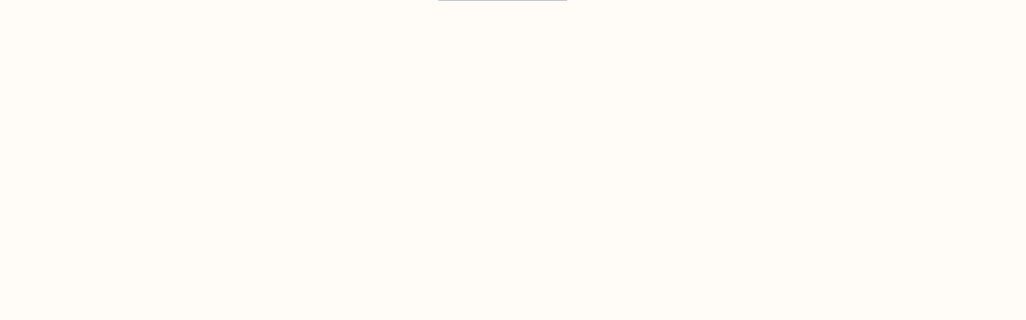
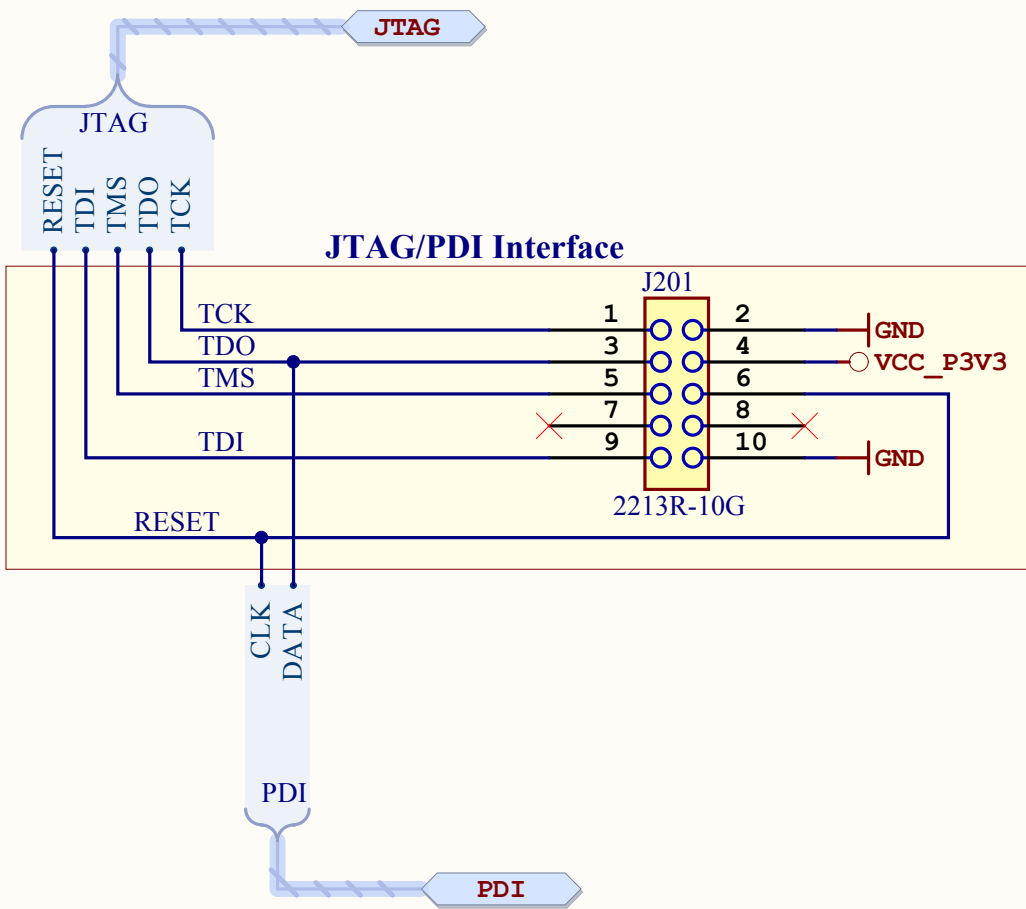
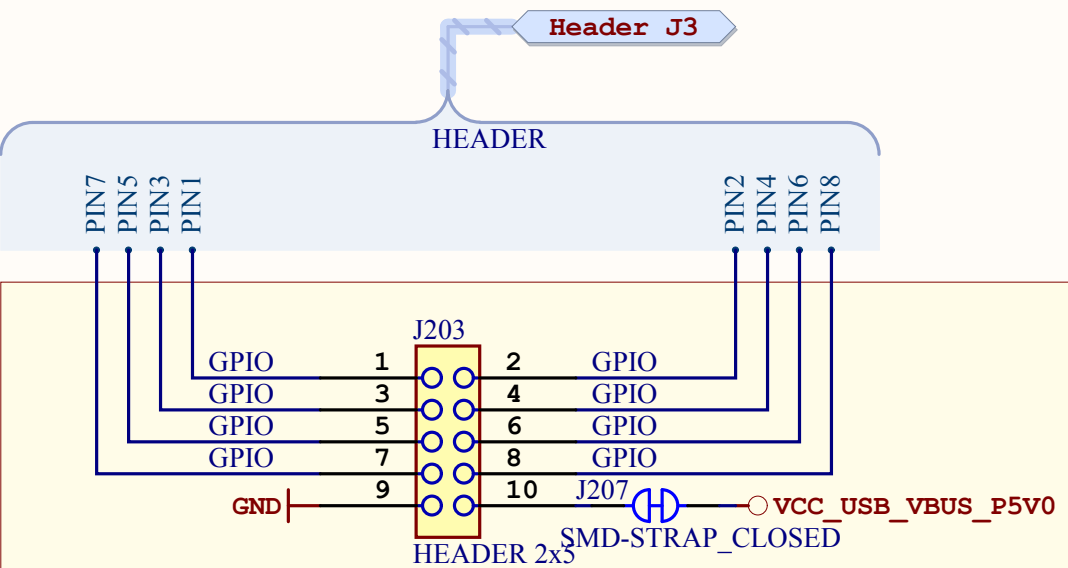
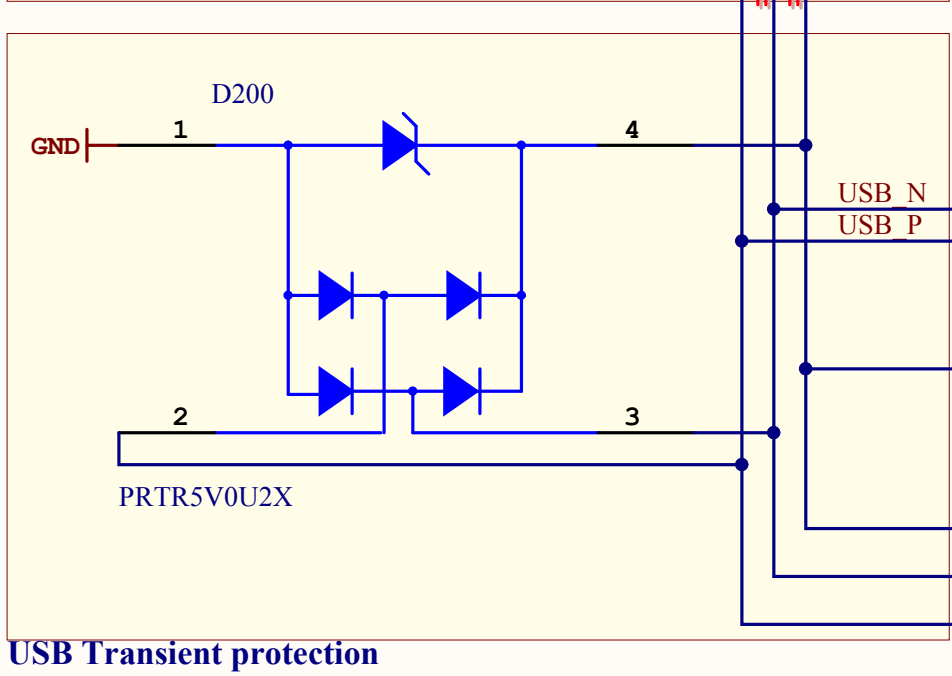
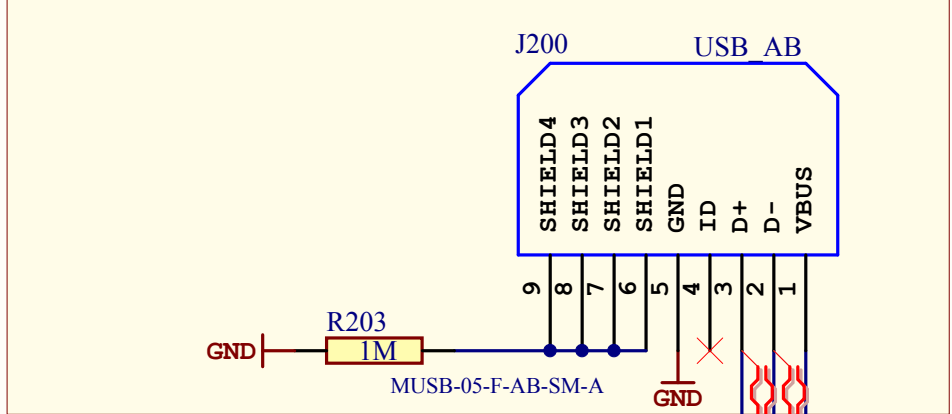


