
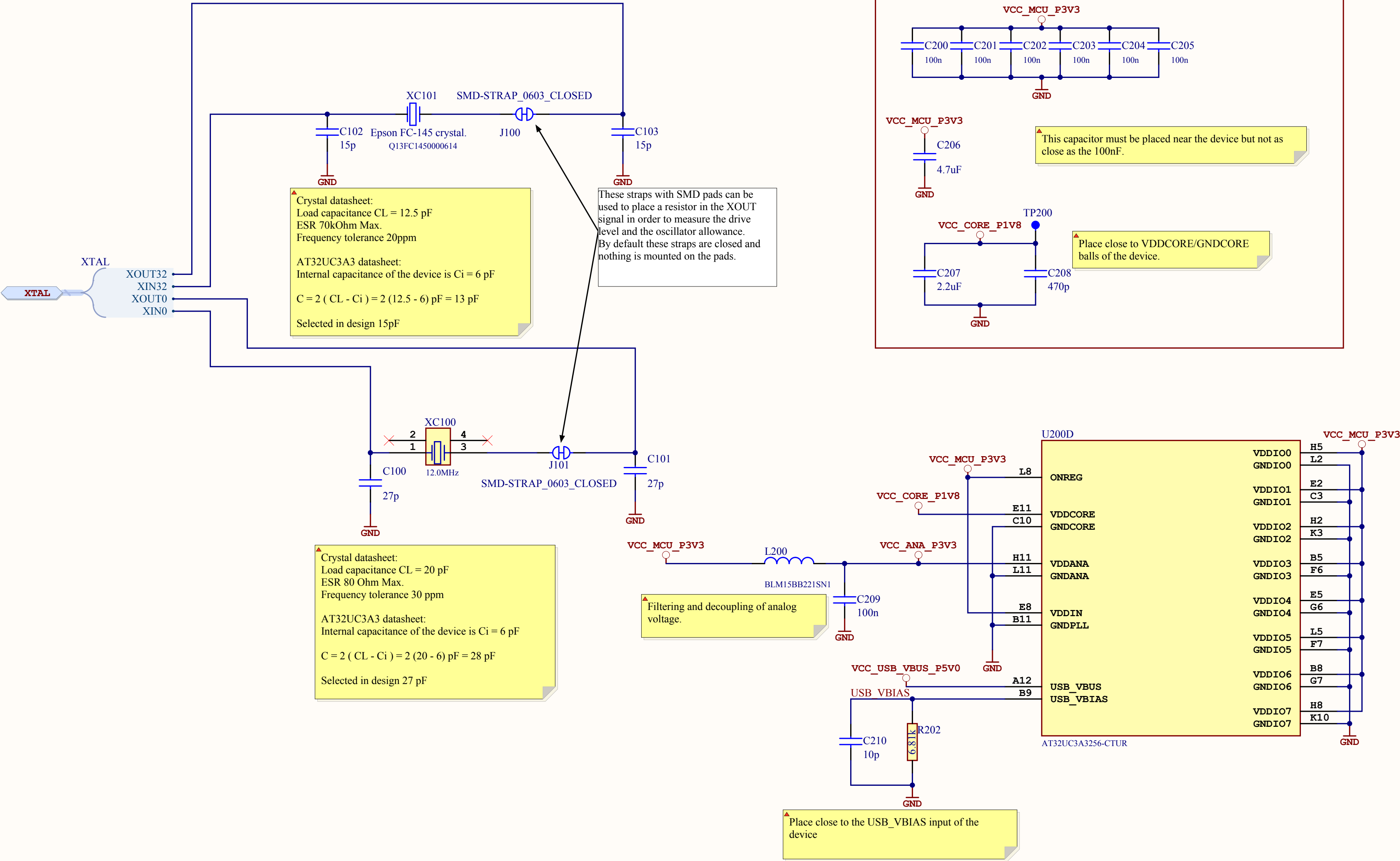
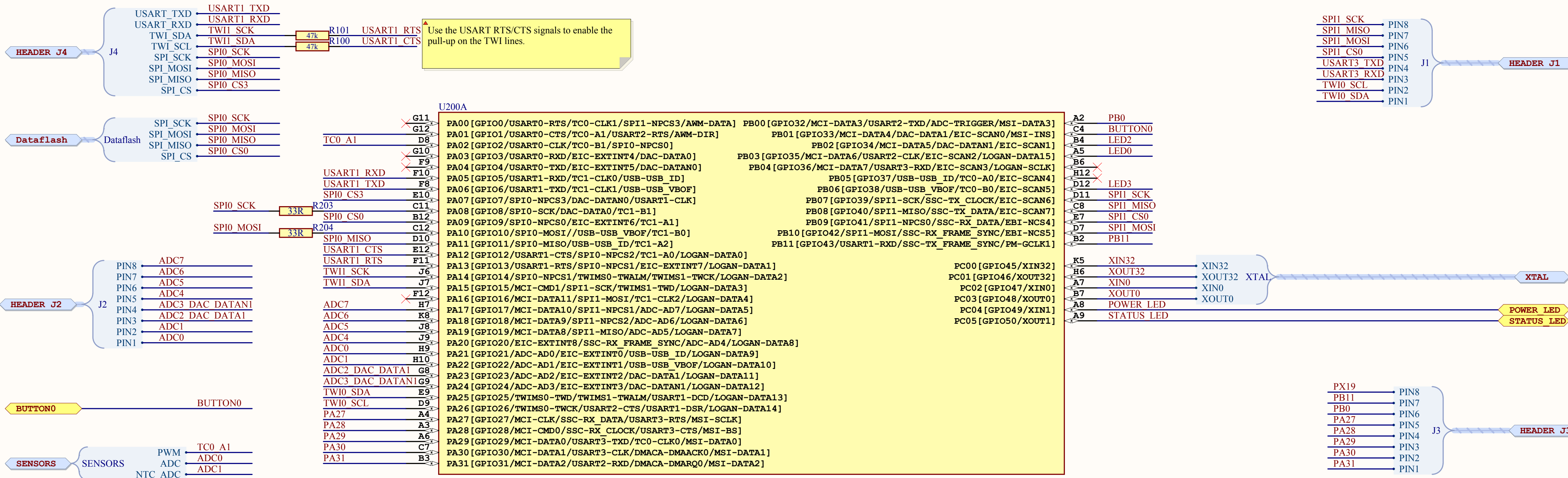


ATMEL Norway	*				
Vestre Rosten 79	*				
N-7075 TILLER	*				
NORWAY					
Date:	9/21/2010	10:24:18 AM	PAGE:	1 of 9	
Document number:	1		Revision:	10	
TITLE: UC3-A3 Xplained Top Level					
TopLevel.SchDoc					





ATMEL Norway	*				
Vestre Rosten 79	*				
N-7075 TILLER	*				
NORWAY					
Date:	9/21/2010	10:24:18 AM	PAGE:	3 of 9	
Document number:	3		Revision:	10	
TITLE: UC3-A3 Xplained MCU I/O					
at32uc3a3_cpu_io.SchDoc					

