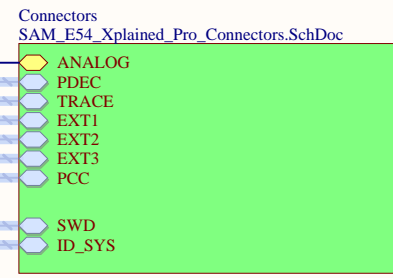
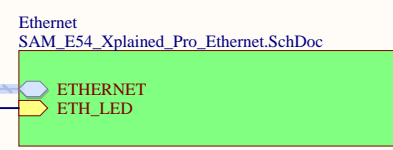
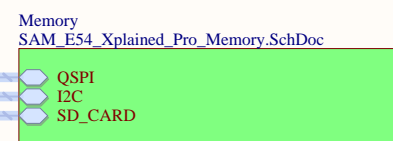
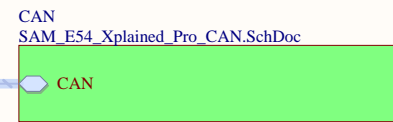
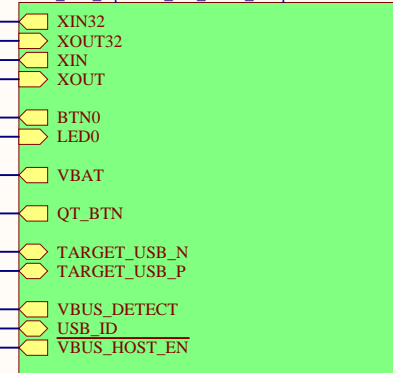
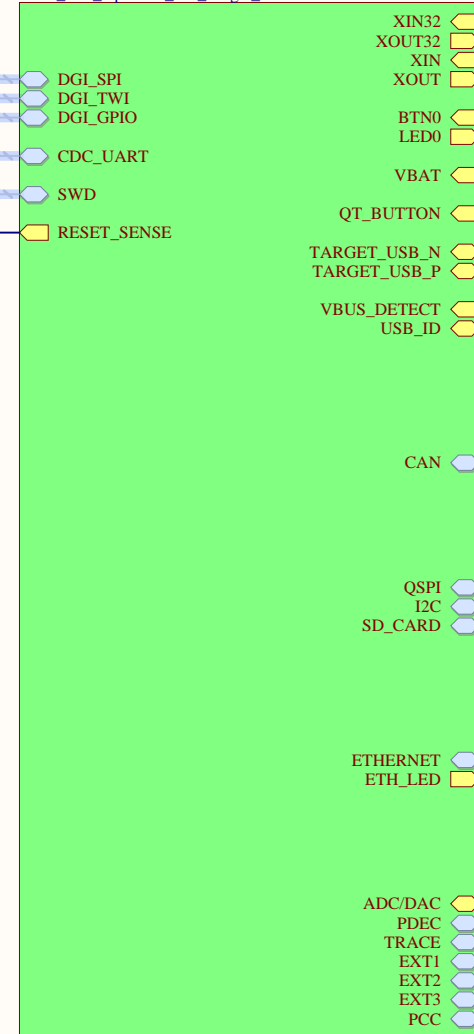
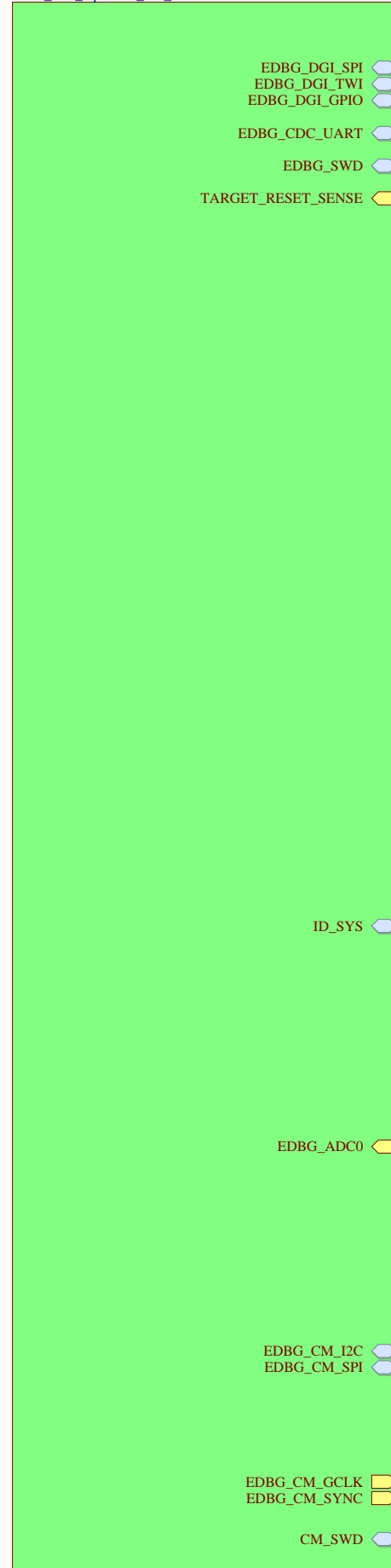


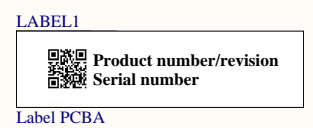
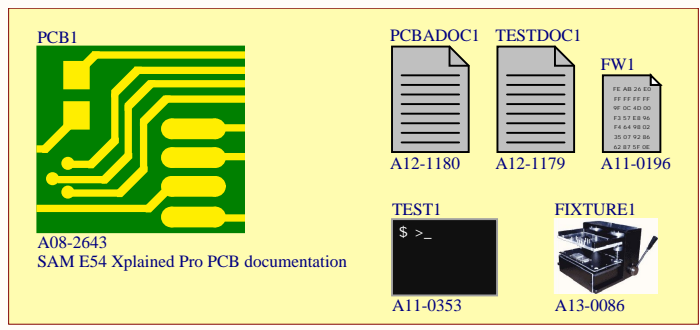
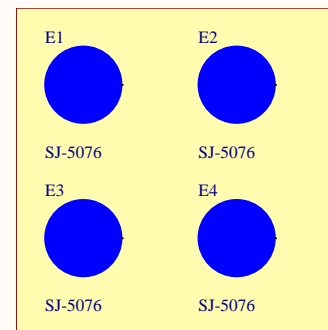
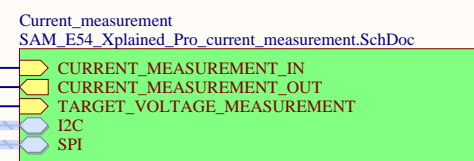
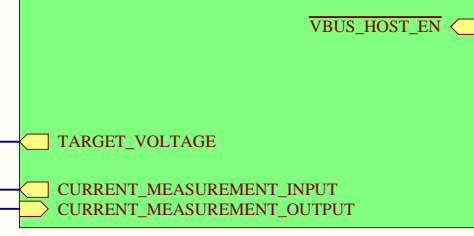
EDBG
SAM_E54_Xplained_Pro_EDBG.SchDoc

Target_MCU
SAM_E54_Xplained_Pro_Target_MCU.SchDoc

MCU Peripherals
SAM_E54_Xplained_Pro_MCU_Peripherals.SchDoc



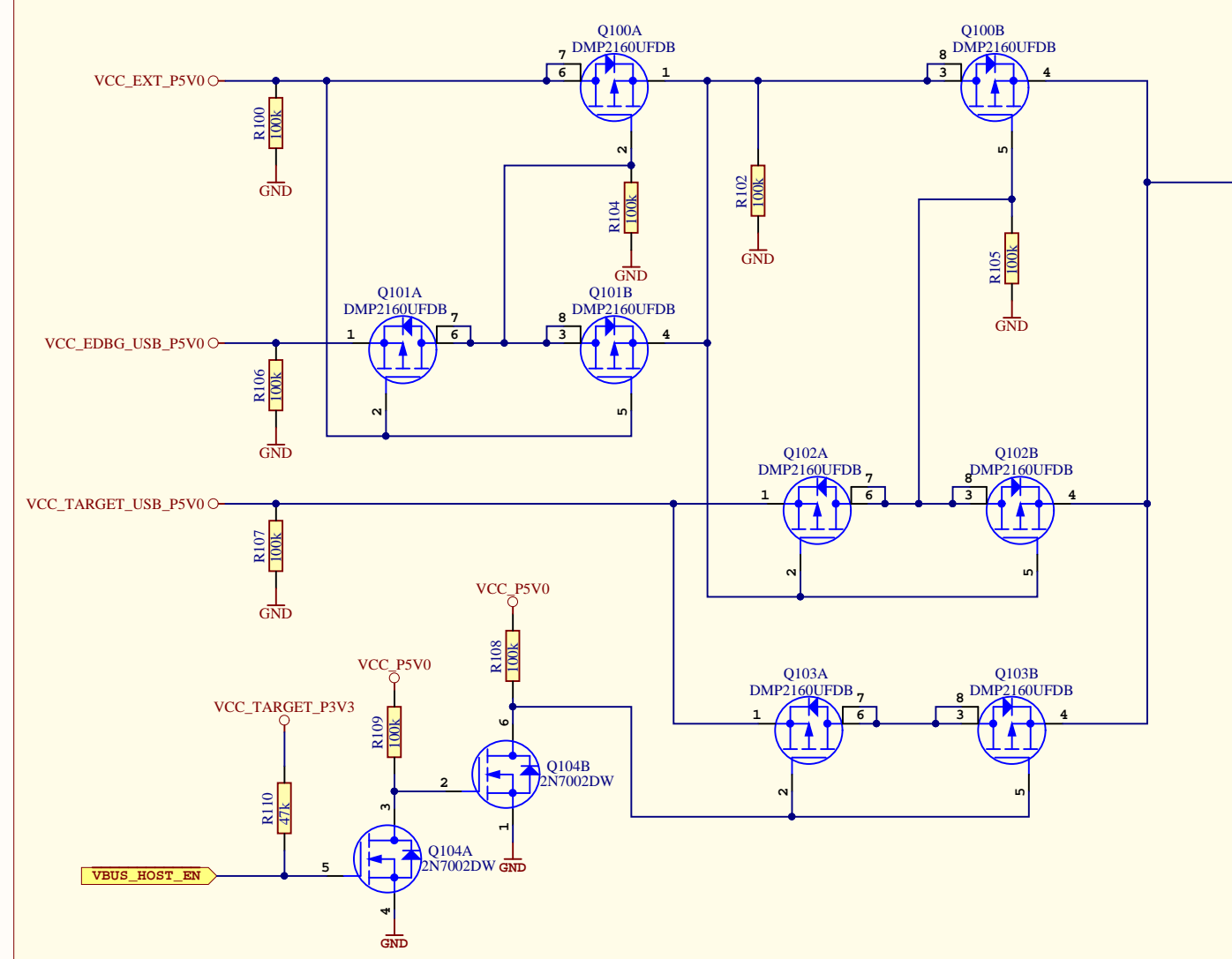
Power_supply
SAM_E54_Xplained_Pro_triple_input_power_supply_HSW.SchDoc



Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Top Level Schematics		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_TopLevel.SchDoc		Page: 1 of 13



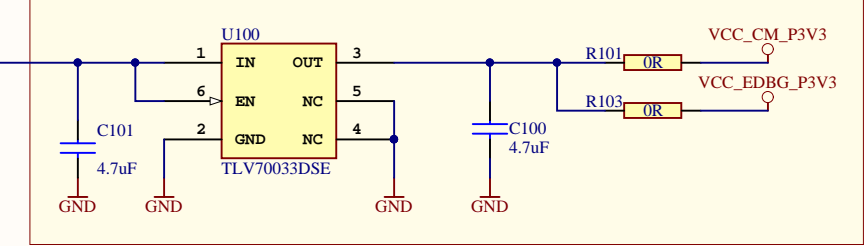
Power multiplexer



▲ Power input multiplexer priority:
 1. VCC_IN
 2. VCC_EDBG_USB
 3. VCC_TARGET_USB

▲ 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.

3.3V linear regulator EDBG and XAM

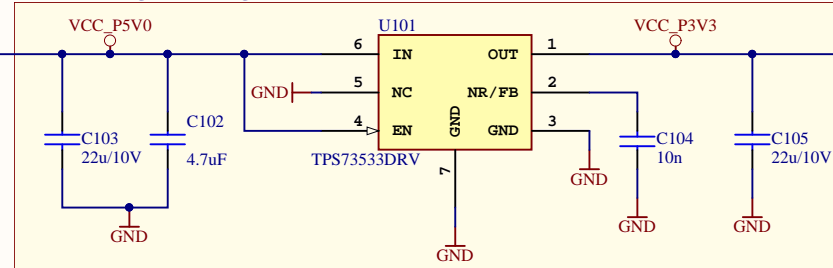


▲ Iout max = 200mA
 Accuracy 2%
 Low noise: 48 uVrms (10 Hz to 100 kHz)
 Dropout 150mV at full load
 Quiescent current 55 uA (no load)
 Current limit max 860 mA
 Thermal shutdown
 Minimum capacitance required on output is 0.1uF (with less than 200mOhm ESR)

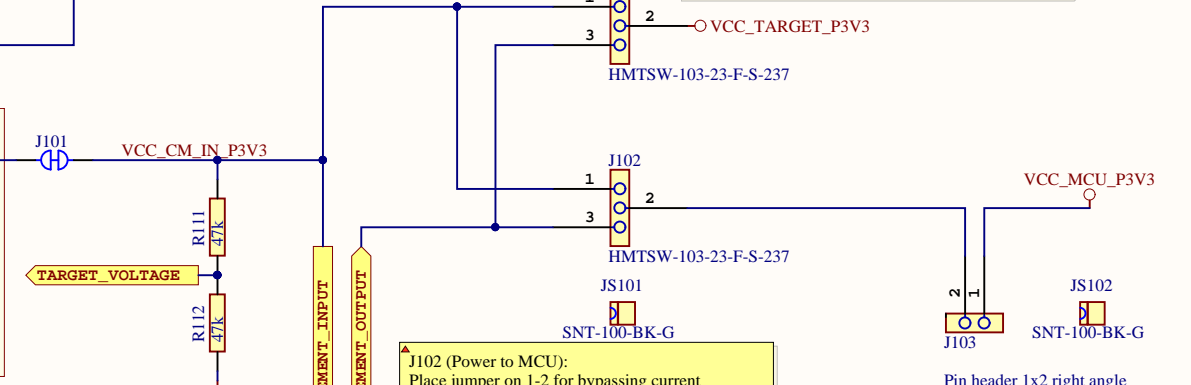
▲ The target peripheral and the MCU can be powered either directly from the regulator or from the current measurement circuitry (XAM). When powered from the current measurement the supply voltage will vary from 3.3 V to 3.2 V due to voltage drop over the current measurement shunt resistor.

▲ 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.