Communication Port

JS200
SNT-100-BK-G
Place on J202 pin 3-4

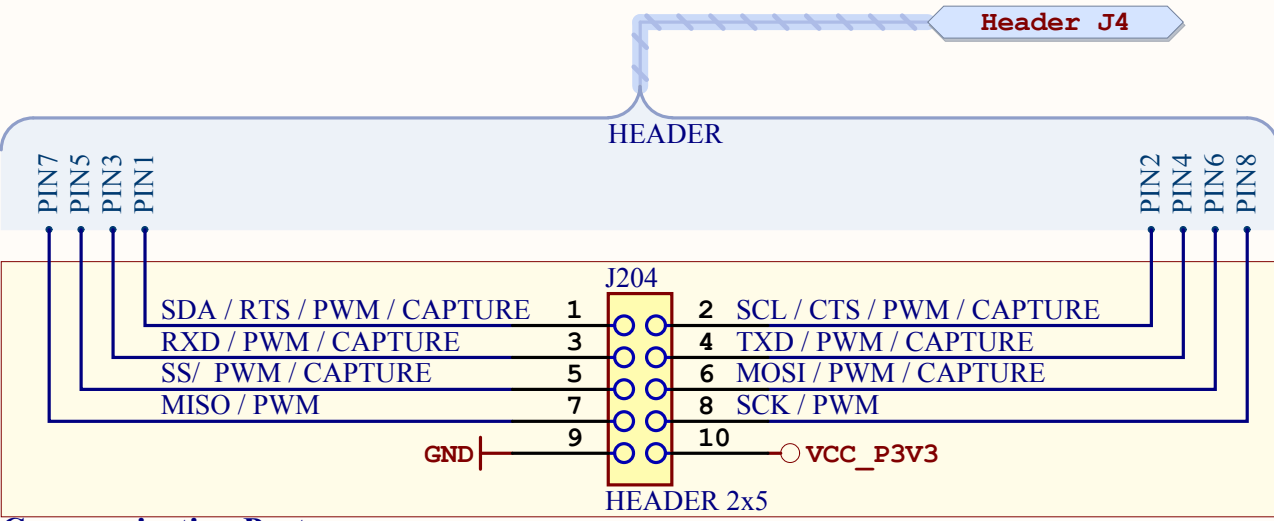


USB Mini AB connector



GPIO Port

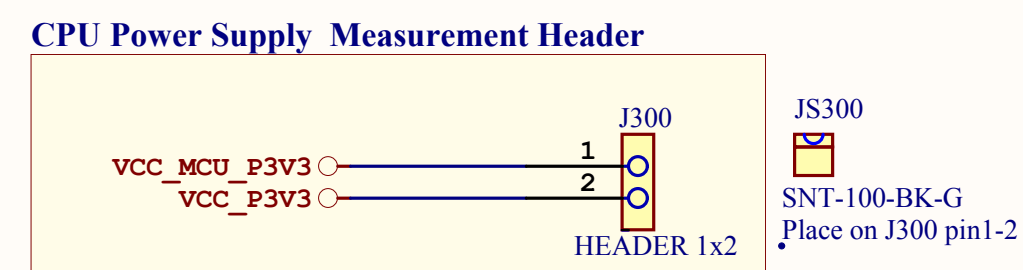
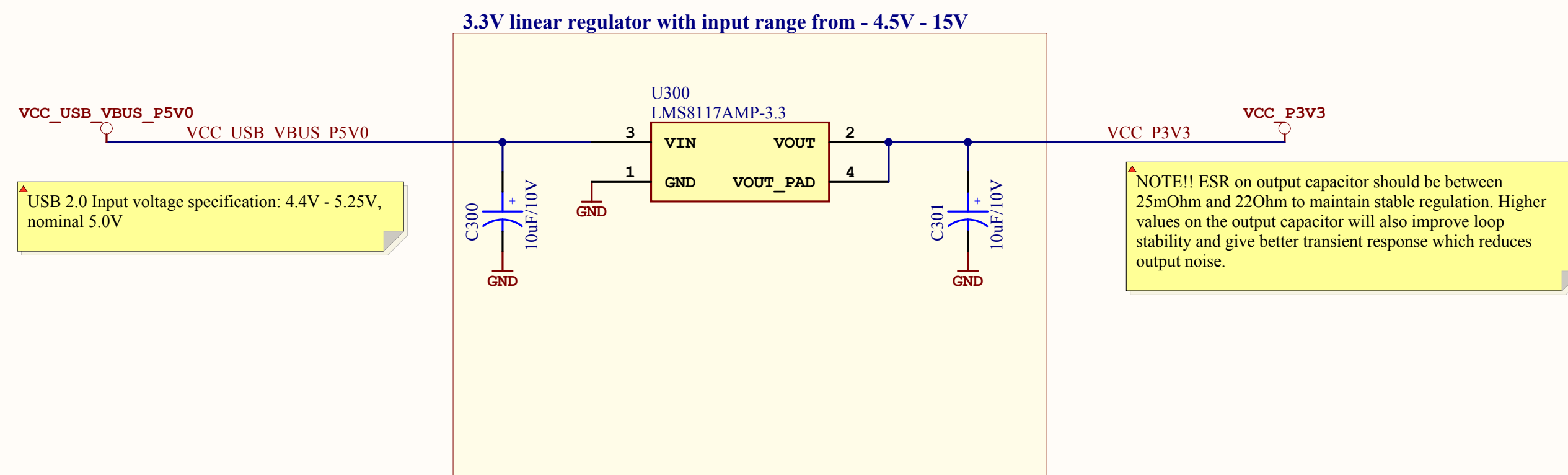
JS200
SNT-100-BK-G
Place on J202 pin 3-4




Communication Port

JS200
SNT-100-BK-G
Place on J202 pin 3-4

ATMEL Norway	*			
Vestre Rosten 79	*			
N-7075 TILLER	*			
NORWAY				
Date:	02.12.2010	15:02:28	PAGE: 3 of 7	
Document number:	3		Revision:	7
TITLE: XMEGA-A1 XPLAINED				
XMEGA-A1_XPLAINED_Connector.SchDoc				



ATMEL Norway	*			
Vestre Rosten 79	*			
N-7075 TILLER	*			
NORWAY				
Date:	02.12.2010	15:02:28	PAGE:	4 of 7
Document number:	4		Revision:	7
TITLE: XMEGA-A1 XPLAINED				
XMEGA-A1_XPLAINED_PowerManagement.SchDoc				