A

B

C

D

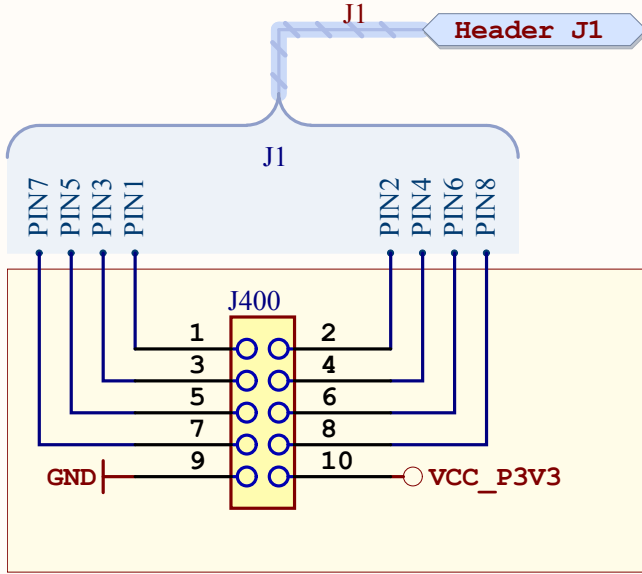
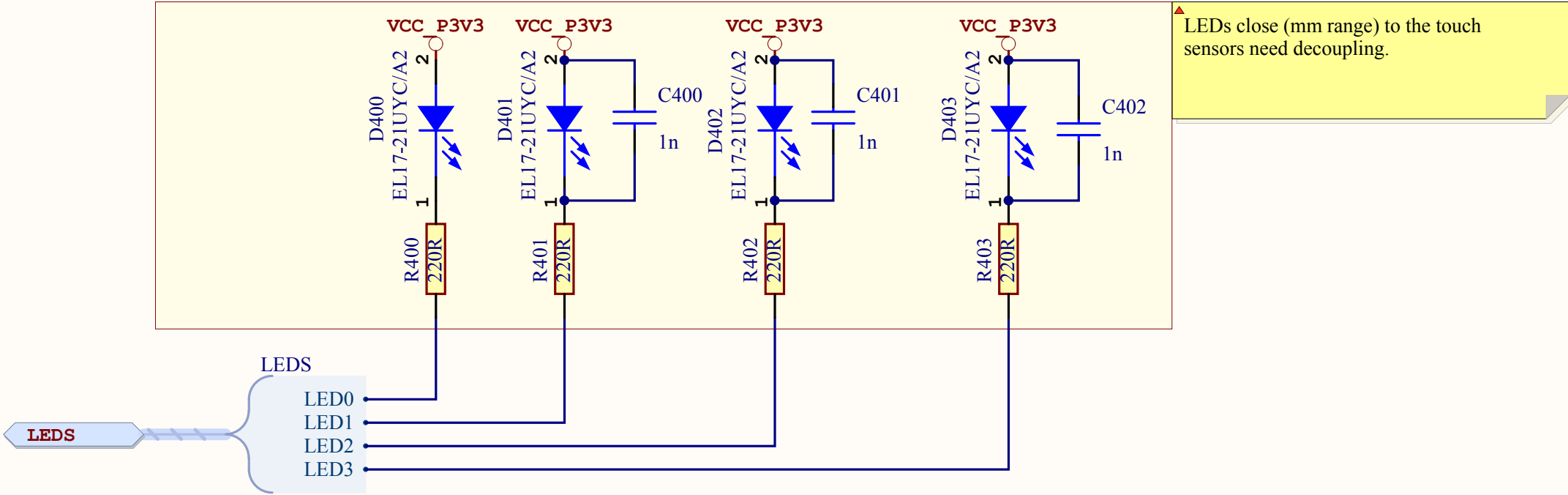
A

B

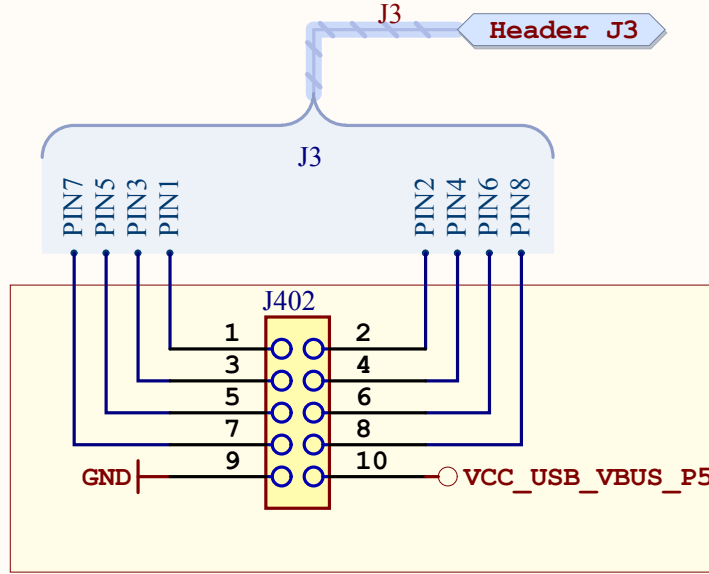
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D

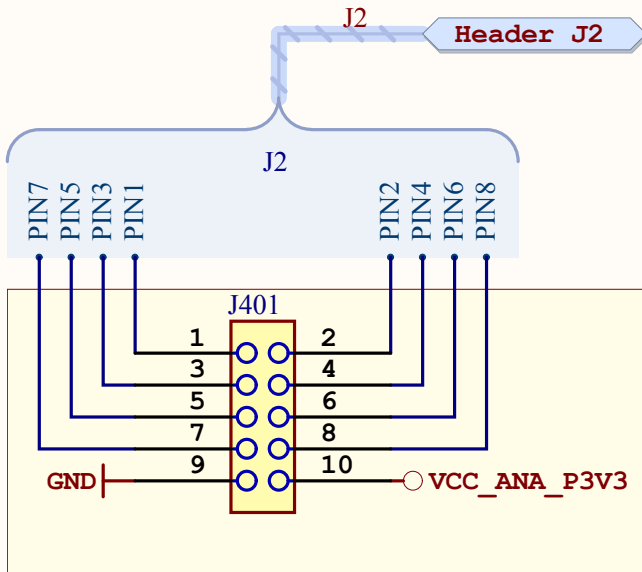
4 Yellow LEDs



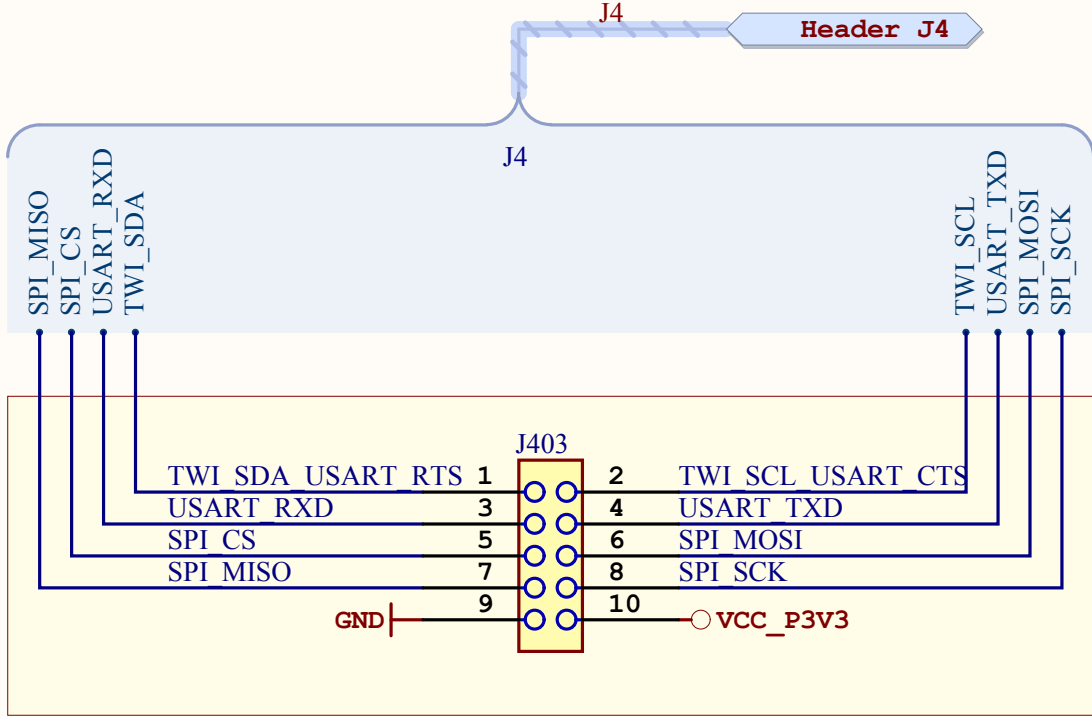
Expansion header J1



Expansion header J3

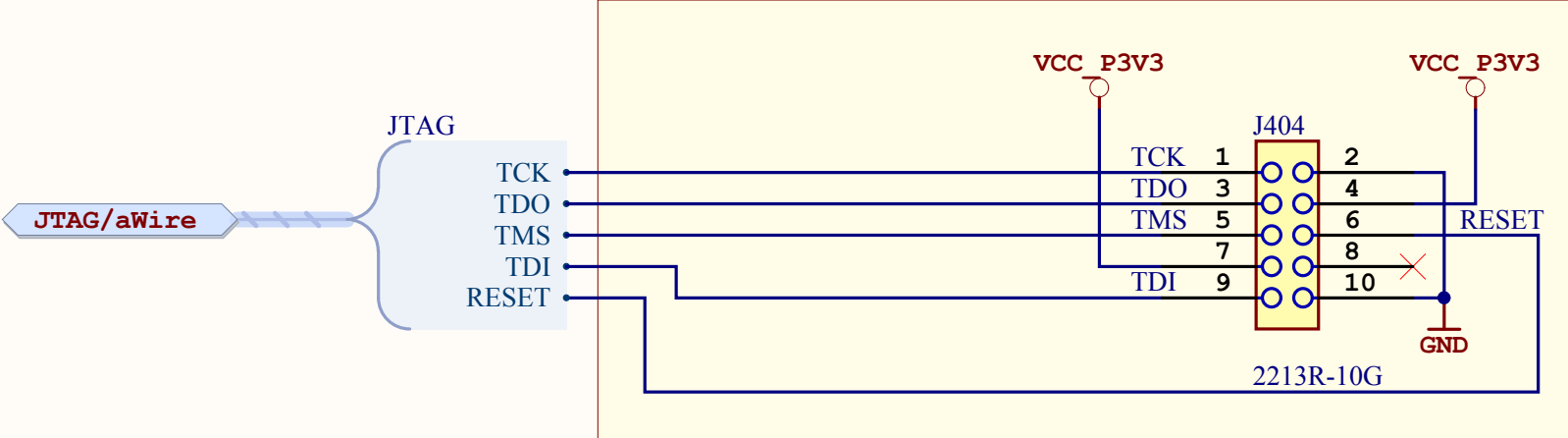


Expansion header J2 (analog)