3.3V linear regulator Target



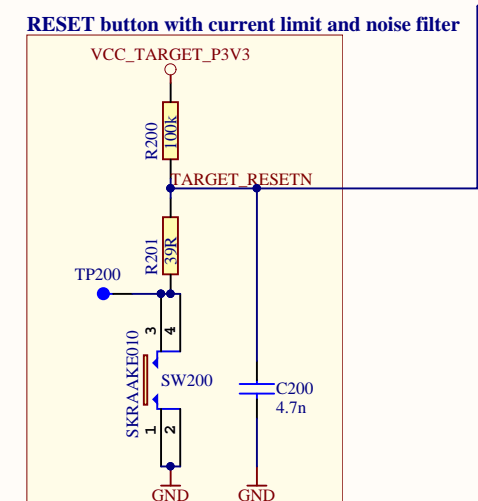
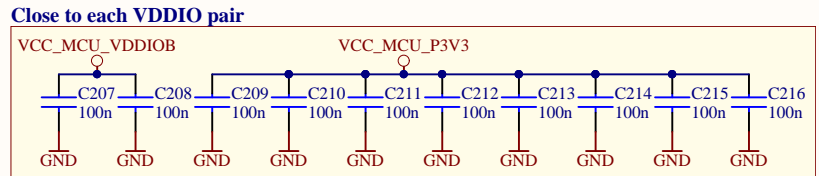
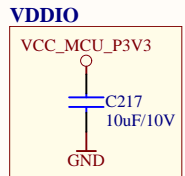
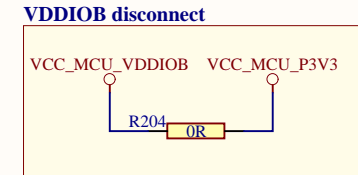
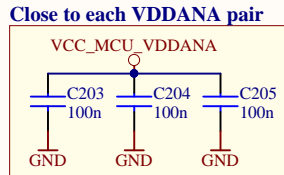
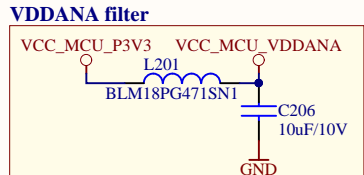
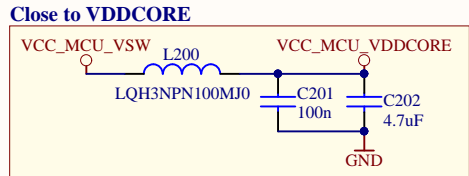
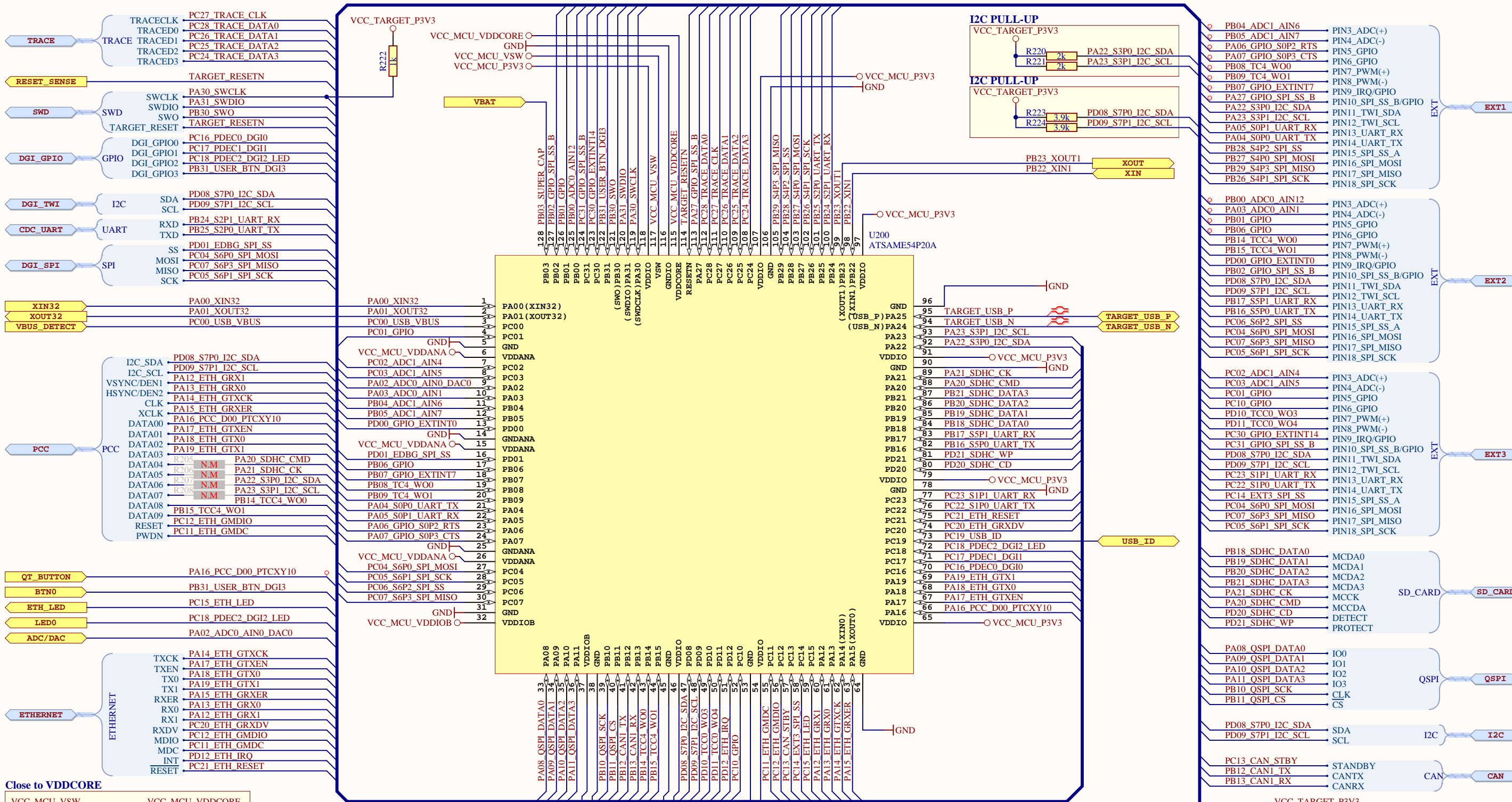
▲ 500mA low noise LDO voltage regulator
 Noise: 28uVrms
 Accuracy 2%
 Dropout 280 mV at full load
 Quiescent current 46 uA
 Current limit 1170 mA
 Thermal shutdown



▲ 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.

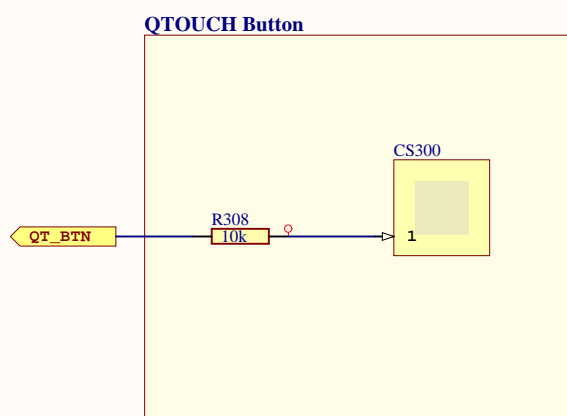
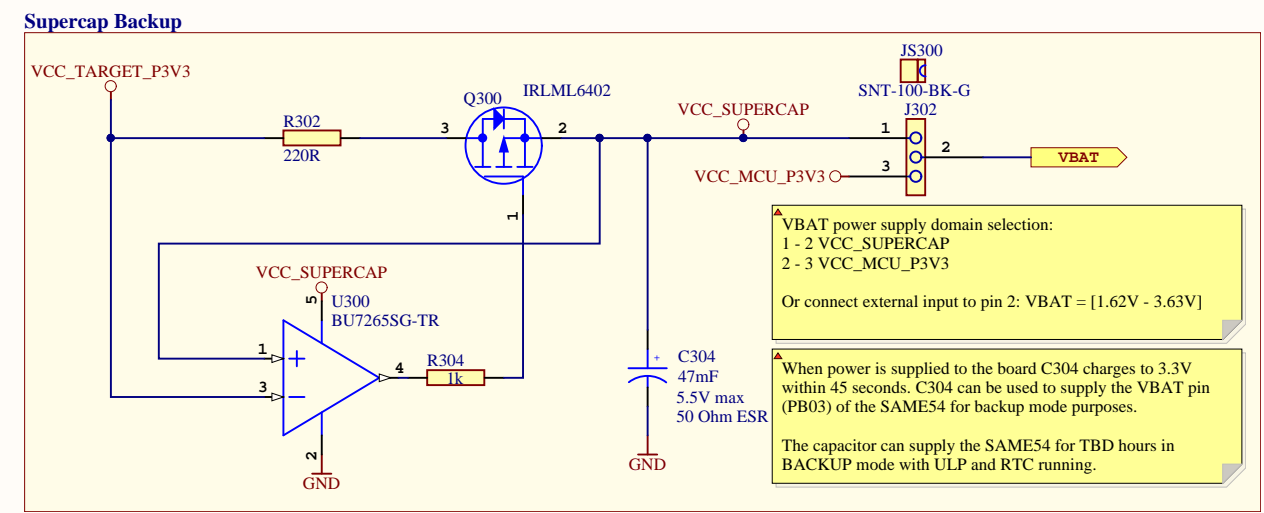
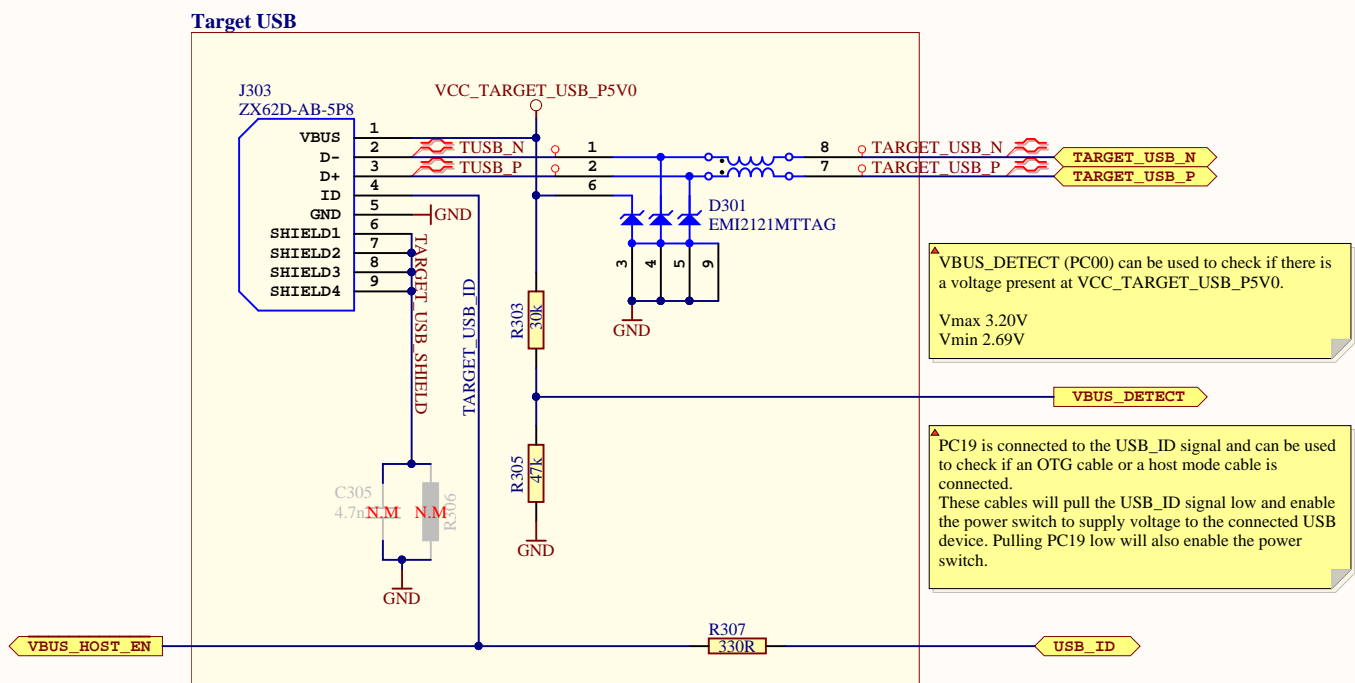
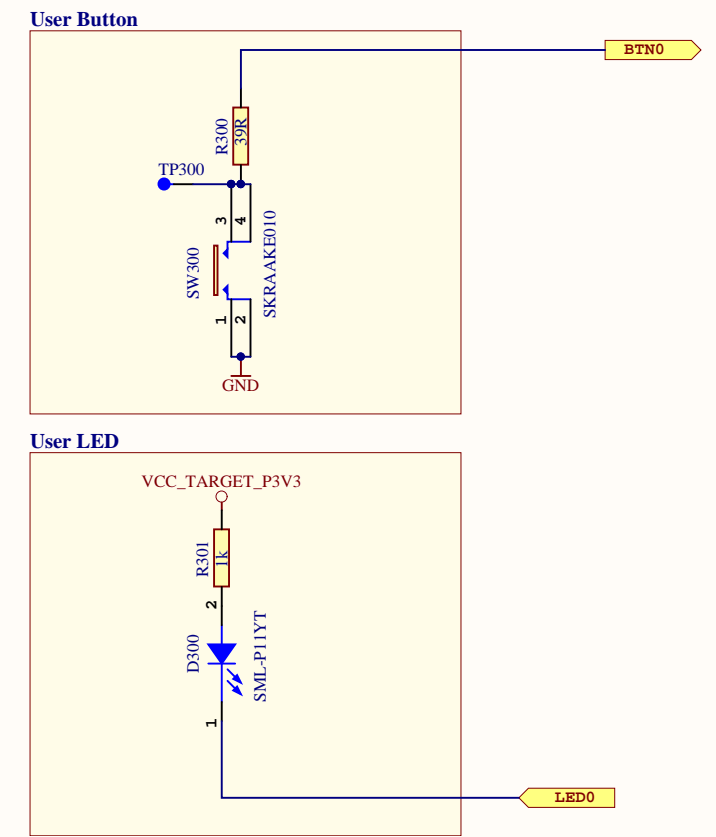
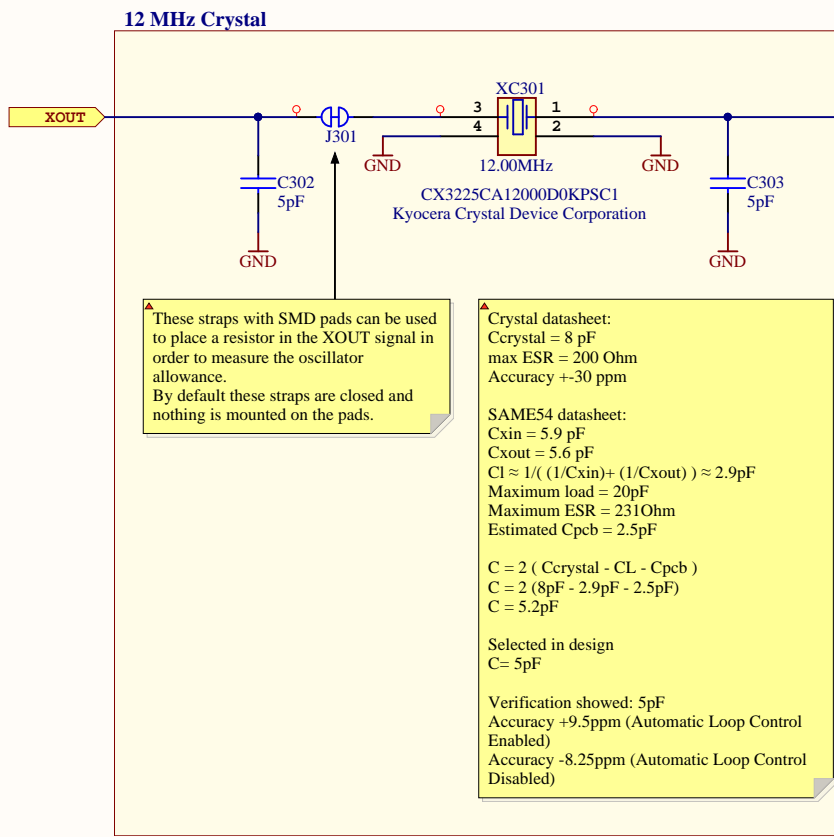
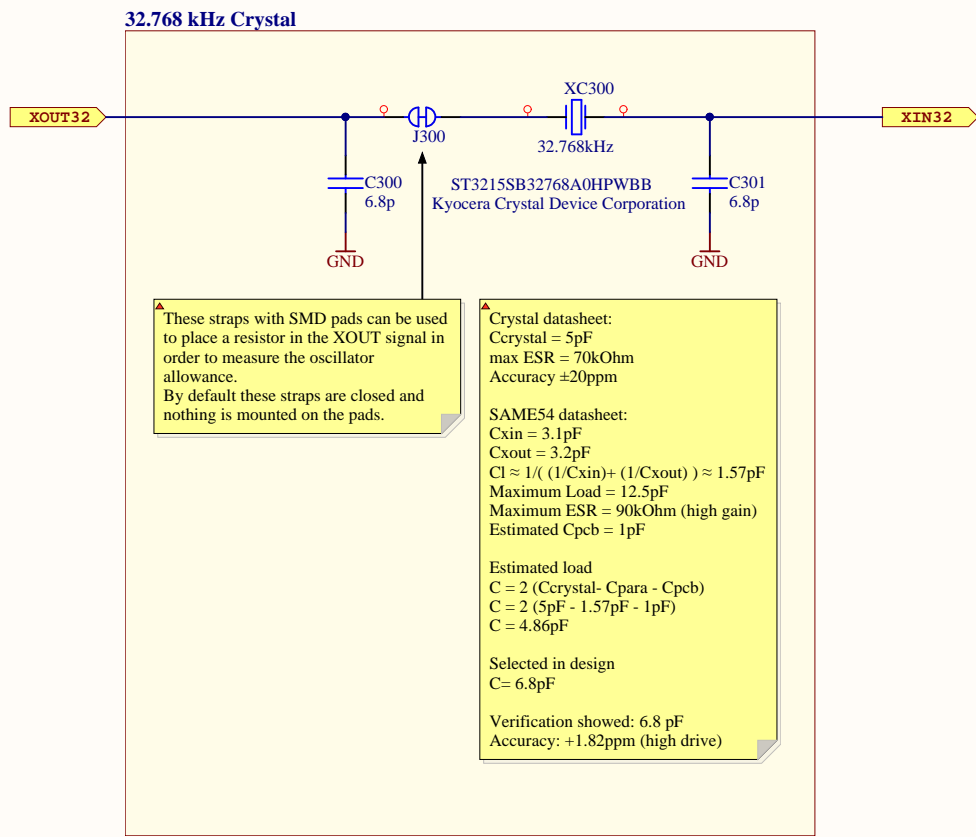
▲ Current measurements via external tools can be done either via this header or from the supply muxing header (this header is kept for compatibility reasons to other Xplained Pro boards)

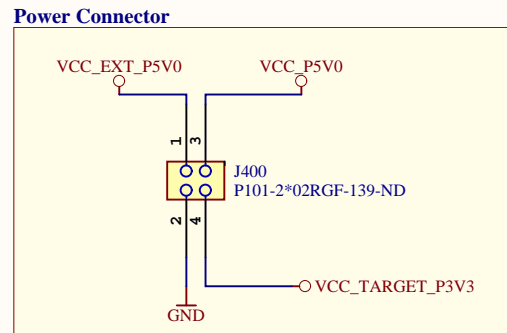
Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Power supply		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_triple_input_power_supply_HSW.SchDoc		Date: 06.07.2017
		Page: 2 of 13



