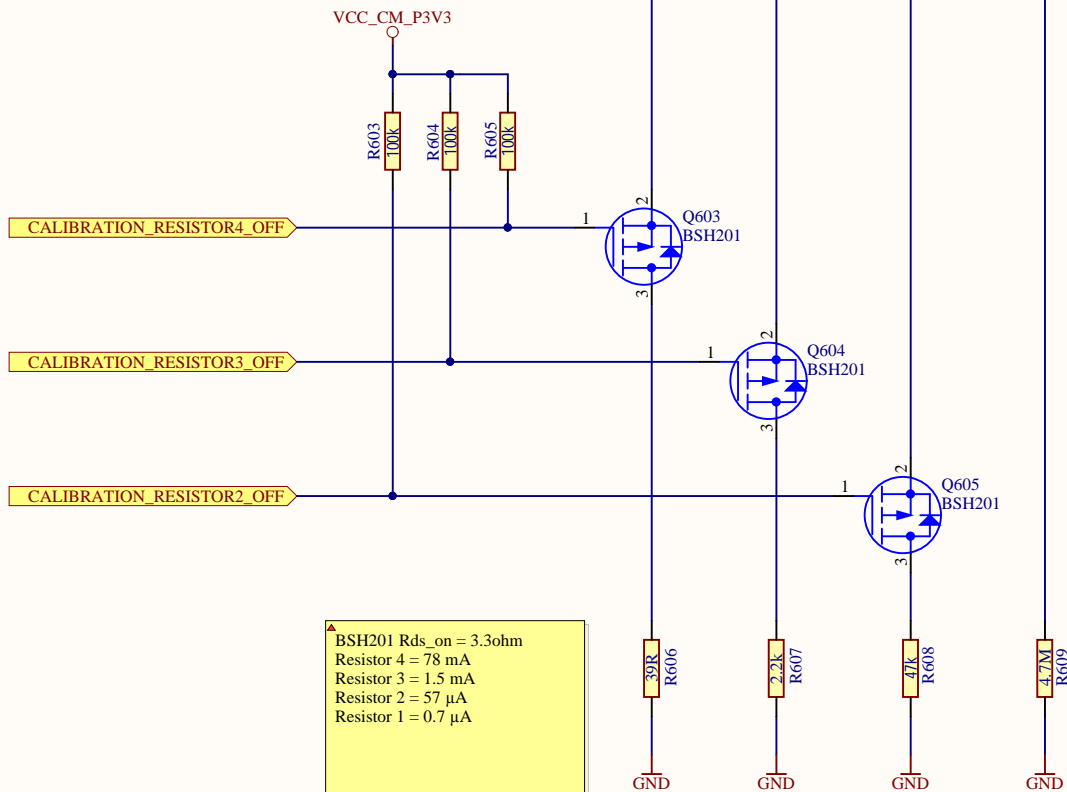
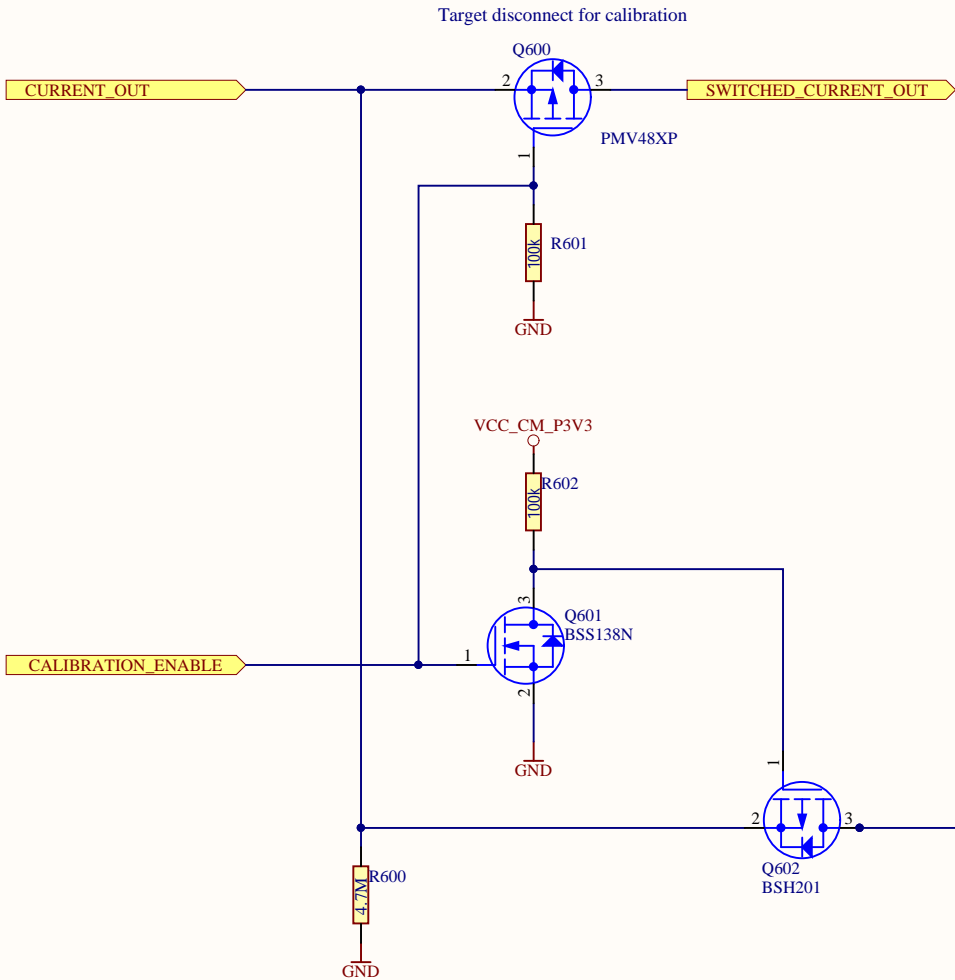
▲ Power inputs/outputs to the Xplained PRO:
 VCC_EXT_P5V0 (input)
 This power input can be used to power the whole board and it has a higher priority as the USB power input.
 VCC_P5V0 (output)
 This supply is connected to either VCC_EXT_P5V0 or VCC_EDBG_USB_P5V0, based on the availability and priority of these supplies.
 VCC_TARGET_P3V3 (output)
 Target supply voltage (target MCU and peripherals)