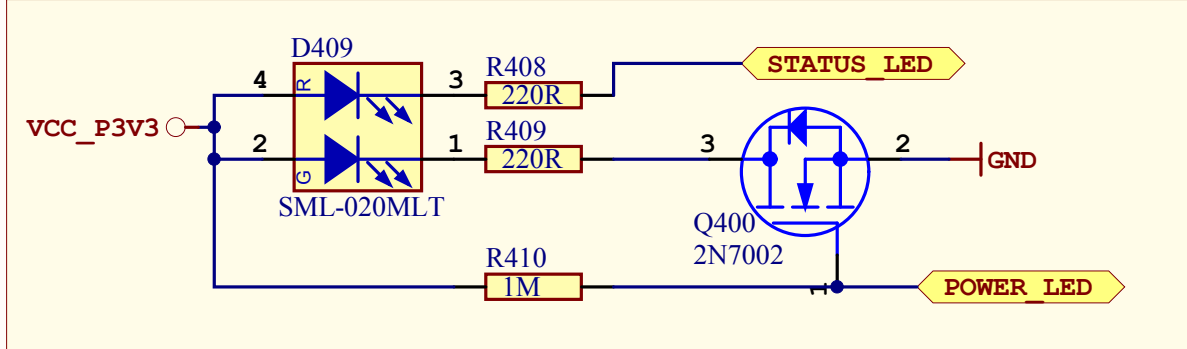


Expansion header J4

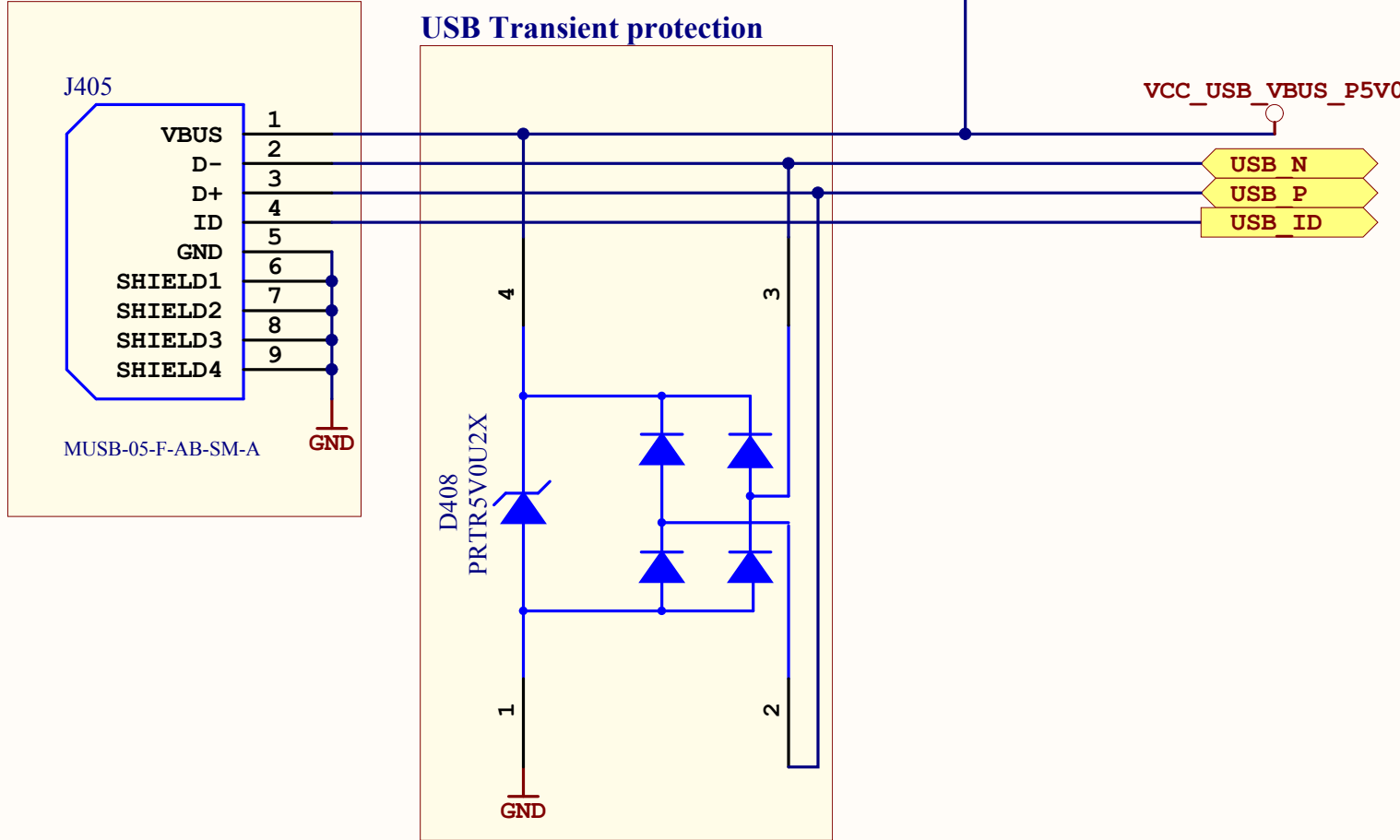
JTAG interface



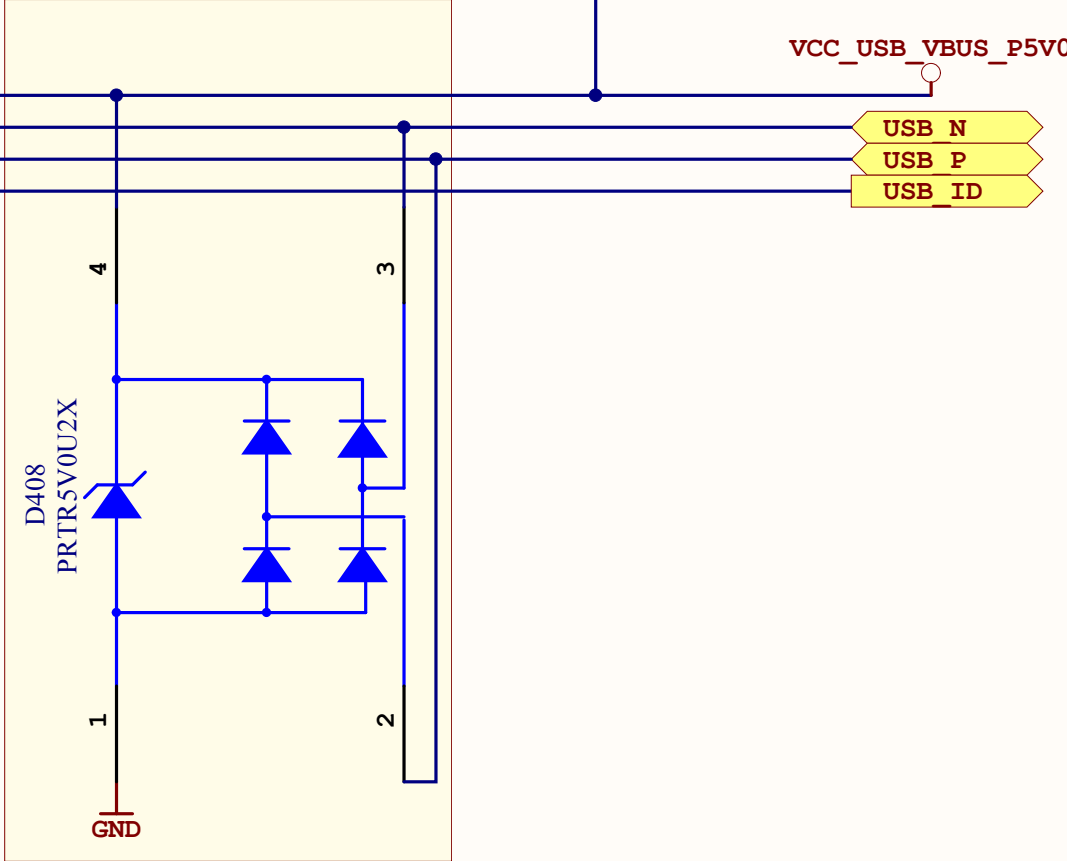
Power LED and Status LED



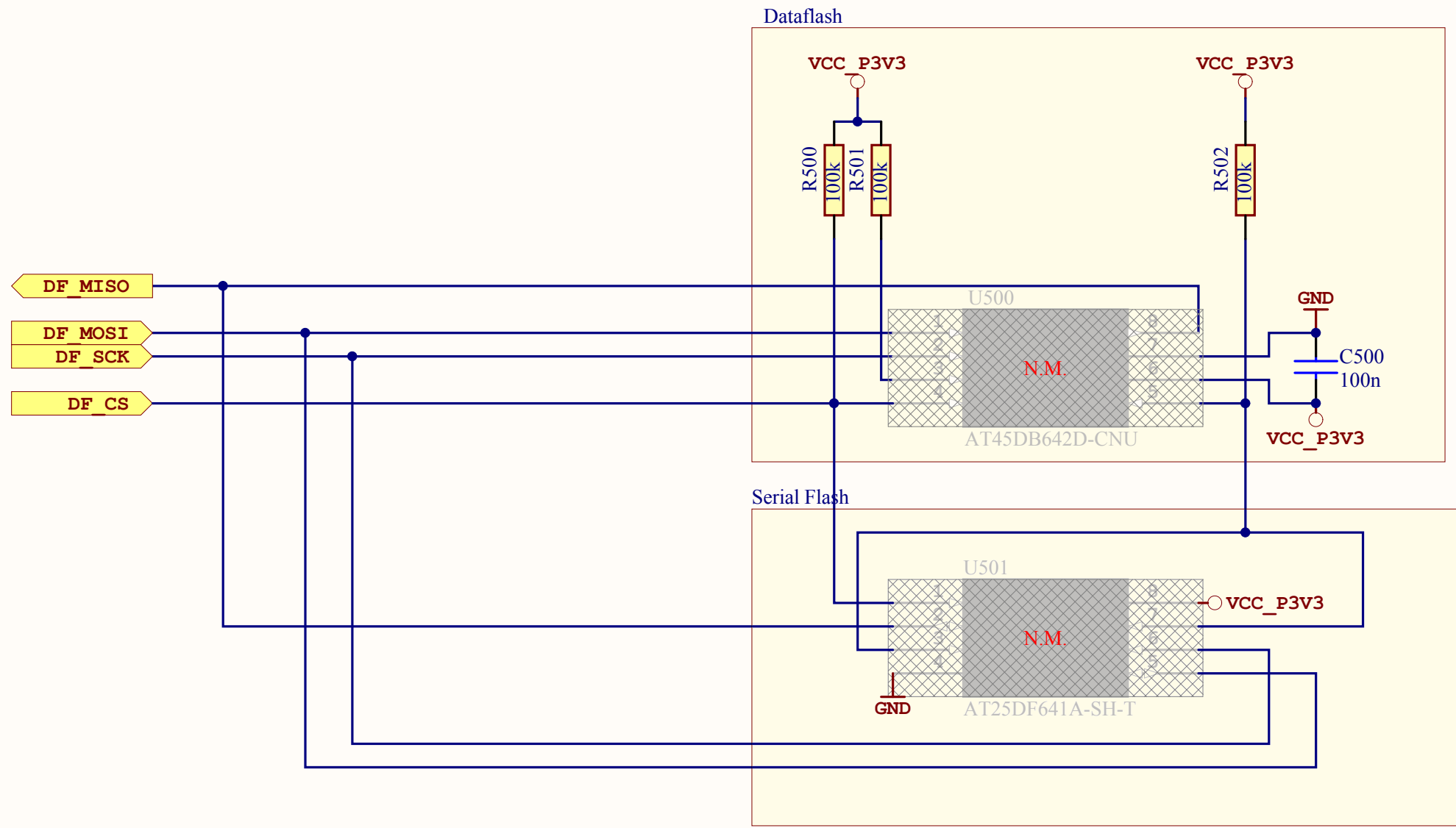
USB Mini AB connector

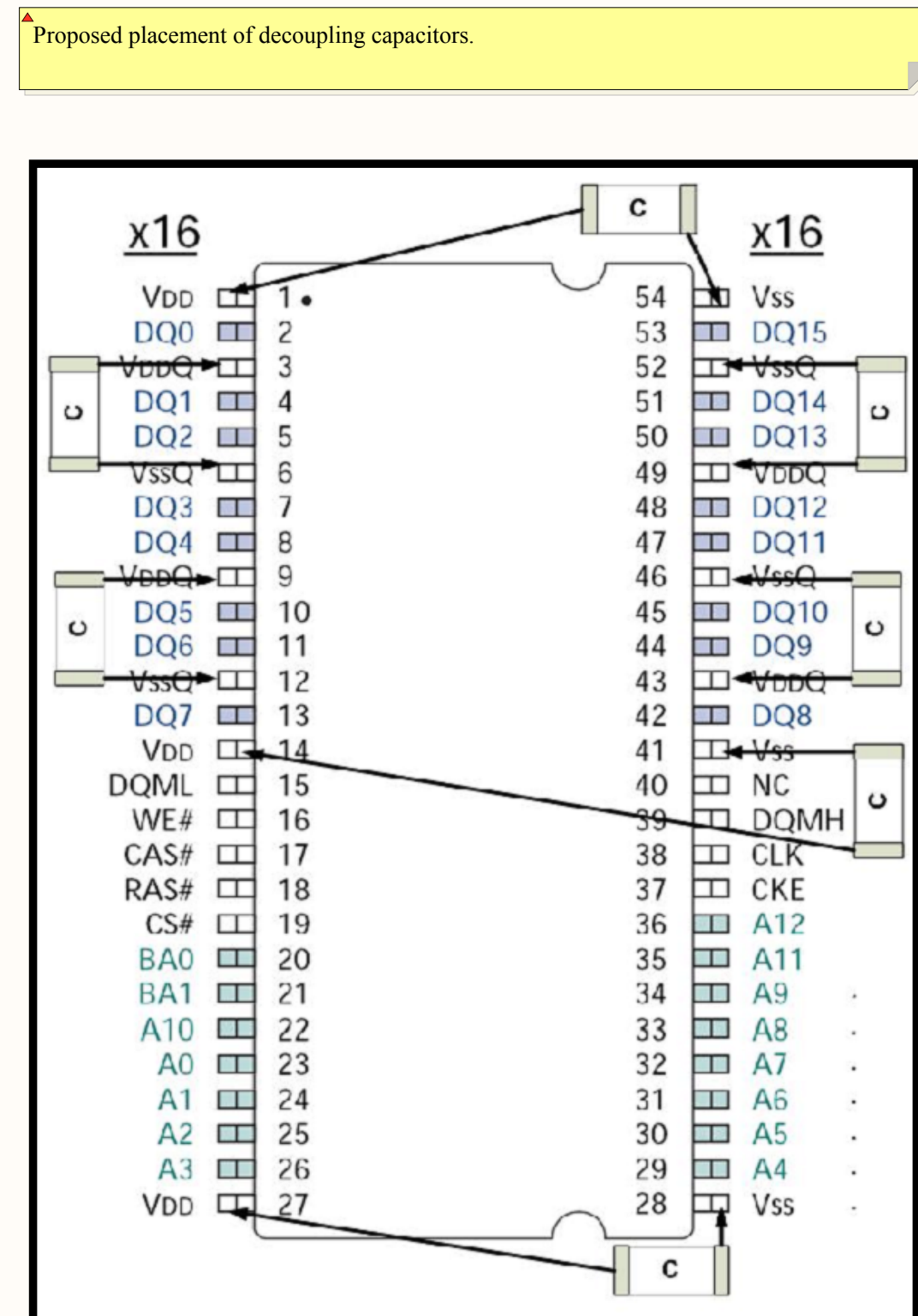