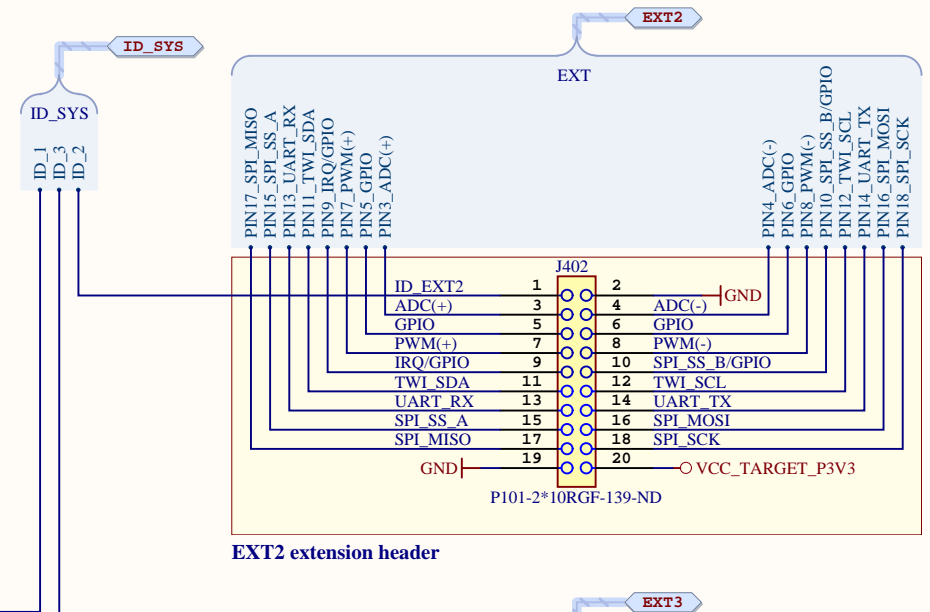
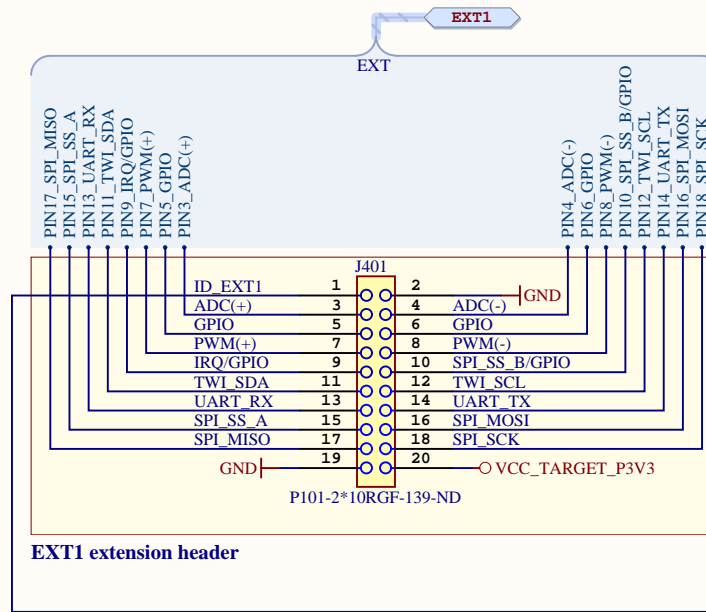
Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Target MCU		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_Target_MCU.SchDoc		Page: 3 of 13

Designed with
 Altium.com

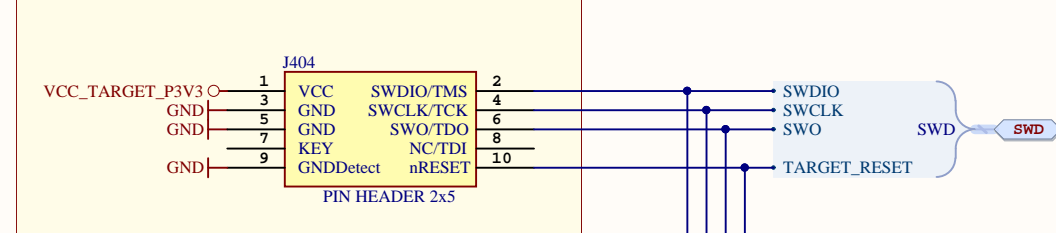




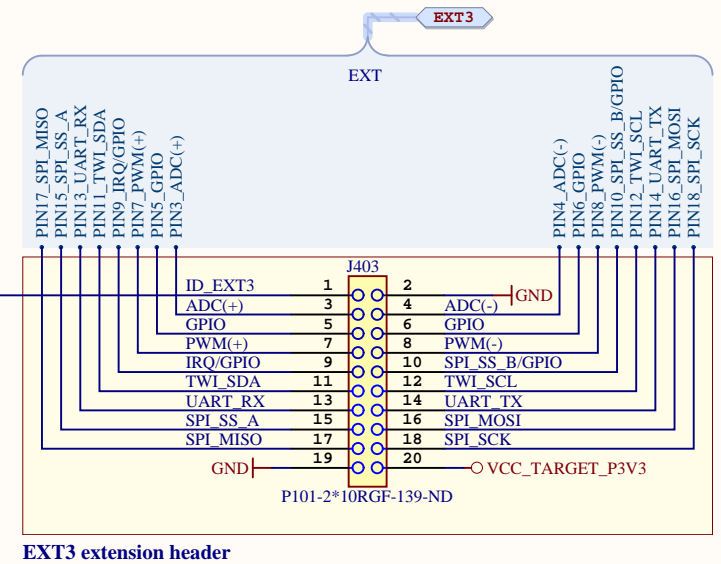
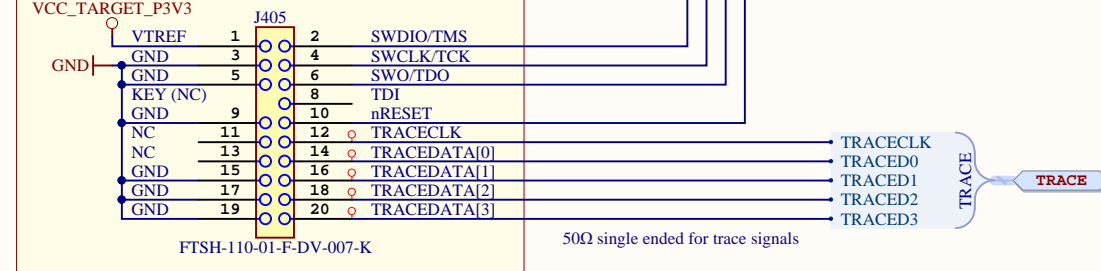
Power inputs/outputs to the Xplained PRO:
VCC_EXT_P5V0 (input)
 This power input can be used to power the whole board and it has a higher priority than the USB power inputs.
VCC_P5V0 (output)
 This pin is supplied from either VCC_EXT_P5V0, VCC_EDBG_USB_P5V0, or VCC_TARGET_USB_P5V0 based on the availability and priority of these supplies.
VCC_TARGET_P3V3 (output)
 Target supply voltage (target MCU and peripherals)



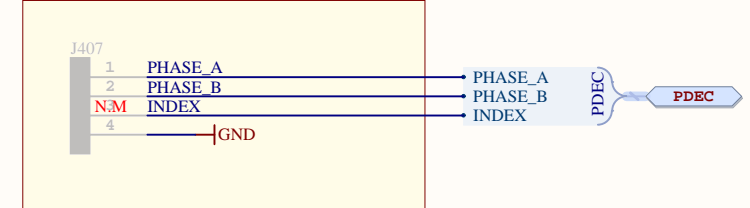
Cortex Debug Connector for connecting an external programmer/debugger



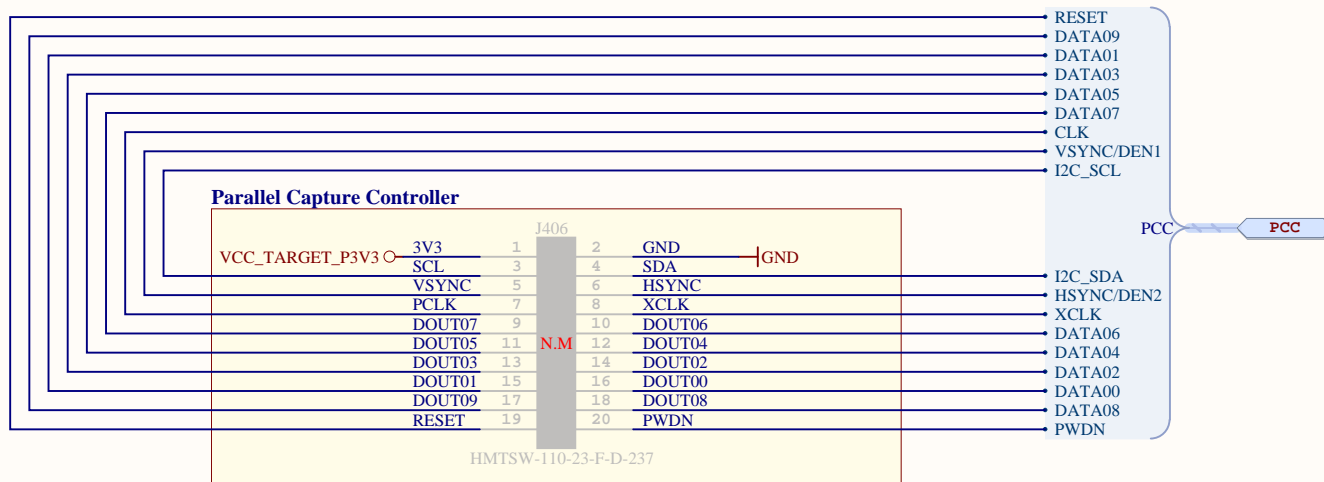
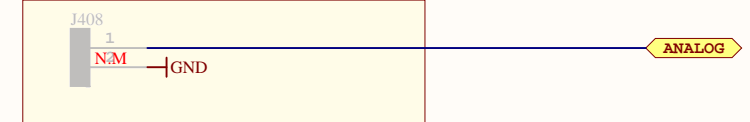
TRACE (CoreSight 20)



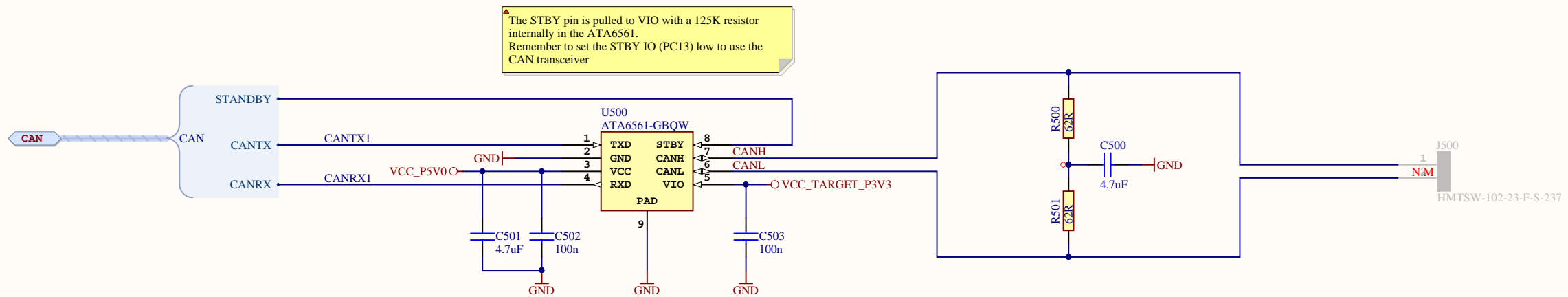
Position Decoder




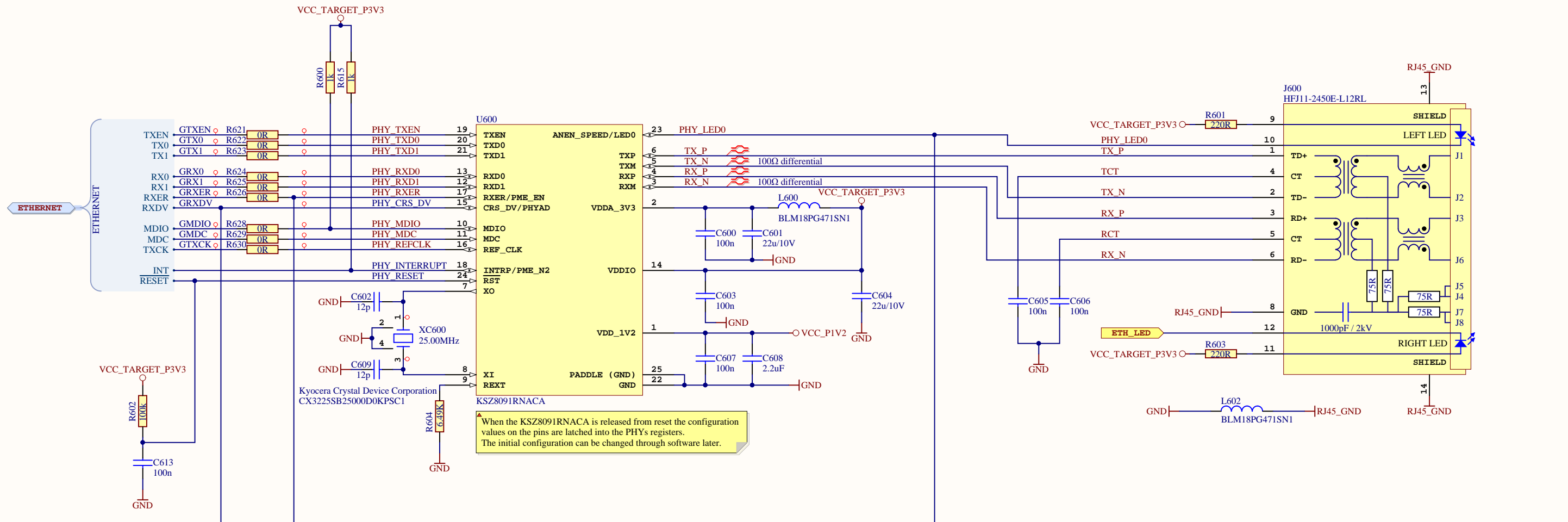
ADC/DAC Header



Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Extension connectors		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_Connectors.SchDoc		Date: 06.07.2017
		Page: 5 of 13



Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro	<i>Designed with</i> Altium Altium.com	
Sheet Title CAN		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_CAN.SchDoc	Date: 06.07.2017	Page: 6 of 13

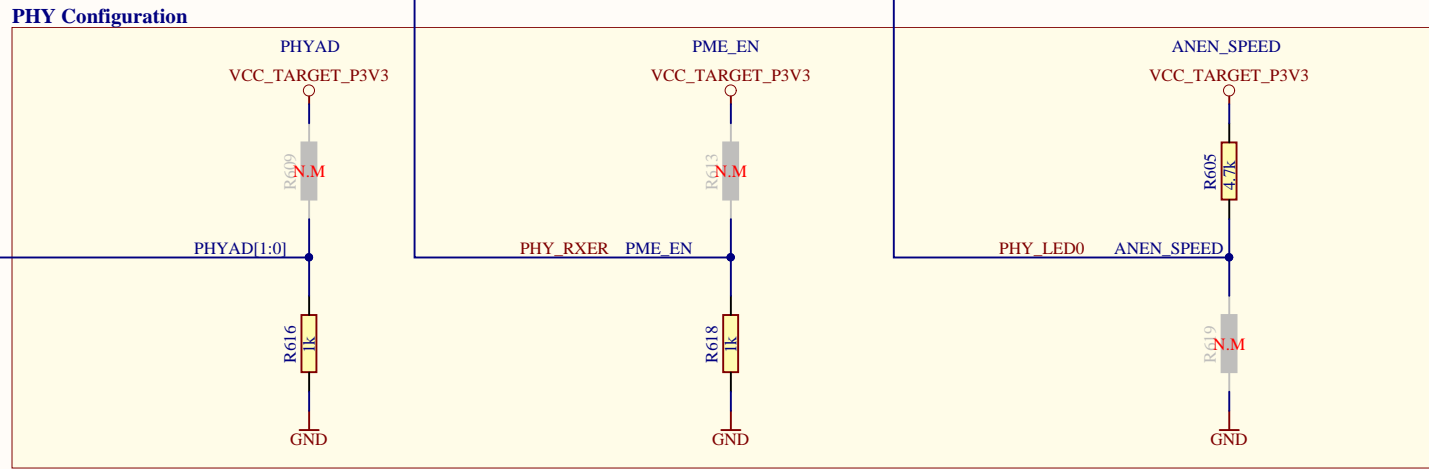


When the KSZ8091R NACA is released from reset the configuration values on the pins are latched into the PHY's registers. The initial configuration can be changed through software later.