A

B

C

D

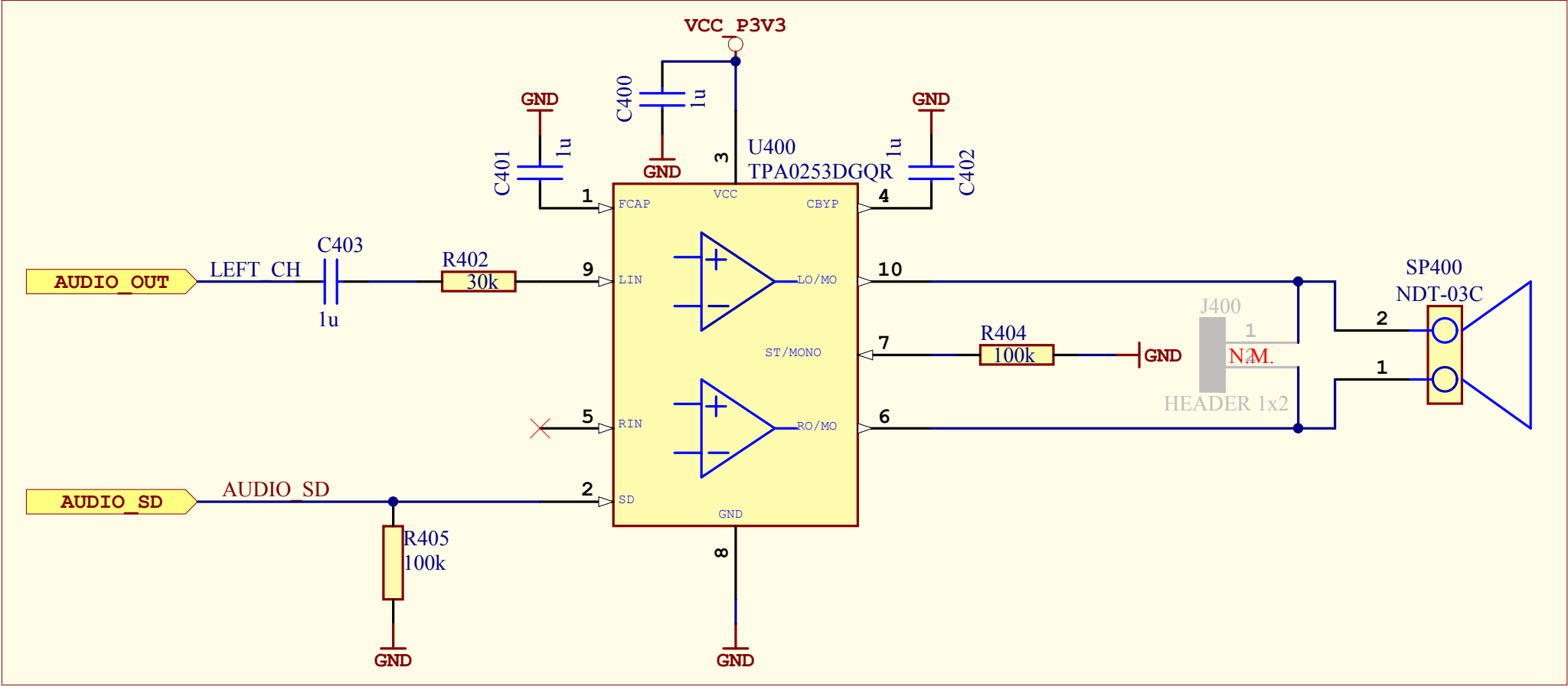
A

B

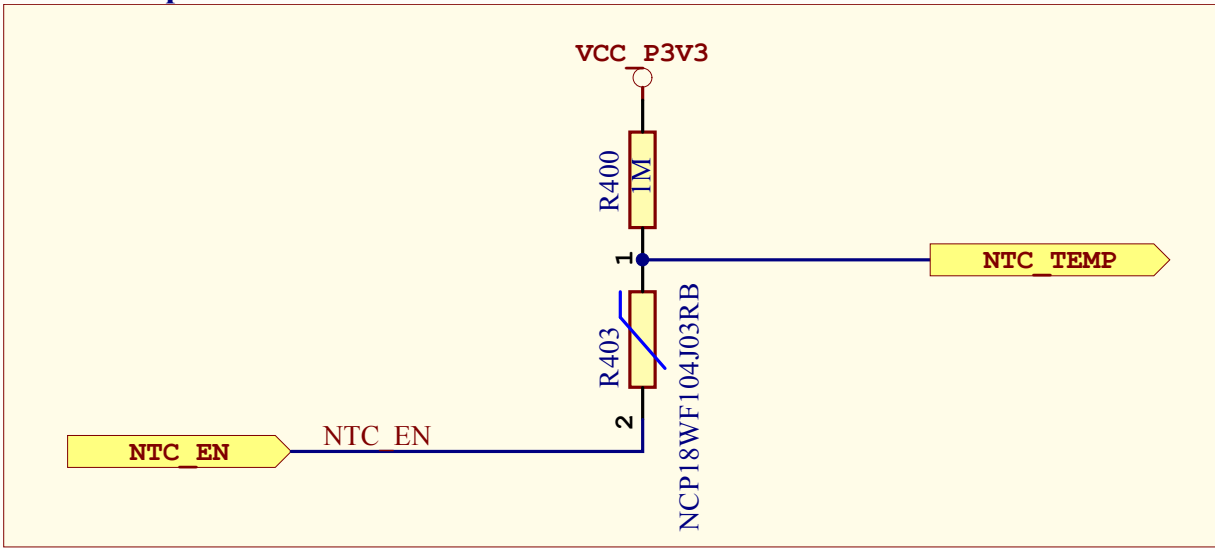
C

D

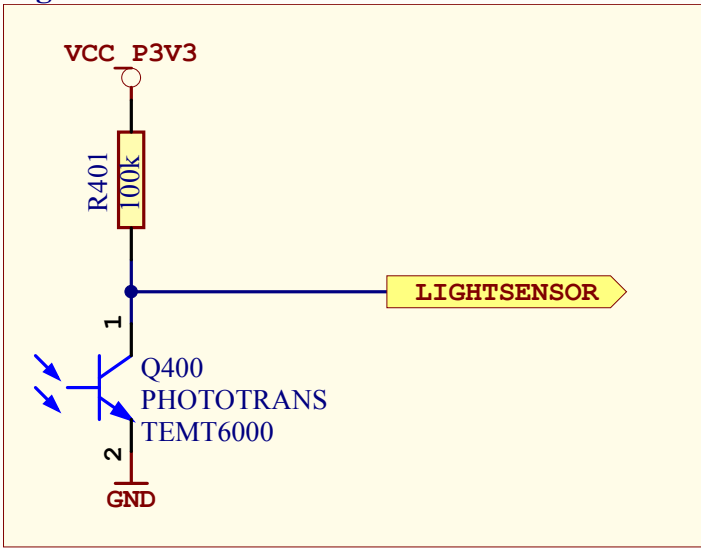
Mono audio output with onboard speaker



