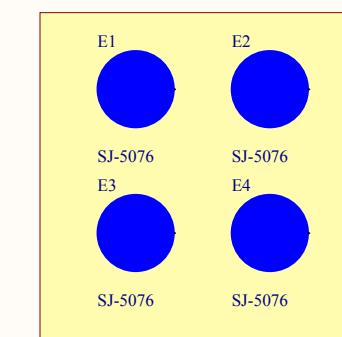
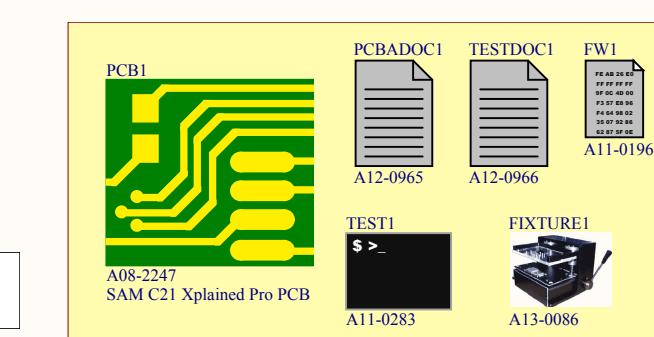
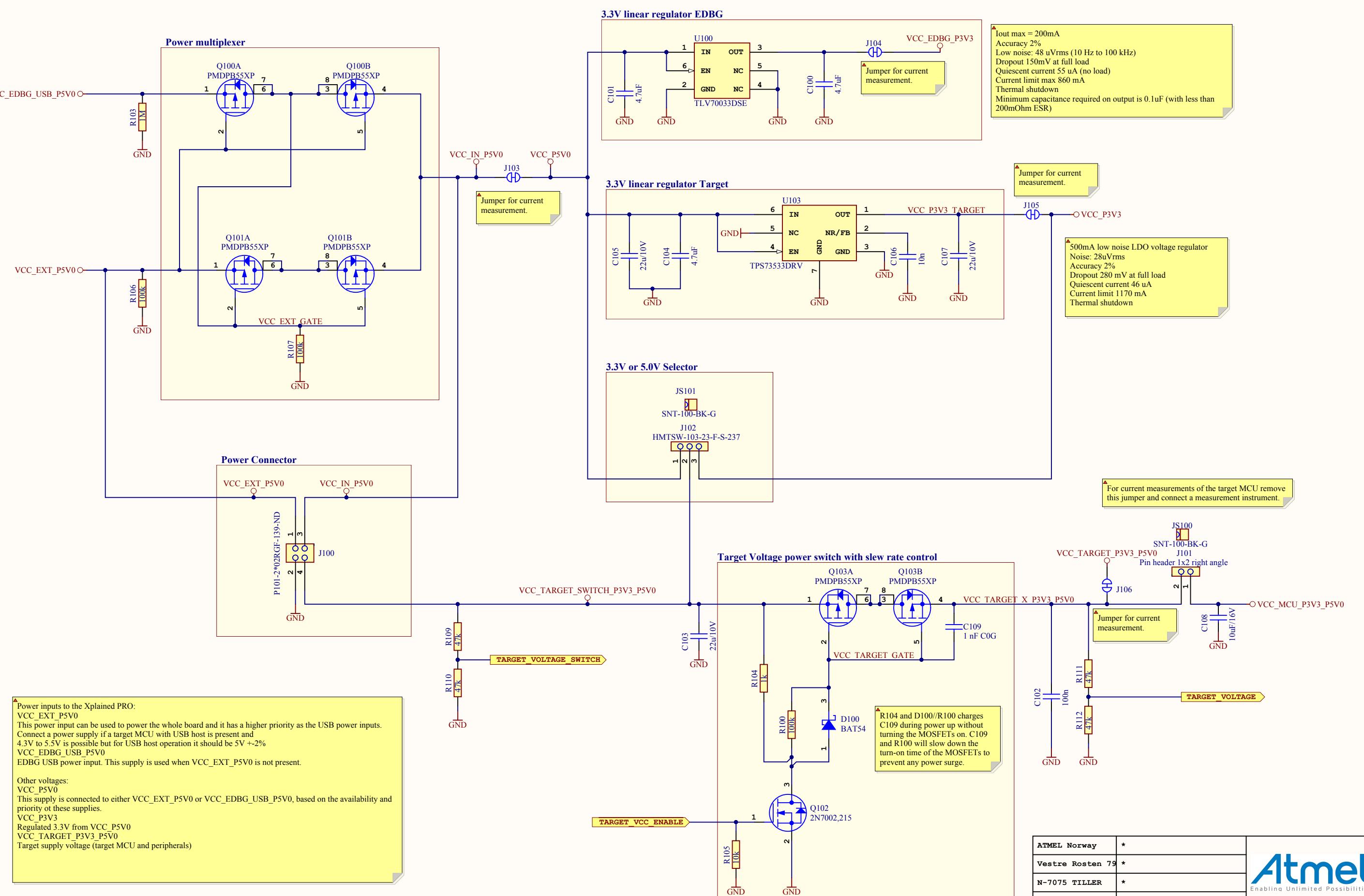


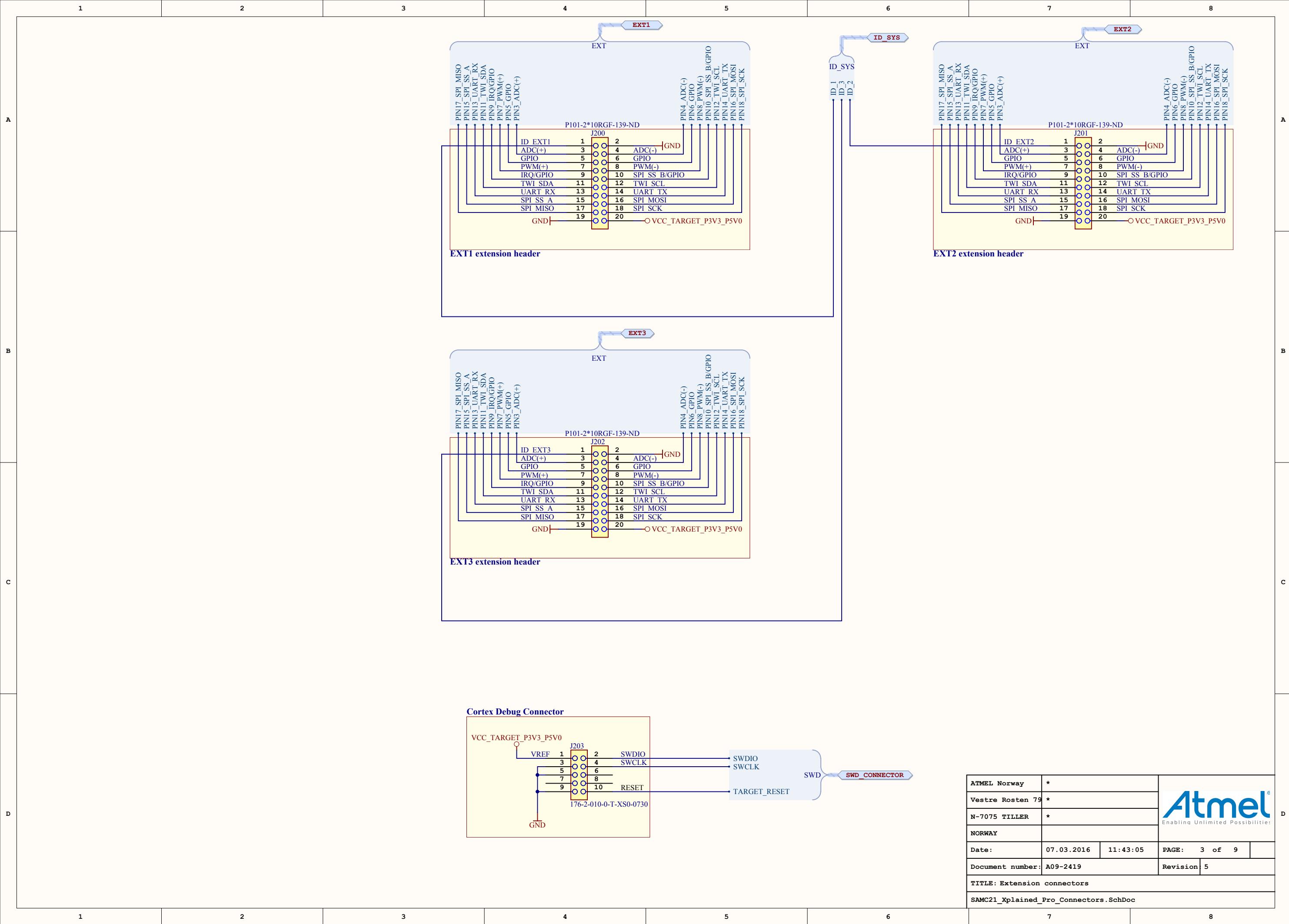
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 Product number/revision
 Serial number