PHYAD[1:0] is used to set the PHY's address:
 Pull-up = 00011b (3h)
 Pull-down (default) = 00000b (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



Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Ethernet		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_Ethernet.SchDoc		Page: 7 of 13

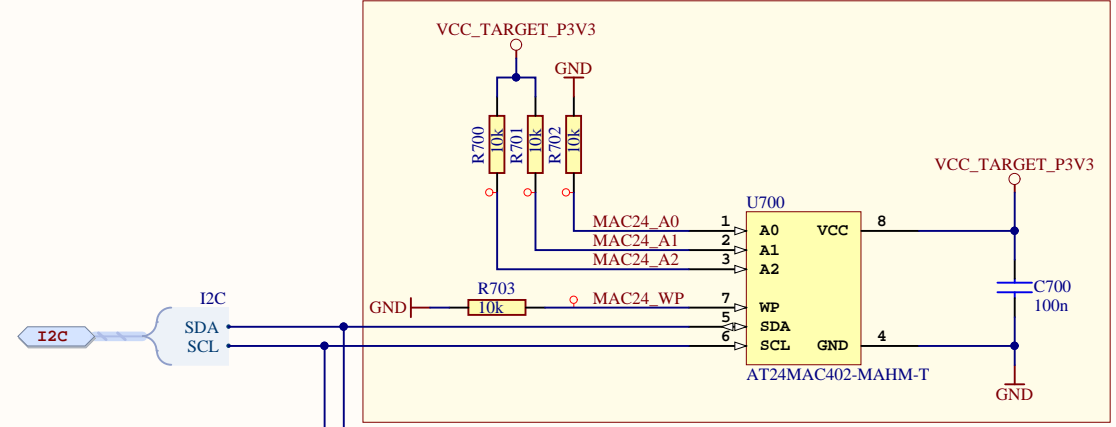
Designed with

 Altium.com

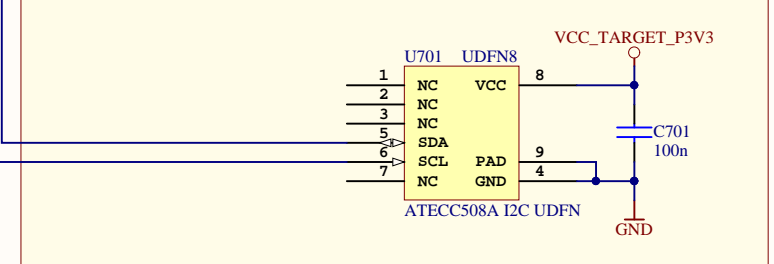
A

A

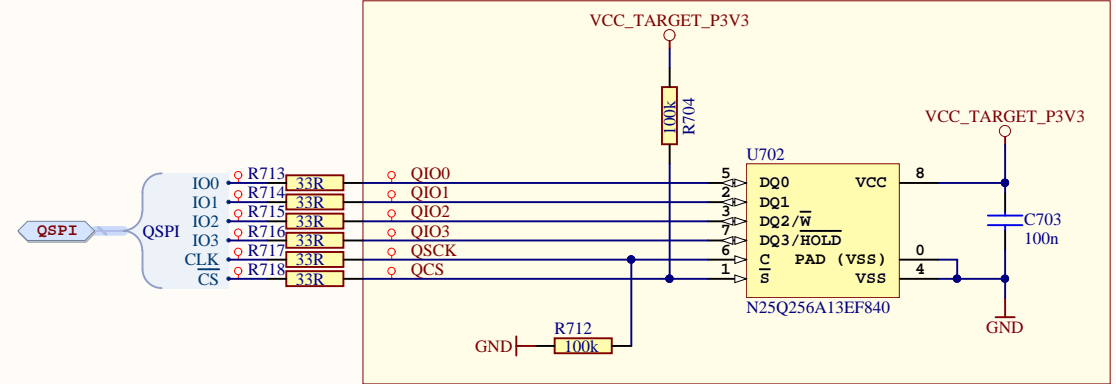
Serial EEPROM with EIA-48 MAC address



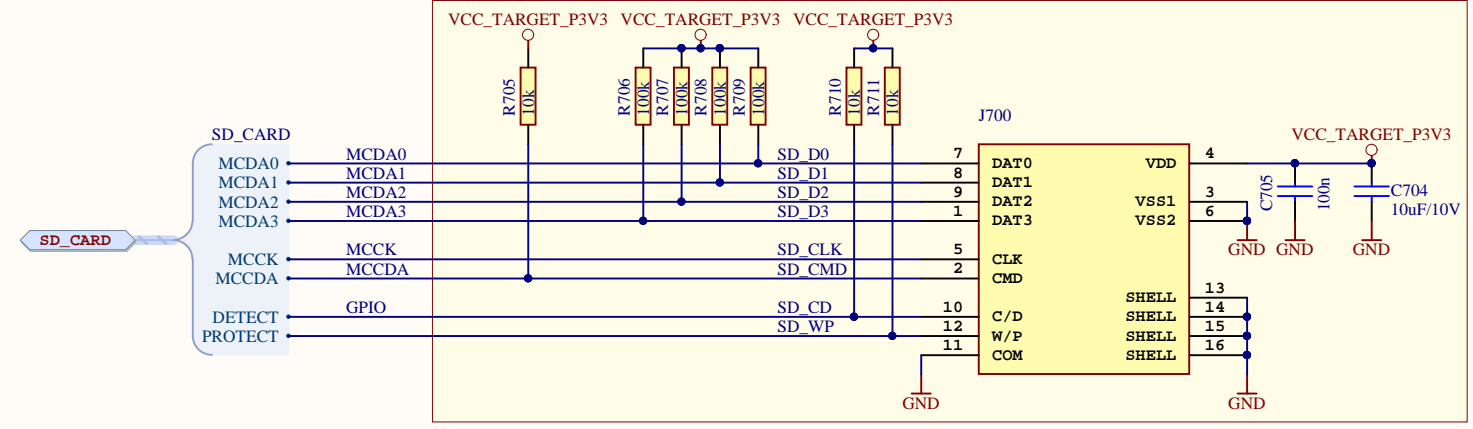
ATECC508 Crypto



QSPI Flash



SD-CARD

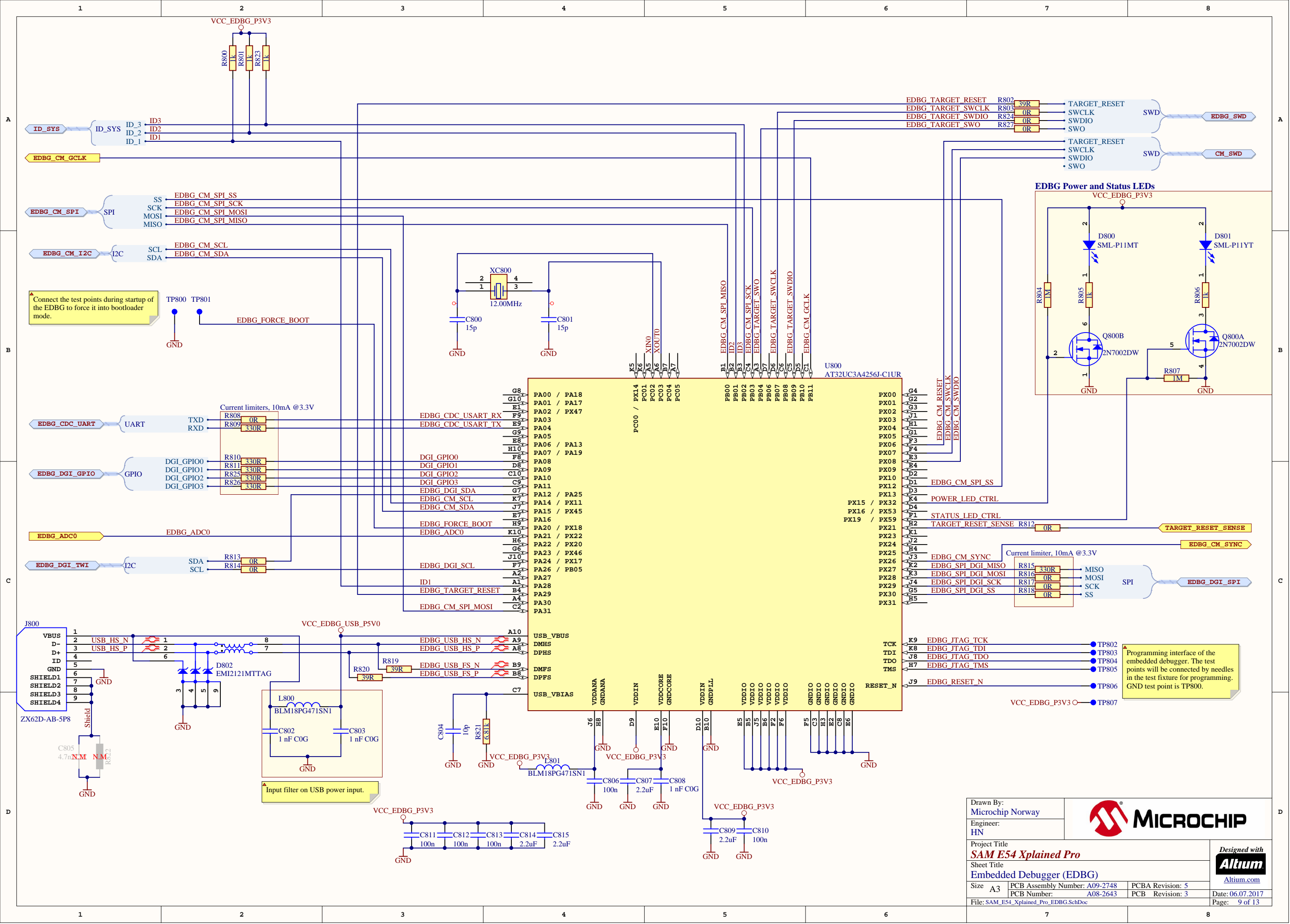


C/D is connected to COM when a card is placed into the socket.
W/P is connected to COM when the write protect slider is in protect position.

D

D

Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Memory		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_Memory.SchDoc		Date: 06.07.2017
		Page: 8 of 13

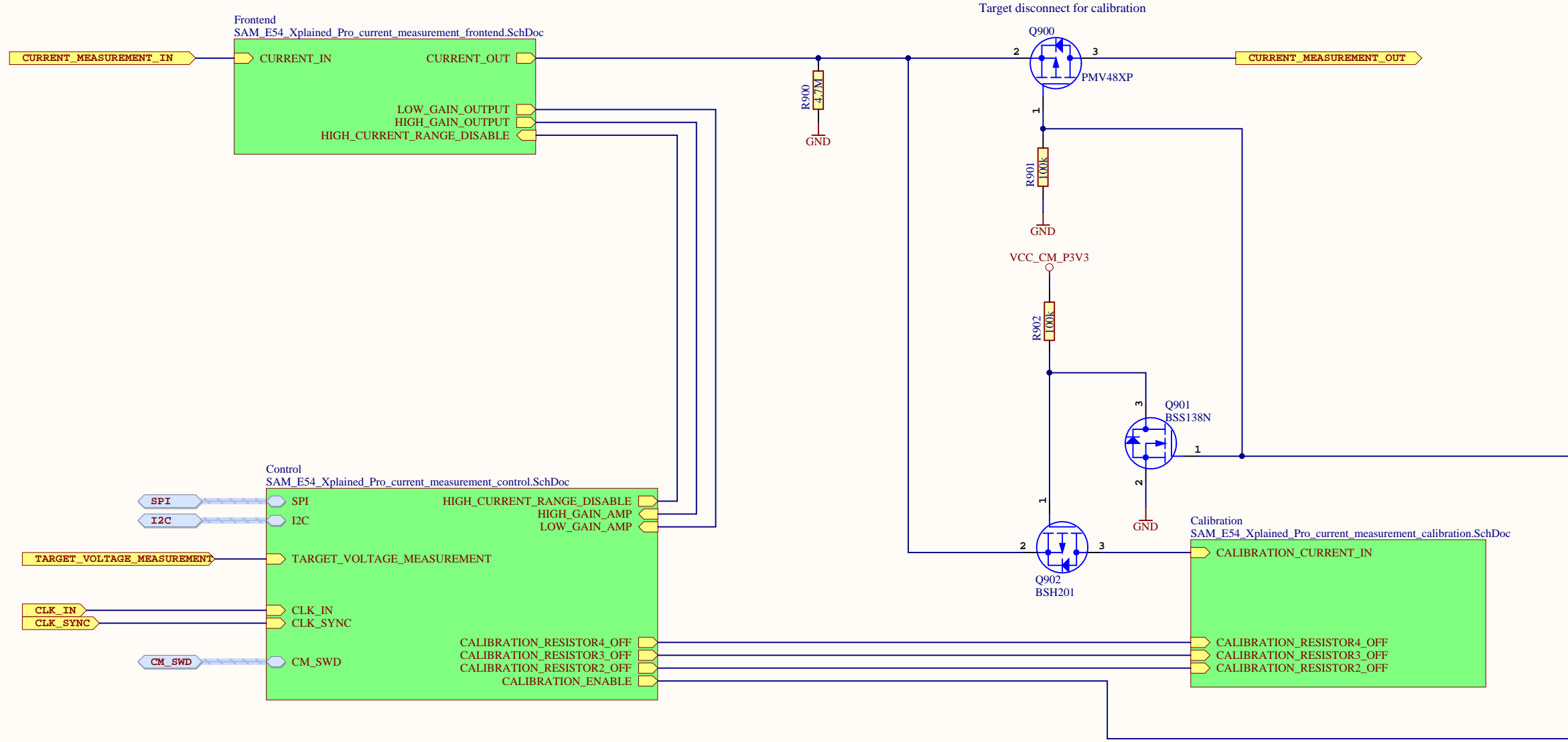



Connect the test points during startup of the EDBG to force it into boot loader mode.

Input filter on USB power input.

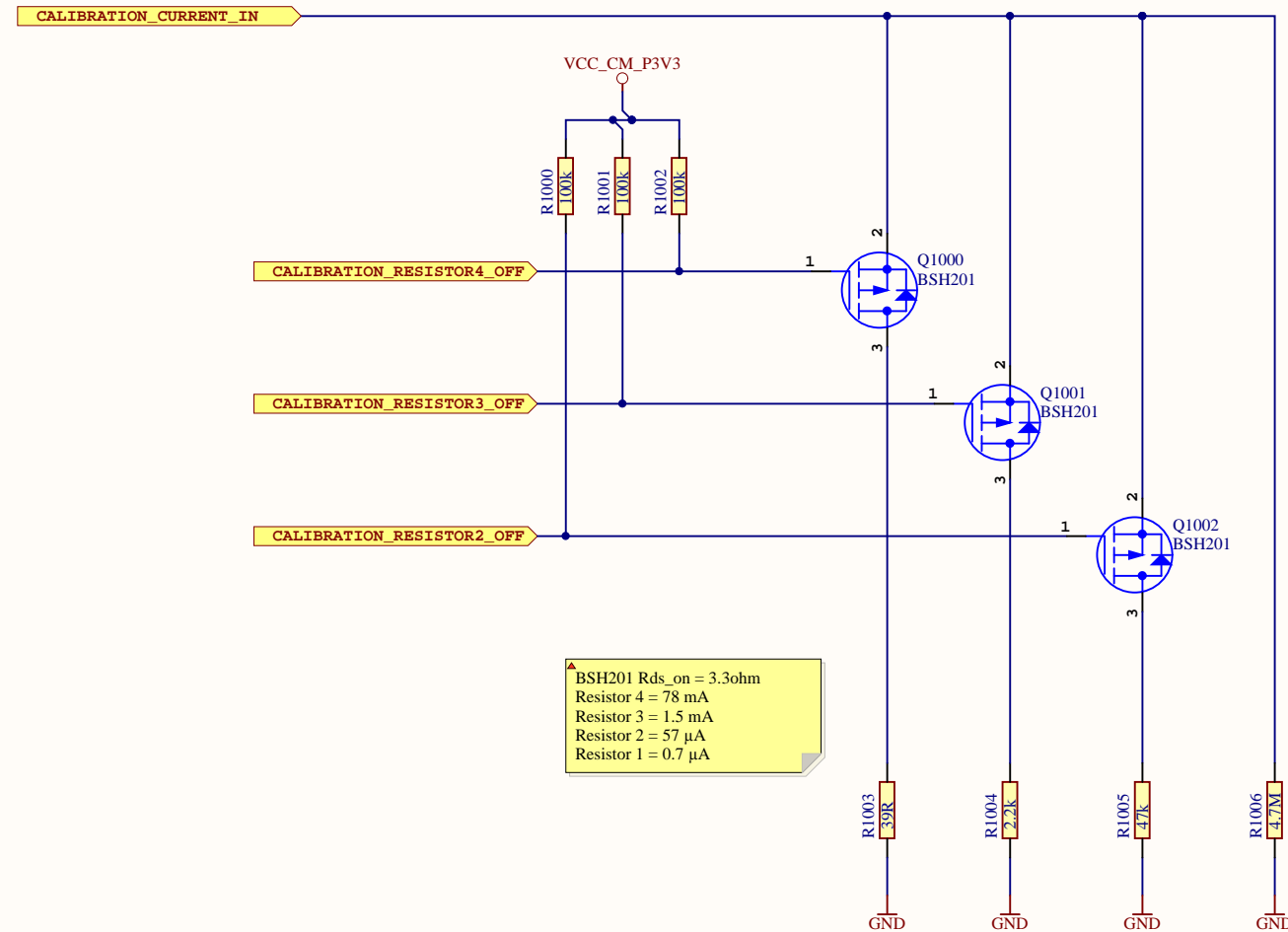
Programming interface of the embedded debugger. The test points will be connected by needles in the test fixture for programming. GND test point is TP800.