Drawn By: Roger Hathaway	
Engineer: Roger Hathaway	
PartNumber: 07-07349_L10	Project Title SAM L10 Xplained Pro
Sheet Title Input Source Select and Power Supplies	Designed with
Size B	Sch #03-07349_L10 Revision:5
Date: 7/6/2018 2:34:32 PM	Sheet 2 of 9
File: SHT_2_Power_07349-R5_L10.SchDoc	

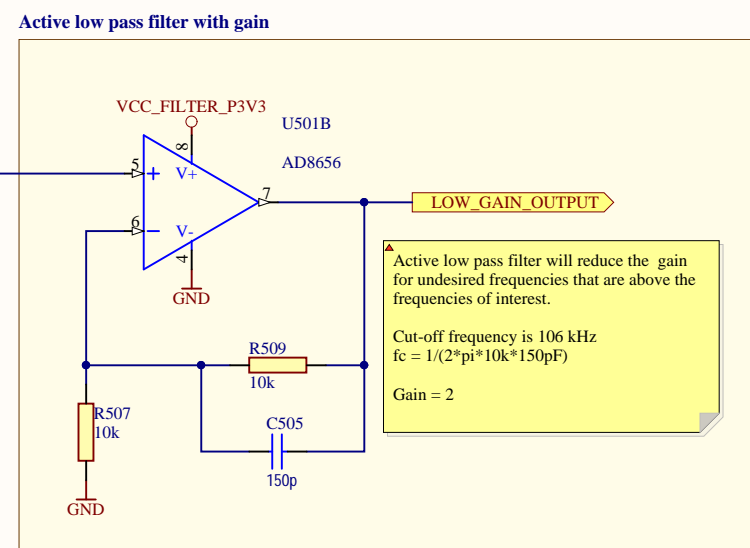
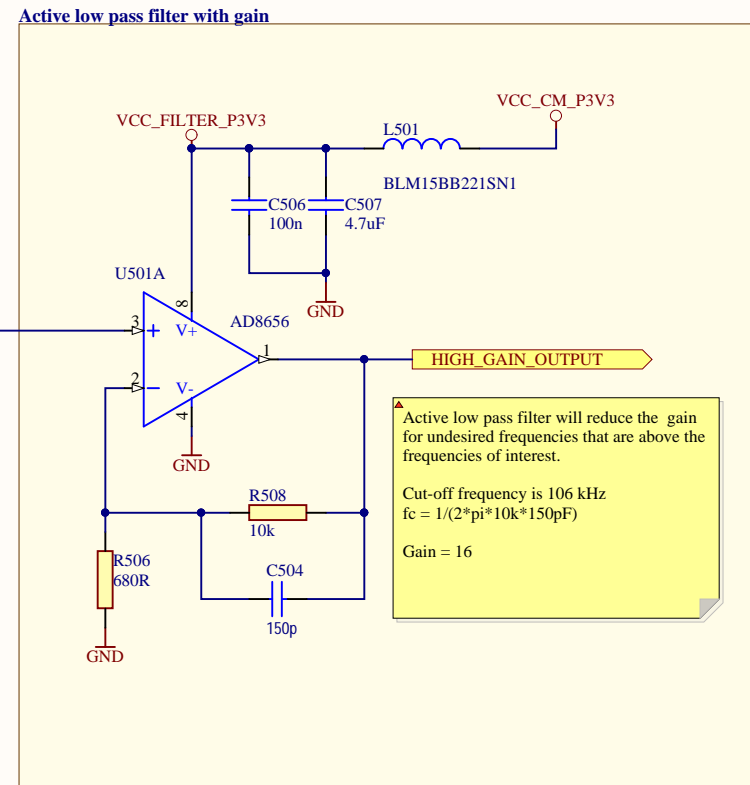
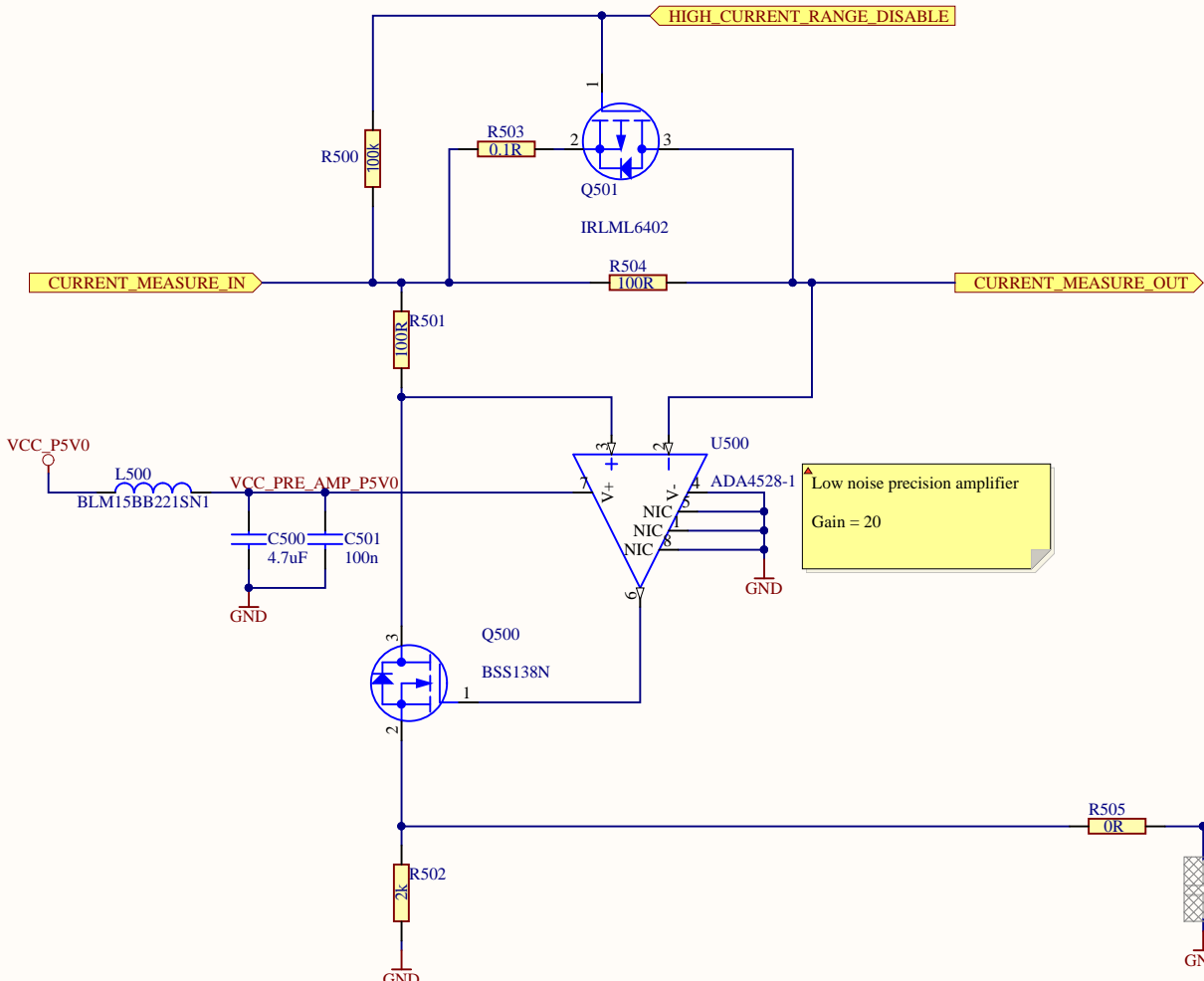