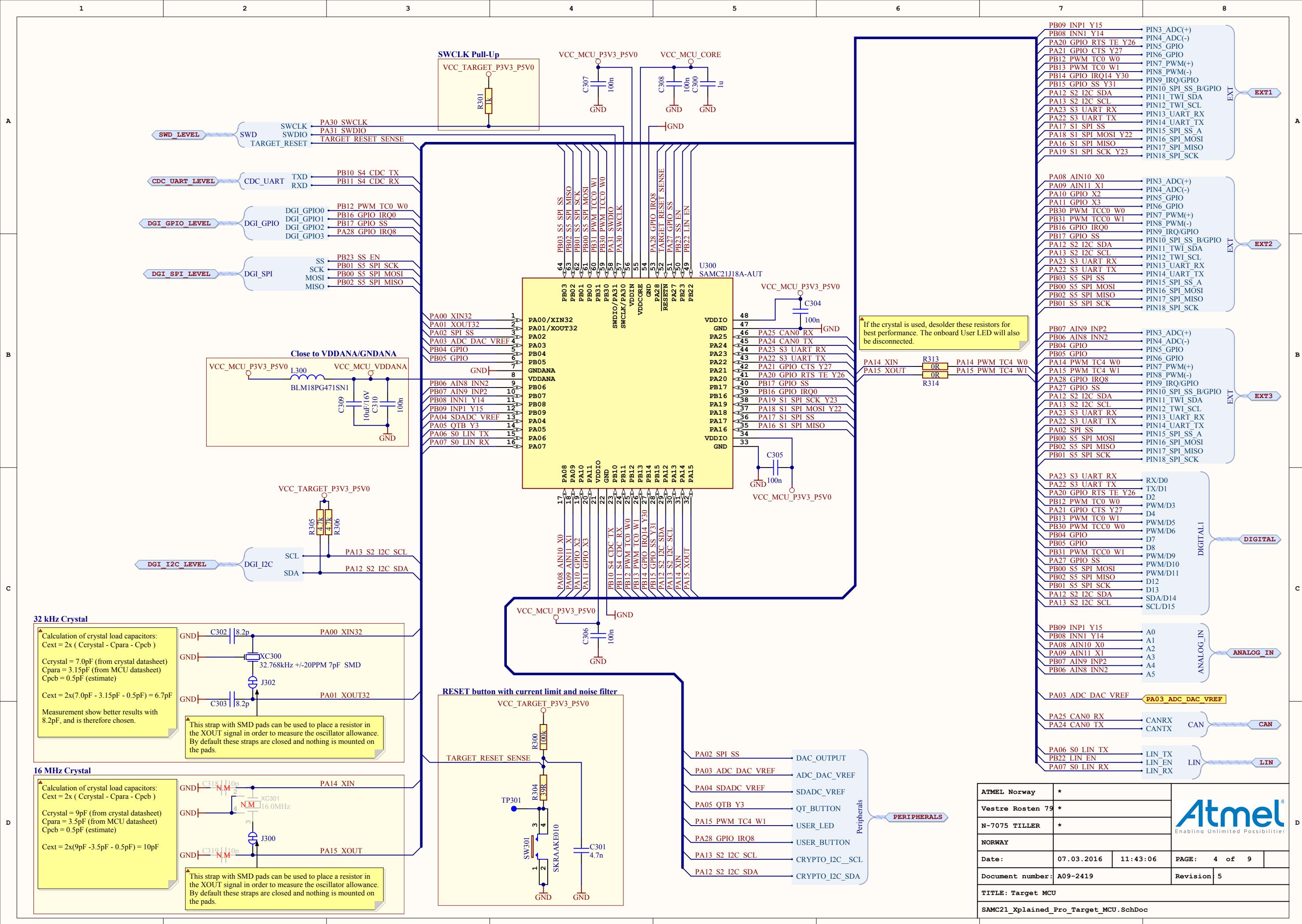


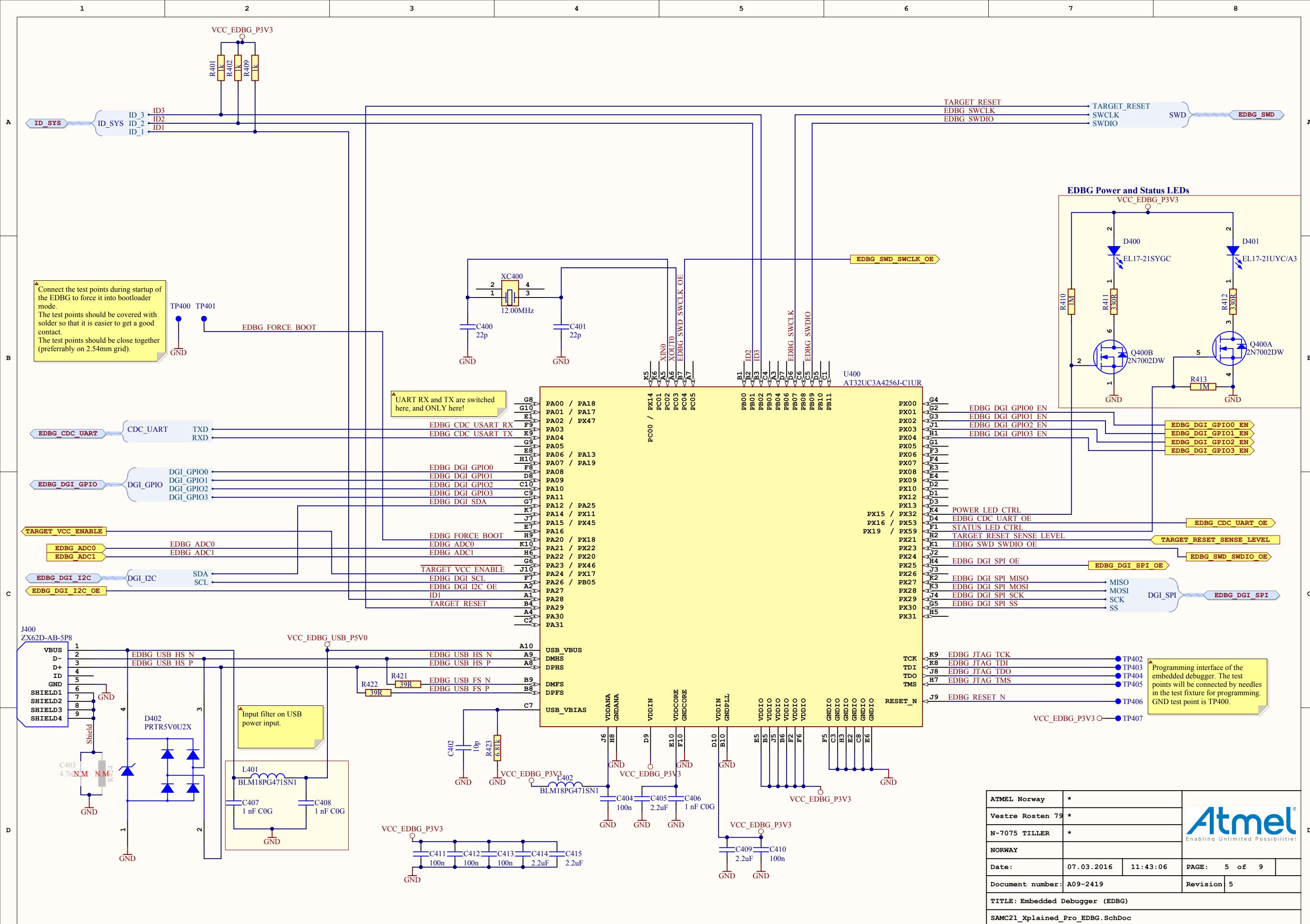
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Vestre Rosten 79	*	
N-7075 TILLER	*	
NORWAY		
Date:	07.03.2016	11:43:05
Document number:	A09-2419	Revision 5
TITLE: Top Level Schematics		
SAMC21_Xplained_Pro_TopLevel.SchDoc		

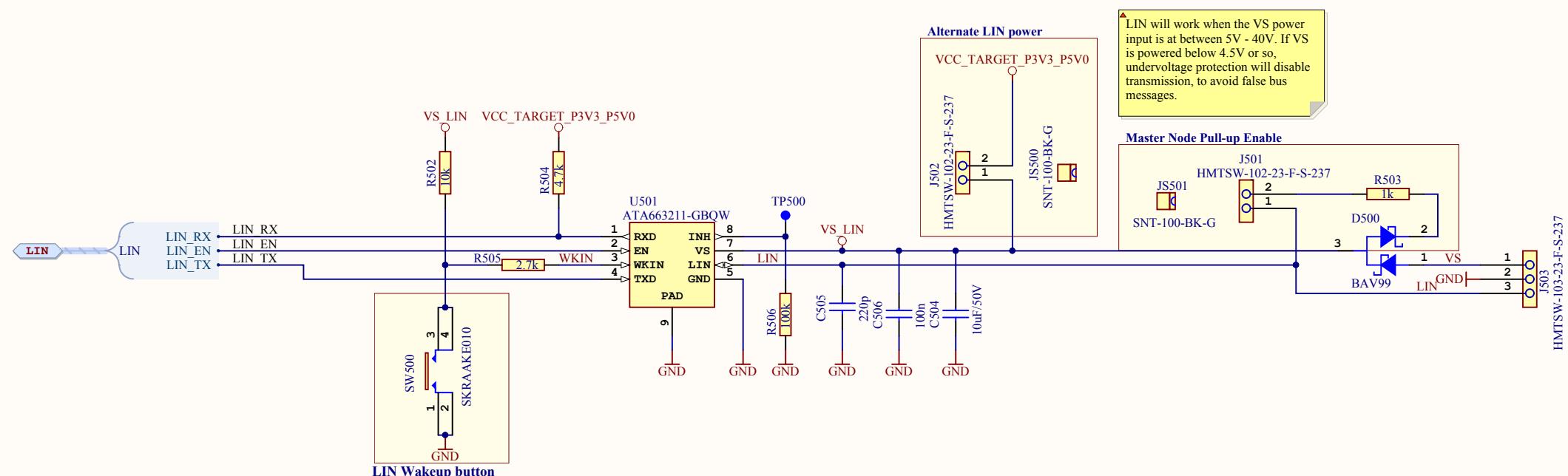
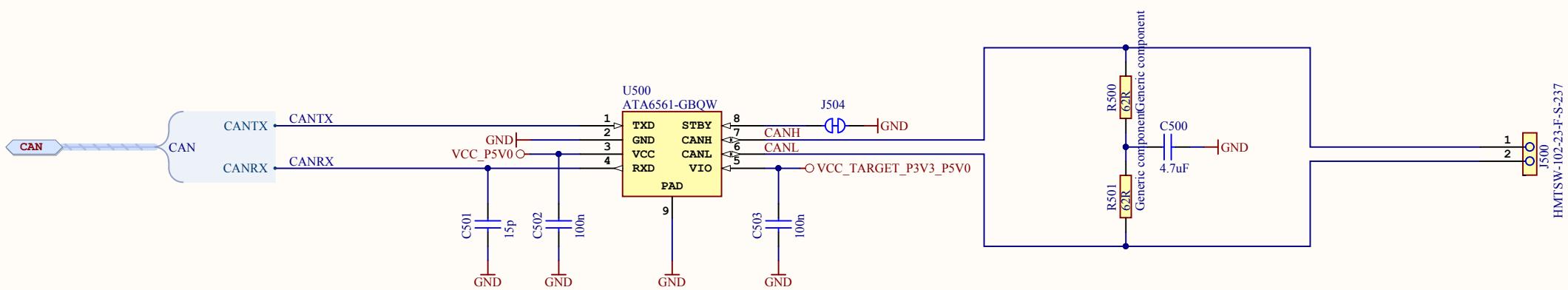