Drawn By: Microchip Norway Engineer: HN		
Project Title SAM E54 Xplained Pro Sheet Title Embedded Debugger (EDBG)		
Size A3	PCB Assembly Number: A09-2748 PCB Number: A08-2643	PCBA Revision: 5 PCB Revision: 3
File: SAM_E54_Xplained_Pro_EDBG.SchDoc		Designed with Altium.com Date: 06.07.2017 Page: 9 of 13



Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Current measurement		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_current_measurement.SchDoc		Date: 06.07.2017
		Page: 10 of 13

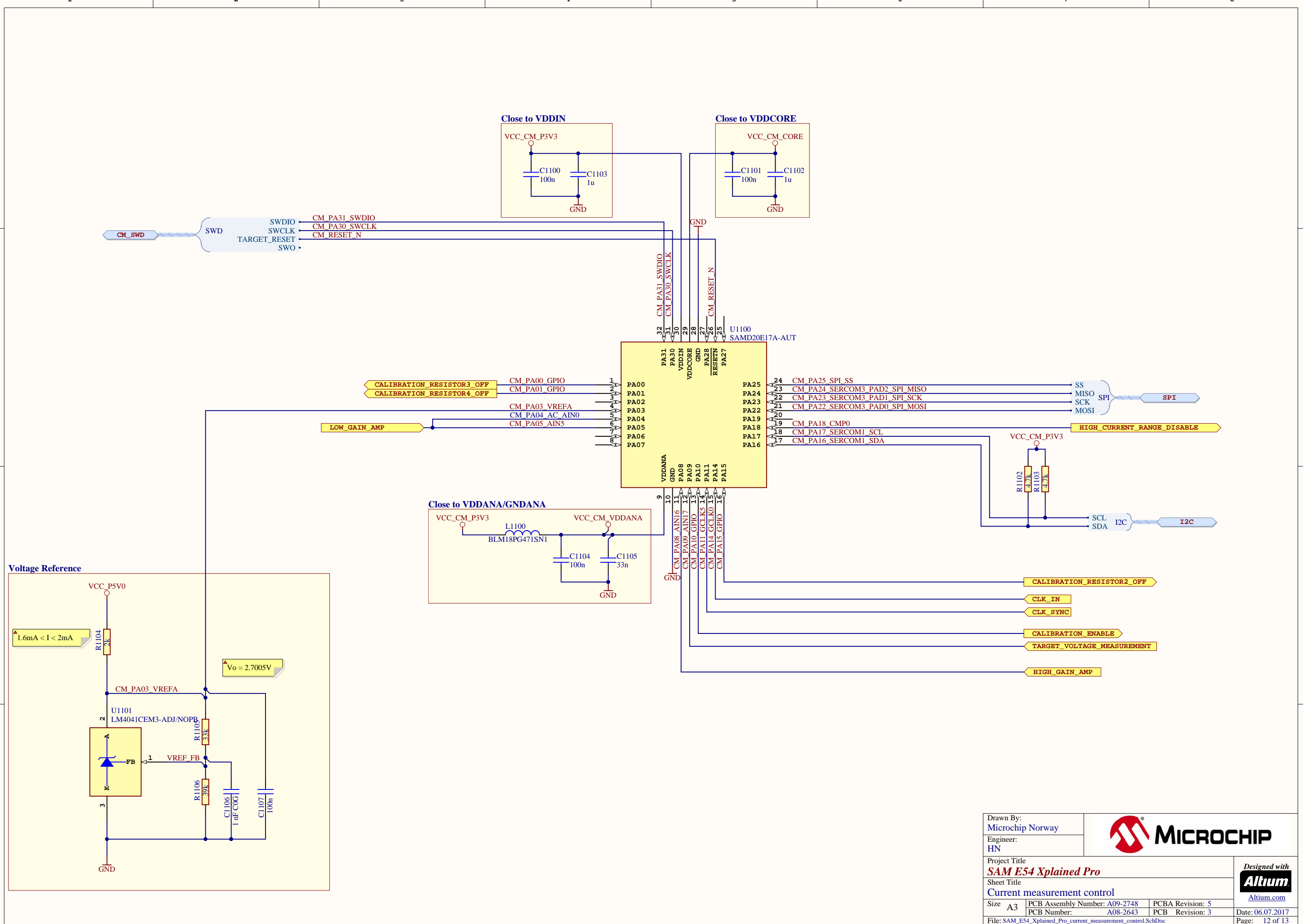




Drawn By:
 Microchip Norway
 Engineer:
 HN

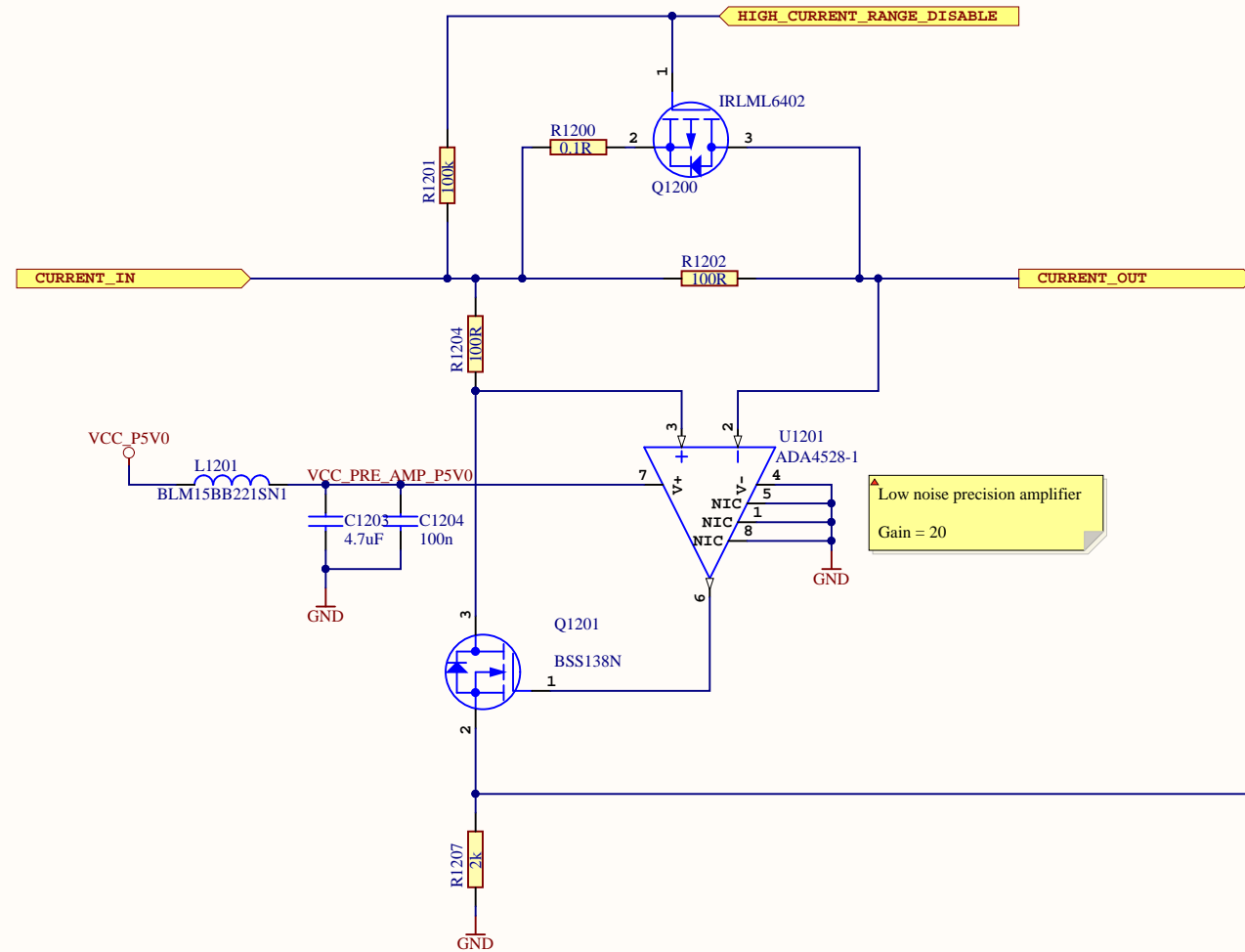


Project Title			 Altium.com
SAM E54 Xplained Pro			
Sheet Title			Date: 06.07.2017 Page: 11 of 13
Current measurement calibration			
Size	PCB Assembly Number: A09-2748	PCBA Revision: 5	Date: 06.07.2017 Page: 11 of 13
A3	PCB Number: A08-2643	PCB Revision: 3	
File: SAM_E54_Xplained_Pro_current_measurement_calibration.SchDoc			

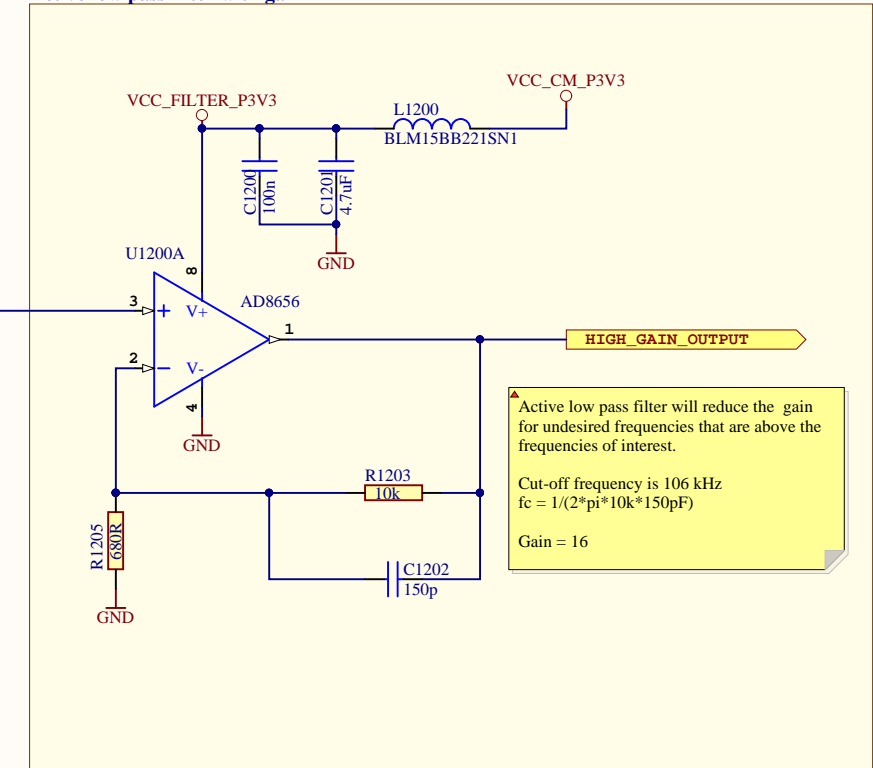


Drawn By: Microchip Norway		
Engineer: HN		
Project Title SAM E54 Xplained Pro		
Sheet Title Current measurement control		
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_current_measurement_control.SchDoc		Page: 12 of 13