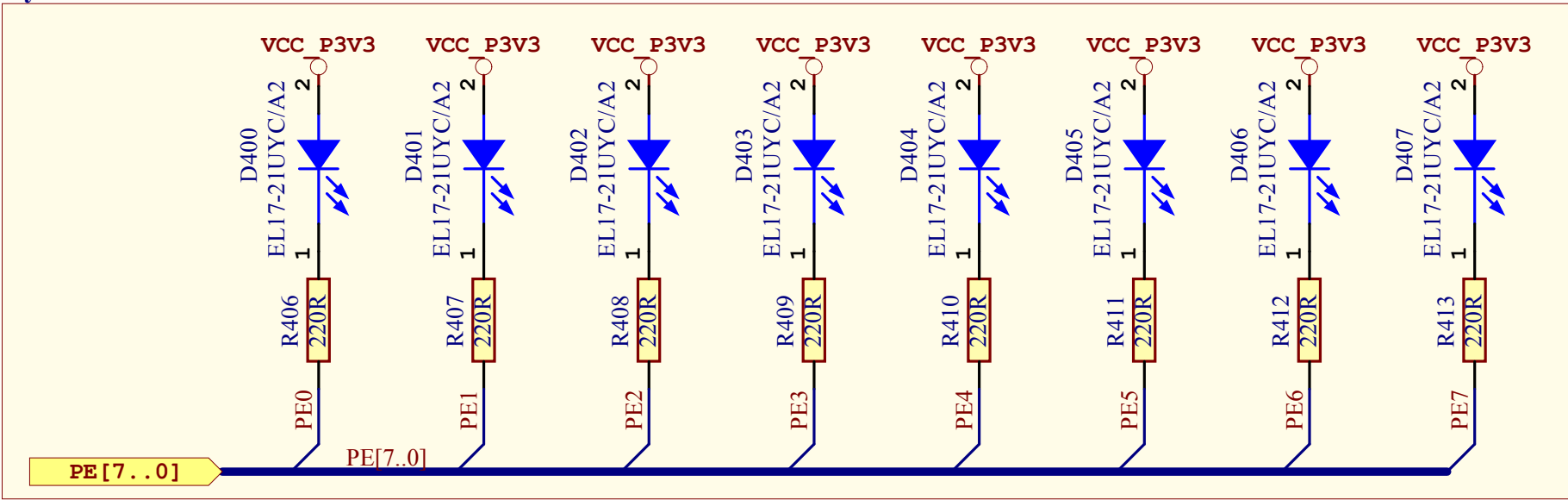
NTC Temperature sensor



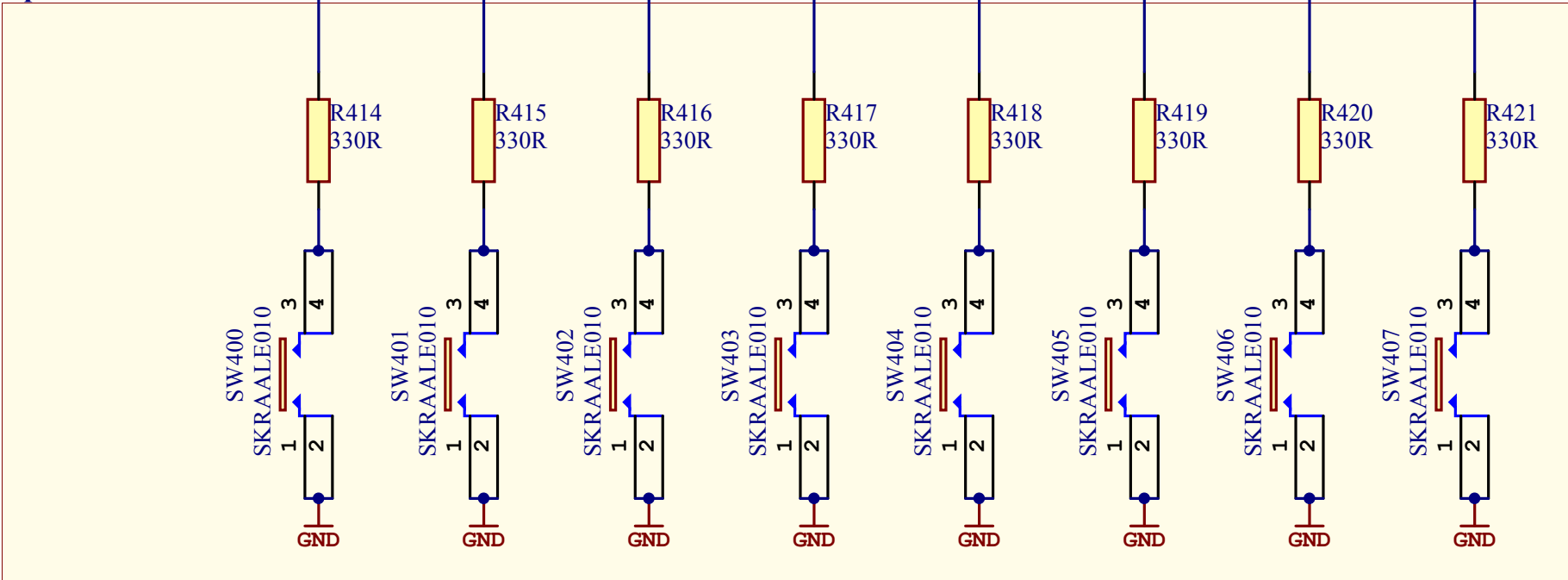
Light sensor




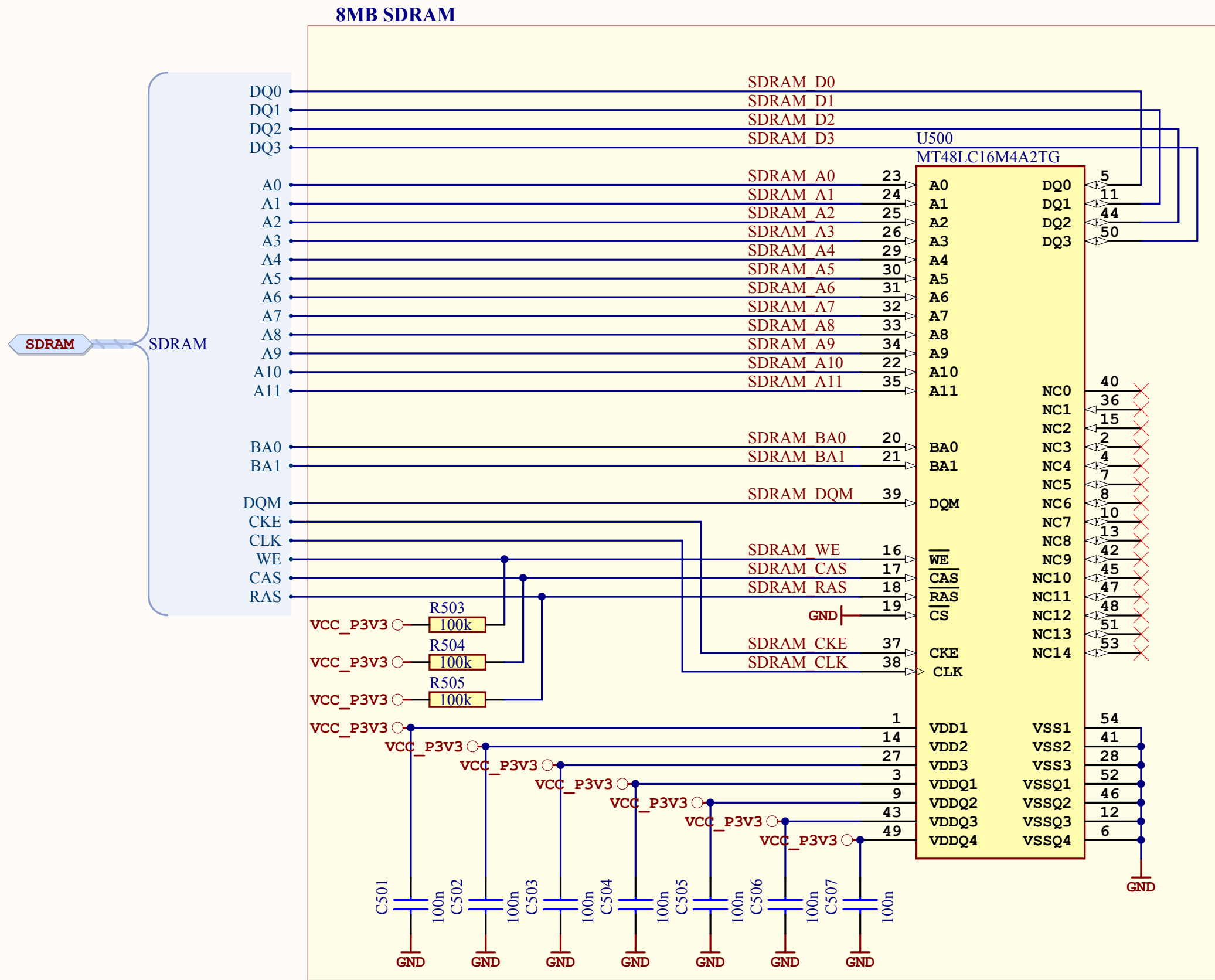
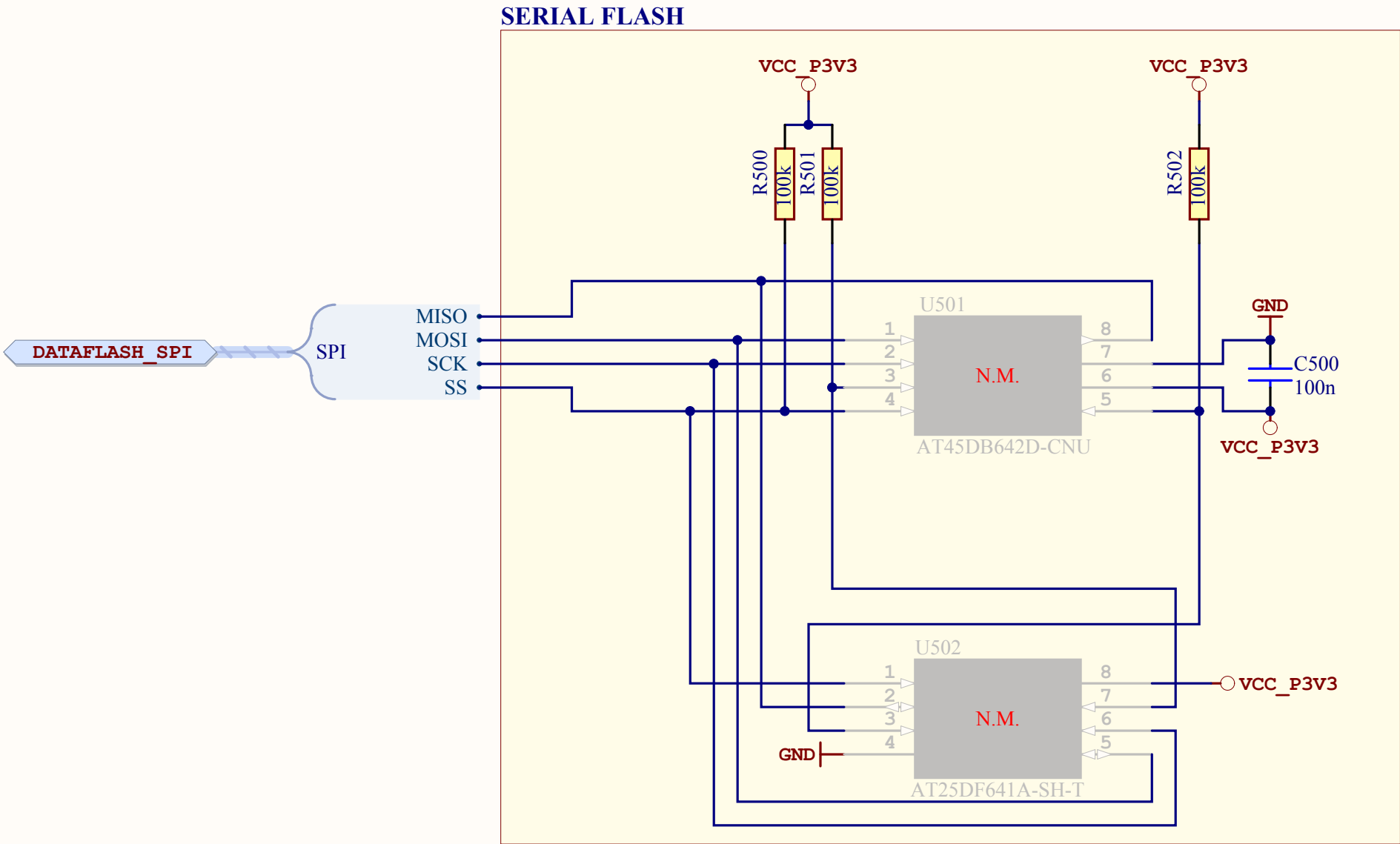
8 yellow LEDs