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NORWAY				
Date:	07.03.2016	11:43:05	PAGE:	2 of 9
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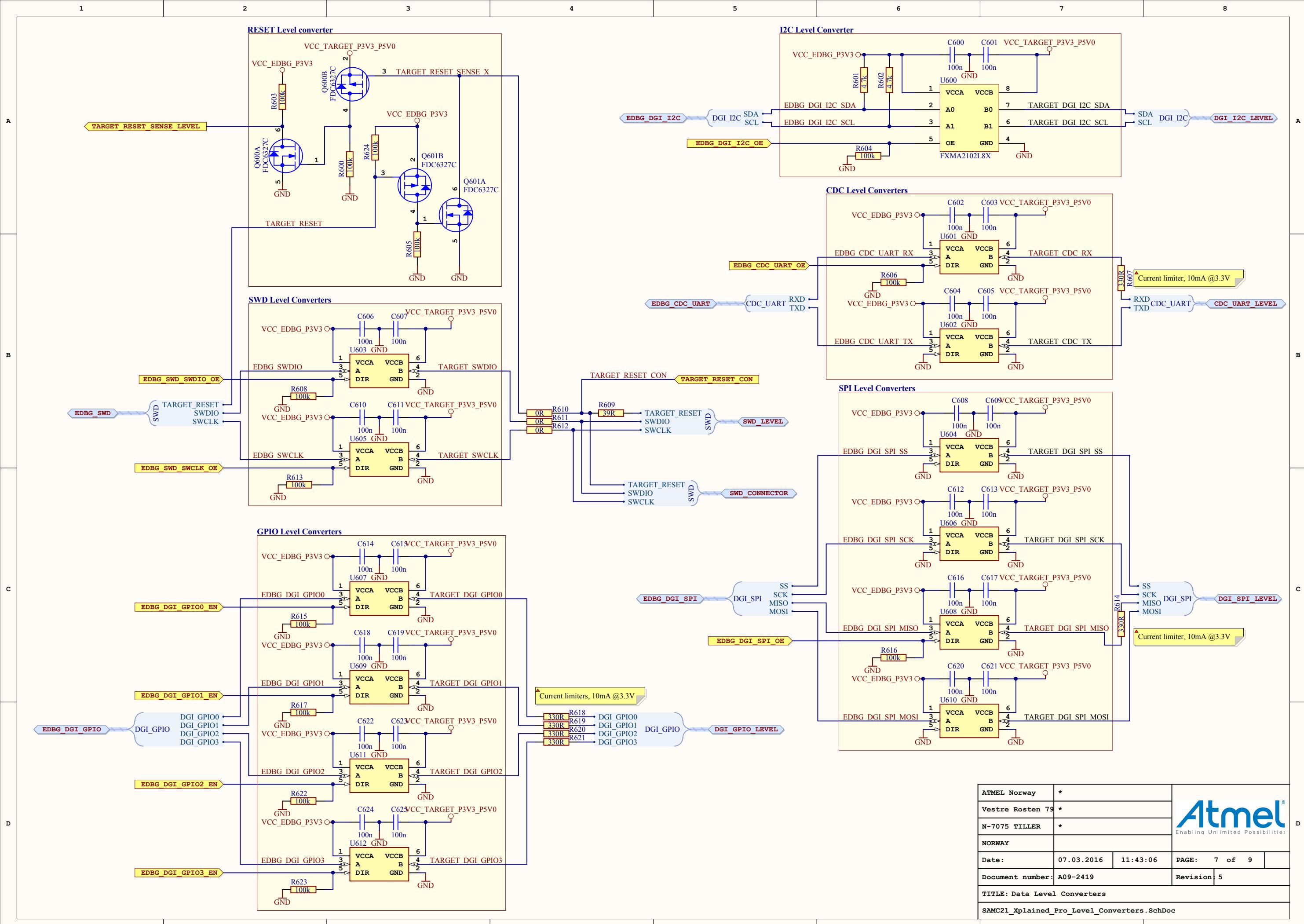


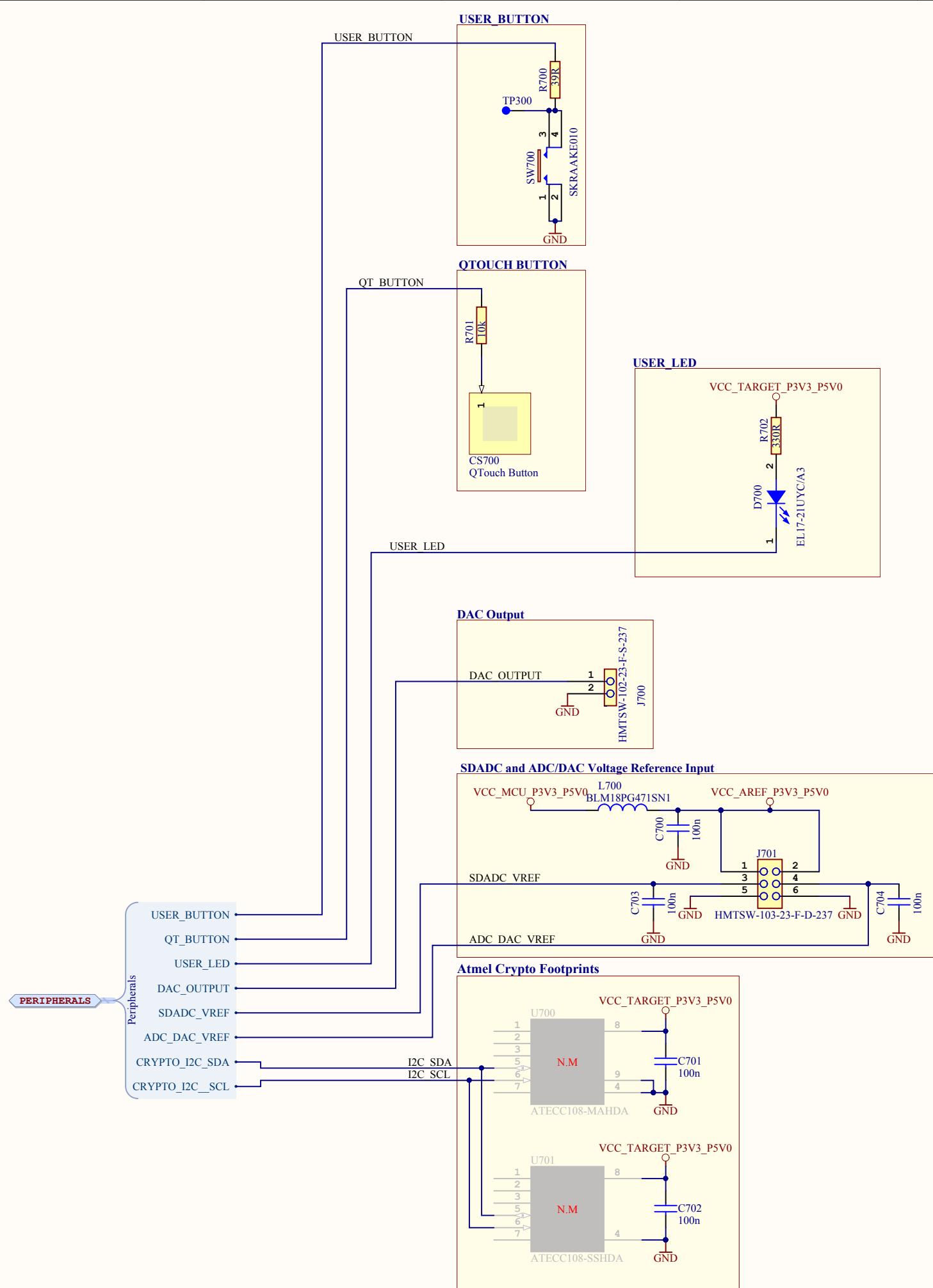






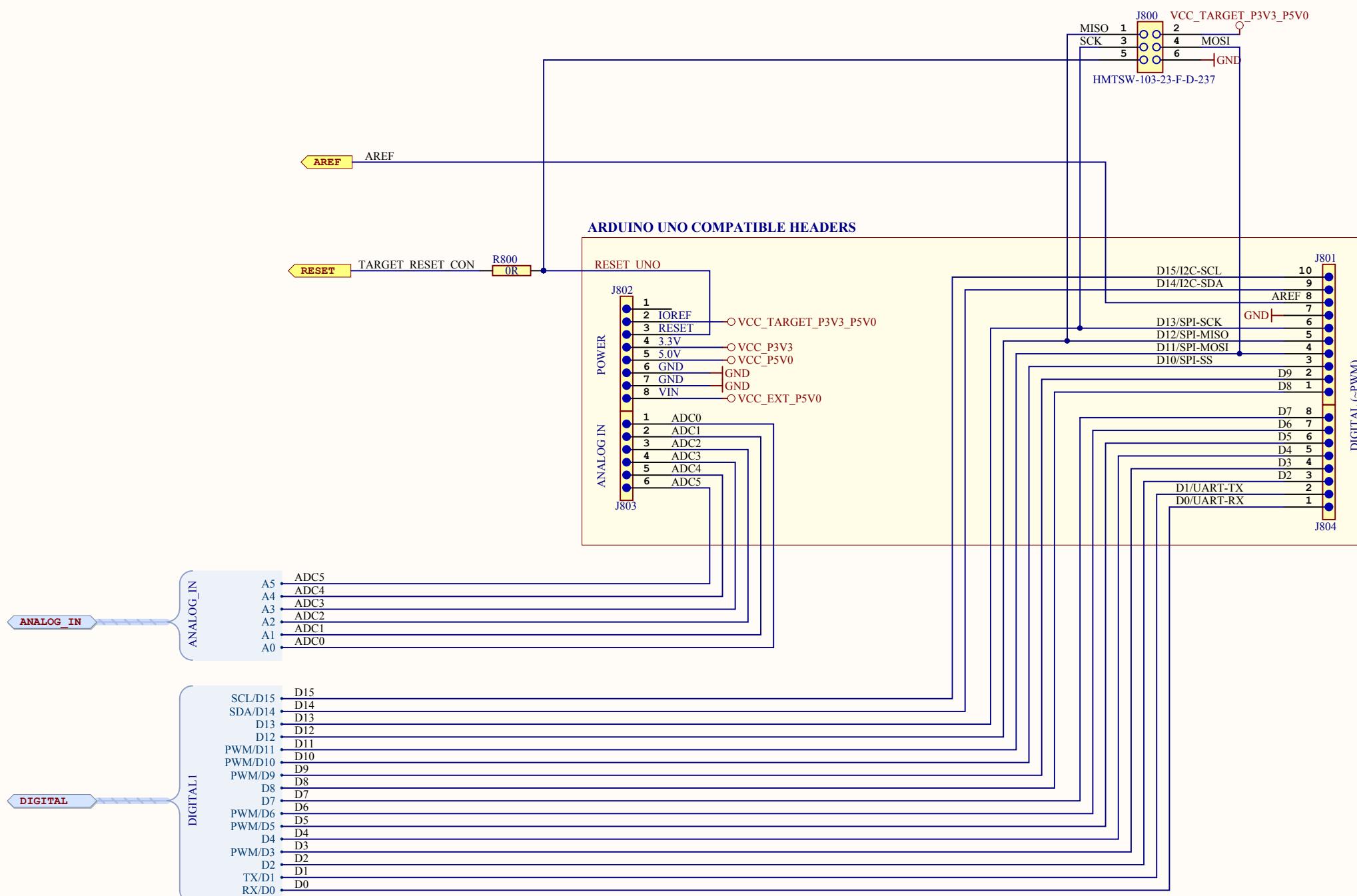
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Date:	07.03.2016	PAGE: 6 of 9
Document number:	A09-2419	Revision 5
TITLE: CAN & LIN Interface		
SAMC21 Xplained Pro CAN LIN.SchDoc		