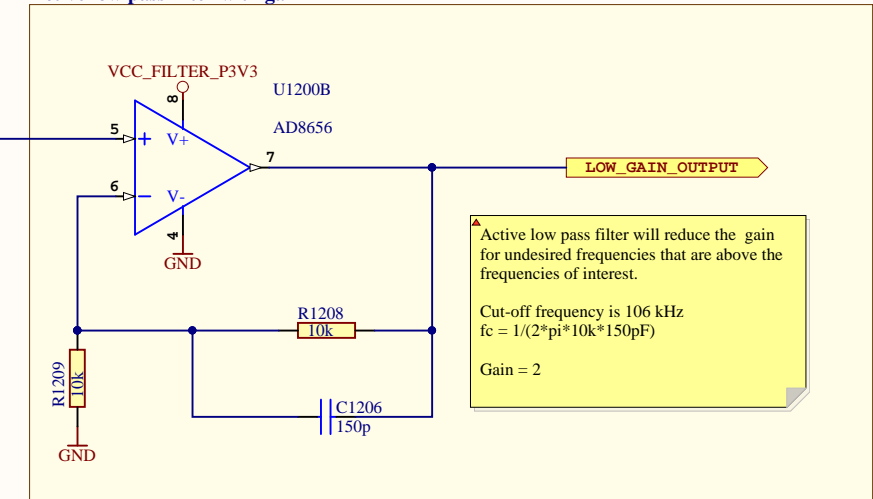




Active low pass filter with gain



Active low pass filter with gain



Drawn By:
Microchip Norway
Engineer:
HN

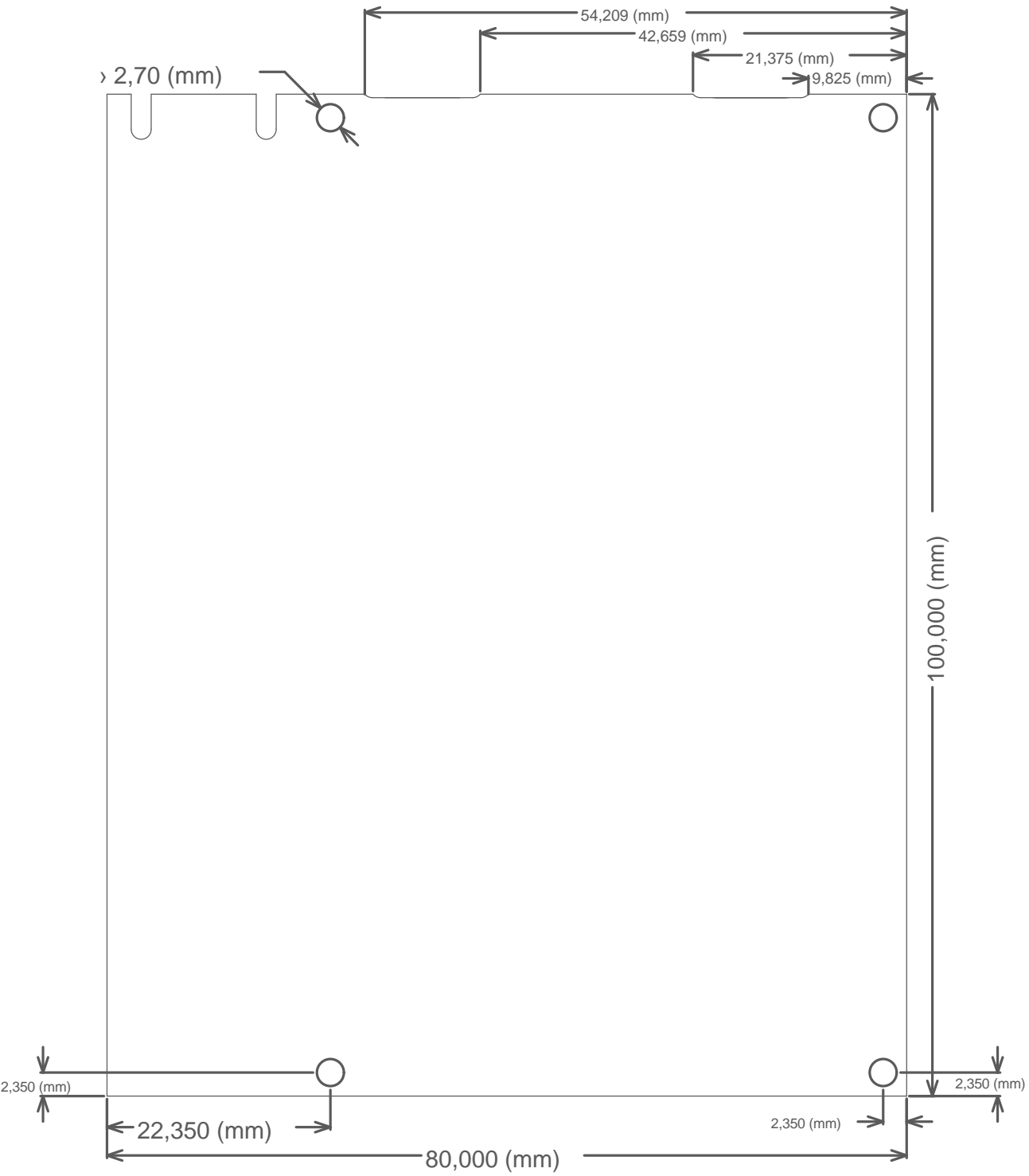


Project Title
SAM E54 Xplained Pro
Sheet Title
Current measurement frontend

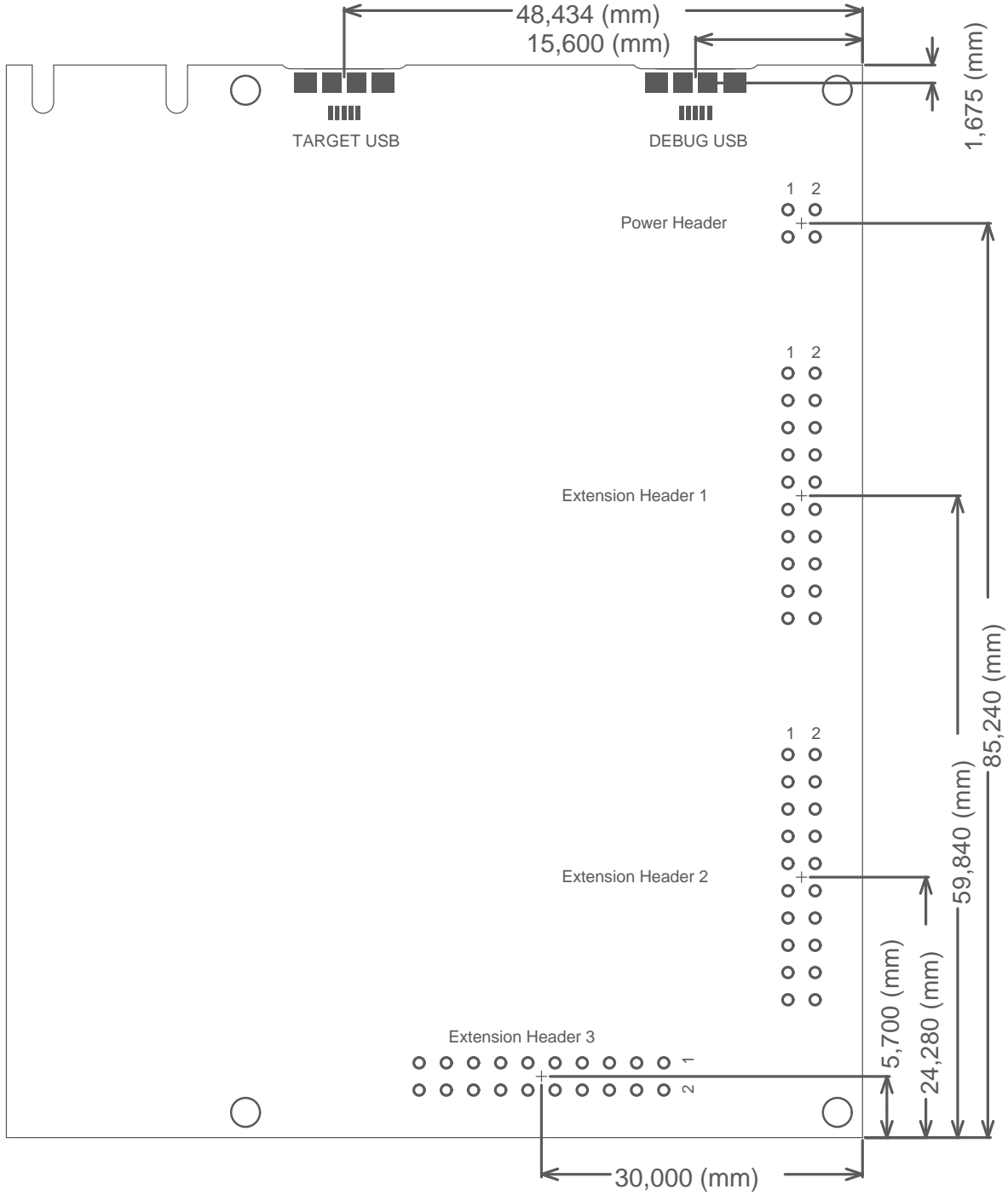


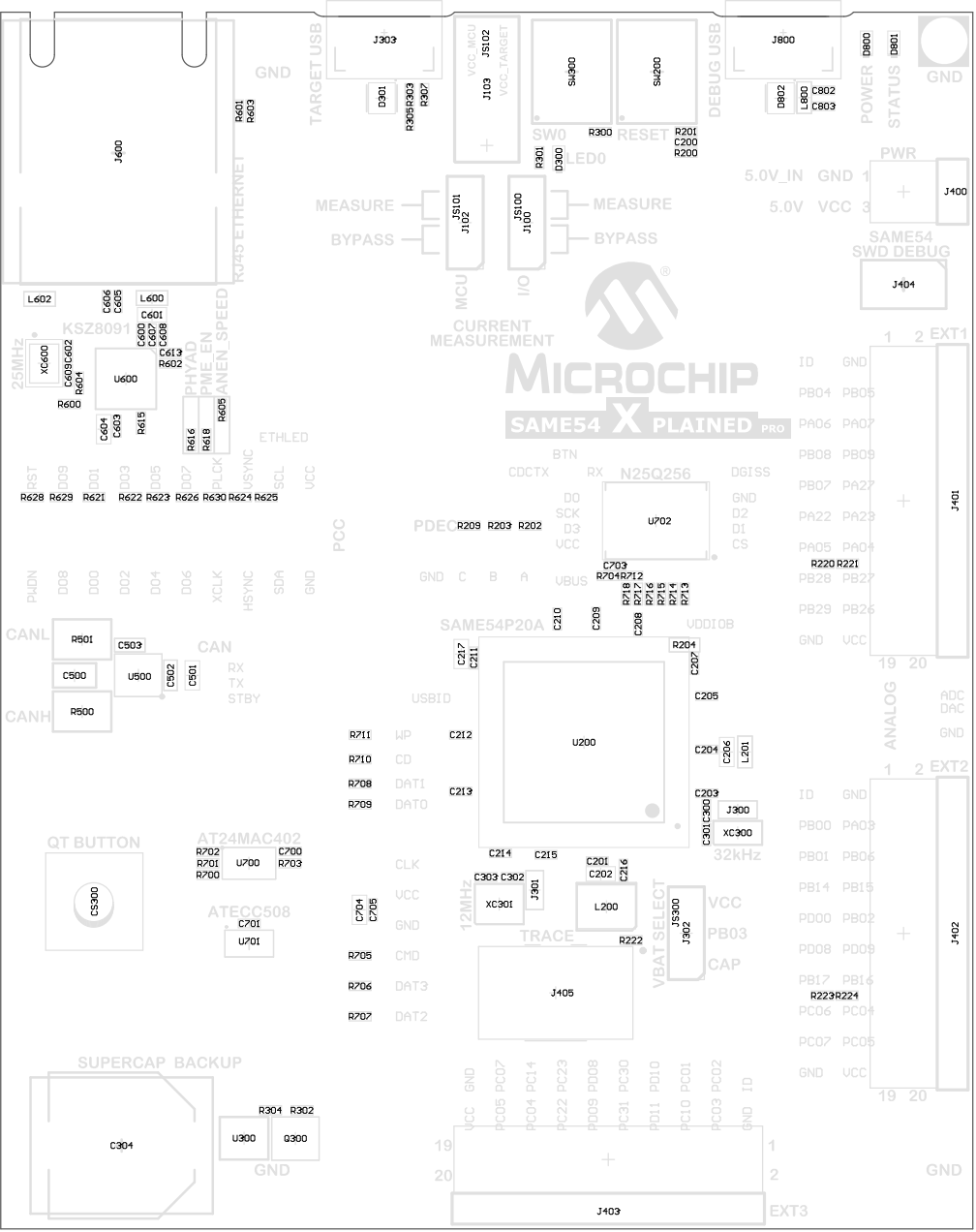
Size A3	PCB Assembly Number: A09-2748	PCBA Revision: 5
	PCB Number: A08-2643	PCB Revision: 3
File: SAM_E54_Xplained_Pro_current_measurement_frontend.SchDoc		Date: 06.07.2017
		Page: 13 of 13

Mechanical Dimensions

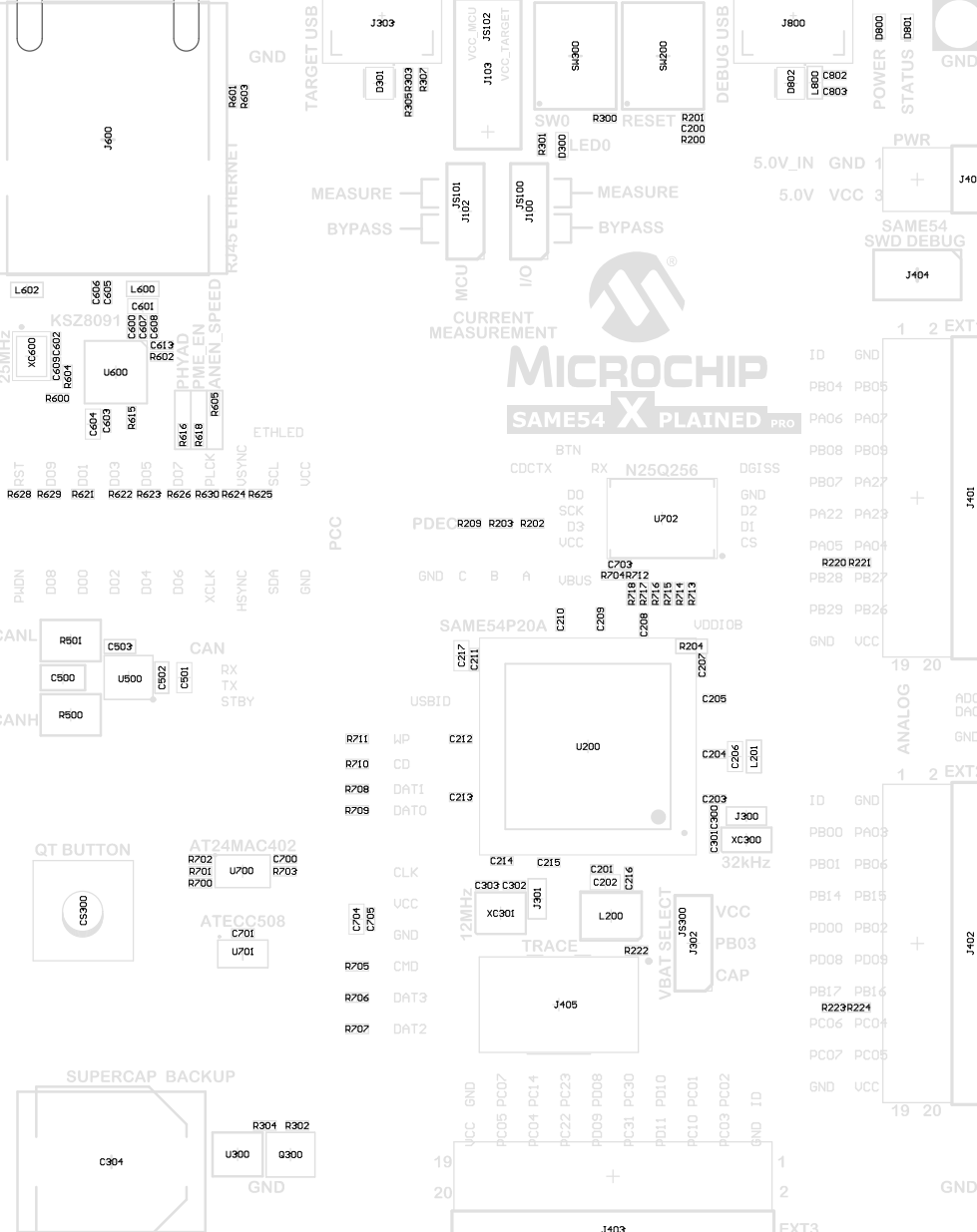


Connector Placement

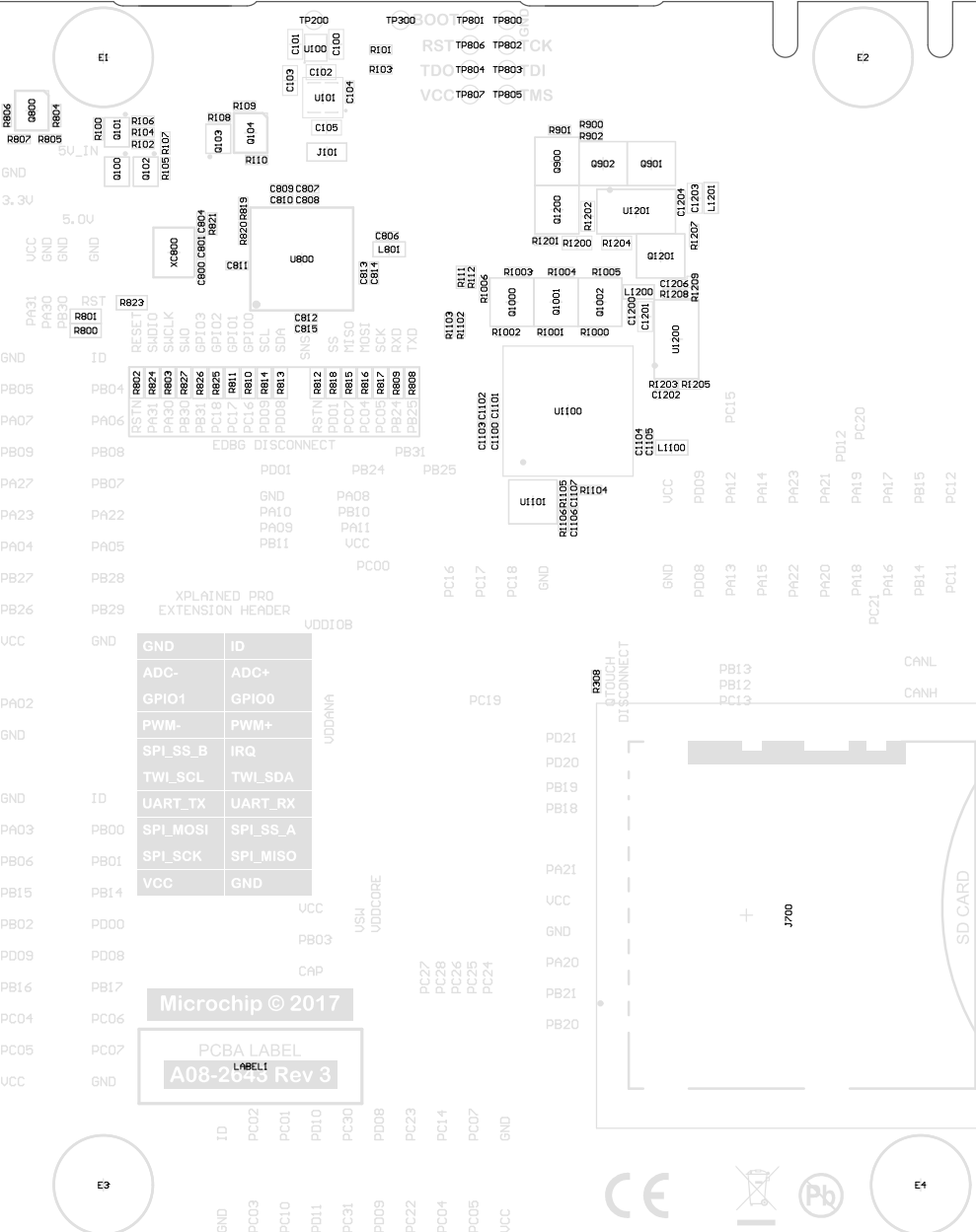





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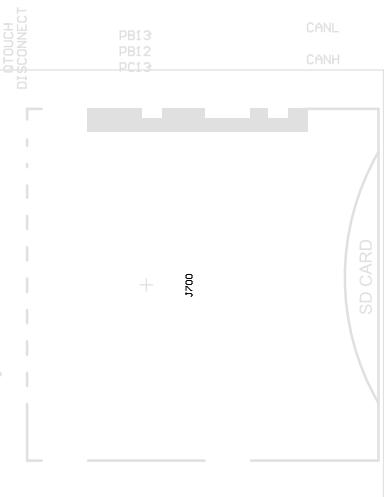
TP300 TP801 TP802 TP803 TP804 TP805 TP806 TP807 TP808 TP809 TP810 TP811 TP812 TP813 TP814 TP815 TP816 TP817 TP818 TP819 TP820 TP821 TP822 TP823 TP824 TP825 TP826 TP827 TP828 TP829 TP830 TP831 TP832 TP833 TP834 TP835 TP836 TP837 TP838 TP839 TP840 TP841 TP842 TP843 TP844 TP845 TP846 TP847 TP848 TP849 TP850 TP851 TP852 TP853 TP854 TP855 TP856 TP857 TP858 TP859 TP860 TP861 TP862 TP863 TP864 TP865 TP866 TP867 TP868 TP869 TP870 TP871 TP872 TP873 TP874 TP875 TP876 TP877 TP878 TP879 TP880 TP881 TP882 TP883 TP884 TP885 TP886 TP887 TP888 TP889 TP890 TP891 TP892 TP893 TP894 TP895 TP896 TP897 TP898 TP899 TP900 TP901 TP902 TP903 TP904 TP905 TP906 TP907 TP908 TP909 TP910 TP911 TP912 TP913 TP914 TP915 TP916 TP917 TP918 TP919 TP920 TP921 TP922 TP923 TP924 TP925 TP926 TP927 TP928 TP929 TP930 TP931 TP932 TP933 TP934 TP935 TP936 TP937 TP938 TP939 TP940 TP941 TP942 TP943 TP944 TP945 TP946 TP947 TP948 TP949 TP950 TP951 TP952 TP953 TP954 TP955 TP956 TP957 TP958 TP959 TP960 TP961 TP962 TP963 TP964 TP965 TP966 TP967 TP968 TP969 TP970 TP971 TP972 TP973 TP974 TP975 TP976 TP977 TP978 TP979 TP980 TP981 TP982 TP983 TP984 TP985 TP986 TP987 TP988 TP989 TP990 TP991 TP992 TP993 TP994 TP995 TP996 TP997 TP998 TP999