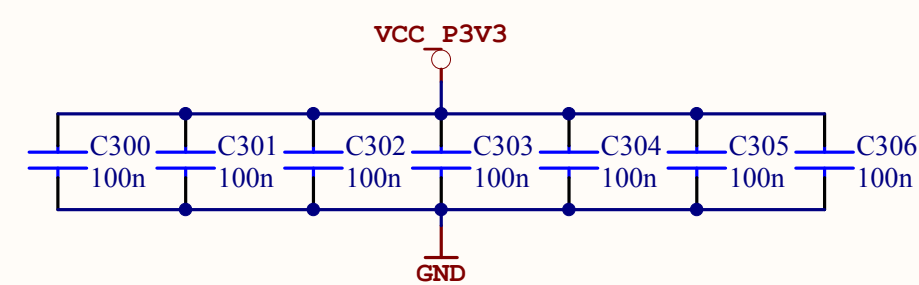
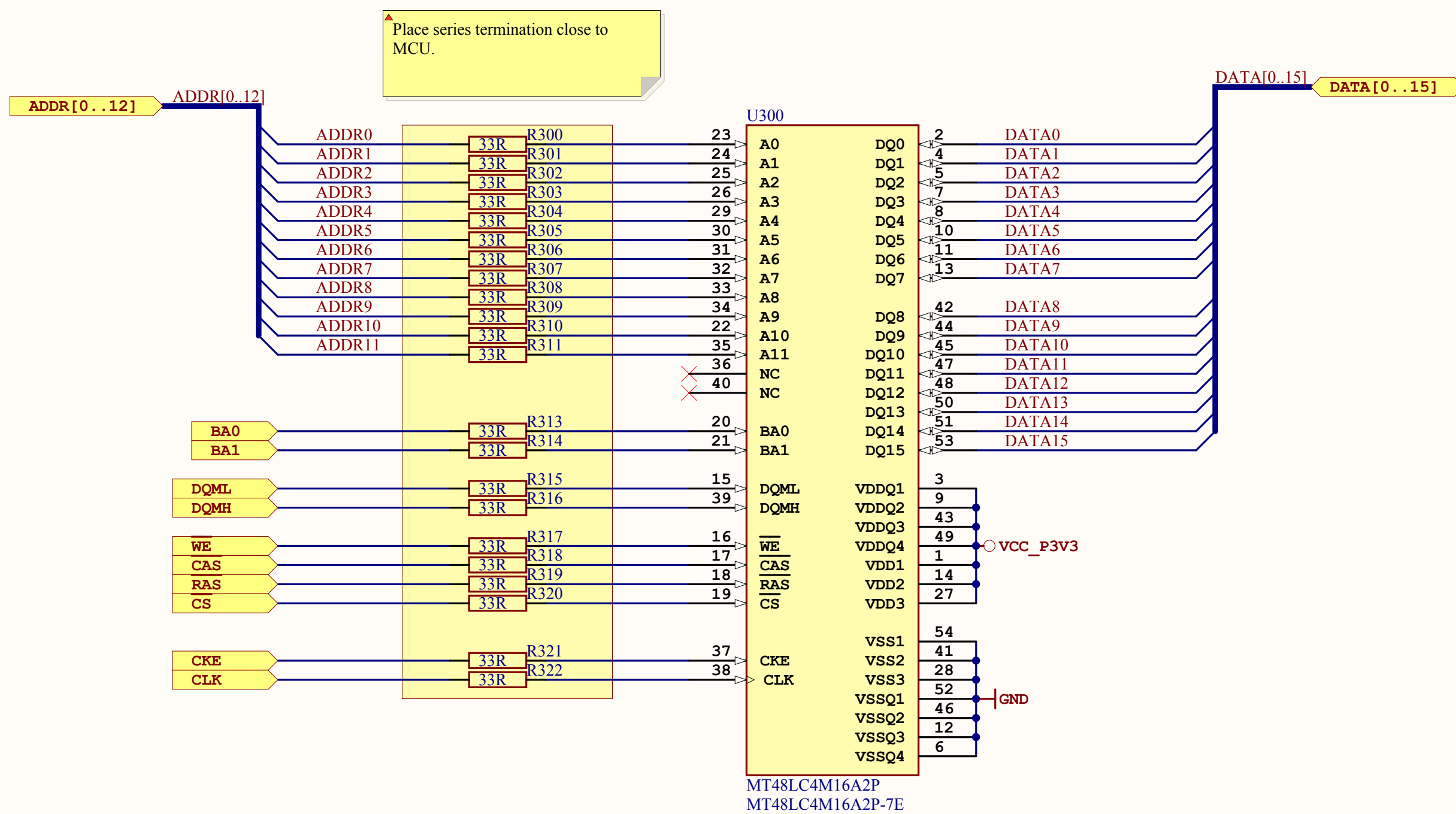



USB Transient protection



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NORWAY					
Date:	9/21/2010	10:24:18 AM	PAGE:	5 of 9	
Document number:	5		Revision:	10	
TITLE: UC3-A3 Xplained Board I/O					