ATMEL Norway	*
Vestre Rosten 79	*
N-7075 TILLER	*
NORWAY	
Date:	07.03.2016 11:43:06
Document number:	A09-2419
Revision	5
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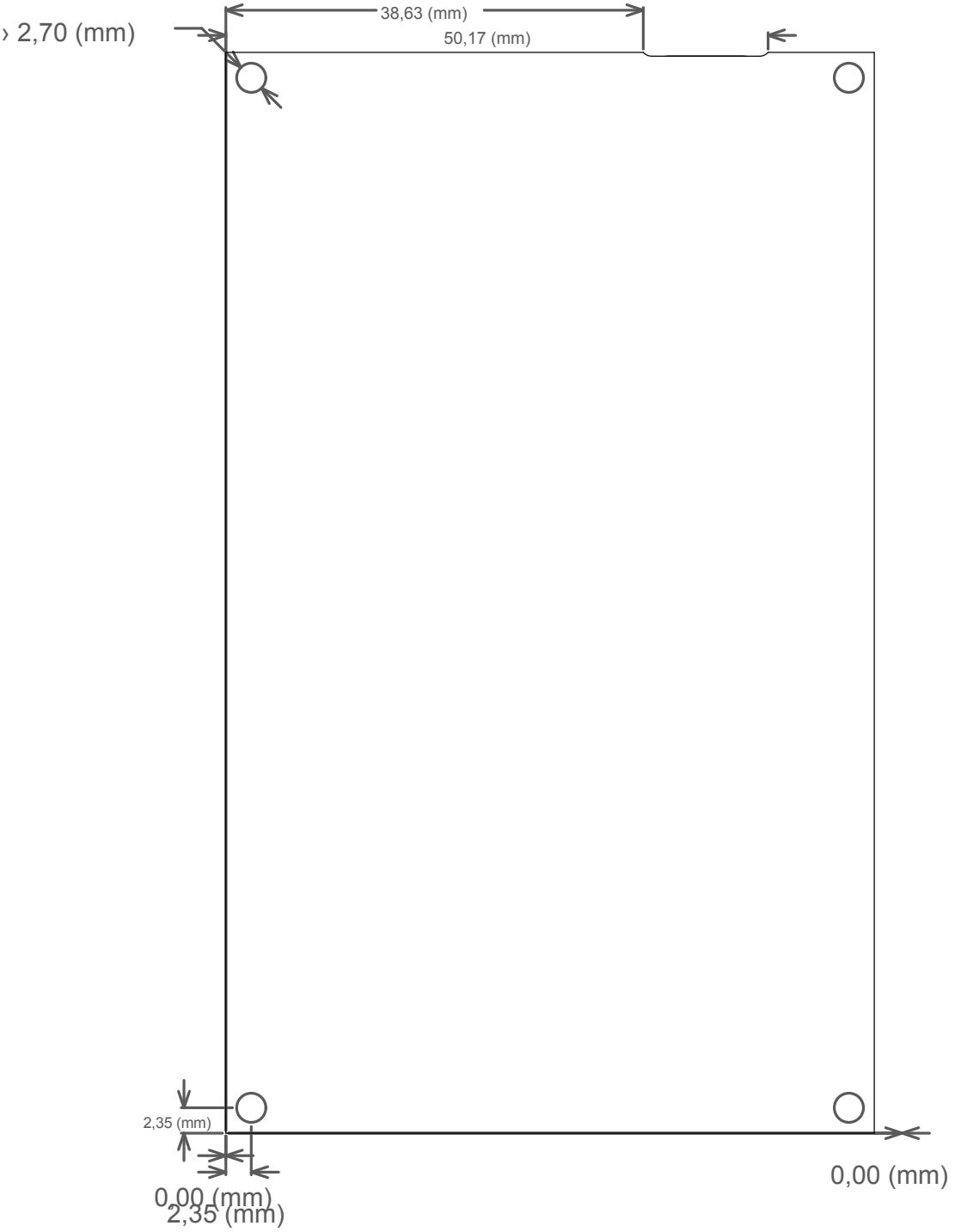
Enabling Unlimited Possibilities



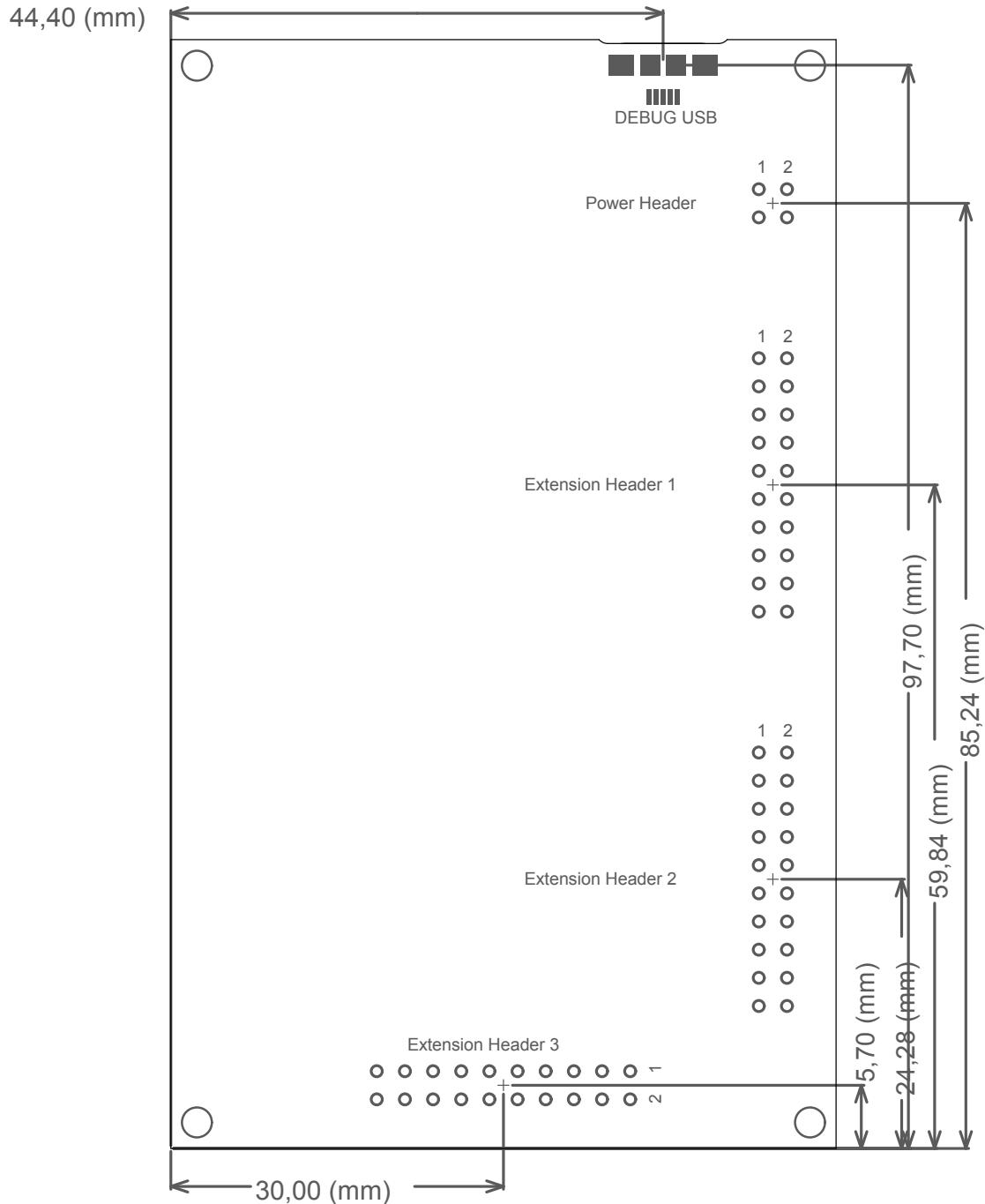
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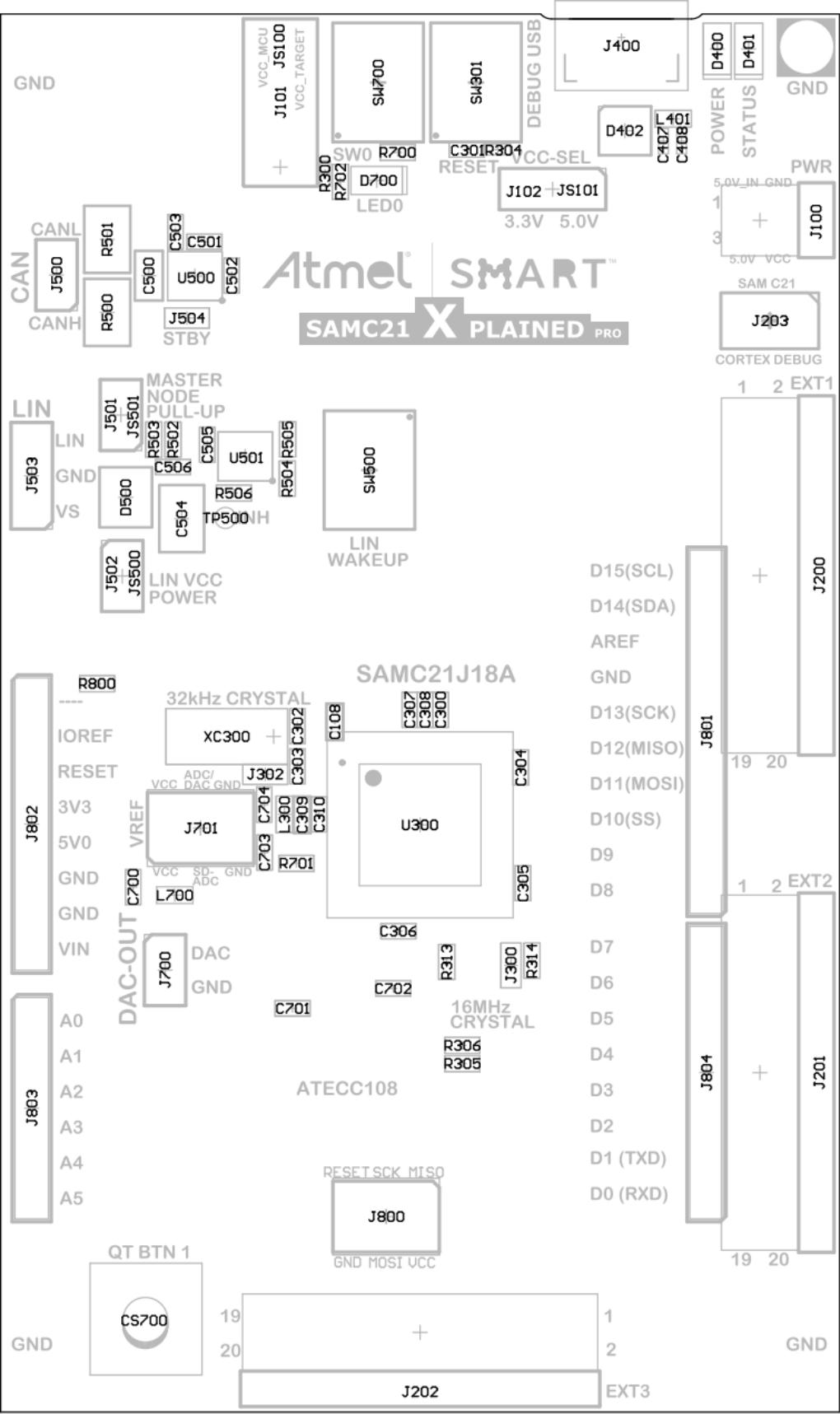
Atmel[®]
Enabling Unlimited Possibilities