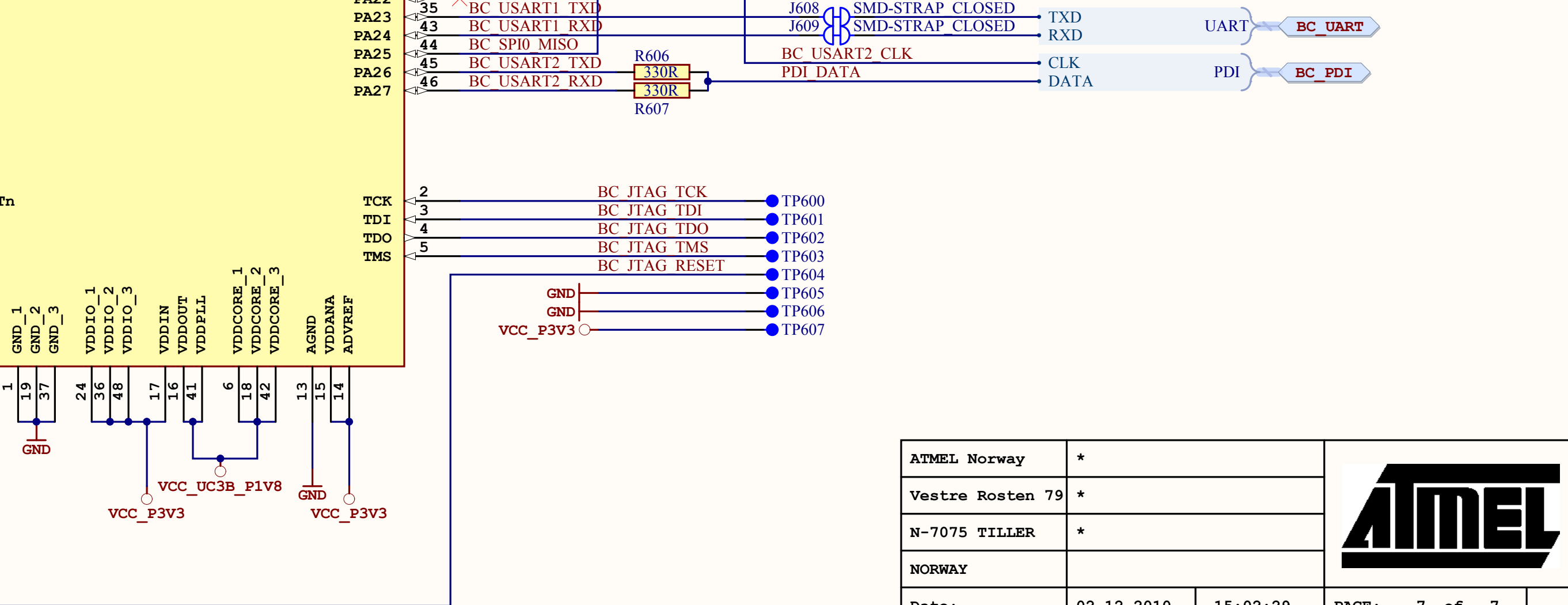
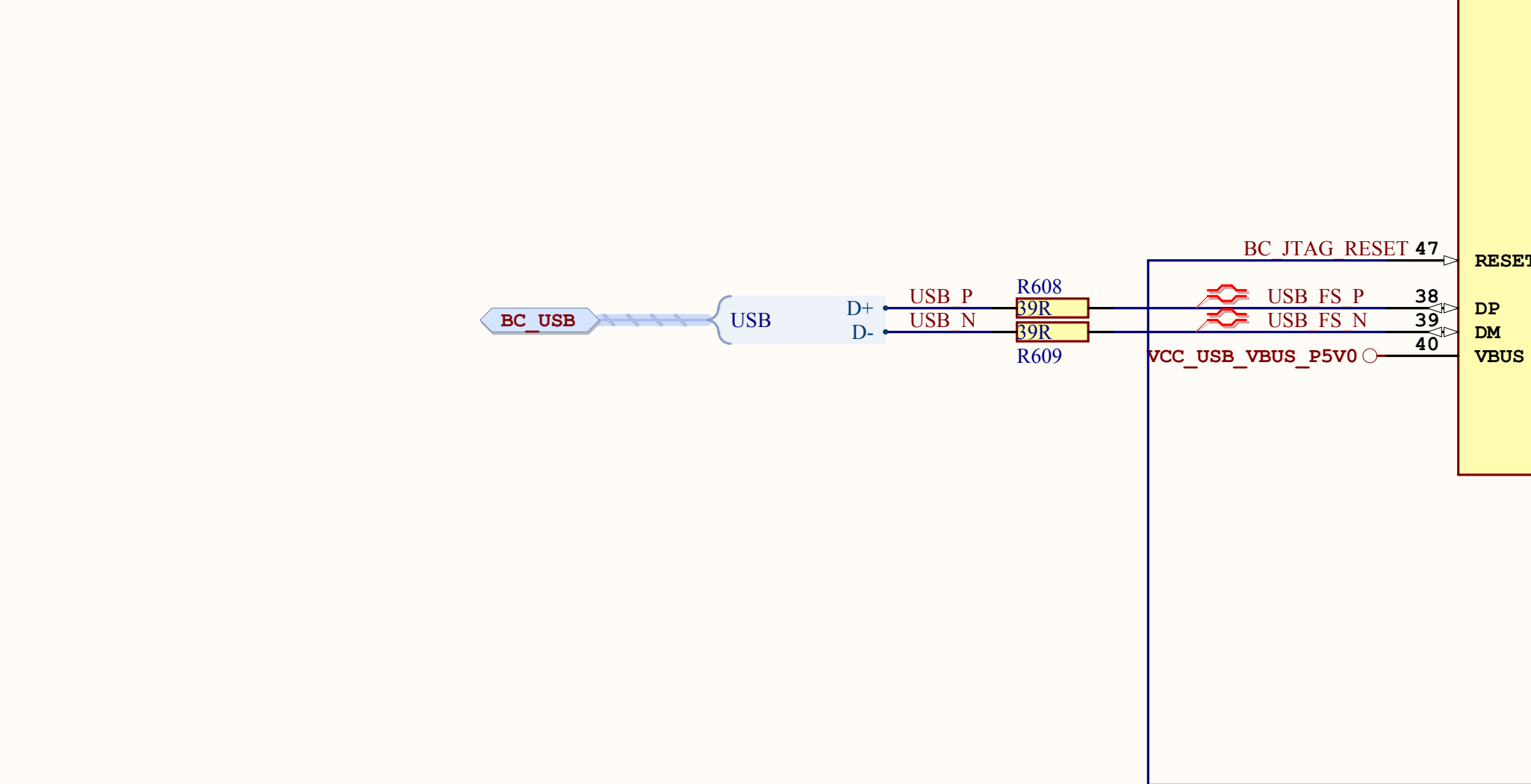
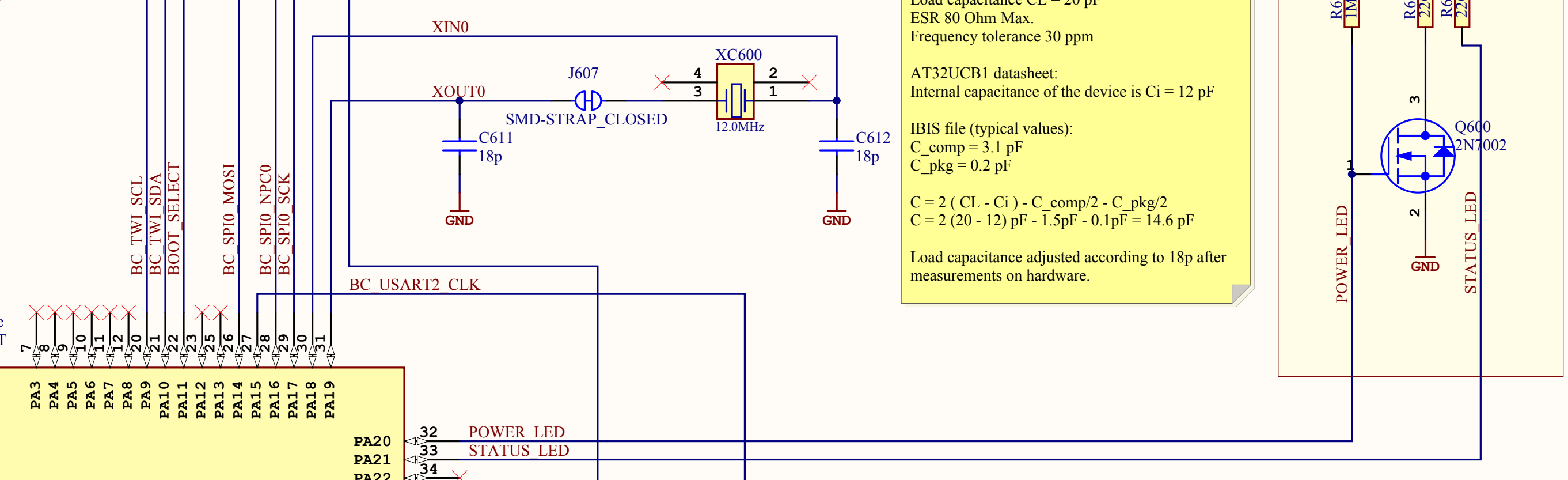
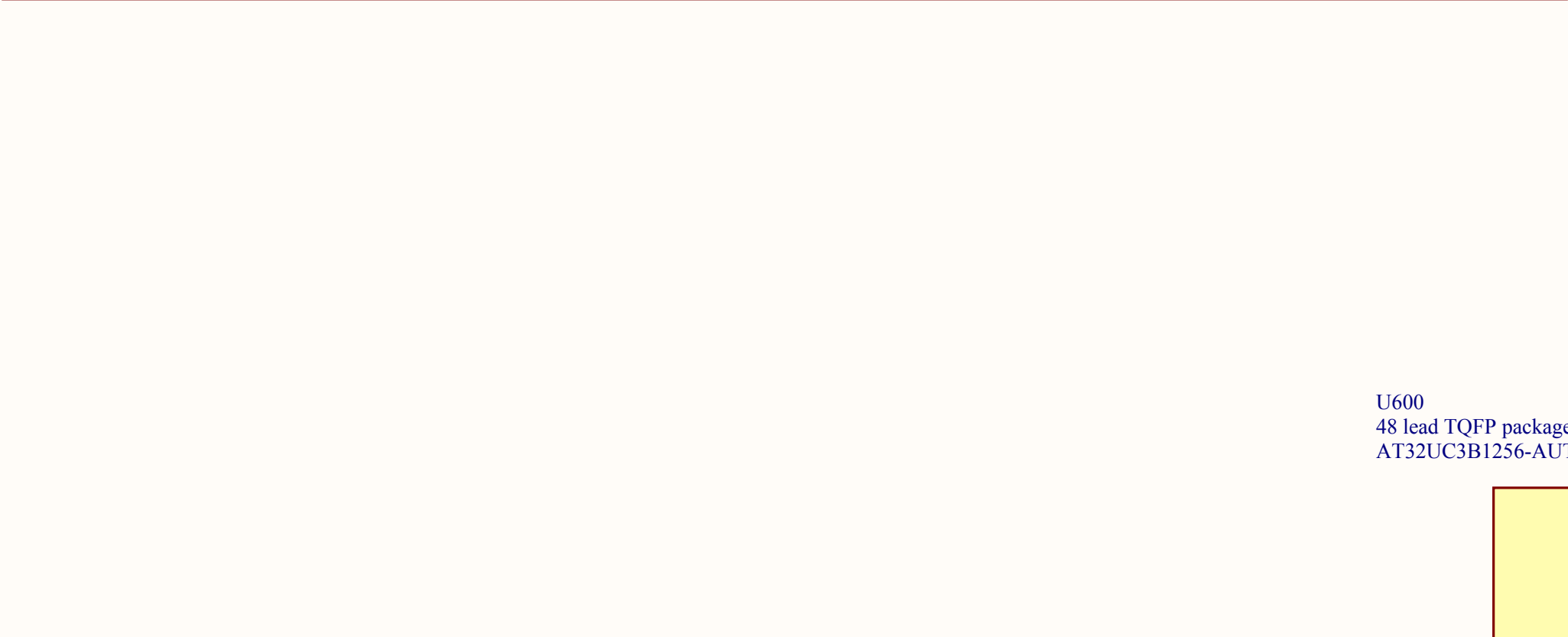
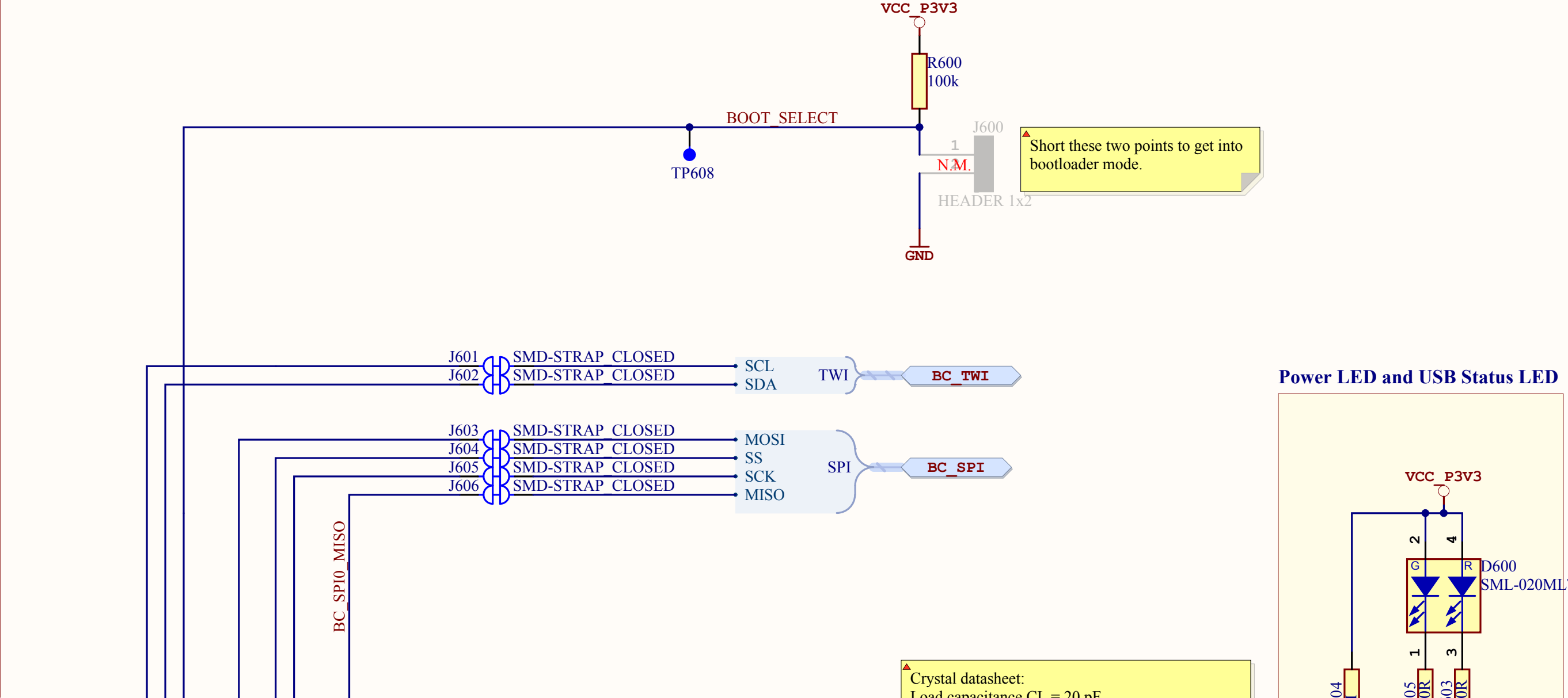
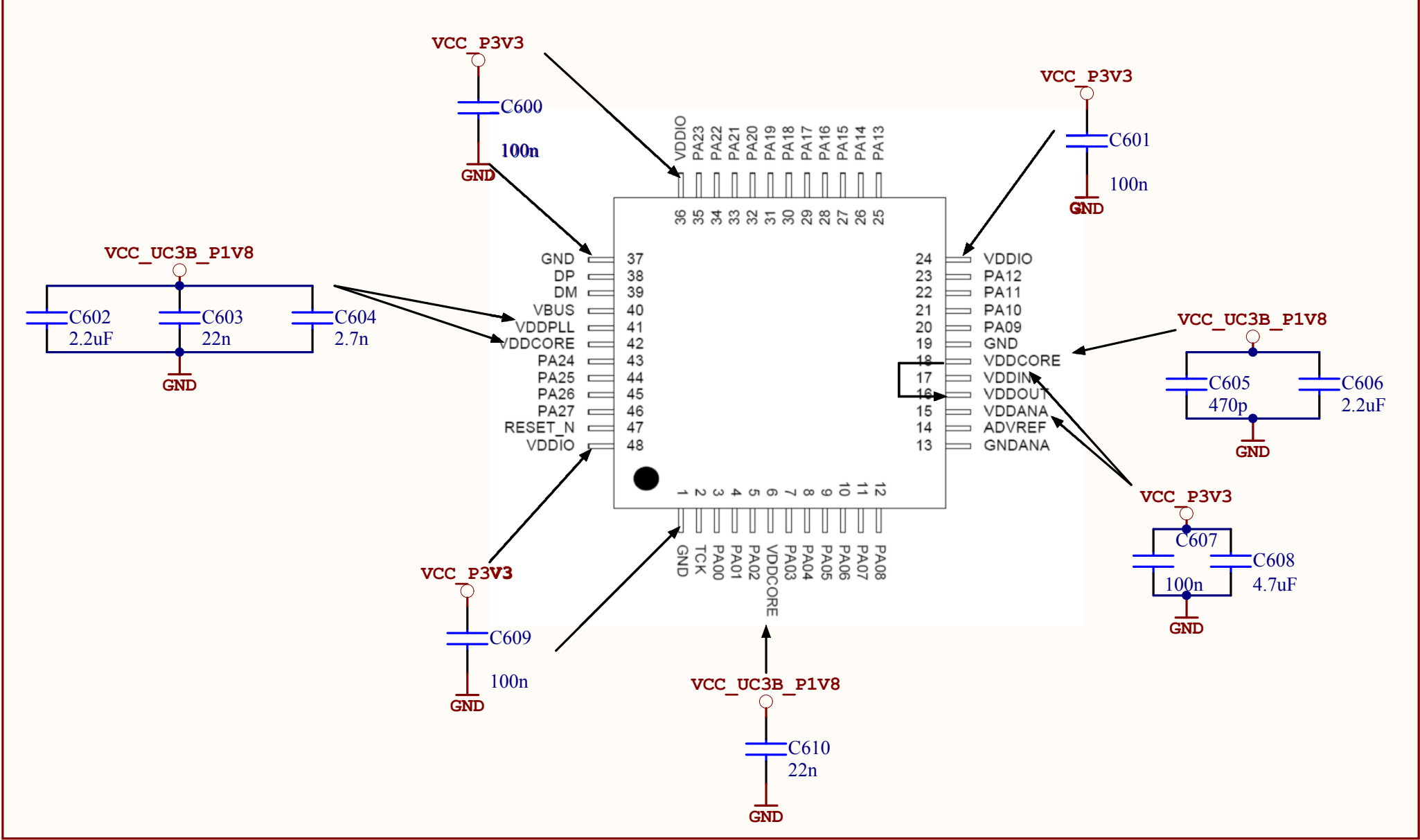
8 pushbuttons