IO.SchDoc					

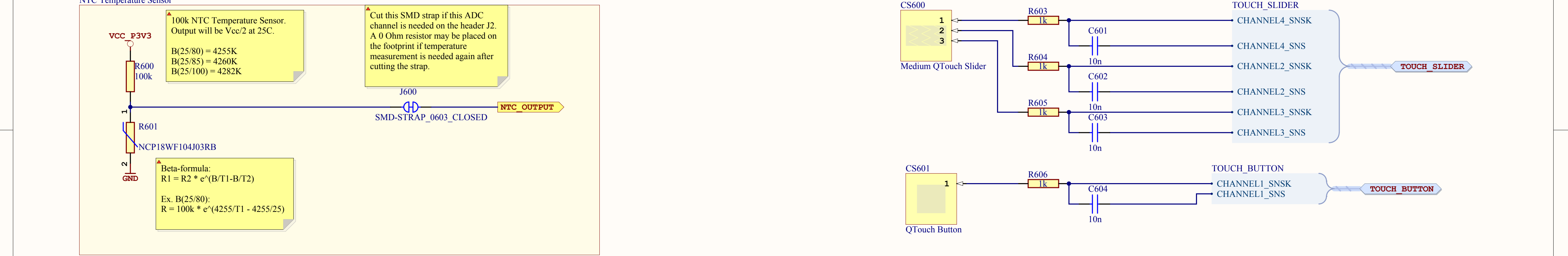




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N-7075 TILLER	*			
NORWAY				
Date:	9/21/2010	10:24:19 AM	PAGE:	7 of 9
Document number:	7		Revision:	10
TITLE: UC3-A3 XplainedSDRAM				
SDRAM_MT48LC4M16A2_SchDoc				