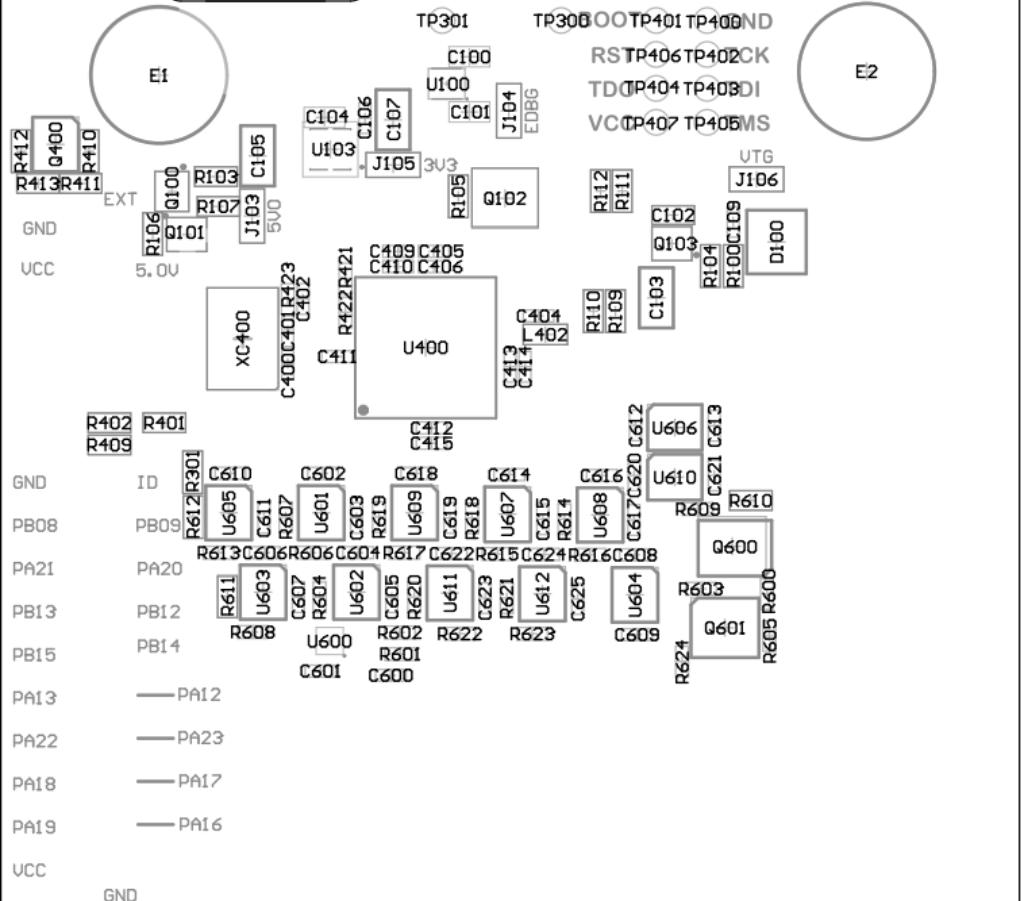
Medium MCU Mechanical Dimensions



Medium MCU Connector Placement







XPLAINED PRO EXTENSION HEADER

GND	ID
GND	ID
PA09	PA08
PA11	PA10
PB31	PB30
PB17	PB16
PA13	PA12
PA22	PA23
PB00	PB03
PB01	PB02
VCC	GND

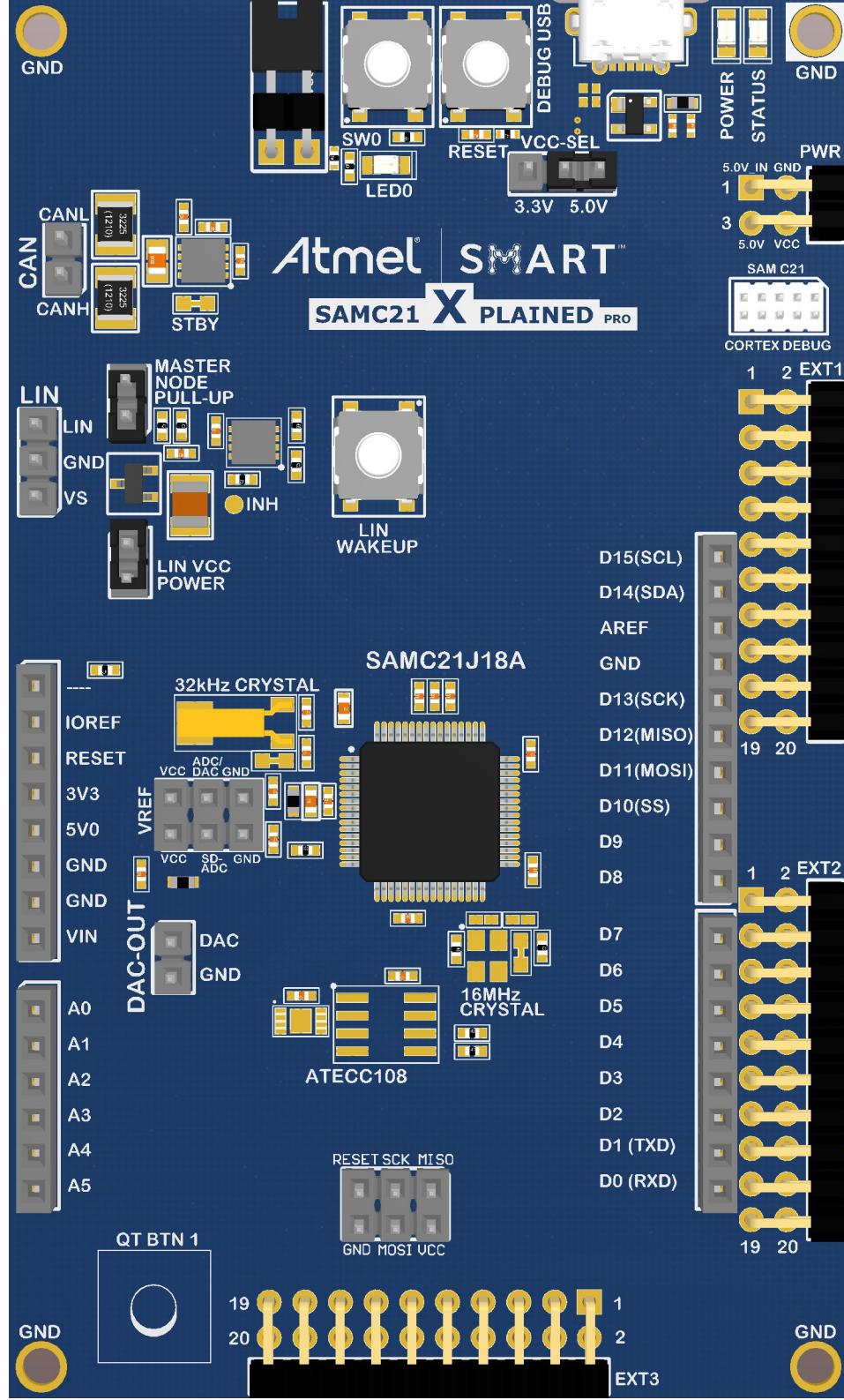