ATMEL Norway		*			
Vestre Rosten 79		*			
N-7075 TILLER		*			
NORWAY					
Date:	02.12.2010	15:02:28	PAGE:	5 of 7	
Document number:	5		Revision:	7	
TITLE: XMEGA-A1 XPLAINED					
XMEGA-A1_XPLAINED_IO.SchDoc					

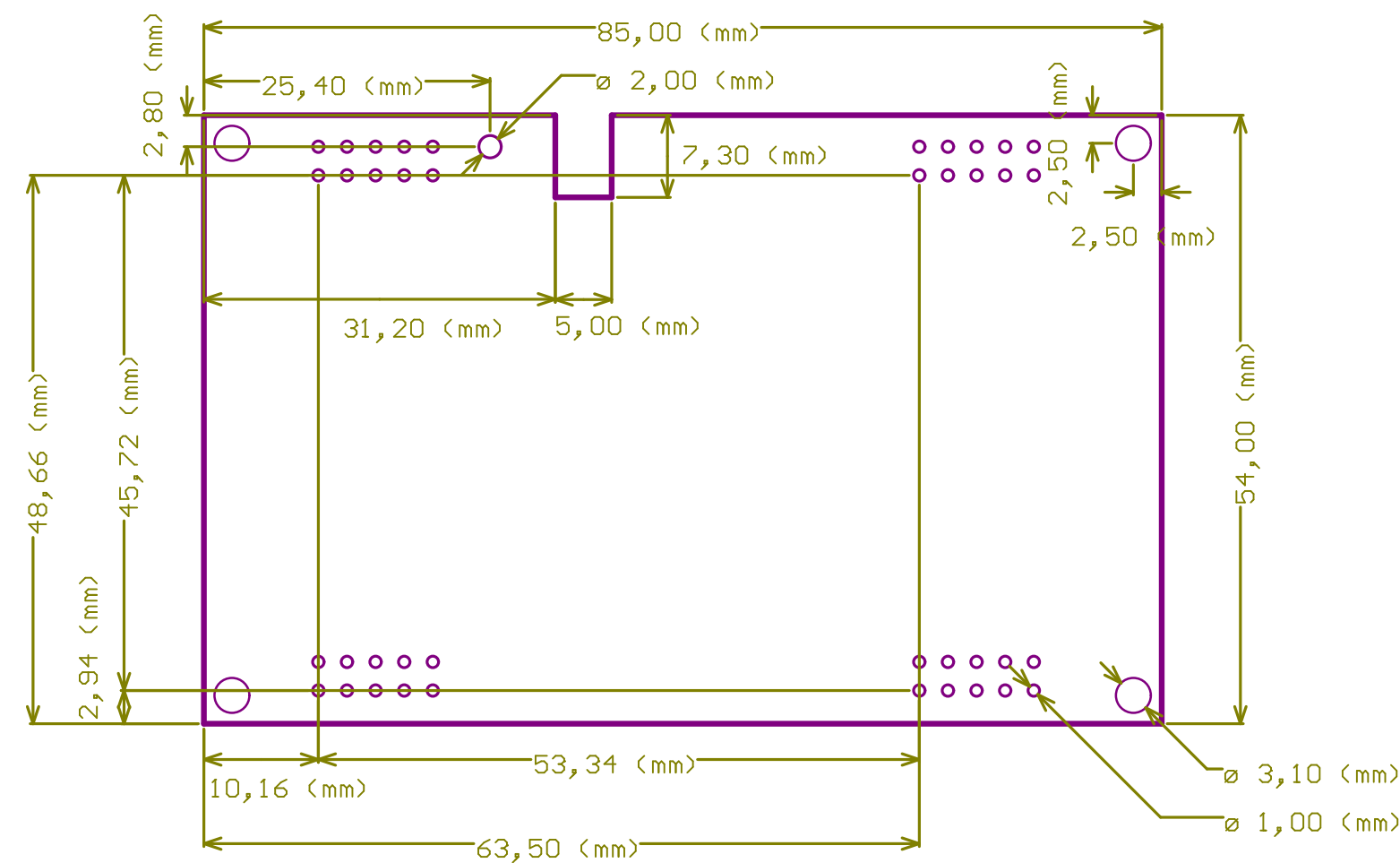


Decoupling

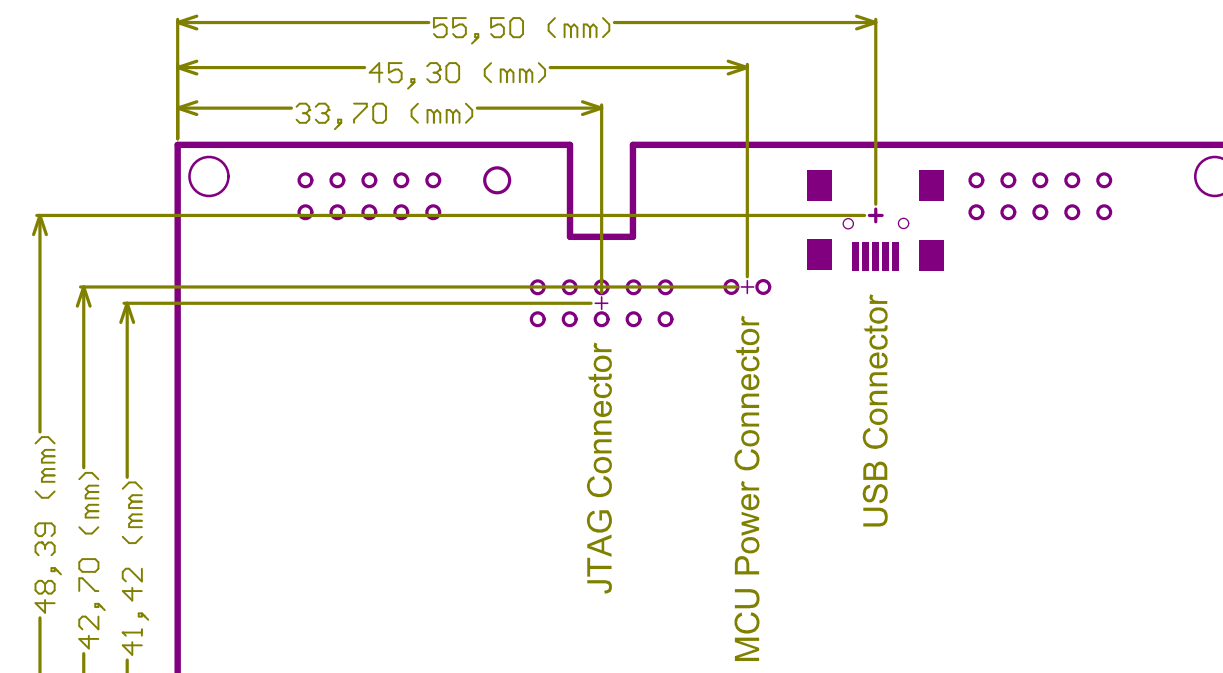


ATMEL Norway	*			
Vestre Rosten 79	*			
N-7075 TILLER	*			
NORWAY				
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XMEGA-A1_XPLAINED_Board_controller.SchDoc				

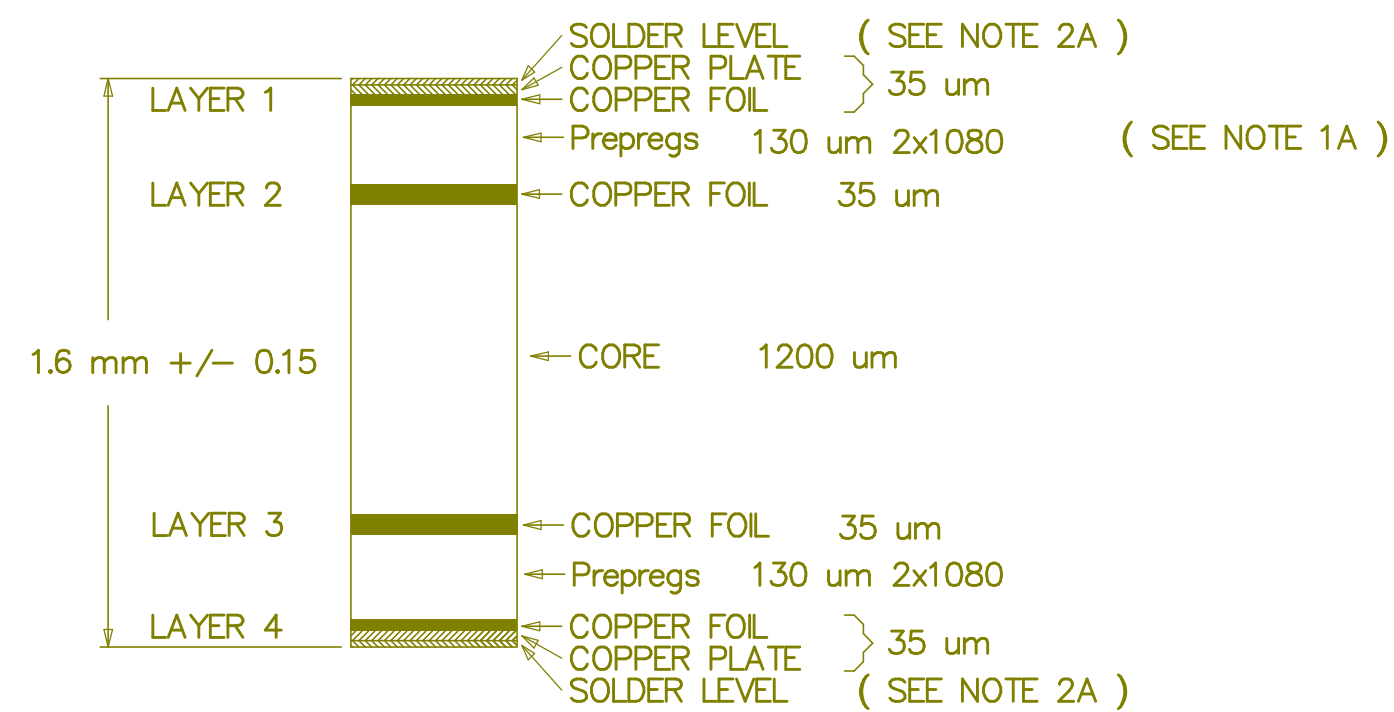
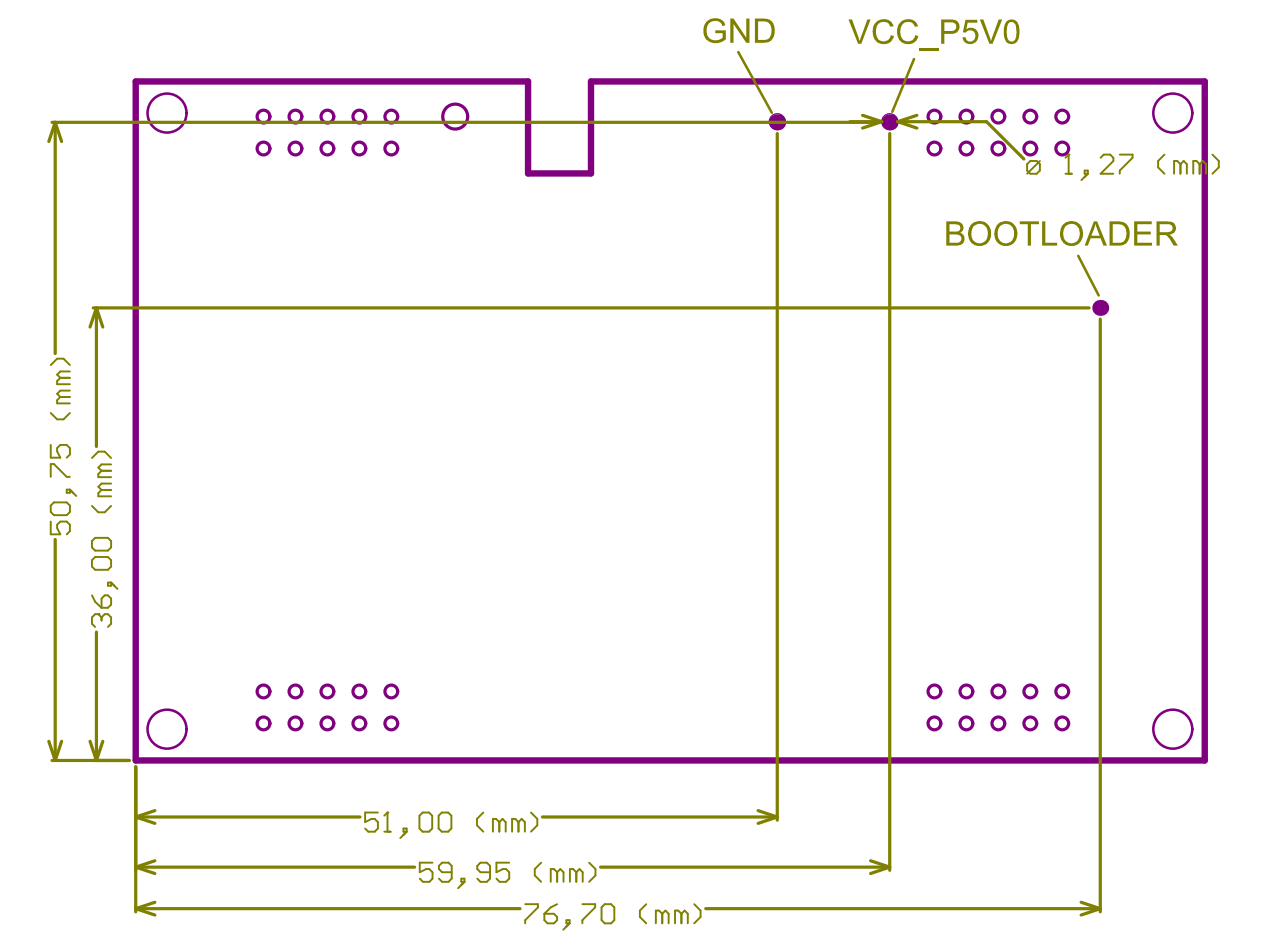
Mechanical Dimentions:



Connector Placement:



Testpoint Placement:

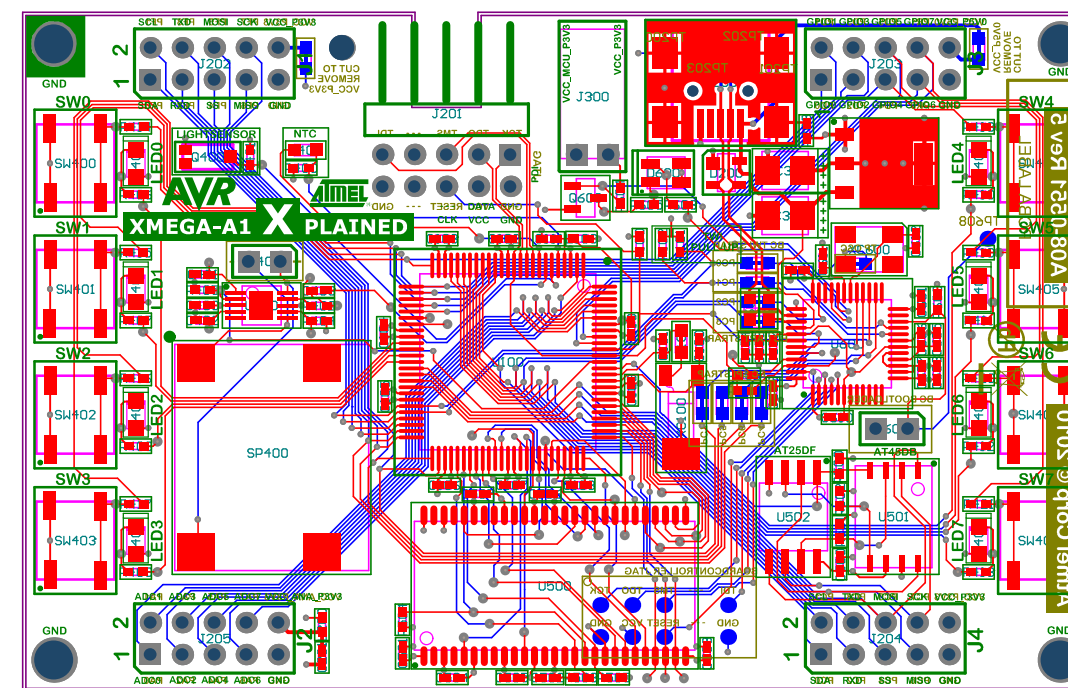


NOTE 1A: DIELECTRIC FR4
2A: SURFACE PROTECTION: Chemical Gold

THE BOARD MUST BE RoHS COMPLIANT

DETAIL A (CROSS-SECTION)

SCALE = NONE



- | | |
|----|-----------------------------------|
| L1 | Mounting Pads / Low Freq. Signals |
| L2 | Ground |
| L3 | Power |
| L4 | Low Freq. Signals |



ATMEL NORWAY
Vestre Rosten 79
N-7075 Tiller

	ENGINEER
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PCB DESIGNER

DATE:

FILE NAME:

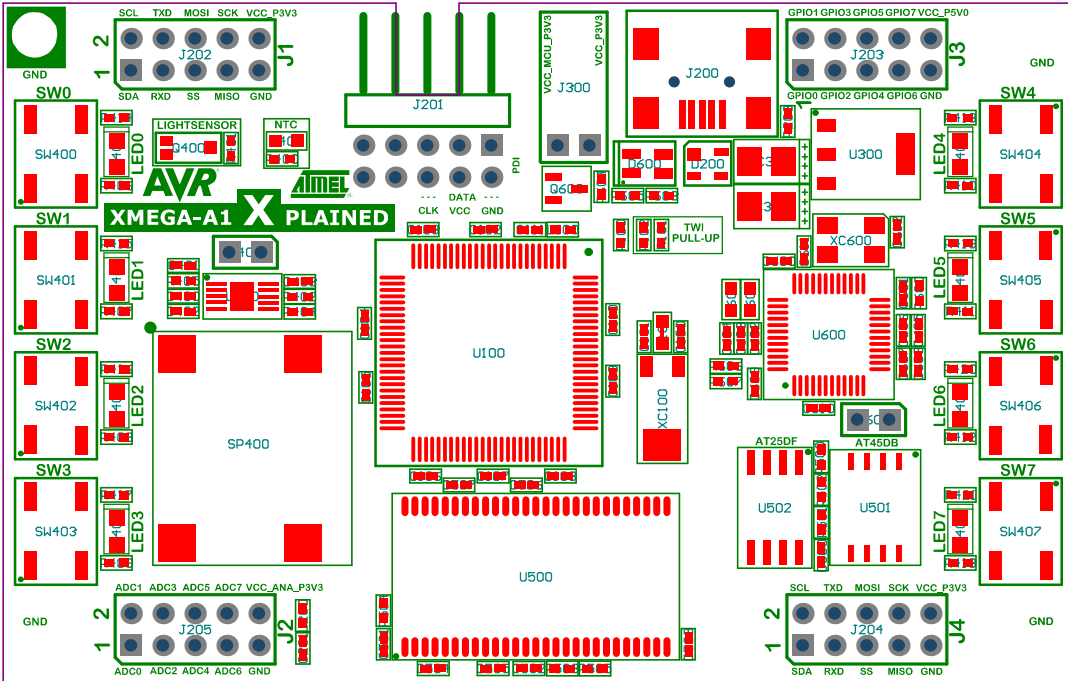
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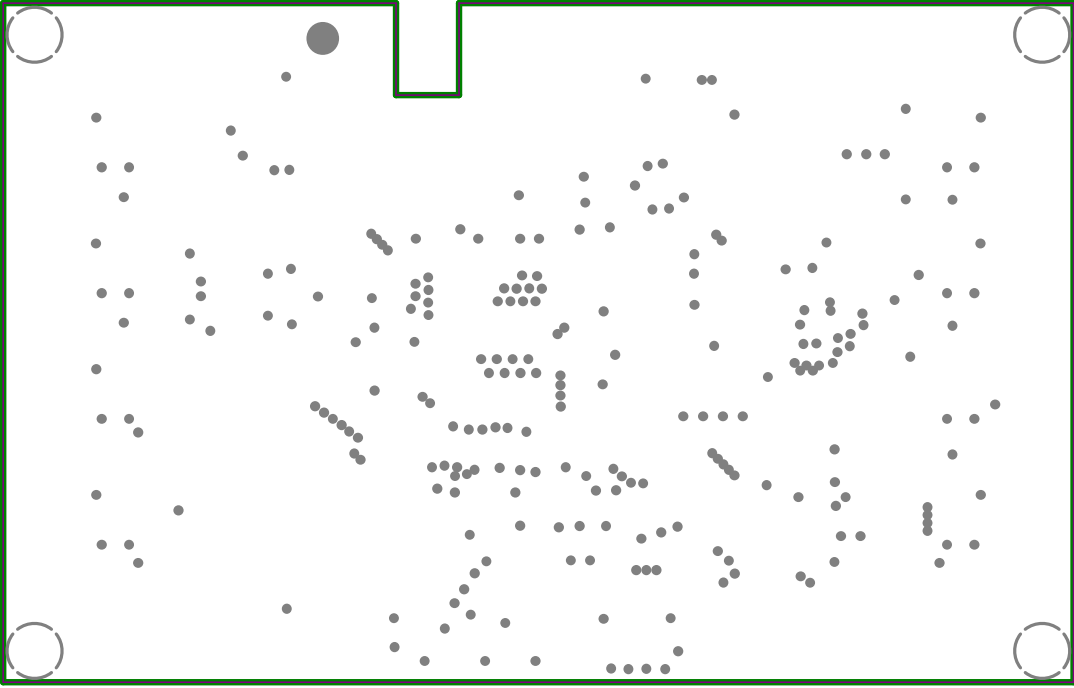
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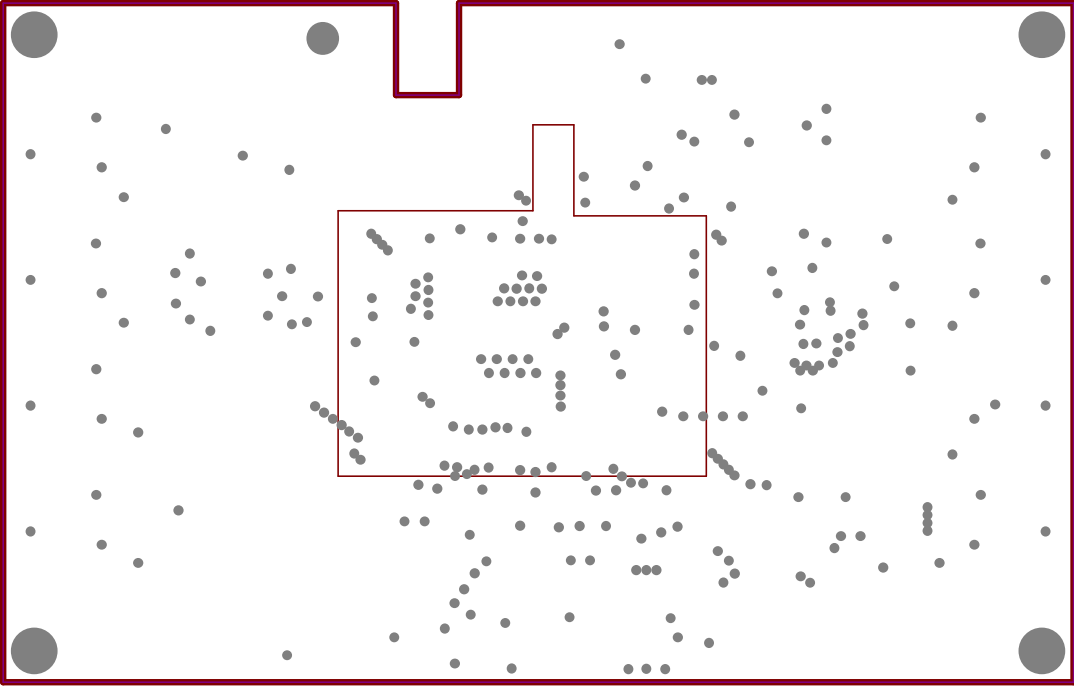
PART NO.:

	DWG NO:
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SCALE:







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A08-0551 Rev 5

PCBA LABEL

CUT TO
REMOVE
VCC_P5V0

VCC_P5V0 PR1 PD5 PD3 PD1
GND PR0 PD4 PD2 PD0

TP202 TP200
TP201 TP203

TP608

TP OSC

BC TWI STRAP
PC0
PC1
PC2
PC3
BC UART STRAP

BC BOOTLOADER

BC SPI STRAP
PC4
PC6
PC5
PC7

BOARDCONTROLLER JTAG

TDI --- TMS TDO TCK
TP601 TP602 TP603 TP600
GND --- RESET VCC GND
TP606 TP607 TP605

VCC_P3V3 PC7 PC5 PC3 PC1

GND PC6 PC4 PC2 PC0

CUT TO
REMOVE
VCC_P3V3

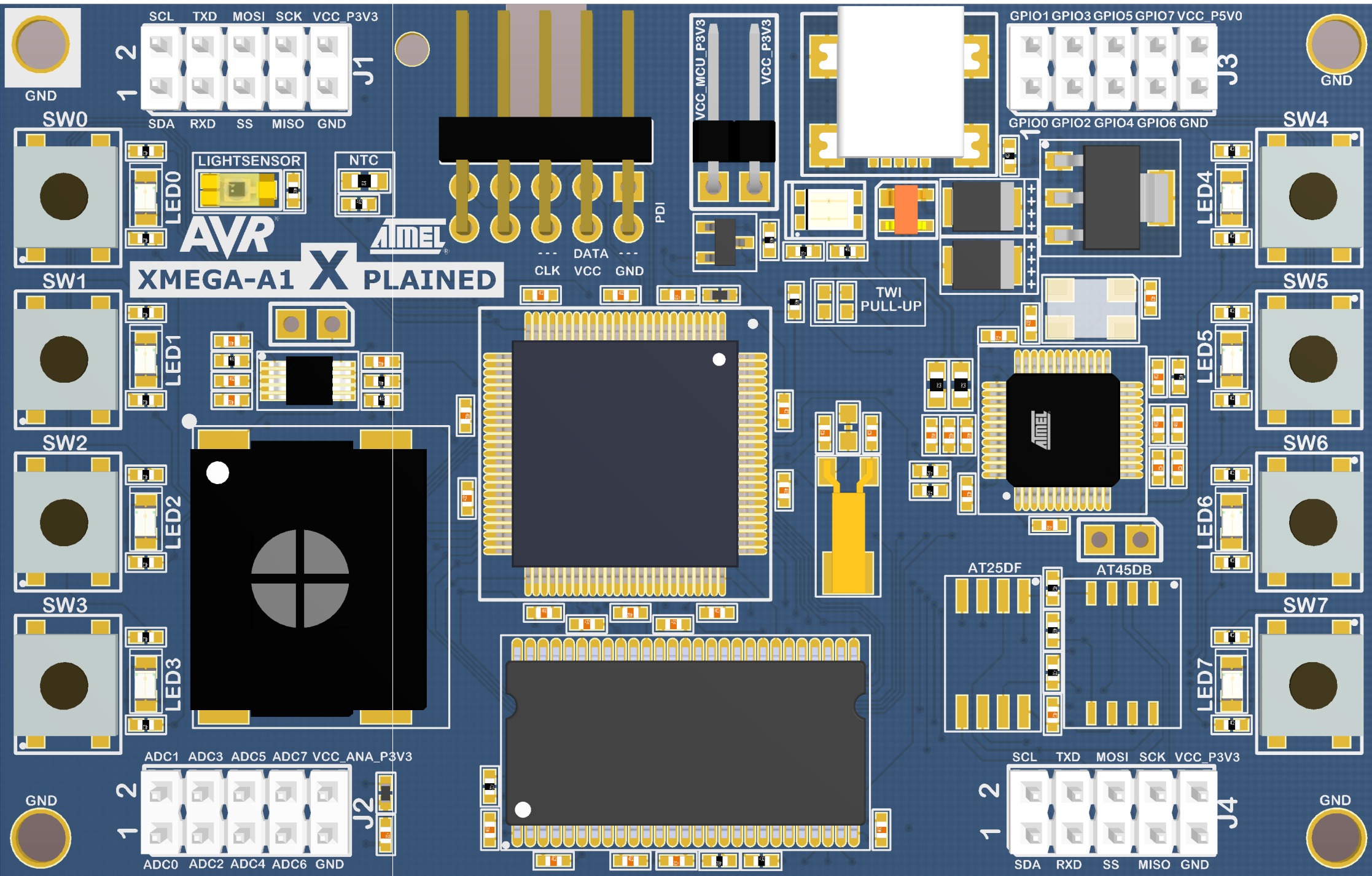
VCC_P3V3 PF7 PF5 PF3 PF1
GND PF6 PF4 PF2 PF0