A

A



B

B



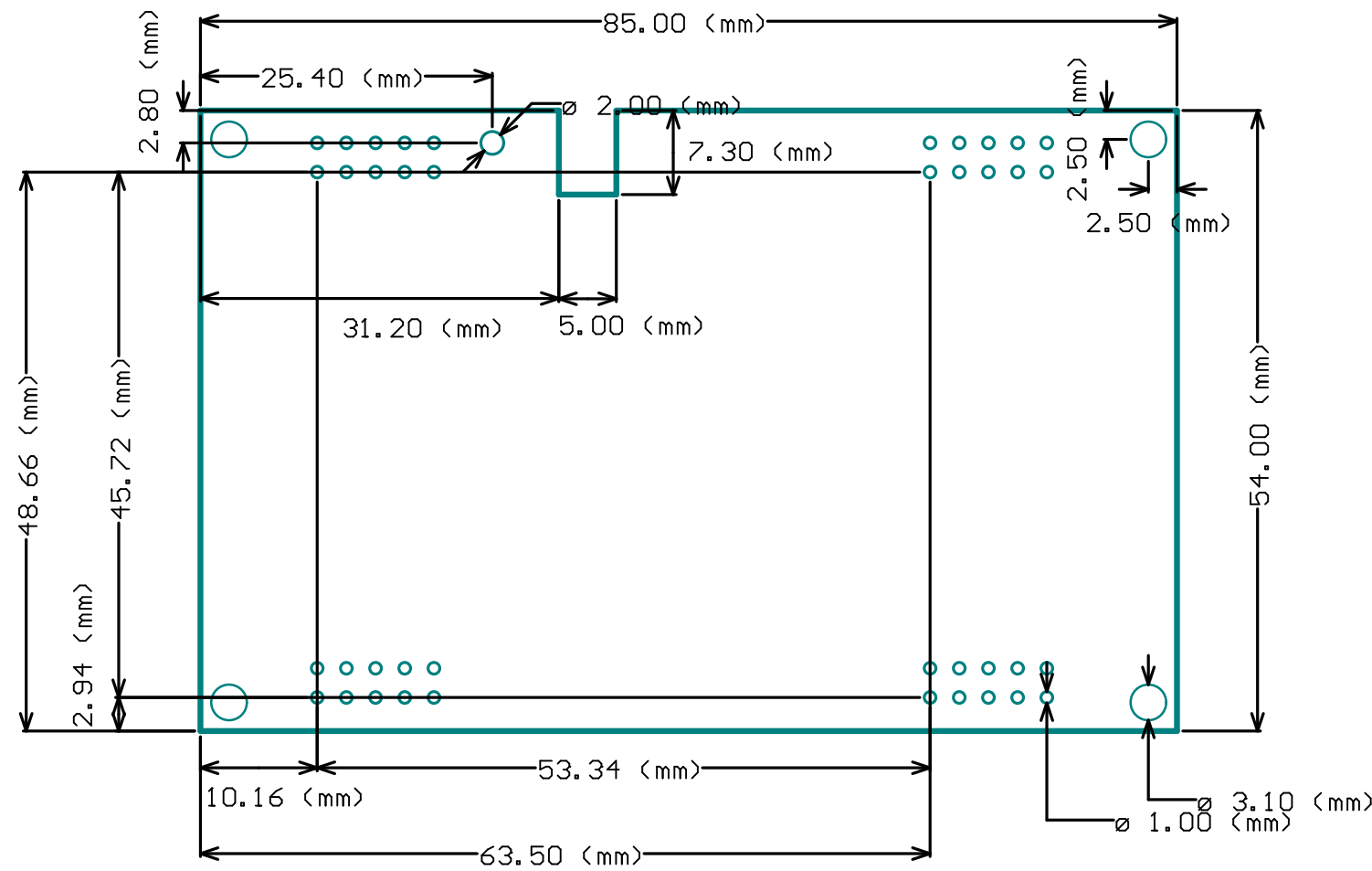
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C