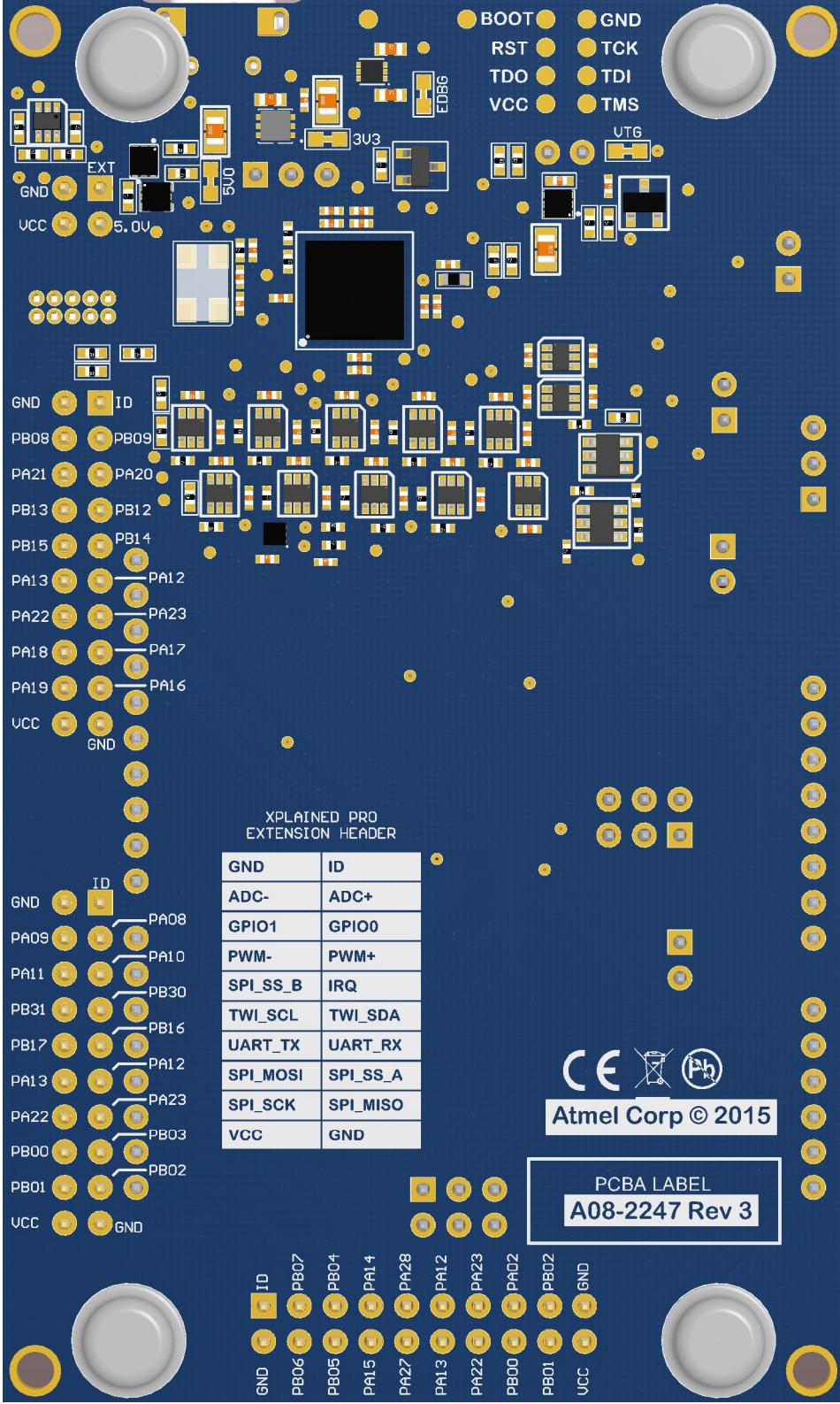
Atmel Corp © 2015

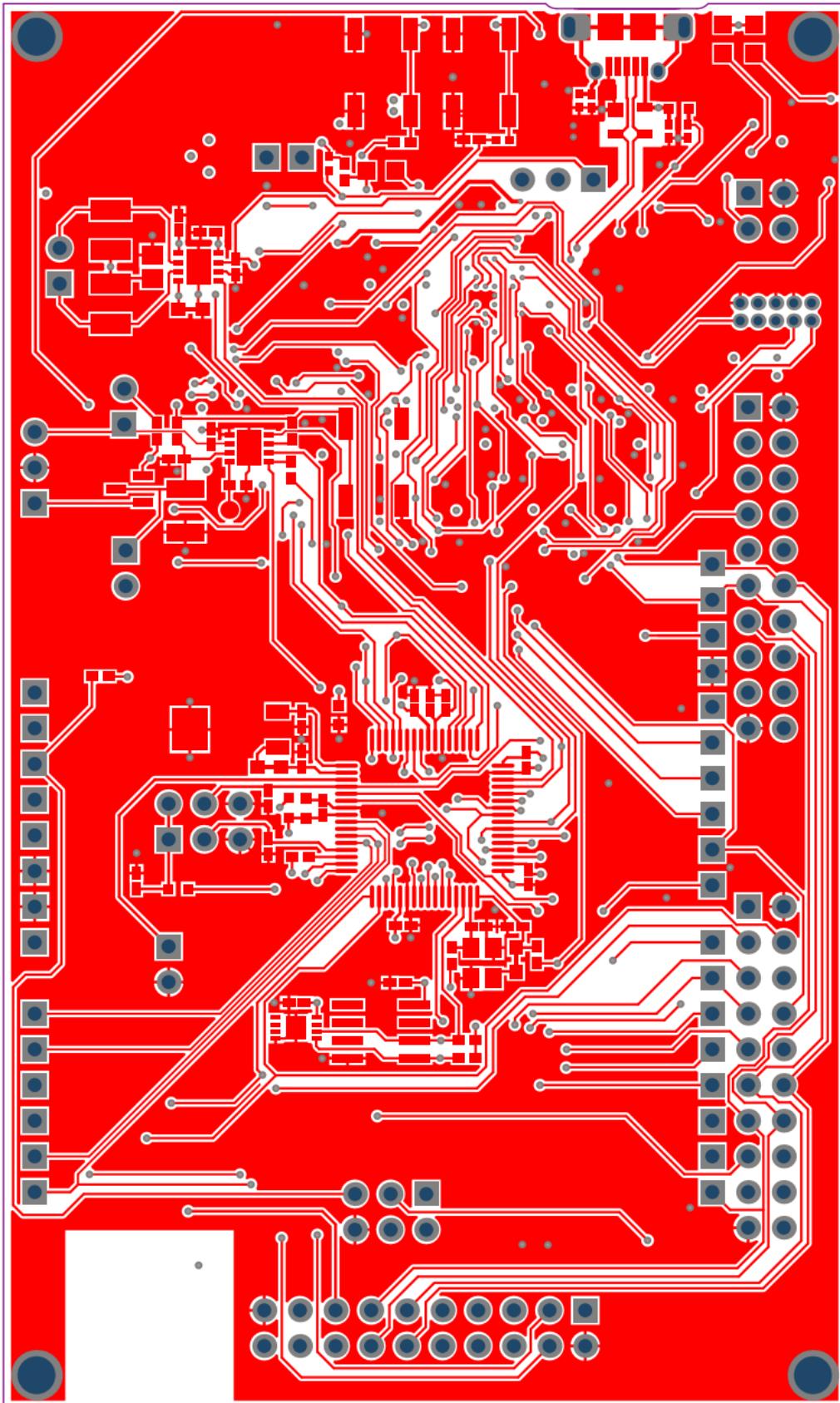
PCBA LABEL
A08-LABEL Rev 3

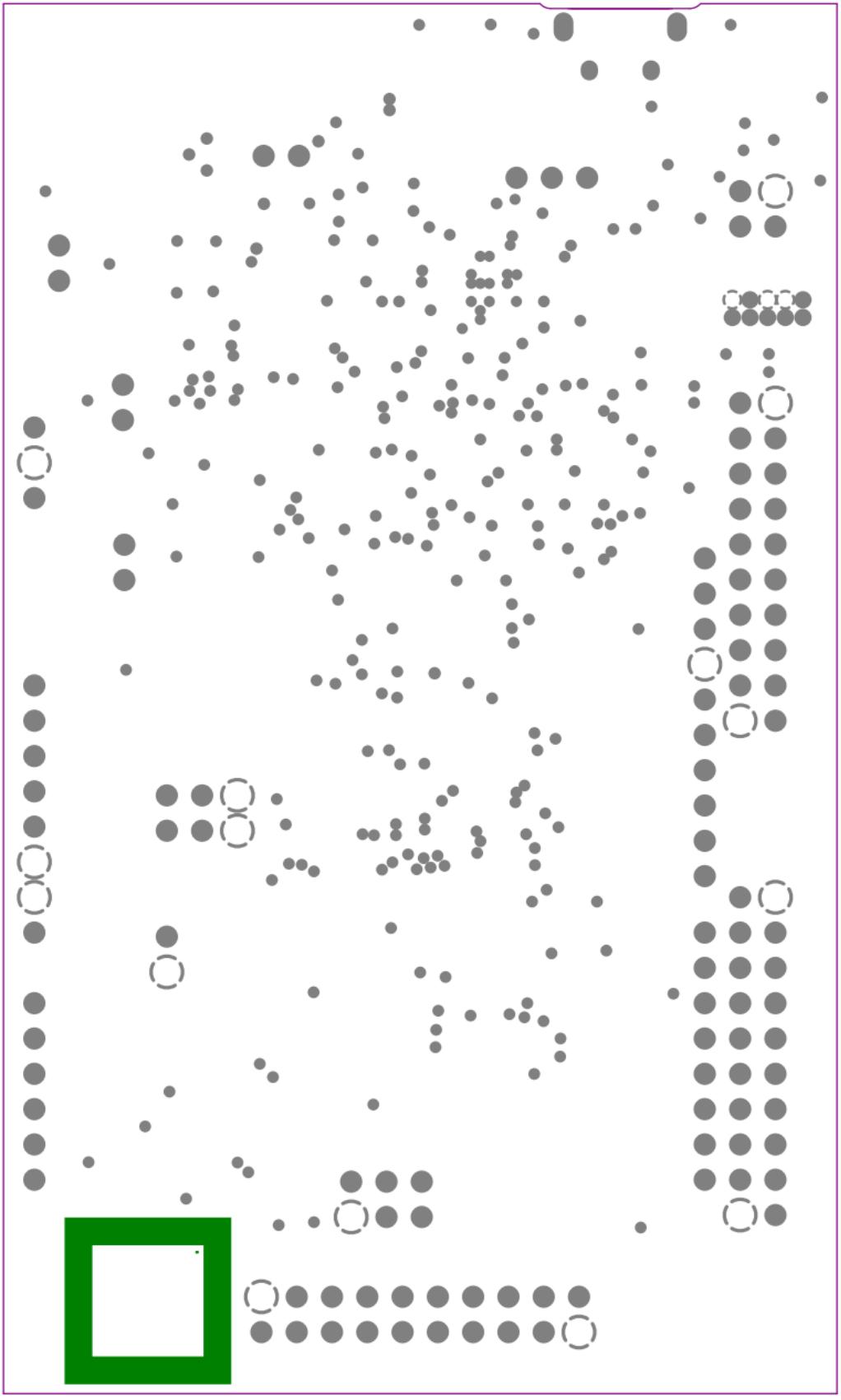
ID	PB07	PB04	PA14	PA28	PA12	PA23	PA02	PB02	GND
GND	PB06	PB05	PA15	PA27	PA13	PA22	PB00	PB01	VCC