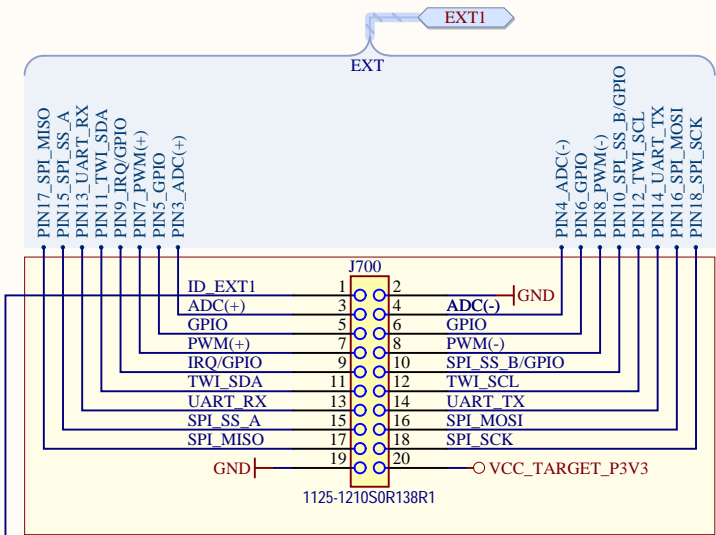




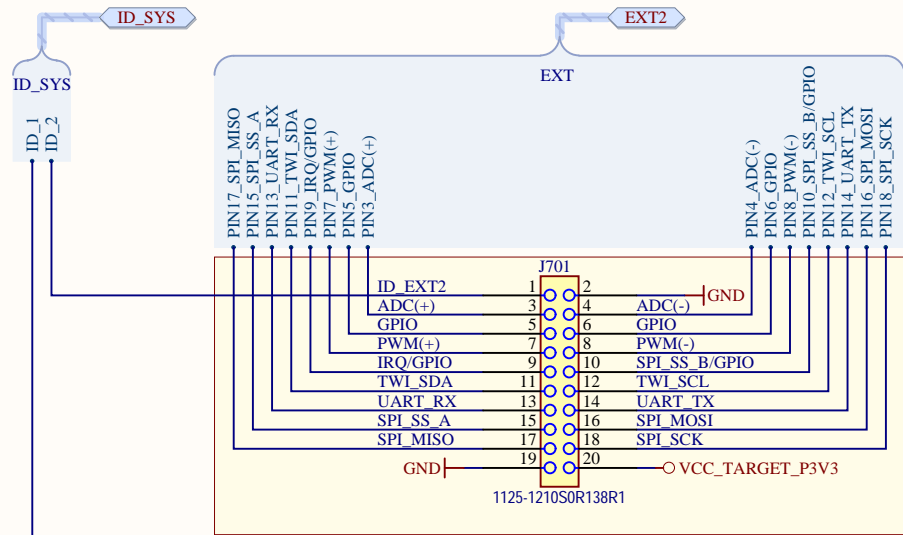
BSH201 Rds_on = 3.3ohm
Resistor 4 = 78 mA
Resistor 3 = 1.5 mA
Resistor 2 = 57 μ A
Resistor 1 = 0.7 μ A



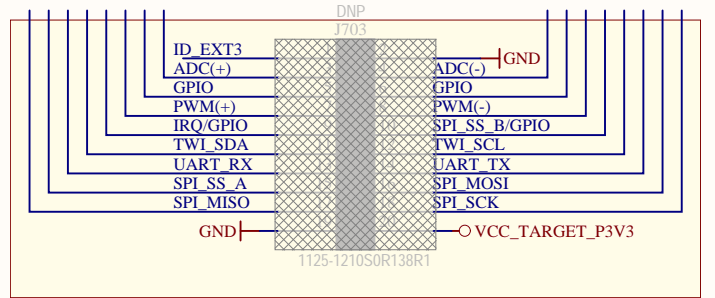
Drawn By: Roger Hathaway			
Engineer: Roger Hathaway			
PartNumber: 07-07349_L10		Project Title SAM L10 Xplained Pro	
Sheet Title Current Measurement Front End			
Size B	Sch #03-07349_L10	Date: 7/6/2018 2:34:36 PM	 Altium.com
Revision: 5	Sheet 7 of 9		
File: SHT_6_1_Measure_07349-R5_L10.SchDoc			