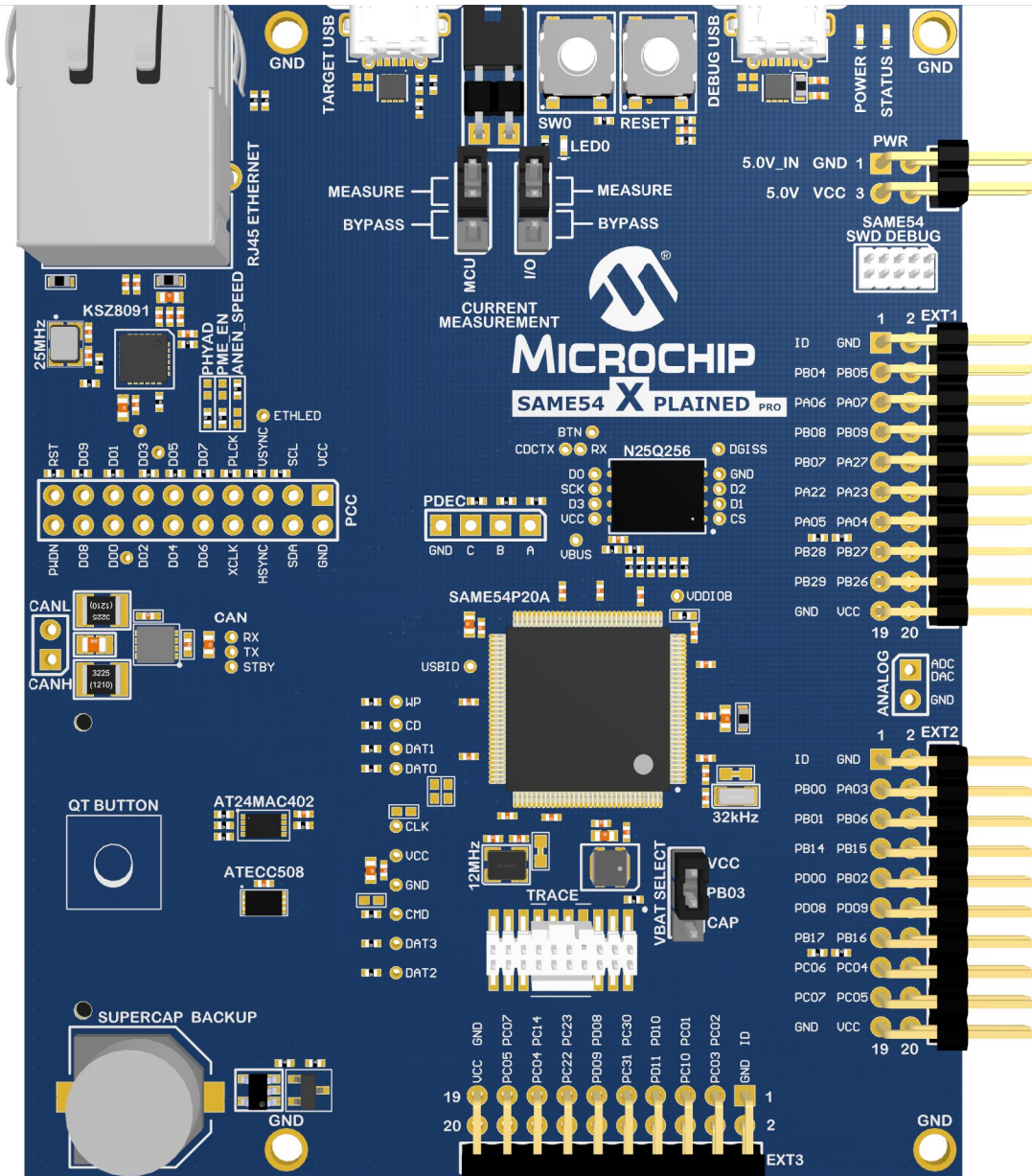


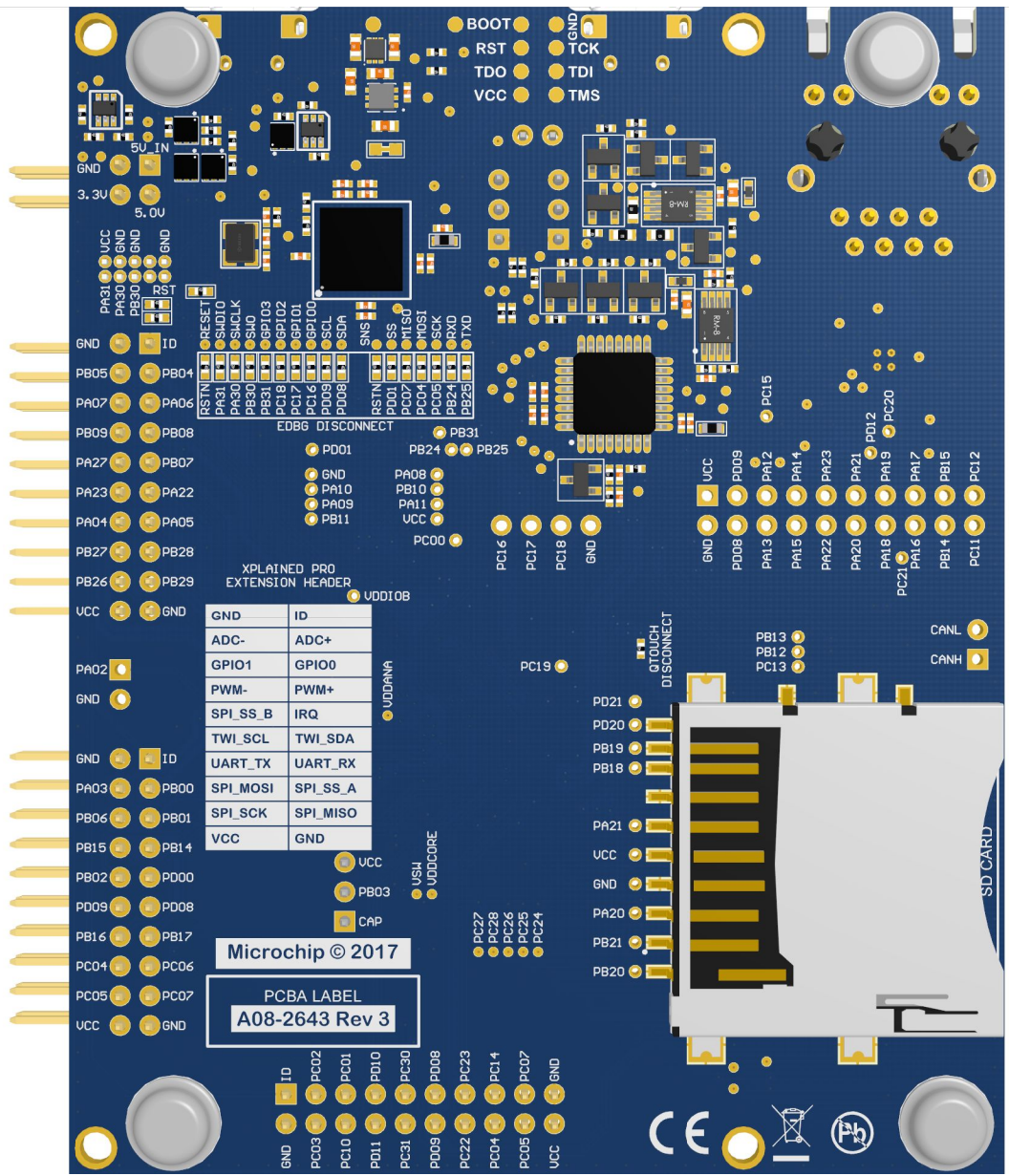
GND	ID
ADC-	ADC+
GPIO1	GPIO0
PWM-	PWM+
SPI_SS_B	IRQ
TWL_SCL	TWL_SDA
UART_TX	UART_RX
SPI_MOSI	SPI_SS_A
SPI_SCK	SPI_MISO
VCC	GND

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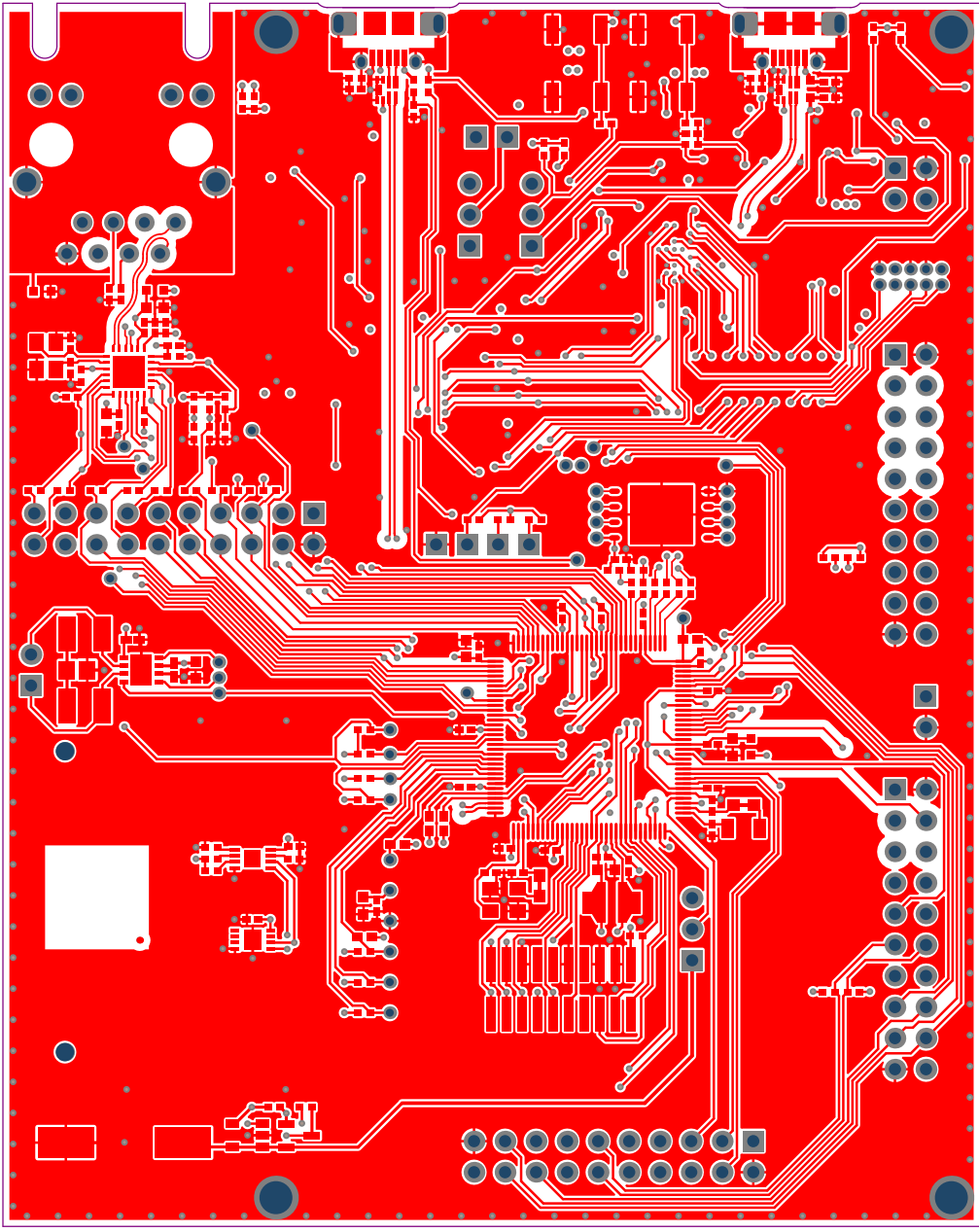


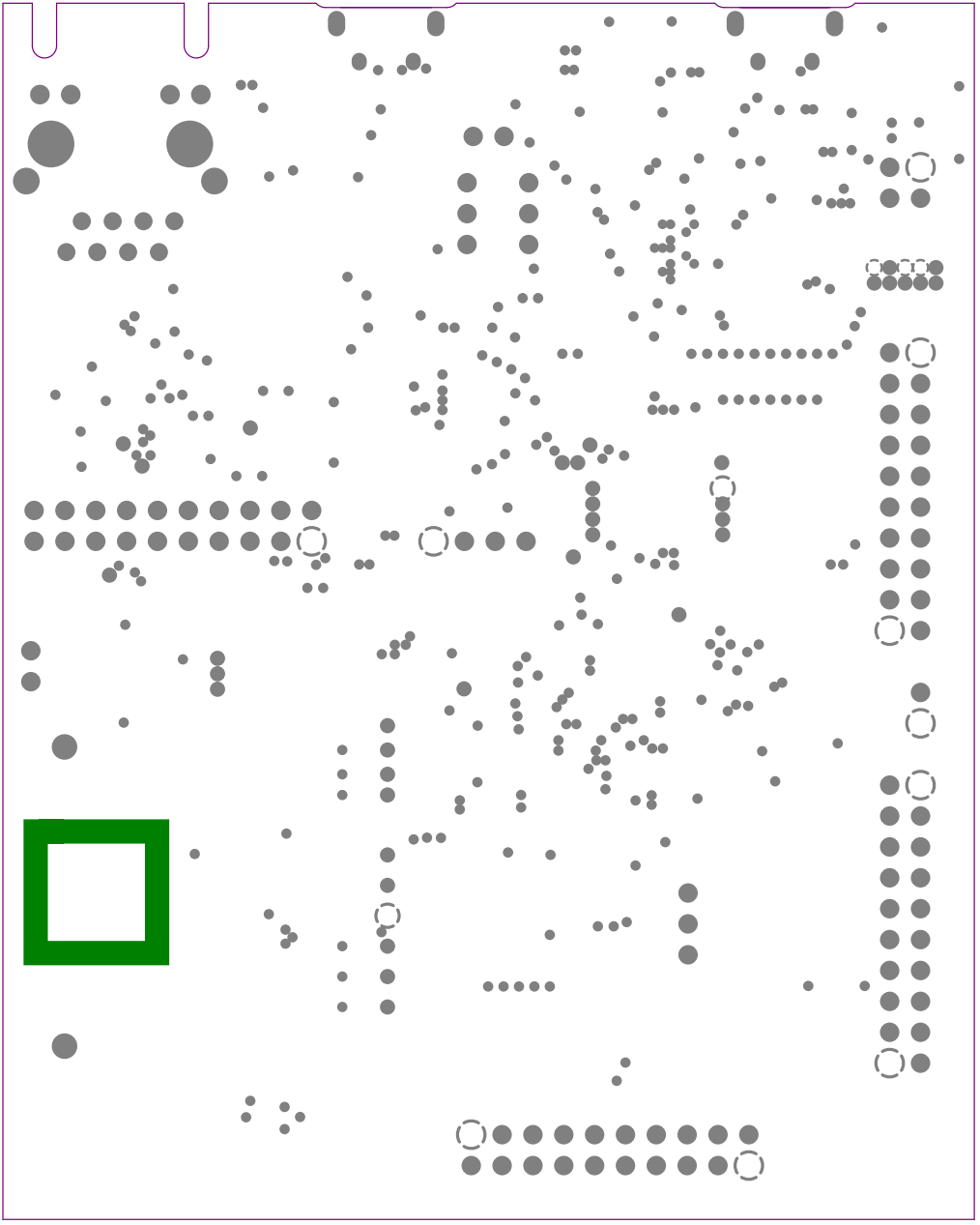


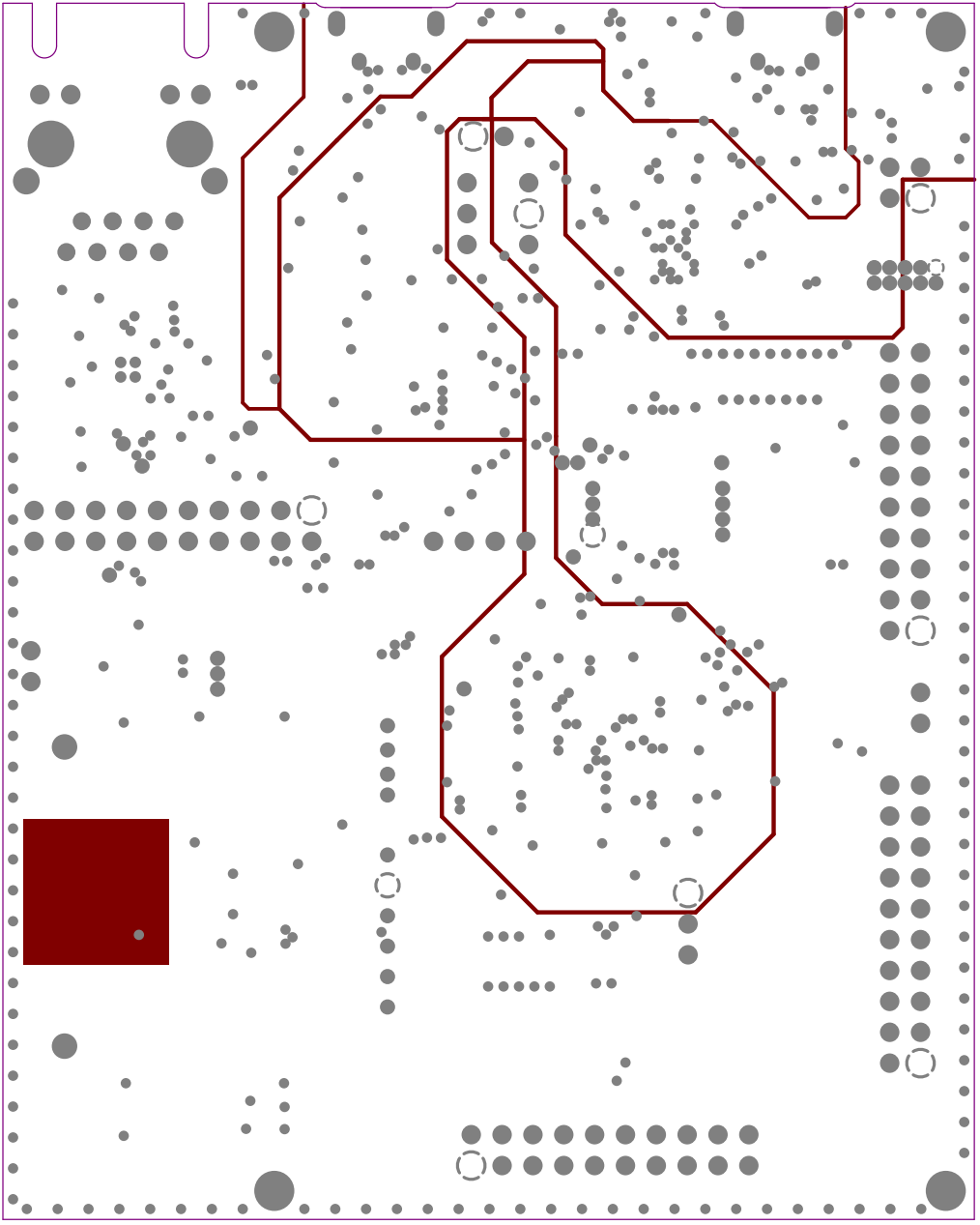
GND	ID
ADC-	ADC+
GPIO1	GPIO0
PWM-	PWM+
SPI_SS_B	IRQ
TWI_SCL	TWI_SDA
UART_TX	UART_RX
SPI_MOSI	SPI_SS_A
SPI_SCK	SPI_MISO
VCC	GND

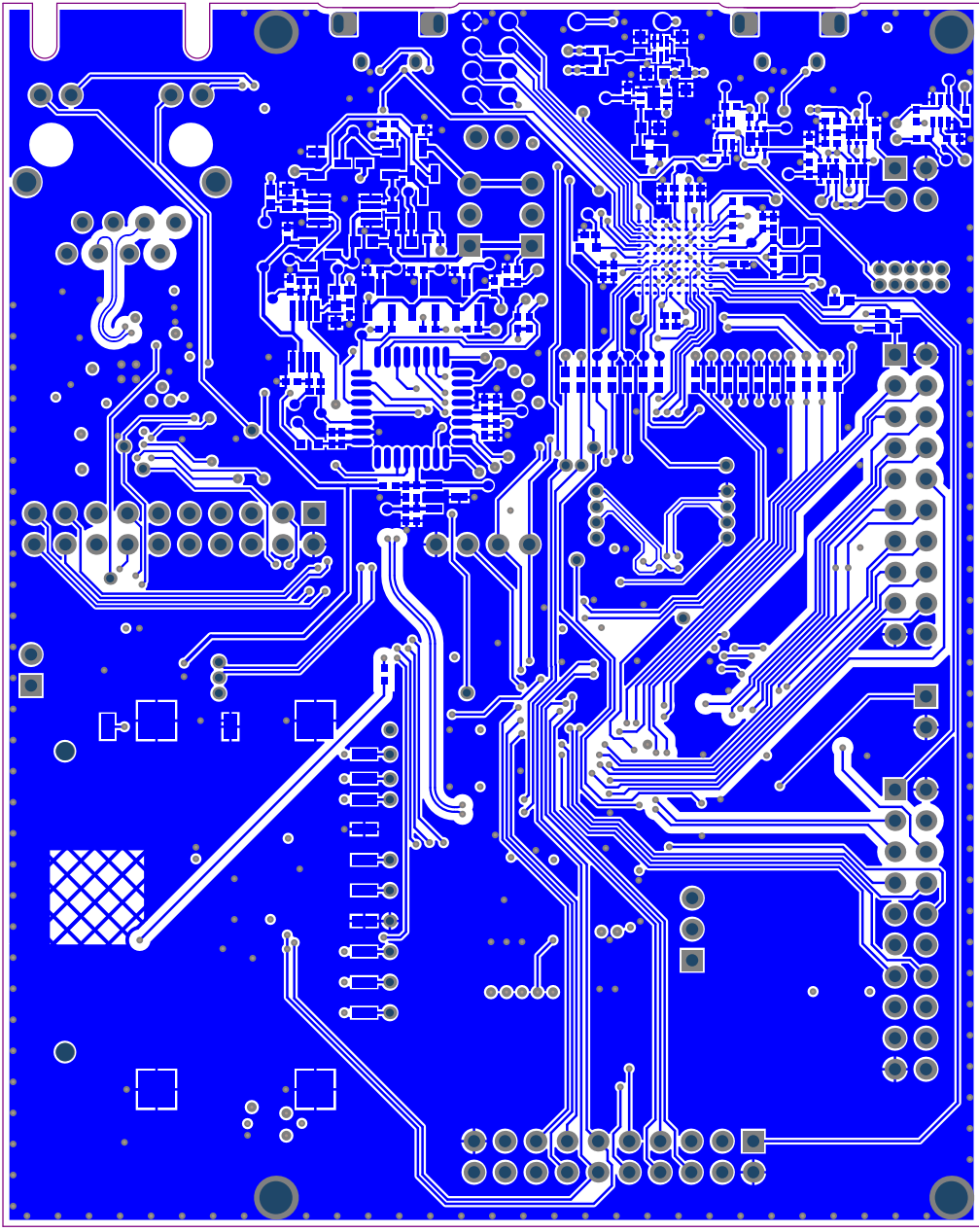
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A08-2643 Rev 3