JTAG
TCK TDO TMS --- TDI
GND VCC RESET --- GND

SPEAKER OUTPUT
+ -

VCC_ANA_P3V3 PA7 PA5 PA3 PA1

GND PA6 PA4 PA2 PA0



A08-0551 Rev 5

PCBA LABEL



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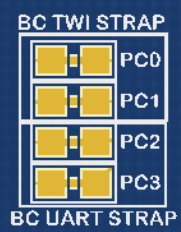
CUT TO REMOVE
VCC_P5V0



CUT TO REMOVE
VCC_P3V3



TP608

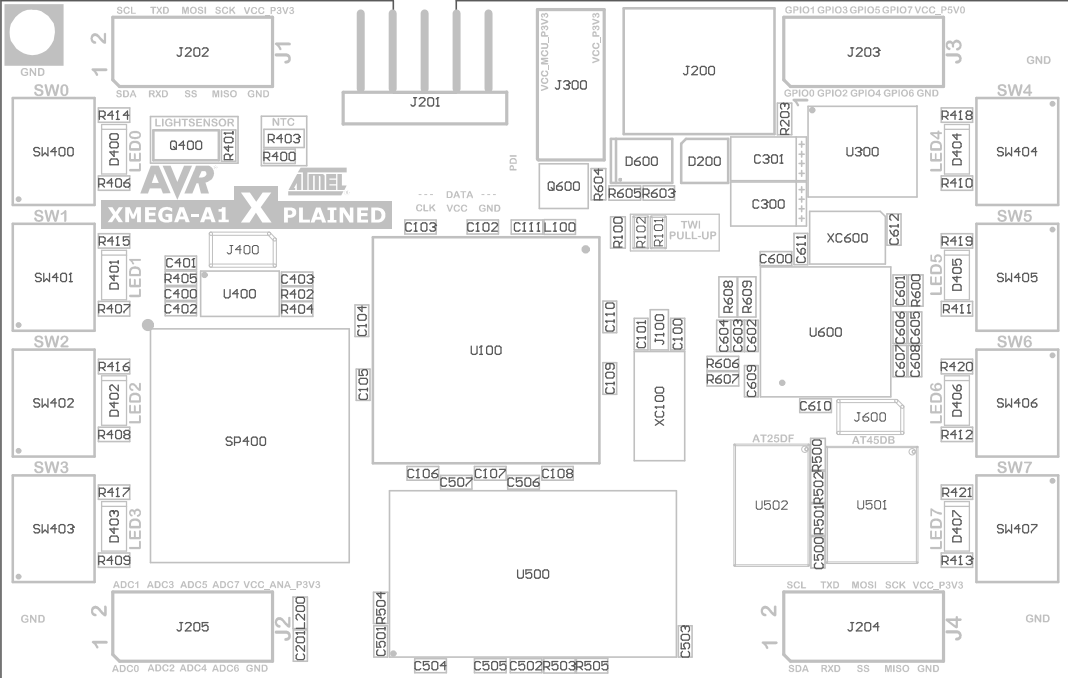


BC BOOTLOADER



SPEAKER OUTPUT





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A08-0551 Rev 5

PCBA LABEL

CUT TO REMOVE VCC_P5V0
J207

VCC_P5V0 PR1 PD5 PD3 PD1

GND PR0 PD4 PD2 PD0

TP608

TP OSC
J607

BC BOOTLOADER

TP202 TP200
TP201 TP203

BC TWI STRAP

J602	PC0
J601	PC1
J608	PC2
J609	PC3

BC UART STRAP

BC SPI STRAP

J604	PC4
J603	PC6
J606	PC5
J605	PC7

BOARD CONTROLLER JTAG

TDI	---	TMS	TDO	TCK
TP601		TP603	TP602	TP600
GND	---	RESET	VCC	GND
TP606		TP604	TP607	TP605

GND PC6 PC4 PC2 PC0

VCC_P3V3 PF7 PF5 PF3 PF1
J206

CUT TO REMOVE VCC_P3V3

GND PF6 PF4 PF2 PF0

TCK TDO TMS --- TDI

JTAG

GND VCC RESET --- GND

SPEAKER OUTPUT

+ -

VCC_ANA_P3V3 PA7 PA5 PA3 PA1

GND PA6 PA4 PA2 PA0

Component list

XMEGA-A1 XPLAINED

Source Data From:

XMEGA-A1_XPLAINED.PrjPcb

Project:

XMEGA-A1_XPLAINED.PrjPcb

Variant:

No Dataflash



Report Date: 02.12.2010 15:03:01

Print Date: 02.12.2010 15:02:51

#	Designator	Quantity	Value	Manufacturer	MPN	Description
1	C100, C101	2	8.2p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
2	C102, C103, C104, C105, C106 C107, C108, C109, C110, C111 C201, C500, C501, C502, C503 C504, C505, C506, C507, C600 C601, C607, C609	23	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
3	C300, C301	2	10uF/10V	Kemet	T491B106M010AT	SMD tantalum capacitor, precision molded chip. ESR = 3,5
4	C400, C401, C402, C403	4	1u	Kemet	C0402C105K9PAC	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-10%
5	C602, C606	2	2.2uF	Kemet	C0402C225M9PAC	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20%
6	C603, C610	2	22n			Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
7	C604	1	2.7n			Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
8	C605	1	470p			Ceramic capacitor, SMD 0402, X7R, 50V, +/-10%
9	C608	1	4.7uF	Murata	GRM155R60J475ME87D	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20%
10	C611, C612	2	18p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
11	D200	1	PTR5V0U2X	Philips	PRTR5V0U2X	Double rail-to-rail USB ESD protection diode
12	D400, D401, D402, D403, D404 D405, D406, D407	8	EL17-21UYC/A2	Everlight	17-21UYC/S530-A3/TR8	LED, Yellow, Wave length=591nm, SMD 0805, ±70°
13	D600	1	SML-020MLT	ROHM	SML-020MLT	LED, 2 colour (RED/GREEN), transparent clear lens, SMD
14	J200	1	MUSB-05-F-AB-SM-A	SAMTEC	MUSB-05-F-AB-SM-A	USB Mini-AB Connector, SMD
15	J201	1	2213R-10G	Multicomp	2213R-10G	Header, 2 Row, R/Angle, 10 Way
16	J202, J203, J204, J205	4	CD075014 2X5	Freber	CD075014 2X5	2x5 pin header, 2.54 mm pitch, Pin-in-Paste THM
17	J300	1	Pin header 1x2 right angle	Pro-data International Corp	2213R-2G	1x2 pin header, right angle, 2.54 mm pitch, through-hole
18	JS200, JS300	2	SNT-100-BK-G	SAMTEC	SNT-100-BK-G	Jumper cap for 2.54mm pinheader
19	L100, L200	2	BLM15BB221SN1	Murata	BLM15BB221SN1	SMD RF inductor 0402. Z=220Ohm (@100MHz), Max R(dc)=0.80Ohm, Max current=200mA
20	LBL1	1	Label PCBA	ACT Logimark AS	505462	PCBA identification label PP Top White Gloss
21	PCB1	1	A08-0551		A08-0551	Xplain PCB, 4-layer, size 54mm x 85mm
22	Q400	1	TEMT6000	vishay	TEMT6000	light sensor
23	Q600	1	2N7002	Fairchild	2N7002	N-Channel MOSFET. 60V, 0.115A continuous, 0.8A Peak. RDS(ON) = 7.5Ohm@VGS=5.0V, VGS(th)<3V
24	R100, R401, R404, R405, R500 R501, R502, R503, R504, R505 R600	11	100k			Thick film resistor, SMD 0402, 1/16W, 1%
25	R203, R400, R604	3	1M	KOA	RK73H1ETTP1004F	Thick film resistor, SMD 0402, 1/16W, 1%
26	R402	1	30k			Thick film resistor, SMD 0402, 1/16W, 1%
27	R403	1	NCP18WF104J03RB	Murata	NCP18WF104J03RB	NTC Thermistor 100kOhm @ 25deg, 1/10W, 5%, SMD 0603
28	R406, R407, R408, R409, R410 R411, R412, R413, R603, R605	10	220R			Thick film resistor, SMD 0402, 1/16W, 1%
29	R414, R415, R416, R417, R418 R419, R420, R421, R606, R607	10	330R			Thick film resistor, SMD 0402, 1/16W, 1%
30	R608, R609	2	39R	KOA	RK73H1JTTD39R0F	Thick film resistor, SMD 0603, 1/10W, 1%
31	SP400	1	NDT-03C	Star Micronics	NDT-03C	SMD Speaker, 0.5W, 15x15mm
32	SW400, SW401, SW402, SW40 SW404, SW405, SW406, SW40	8	SKRAALE010	ALPS	SKRAALE010	6.2x6.2 mm SMD tact switch
33	U100	1	ATxmega128A1-AU	ATMEL	ATxmega128A1-AU	AVR 8-bit RISC MCU
34	U300	1	LMS8117AMP-3.3	National Semiconductor	LMS8117AMP-3.3	3.3V 1A Low Dropout Linear Regulator SOT223_4
35	U400	1	TPA0253DGQR	Texas Instruments	TPA0253DGQR	1W mono audio power amplifier with headphone drive
36	U500	1	MT48LC16M4A2P-75:G	Micron	MT48LC16M4A2P-75:G	64Mbit SDRAM 16Mx4, 3.3V.
37	U600	1	AT32UC3B1256-AUT	ATMEL	AT32UC3B1256-AUT	AVR 32-bit RISC MCU
38	XC100	1	32.768kHz +/-20PPM 7pF SMD	Micro Crystal	MS1V-T1K 32.768kHz 7pF +/-20PPM TA	32k768 crystal, +20ppm, CL=7pF, max ESR 60kOhm, SMD
39	XC600	1	12.0MHz	Fox Electronics	FQ5032B-12-C-C-C-200-1 / 738B-12	Fox FQ5032B 12.0MHz SMD crystal 738B-12

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Approved

Notes