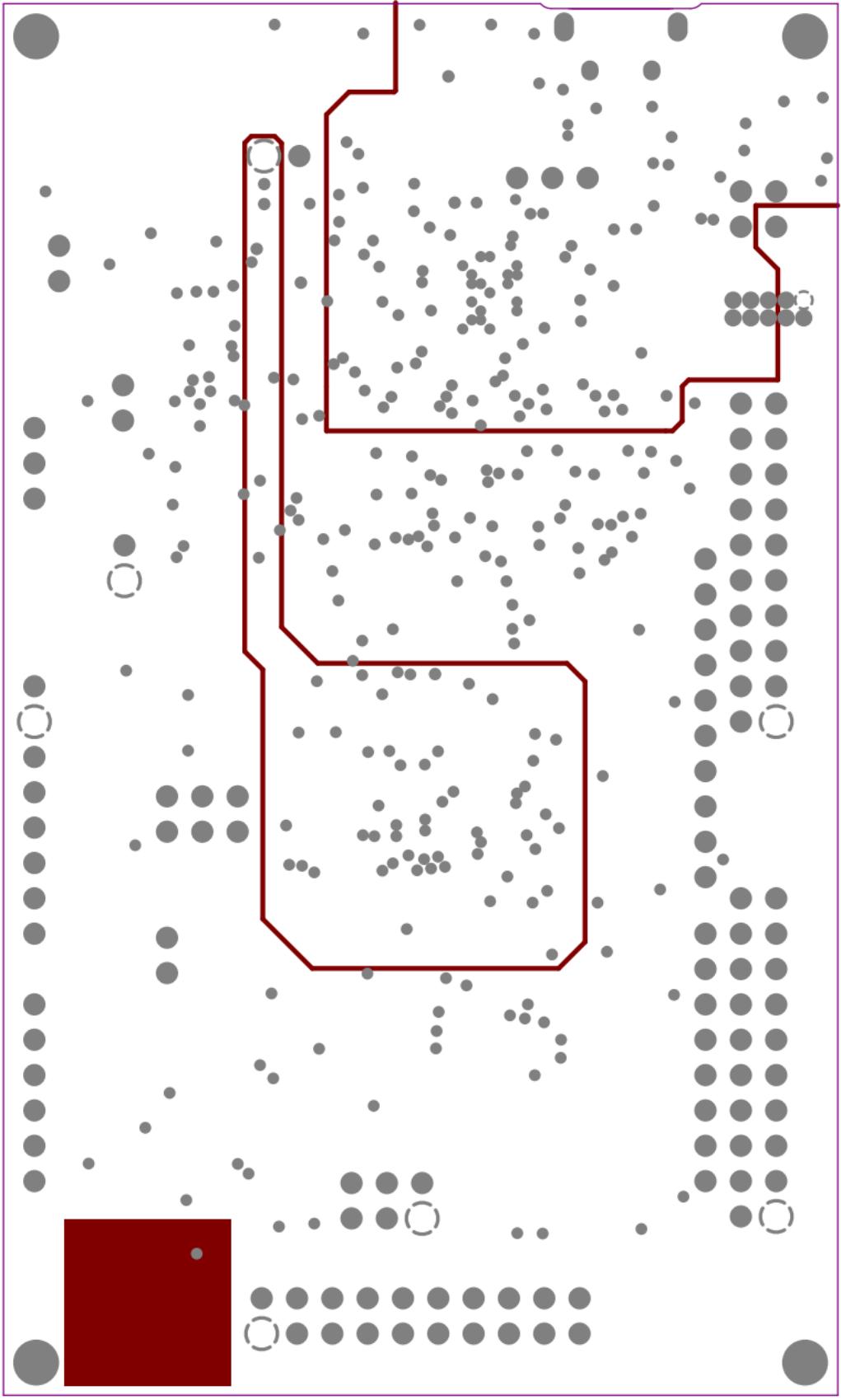


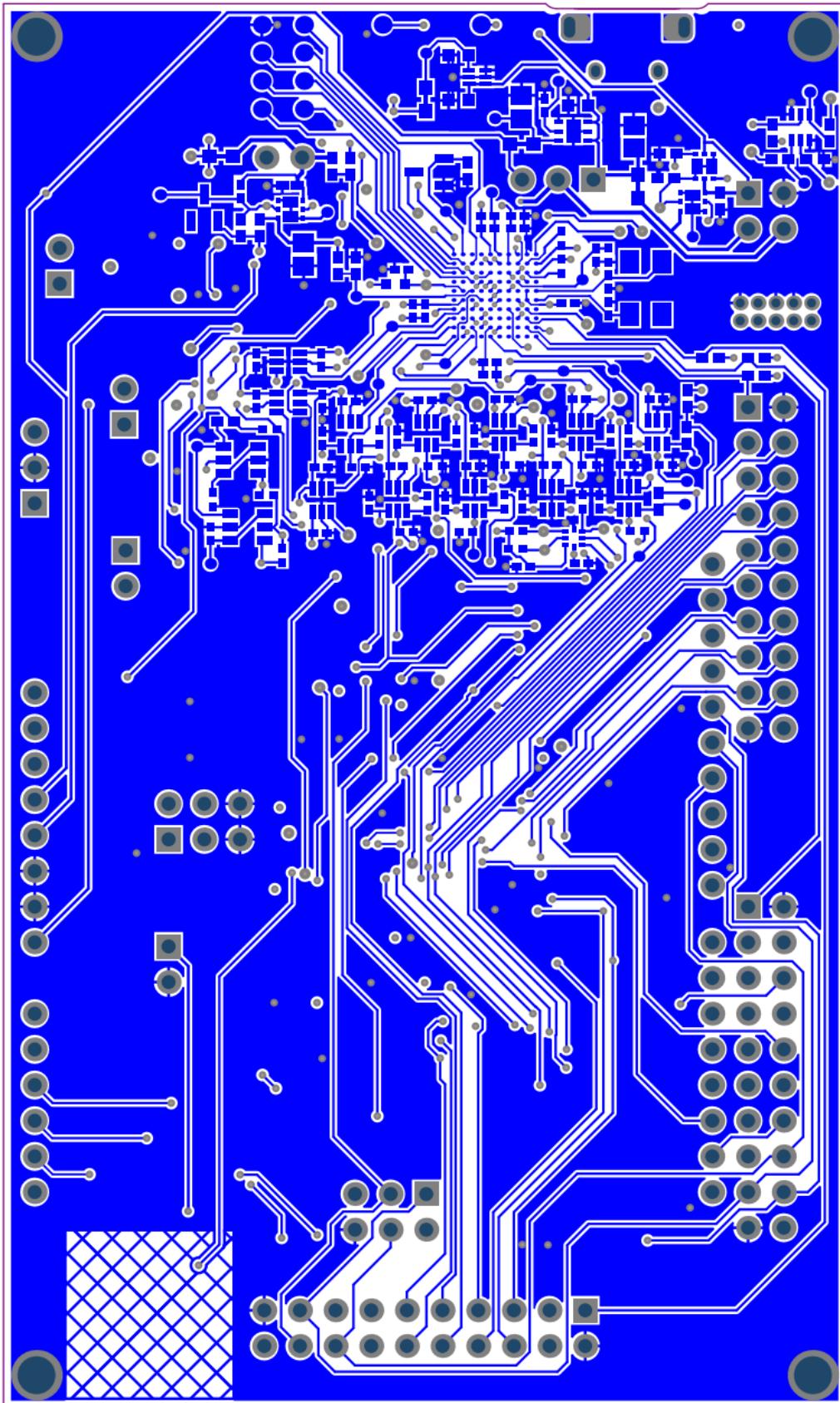












Component list

Top Level Schematics

Source Data From:
Project:
Variant:

SAMC21_Xplained_Pro.PjPCB
SAMC21_Xplained_Pro.PjPCB
Default_assembly



Report Date:	07.03.2016	11:43:24
Print Date:	07.03.2016	11:41:18

Fitted	Designator	Quantity	Value	Manufacturer	MPN	Description
Fitted	C100, C101, C104	3	4.7uF	tdk	C1608X5R1A475K	Ceramic capacitor, SMD 0603, X5R, 10V, 10% (de31036)
Fitted	C102, C304, C305, C306, C307, C308, C310, C502, C503, C506, C700, C701, C702, C703, C704	15	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
Fitted	C103, C105, C107	3	22u/10V	tdk	C2012X5R1A226M0.85	Ceramic capacitor, SMD 0805, X5R, 10V, A±20%
Fitted	C106	1	10n			Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
Fitted	C108, C309	2	10uF/16V	Taiyo Yuden	EMK107BBJ106MA-T	Ceramic capacitor, SMD 0603, X5R, 16V, 10uF ± 20% (High Density)
Fitted	C109, C406, C407, C408	4	1nF C0G	Murata	GRM155S1CH102JA01D	Ceramic capacitor, SMD 0402, C0G, 1nF, +/-5%
Fitted	C300	1	1u	Kemet	C0402C105K9PAC	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-10% (de26942)
Fitted	C301	1	4.7n			Ceramic capacitor, SMD 0402, X7R, 25V, +/-10% (de35287)
Fitted	C302, C303	2	8.2p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C400, C401	2	22p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C402	1	10p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C404, C410, C411, C412, C413, C600, C601, C602, C603, C604, C605, C606, C607, C608, C609, C610, C611, C612, C613, C614, C615, C616, C617, C618, C619, C620, C621, C622, C623, C624, C625	31	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
Fitted	C405, C409, C414, C415	4	2.2uF	Kemet	C0402C225M9PAC	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20%
Fitted	C500	1	4.7uF	Murata	GRM21BR61E475KA12L	Ceramic capacitor, SMD 0805, X5R, 25V, +/-10%
Fitted	C501	1	15p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C504	1	10uF/50V	tdk	CGA6P3X7S1H106K250AB	Ceramic capacitor, SMD 1210, X7S, 50V, A±10%
Fitted	C505	1	220p			Ceramic capacitor, SMD 0402, X7R, 50V, +/-10%
Fitted	D100	1	BA1T54	Philips	BA1T54	Schottky diode, V(rmm)=30V, If=0.1A, V(f)=0.4V (at f = 0.01A), If(r)=0.5uA (at Vrrm), If(r)=5ns, SMD SOT23
Fitted	D400	1	EL17-21SYGC	Everlight	EL17-21SYGC	LED, Green, Wave length=575nm, SMD 0805, ±70°
Fitted	D401, D700	2	EL17-21UY/GA3	Everlight	17-21UY/GS30-A3/TR8	LED, Yellow, Wave length=591nm, SMD 0805, ±70°
Fitted	D402	1	PRTR5V0U2X	NXP	PRTR5V0U2X	Double rail-to-rail USB ESD protection diode
Fitted	D500	1	BAV99	Philips	BAV99	High-speed Double Diode
Fitted	E1, E2, E3, E4	4	SJ-5076		SJ-5076	2.8mm adhesive feet, diam 8.0mm
Fitted	FIKTURE1	1	Xplained PRO MCU board Jupiter Test Fixture	ESCATEC	Xplained PRO MCU board Jupiter Test Fixture	Xplained PRO MCU board Jupiter Test Fixture
Fitted	FV1	1	EDBG secured firmware			EDBG secured firmware
Fitted	J100	1	P101-2*02RGF-139-ND	Pro-data International Corp	P101-2*02RGF-139-ND	Pin header, 2x2, Right Angle, 2.54mm, THT, Pin In Paste
Fitted	J101	1	Pin header 1x2 right angle	Pro-data International Corp	2213R-2G	1x2 pin header, right angle, 2.54 mm pitch, through-hole
Fitted	J102, J503	2	HMTSW-103-23-F-S-237	SAMTEC	HMTSW-103-23-F-S-237	1x3 pin header, 2.54mm pitch, Pin-in-Paste THM, 1mm hole
Fitted	J200, J201, J202	3	P101-2*10RGF-139-ND	Pro-data International Corp	P101-2*10RGF-139-ND	Pin header, 2x10, Right Angle, 2.54mm, THM, Pin In Paste
Fitted	J203	1	PIN HEADER 2x5	Garry	176-2-010-0-T-XS0-0730	2x5 pin header, 1.27mm pitch, THM
Fitted	J400	1	ZX620-AB-SP8	HIROSE	ZX620-AB-SP8	Micro USB AB Connector, Standard SMT + DIP
Fitted	J500, J501, J502, J700	4	HMTSW-102-23-F-S-237	SAMTEC	HMTSW-102-23-F-S-237	1x2 pin header, 2.54mm pitch, Pin-in-Paste THM
Fitted	J701, J800	2	HMTSW-103-23-F-D-237	SAMTEC	HMTSW-103-23-F-D-237	2x3 pin header, 2.54mm pitch, Pin-in-Paste THM
Fitted	J801	1	SSQ-110-21-F-S	SAMTEC	SSQ-110-21-F-S	1x10 receptacle pin header, low insertion force, 2.54mm pitch THM, Pin in Paste
Fitted	J802, J804	2	SSQ-108-21-F-S	SAMTEC	SSQ-108-21-F-S	1x8 receptacle pin header, low insertion force, 2.54mm pitch THM, Pin in Paste
Fitted	J803	1	SSQ-106-21-F-S	SAMTEC	SSQ-106-21-F-S	1x6 receptacle pin header, low insertion force, 2.54mm pitch THM
Fitted	JS100, JS101, JS500, JS501	4	SNT-100-BK-G	SAMTEC	SNT-100-BK-G	Jumper cap for 2.54mm pinheader
Fitted	L300, L401, R402, L700	4	BLM18PG471SN1	Murata	BLM18PG471SN1	SMD RF inductor 0603, Z=70Ohm (@100MHz), Max I(R)=0.650mA, Max current=1A
Fitted	LABEL1	1	PCBA Label	ACT Logmark AS	505462	PCBA identification label PP Top White Gloss
Fitted	POB1	1	SAM_C21 Xplained Pro PCB			SAM_C21 Xplained Pro PCB, 4 layer, 60mm x 100mm
Fitted	POB1DOC1	1	A09-2419 PCB Files			SAM_C21 Xplained Pro PCB documentation
Fitted	Q100, Q101, Q103	3	PMDPB55XP	NXP	PMDPB55XP	Dual P-Channel MOSFET, -20V, RDS(ON) < 55 mΩ @ -3.4A @ -4.5V
Fitted	Q102	1	2N7002.215	NXP	2N7002.215	N-Channel MOSFET, 60V, 0.300A continuous, 1.2A Peak, RDS(ON) < 3.80mΩ @ VGS=4.5V, VGS(th)<2.5V
Fitted	Q400	1	2N7002DW	Fairchild	2N7002DW	Dual N-Channel MOSFET, 60V, 1.15mA cont,RDS(ON) < 7.5 Ohm @50mA @5V, SOT-363
Fitted	Q600, Q601	2	FDC6327C	Fairchild	FDC6327C	Dual NF-ch MOSFET, 20V, 2.7A-1.9A cont, 8A-8A pulse, RDS(ON)<0.08@170mΩ @ VGS=4.5V, VGS(th)<1.5V, SS076
Fitted	R100, R106, R107, R506	4	100k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R103, R410, R413	3	1M			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R104, R301, R401, R402, R409, R503	6	1k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R105, R502, R701	3	10k	vishay	CROW040210K0FKED	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R109, R110, R111, R112	4	47k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R300, R600, R603, R604, R605, R606, R607, R613, R615, R616, R617, R622, R623, R624	14	100k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R304, R421, R422, R609	4	39R			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R305, R306, R504	3	4.7k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R313, R314, R610, R611, R612, R800	6	0R	(n/a)	RMCF0402ZT0R00	Thick film resistor, SMD 0402, 1/16W, 1%, Thick film resistor, SMD 0402, 1/16W, 1%, thick film resistor, SMD 0402, 1/16W, 1%, RES 0.0 OHM / 1/16W 0402 SMD
Fitted	R411, R412, R702	3	330R			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R423	1	6.81k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R500, R501	2	62R			Thick film resistor, SMD 1210, 0.5W, 1%
Fitted	R505	1	2.7k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R601, R602	2	4.7k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R607, R614, R618, R619, R620, R621	6	330R			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R700	1	39R			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	SW301, SW700	2	SKRAAKE010	ALPS	SKRAAKE010	6.2x6.2 mm SMD tact switch, same as A08-0091 but less force is needed
Fitted	SW500	1	SKRAAKE010	ALPS	SKRAAKE010	6.2x6.2 mm SMD tact switch, same as A08-0091 but less force is needed
Fitted	TEST1	1	SAM_C21 Xplained Pro test			Fixture eggTest for SAM_C21 Xplained Pro
Fitted	TESTDC1	1	SAM_C21 Xplained Pro Test Instructions			SAM_C21 Xplained Pro Test Instructions
Fitted	U100	1	TLV70033DSE	Texas Instruments	TLV70033DSE	LDI, 200 mA, Iq<31 uA, Vdso=250mV, Vout=3.3V, VIN= 2 to 5.5V, SON-6 package
Fitted	U103	1	TPS73533DRV	Texas Instruments	TPS73533DRV	Low noise LDO, 500 mA, Vout=3-3V, 2% accuracy, IQ=46uA, noise=28uVRms, VIN= 2.7 to 6.5V, Vdo=280mV, stable with low ESR capacitor
Fitted	U300	1	SAMC21J18A-AUT	ATMEL	SAMC21J18A-AUT	Atmel 32-bit RISC MCU 64pin
Fitted	U400	1	AT32UC3A4256J-C1UR	ATMEL	AT32UC3A4256J-C1UR	AVR 32-bit RISC MCU
Fitted	U500	1	ATA6551-GBOW	ATMEL	ATA6551-GBOW	5Mbit/s CAN Transceiver,VCC = 5V, VIO = 2.8-5V, 3x3 mm VDFN8
Fitted	U501	1	ATA663211-GBOW	ATMEL	ATA663211-GBOW	LIN Transceiver
Fitted	U600	1	FXMA2102L8X	Fairchild	FXMA2102L8X	Dual supply, 2-bit, voltage translator, buffer, repeater, isolator for I2C applications
Fitted	U601, U602, U603, U604, U605, U606, U607, U608, U609, U610, U611, U612	12	SN74LVC1T145DDKR	Texas Instruments	SN74LVC1T145DDKR	Single-Bit Dual-Supply Bus Transceiver with Configurable Voltage Translation and 3-State Outputs
Fitted	XC300	1	32.768kHz +/-20PPM 7pF SMD	Micro Crystal	MS1V-T1K 32.768kHz 7pF +/-20PPM TA	32k768 crystal, +/-20ppm, CL=7pF, max ESR 60Ohm, SMD
Fitted	XC400	1	12.00MHz	Fox Electronics	FQ5032B-12.00MHz	Fox FQ5032B 12.0MHz SMD crystal 738B-12
Not Fitted	C318, C319	0	10p			Ceramic capacitor, SMD 0402, X7R, 25V, +/-5%
Not Fitted	C403	0	4.7n			Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
Not Fitted	R424	0	1M			Thick film resistor, SMD 0402, 1/16W, 1%
Not Fitted	U700	0	ATECC108-MAHDA	ATMEL	ATECC108-MAHDA-T	Secure authentication and product validation device, EEPROM, I2C, 2.0 - 5.5V, UDFN8
Not Fitted	U701	0	ATECC108-SSHDA	ATMEL	ATECC108-SSHDA-T	Secure authentication and product validation device, EEPROM, I2C, 2.0 - 5.5V, SOIC8
Not Fitted	XC301	0	16.0MHz	Epson Toyocom	TSX-3225 16.0000MF09Z-AC3	16MHz uXtal, 3.2 x 2.5 mm SMD, CL=9pF, 15PPM, ESR=80ohm/Max.