Component list

Top Level Schematics

Source Data From: SAM_E54_Xplained_Pro.PrjPCB
 Project: SAM_E54_Xplained_Pro.PrjPCB
 Variant: Default assembly

Report Date: 06.07.2017 10:24:38
 Print Date: 06.07.2017 10:24:14



MICROCHIP

Fitted	Designator	Quantity	Value	Manufacturer	MPN	Description
Fitted	C100, C101, C102, C202, C501, C1201, C1203	7	4.7uF	WALSIN Technology Corporation	0603X475K100CT	Ceramic capacitor, SMD 0603, X5R, 10V, 10%, (dc36130)
Fitted	C103, C105, C201, C804	4	22uF10V	Murata	GRM188R612A2E1M15D	Ceramic capacitor, SMD 0603, X5R, 10V, A2.20%
Fitted	C104	1	10n	YAGEO CORP	CC0402KX7R8B2103	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
Fitted	C1102, C1103	2	1u	Kemet	CG402C105K9PAC	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-10% (dc26942)
Fitted	C1105	1	33n	Murata	GRM156R71E33KA88D	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
Fitted	C1202, C1206	2	150p	YAGEO CORP	CC0402KX7R8B2151	Ceramic capacitor, SMD 0402, X7R, 50V, +/-10%
Fitted	C200	1	4.7n	PHYCOMP	2238 587 15632	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10% (dc35287)
Fitted	C201, C203, C204, C205, C207, C208, C209, C210, C211, C212, C213, C214, C215, C216, C600, C603, C605, C606, C607, C613, C700, C701, C703, C705, C806, C810, C811, C812, C813, C1100, C1101, C1104, C1107, C1200, C1204	35	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
Fitted	C206, C217, C704	3	10uF10V	AVX	0603ZD106M1T2A	Ceramic capacitor, SMD 0603, X5R, 10V, 10uF A2 20%
Fitted	C300, C301	2	6.8p	YAGEO CORP	CC0402CRNP09B6NR8	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C302, C303	2	5pF	Murata	GRM1555C1HERDCA01D	Ceramic capacitor, SMD 0402, NP0, 50V, +/-0.25pF
Fitted	C304	1	47nF	Kemet	FC04H473ZF18R04	Electric Double-Layer (Supercapacitor) 3.5V, 47nF, SMD, 10.5mm diameter, 50@ESR
Fitted	C500	1	4.7uF	Murata	GRM188R61E475KA12L	Ceramic capacitor, SMD 0603, X5R, 25V, A2.10%
Fitted	C502, C503	2	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
Fitted	G802, G809	2	12p	Kemet	C0402C120J5GAC7867	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	G808, C807, C809, C814, C815	5	2.2uF	Kemet	C0402C225M8PAC	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20%
Fitted	C800, C801	2	15p	AVX	04025A150JA1T2A	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C802, C803, C808, C1106	4	1 nF COG	Murata	GRM1555C1H02JA01D	Ceramic capacitor, SMD 0402, COG, 50V, +/-5%
Fitted	C804	1	10p	AVX	04025A100JA1T2A	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	D800, D801	2	SML-P11YT-T86	ROHM	SML-P11YT-T86	LED, SMD 0402, Yellow, Wave length=586nm, 7.6mm @ (1mA, 1.9Vf)
Fitted	D801, D802	2	EM121M1TAC	ON Semiconductor	EM121M1TAC	EM121, 325M@121 Single Pass Common Mode Filter with ESD Protection
Fitted	D900	1	SML-P11MT-T86	ROHM	SML-P11MT-T86	LED, SMD 0402, Green, Wave length=569nm, 2.1mm @ (1mA, 1.9Vf)
Fitted	E1, E2, E3, E4	4	SJ-5076	SM	SJ-5076	2.8mm adhesive feet, diam 8.0mm
Fitted	FXTURE1	1	Xplained PRO MCU board Jupiter Test Fixture	ESCA TEC	Xplained PRO MCU board Jupiter Test Fixture	Xplained PRO MCU board Jupiter Test Fixture
Fitted	FW1	1	EDBG secured firm ware	ATMEL		EDBG secured firm ware
Fitted	J100, J102, J302	3	HMT5W-103-23-F-S-237	SAMTEC	HMT5W-103-23-F-S-237	1x3 pin header, 2.54mm pitch, Pin-in-Paste THM, 1mm hole
Fitted	J103	1	Pin header, 1x2 right angle	Pro-data International Corp	2213R-2G	1x2 pin header, right angle, 2.54mm pitch, through-hole
Fitted	J303, J800	2	ZX6ZD-AB-5PR	HIFOSE	ZX6ZD-AB-5PR(30)	Micro USB AB Connector, Standard SMT + DIP
Fitted	J400	1	PI01-2102RGF-139-ND	Pro-data International Corp	PI01-2102RGF-139-ND	Pin header, 2x2, Right Angle, 2.54mm, TH, Pin in Paste
Fitted	J401, J402, J403	3	PI01-2102RGF-139-ND	Pro-data International Corp	PI01-2102RGF-139-ND	Pin header, 2x10, Right Angle, 2.54mm, THM, Pin in Paste
Fitted	J404	1	Pin-Header 2x5	Garry	176-2101-01-X-SD-0730	2x5 pin header, 1.27mm pitch, THM
Fitted	J405	1	FTSH-110-01-F-DV-007-K	SAMTEC	FTSH-110-01-F-DV-007-K	SAMTEC FTSH series 50-mil header, shrouded, pin 7 removed, SMD
Fitted	J500	1	HFU11-2460E-L12RL	Halo Electronics	HFU11-2460E-L12RL	10/100Base-TX, TH, RJ45, green and yellow LEDs, integrated magnetics
Fitted	J700	1	KYOCERA - 14 5738 009 220 859+	Kyocera-elco	KYOCERA - 14 5738 009 220 859+	SDMMC socket, 2.7mm, push-push, SMD
Fitted	J8100, J8101, J8102, J8300	4	SMT-100-BK-G	SAMTEC	SMT-100-BK-G	Jump cap for 2.54mm pinheader
Fitted	L1200, L1201	2	BLM15BB221SN1	Murata	BLM15BB221SN1	SMD RF inductor 0402, Z=220Ohm (@100MHz), Max R(dc)=0.80Ohm, Max current=200mA
Fitted	L200	1	LQH39NN100M0J0	Murata	LQH39NN100M0J0	10uH power inductor, Isat = 560mA, Itemp = 710mA, Rdc = 0.360Ohm
Fitted	L201, L600, L602, L800, L801, L1100	6	BLM18PG471SN1	Murata	BLM18PG471SN1	SMD RF inductor 0603, Z=470Ohm (@100Hz), Max R(dc)=0.65Ohm, Max current=1A
Fitted	LABEL1	1	Label PCB/A	ACT Logmark AS	505462	PCBA identification label PP Top White Gloss
Fitted	PCB1	1	SAME54 Xplained Pro PCB documentation			SAME54 Xplained Pro PCB documentation
Fitted	PCBADDC1	1	SAME54 Xplained Pro PCB/A documentation			SAME54 Xplained Pro PCB/A documentation
Fitted	Q100, Q101, Q102, Q103	4	DMP126LDFB-7	Diodes Incorporated	DMP126LDFB-7	MOSFET 20V 3.8A DUAL P-CHAN, Rds 70mOhms, Vgs 12V, Vds -20V
Fitted	Q104, Q800	2	2N7002DW	Fairchild	2N7002DW	Dual N-Channel MOSFET, 60V, 115mA cont, RDS(ON) < 7.5 Ohm @50mA @5V, SOT-363
Fitted	Q300, Q1200	2	IRLM6402	International Rectifier	IRLM6402PBF	P-Ch, MOSFET, -30V, -3.7A continuous, RDS(ON)=0.50mOhm @VGS=4.5V, RDS(ON)=0.080mOhm @VGS=2.5V
Fitted	Q900	1	PMV48XP	NXP	PMV48XP,215	P-Channel Digital FET, -30V, -3.5A continuous, -14A Peak, RDS(ON)=48mOhm @VGS=4.5V, RDS(ON)=71mOhm @VGS=2.5V, VGS(th)<1.25V
Fitted	Q901, Q1201	2	BSS138N	Infineon	BSS138N	Low leakage N-Channel MOSFET, 60V, 0.23A continuous, 0.52A Peak, RDS(ON) = 3.50mOhm @VGS=4.5V, VGS(th)<1.4V
Fitted	Q902, Q1000, Q1001, Q1002	4	B5H201	NXP	B5H201,215	P-Channel Digital FET, -60V, -0.3A continuous, -1.2A Peak, RDS(ON)=2.5 @VGS=-10V, RDS(ON)=5 Ohm @VGS=2.5V, VGS(th)<1.9V
Fitted	R100, R102, R104, R105, R106, R107, R108, R109, R200, R602, R704, R706, R707, R708, R709, R712, R901, R902, R1000, R1001, R1002, R1201	22	100k	ASJ	CR10-1003-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R1004	1	2.2k	ASJ	CR10-2201-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R101, R103, R621, R622, R623, R624, R625, R626, R628, R629, R630	11	0R	(n/a)	RMCF04022TOR00	RES 0.0 OHM 1/16W 0402 SMD
Fitted	R110, R111, R112, R305, R1005	5	47k	KOA	RK73HET1P4702F	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R1105	1	39k	ASJ	CR10-3302-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R1108	1	39k	ASJ	CR10-3902-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R1200	1	0.1R	Vishay	WSL0603R1000FEA	WSL0603R1000FEA, metal strip resistor, 0.1 Ohm, +/-1%, 0603 SMD, 1/10 W, TBMPO +75 ppm/C
Fitted	R1202, R1204	2	100R	Panasonic	ERA-3YEB101V	ERA-3YEB101V, metal film, 100R A±0.1%, resistor in 0603 at 100mW, TEMPO 3±25ppm/C, Max V=75V
Fitted	R1205	1	680R	ASJ	CR10-6800-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R201, R300, R819, R820, R1003	5	39R	ASJ	CR10-3903-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R202, R203, R209, R308, R700, R701, R702, R703, R705, R710, R711, R1203, R1208, R1209	14	10k	Vishay	CRW040210K0FKED	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R204, R803, R808, R812, R813, R814, R816, R817, R818, R824, R827	11	(n/a)	(n/a)	RMCF04022TOR00	RES 0.0 OHM 1/16W 0402 SMD
Fitted	R220, R221, R1104, R1207	4	2k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R222, R301, R304, R800, R805, R816, R818, R805, R806	9	1k	ASJ	CR10-1001-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R223, R224	2	3.9k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R302, R601, R603	3	220R	ASJ	CR10-2200-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R303	1	30k	ASJ	CR10-3002-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R307	1	330R	ASJ	CR10-3300-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R501, R501	2	62R	Vishay	CR0W14062R50PAG4HP	Thick film resistor, SMD 1210, 0.5W, 1%
Fitted	R604	1	6.49k	PHYCOMP	23227067402L	Thick film resistor, SMD 0402, 1/16W, 1%, E48
Fitted	R605, R1102, R1103	3	4.7k	PHYCOMP	232270674702L	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R713, R714, R715, R716, R717, R718	6	33R		CR10-33R0-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R800, R801, R823	3	1k	ASJ	CR10-1001-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R802	1	39R	ASJ	CR10-39R0-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R804, R807	2	1M	ASJ	CR10-1004-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R809, R810, R811, R815, R825, R826	6	330R	ASJ	CR10-3300-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R821	1	6.81k	Vishay	CRW04026K81FKED	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R900, R1006	2	4.7M	YAGEO CORP	RD0402FR-074MFL	Thick film SMD 0402 1/16W 1%
Fitted	SW200, SW300	2	SKRAAKED10	ALPS	SKRAAKED10	6.2x6.2mm SMD tact swt, same as A08-0091 but less force is needed
Fitted	TEST1	1	SAME54 Xplained Pro eggTest			SAME54 Xplained Pro eggTest
Fitted	TESTDOC1	1	SAME54 Xplained Pro Test Instructions			SAME54 Xplained Pro Test Instructions
Fitted	U100	1	TLV70033DSE	Texas Instruments	TLV70033DSE	LDO, 200 mA, Iq=31 uA, Vdo=250mV, Vout=3.3V, VIN= 2 V to 5.5V, SON-6 package
Fitted	U101	1	TPS7333DRV	Texas Instruments	TPS7333DRV	Low noise LDO, 500 mA, Vout=3.3V, 2% accuracy, IQ=60uA, noise=28uVrms, VIN= 2.7V to 6.5V, Vdo=280mV, stable with low ESR capacitor
Fitted	U1100	1	SAMD20E17A-AUT	ATMEL	ATSAMD20E17A-AUT	Atmel 32bit RISC MCU 32 pin
Fitted	U1101	1	LM041CEM8-ADJNCPB	Texas Instruments	LM041CEM8-ADJNCPB	Adjustable shunt voltage regulator, 1.24 to 10V out
Fitted	U1200	1	AD8656	Analog Devices	AD8656ARMZ	AD8656, dual low noise precision OpAmp, rail-to-rail, low offset 250uV, GBP=28 MHz, 8MSOP
Fitted	U1201	1	ADA4528-1	Analog Devices	ADA4528-1ARMZ	Precision OpAmp, Zero-Drift 0.015uV/K, ultra low noise 5.6nV/sqrt(Hz), Vo=2uV, GBW=4MHz, single supply 2.2V to 5.5V or dual supply -1V to -2.75V, rail to rail, unity gain stable
Fitted	U200	1	ATSAME42P0A	ATMEL	ATSAME42P0A-AUT	Atmel 32-bit RISC MCU
Fitted	U300	1	BU7265SG-TR	ROHM	BU7265SG-TR	Single, Low Voltage (1.8-5.5V), Low Power (0.35A), low cost
Fitted	U500	1	ATA6561-GBQW	ATMEL	ATA6561-GBQW	5Mbits CAN Transceiver, VCC=5V, VID=2.8-5V, 3x3mm VDFNB
Fitted	U600	1	KSZ8091RNAACA	Microchip	KSZ8091RNAACA	10Base-T/100Base-TX PHY, RML, EEE, WOL, 50MHz clock output
Fitted	U700	1	A214MA-C402-MA-HM-T	ATMEL	A214MA-C402-MA-HM-T	2kbit I2C EEPROM, single EU4-48 MAC, 1.7-5.5V, 2x3mm UDFN (8MA2)
Fitted	U701	1	ATECC508A I2C UDFN	MICROCHIP	ATECC508A-MA-HDA-T	ATECC508A with an I2C interface and a 8 Pin UDFN package with PadDie
Fitted	U702	1	N25Q256A13E840	Microon	N25Q256A13E840	256 Mbit (32Mb) QSPI flash, 3.3V, 108MHz, V-PORFN (8x6mm)
Fitted	U800	1	AT32UC3A4256P-CL1R	ATMEL	AT32UC3A4256P-CL1R	Atmel 32-bit RISC MCU
Fitted	XC300	1	32.768kHz	Kyocera Crystal Device Corporation	S13215S832768A0HFMBB	Kyocera S13215S832768A0HFMBB, 32.768kHz, 5PF, SMD tuning fork crystal
Fitted	XC301, XC800	2	12.00MHz	Kyocera Crystal Device Corporation	CX3225CA12000DKPSC1	Kyocera CX3225CA, 12MHz, 8pF, AEC-Q200, SMD crystal, Kyocera CX3225G2000HKPSC1, 12MHz, 12pF, SMD crystal
Fitted	XC600	1	25.00MHz	Kyocera Crystal Device Corporation	CX3225SB25000DKPSC1	Kyocera CX3225SB, 25MHz, 8pF, AEC-Q200, SMD crystal
Not Fitted	C305, C805	0	4.7n	PHYCOMP	2238 587 15632	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
Not Fitted	J406	0	HMT5W-110-23-F-D-237	SAMTEC	HMT5W-110-23-F-D-237	2x10 pin header, 2.54mm pitch, Pin-in-Paste THM, 1mm hole
Not Fitted	J407	0	HMT5W-104-23-F-S-237	SAMTEC	HMT5W-104-23-F-S-237	1x4 pin header, 2.54mm pitch, Pin-in-Paste THM
Not Fitted	J408, J500	0	HMT5W-102-23-F-S-237	SAMTEC	HMT5W-102-23-F-S-237	1x2 pin header, 2.54mm pitch, Pin-in-Paste THM
Not Fitted	R205, R206, R207, R208	0	0R	(n/a)	RMCF04022TOR00	RES 0.0 OHM 1/16W 0402 SMD
Not Fitted	R306, R822	0	1M	ASJ	CR10-1004-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Not Fitted	R609, R613	0	4.7k	PHYCOMP	232270674702L	Thick film resistor, SMD 0402, 1/16W, 1%
Not Fitted	R619	0	1k	ASJ	CR10-1001-FK	Thick film resistor, SMD 0402, 1/16W, 1%

Approved _____ Notes _____

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