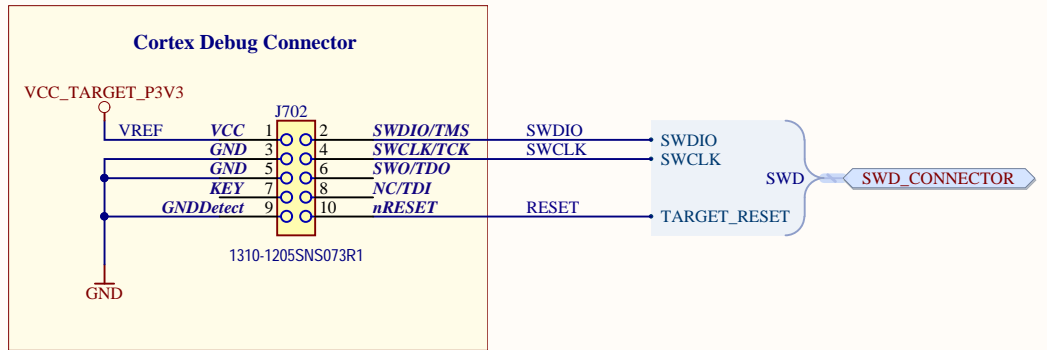
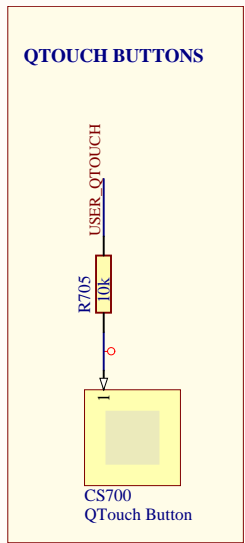
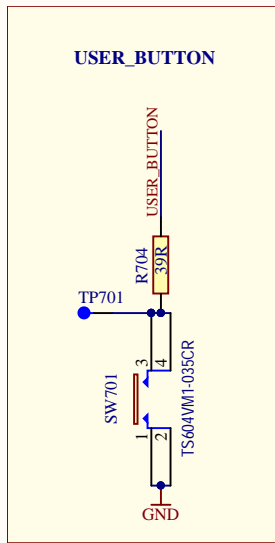
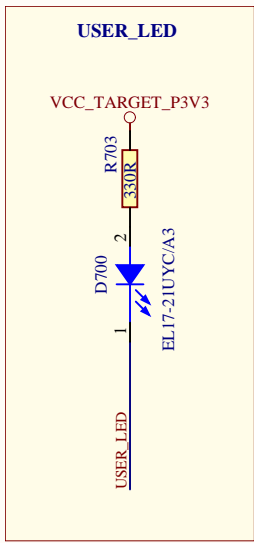
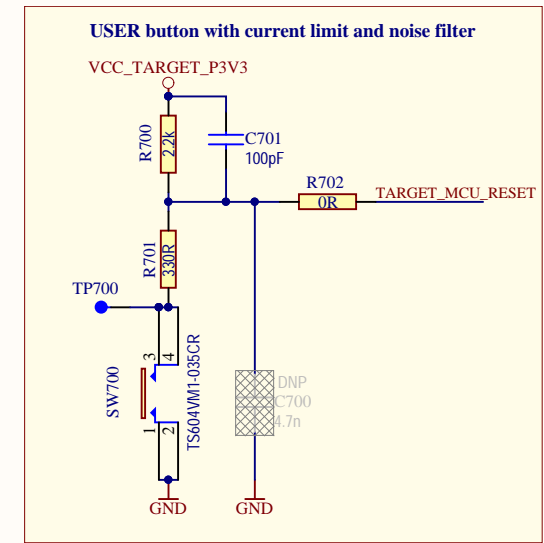
EXT1 extension header



EXT2 extension header



EXT3 extension header



Drawn By: Roger Hathaway		
Engineer: Roger Hathaway		
PartNumber: 07-07349_L10	Project Title SAM L10 Xplained Pro	
Sheet Title Extension Connectors		Designed with
Size B	Sch #03-07349_L10 Revision:5	Date: 7/6/2018 2:34:37 PM Sheet 8 of 9
File: SHT_8_Ext_Headers_07349-R5_L10.SchDoc		