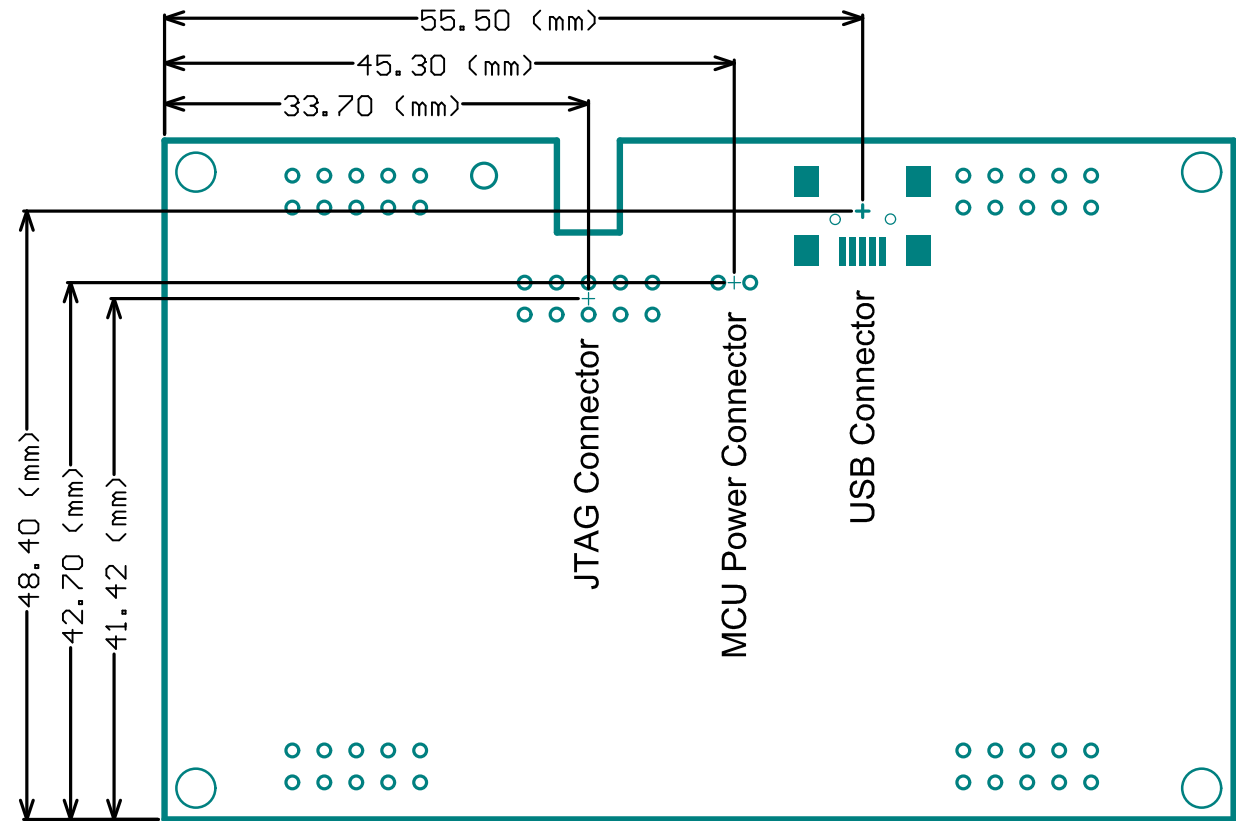
D

D

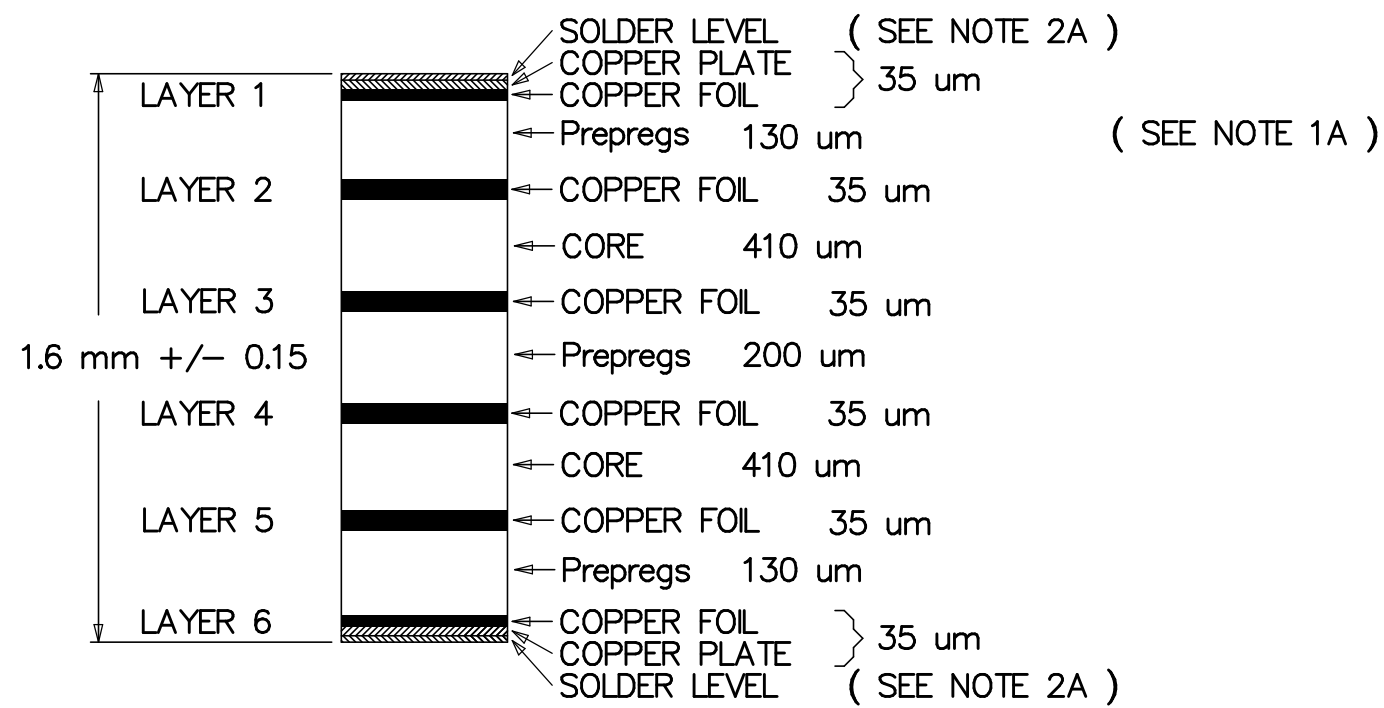
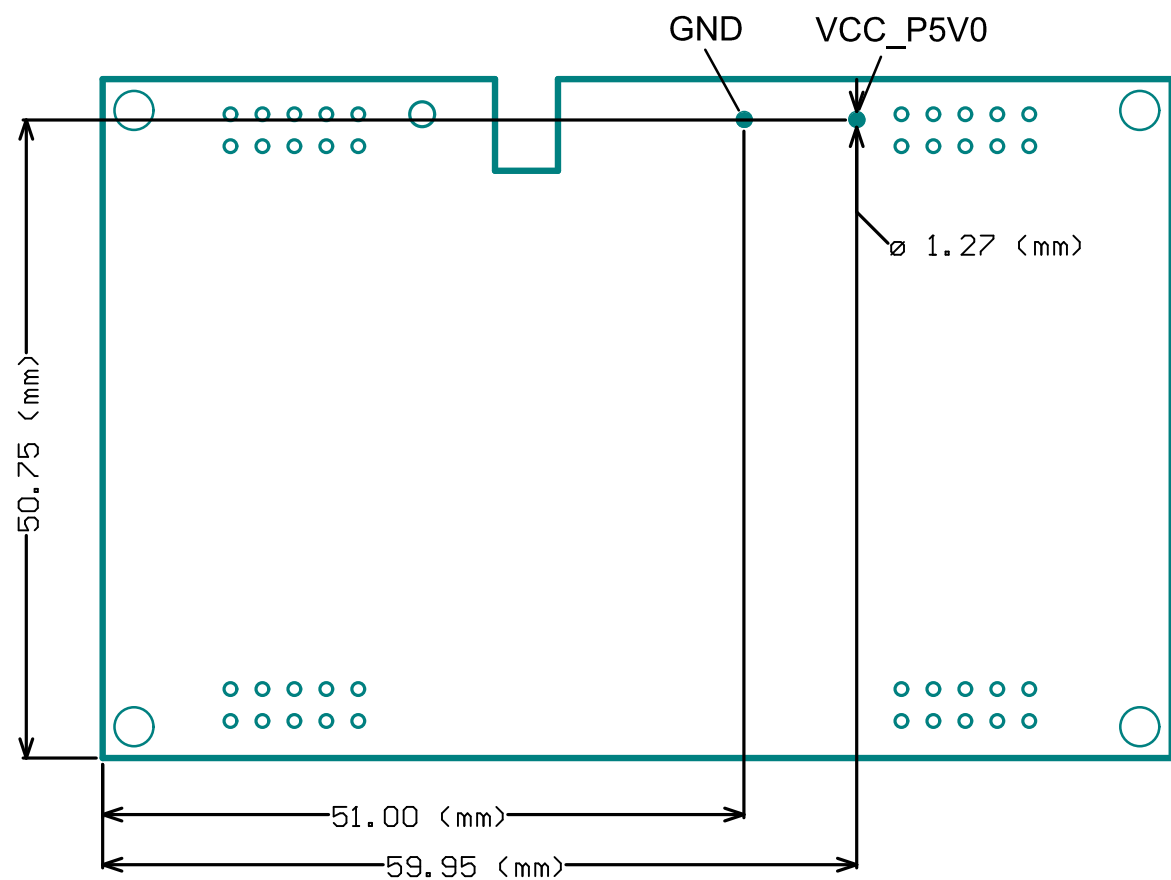
Mechanical Dimensions:



Connector Placement:



Testpoint Placement:

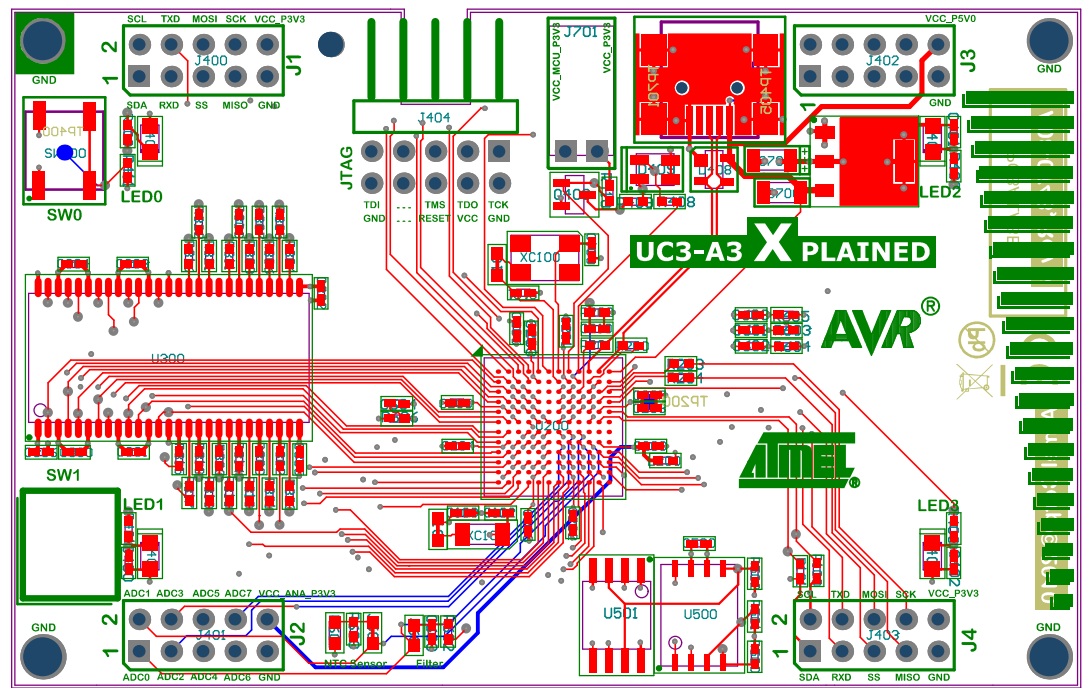


- L1 Mounting Pads / Low Freq. Signals
- L2 Ground
- L3 High Freq. Signals
- L4 High Freq. Signals
- L5 Power
- L6 Low Freq. Signals

This is probably the most common six-layer stack-up and can be very effective in controlling emissions, if done correctly. Its main drawback is the separation of the power and ground planes. Due to this separation there is no significant interplane capacitance between power and ground. Therefore, the decoupling must be designed very carefully to account for this fact.

NOTE 1A: DIELECTRIC FR4
2A: SURFACE PROTECTION: Chemical Gold
THE BOARD MUST BE RoHS COMPLIANT

DETAIL A (CROSS-SECTION)
SCALE = NONE



ATHIEL NDIRARY
Vestre Rosten 79
N-7075 Tiller

ENGINEER:

PCB DESIGNER:

DATE:

FILE NAME:

TITLE:

PART NO:

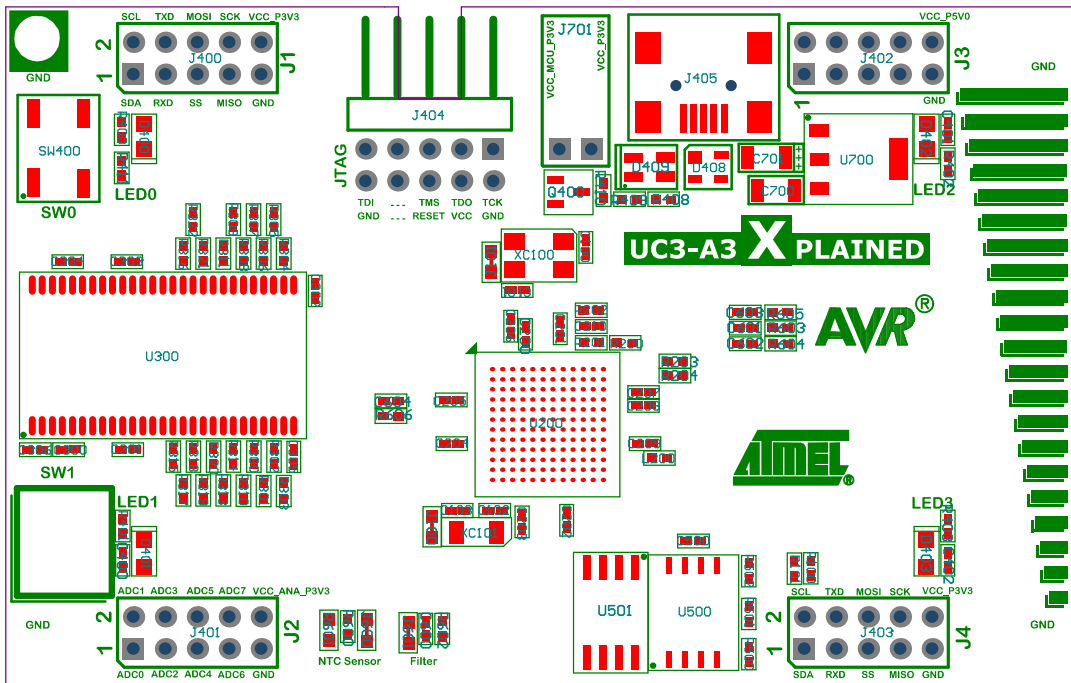
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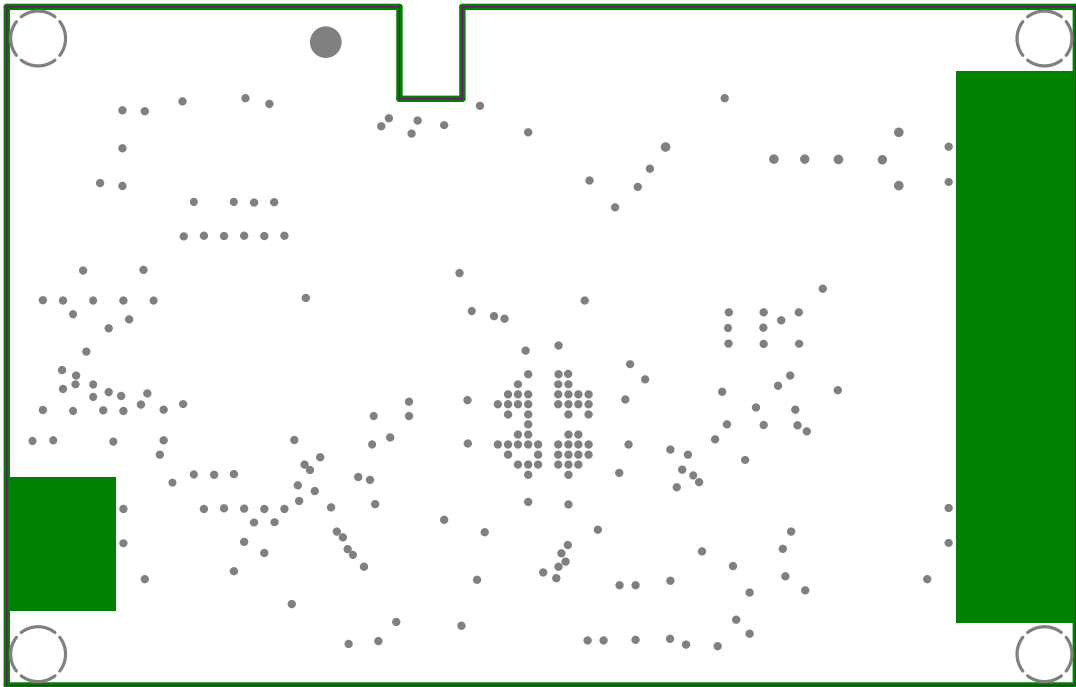
REV:

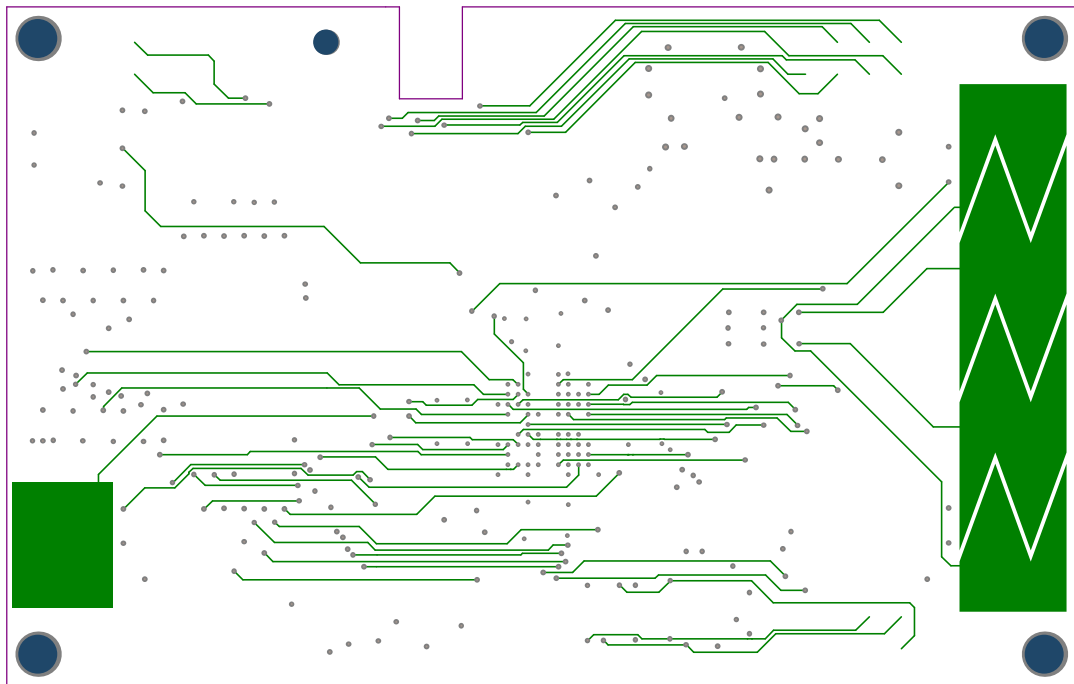
SCALE:

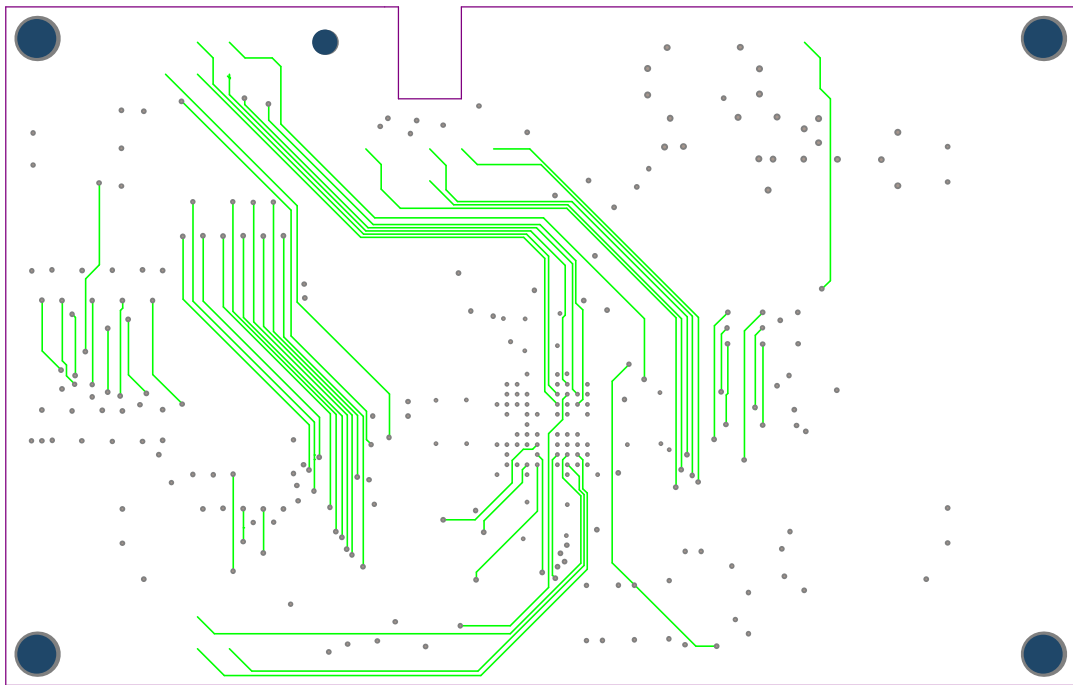
9/21/2010

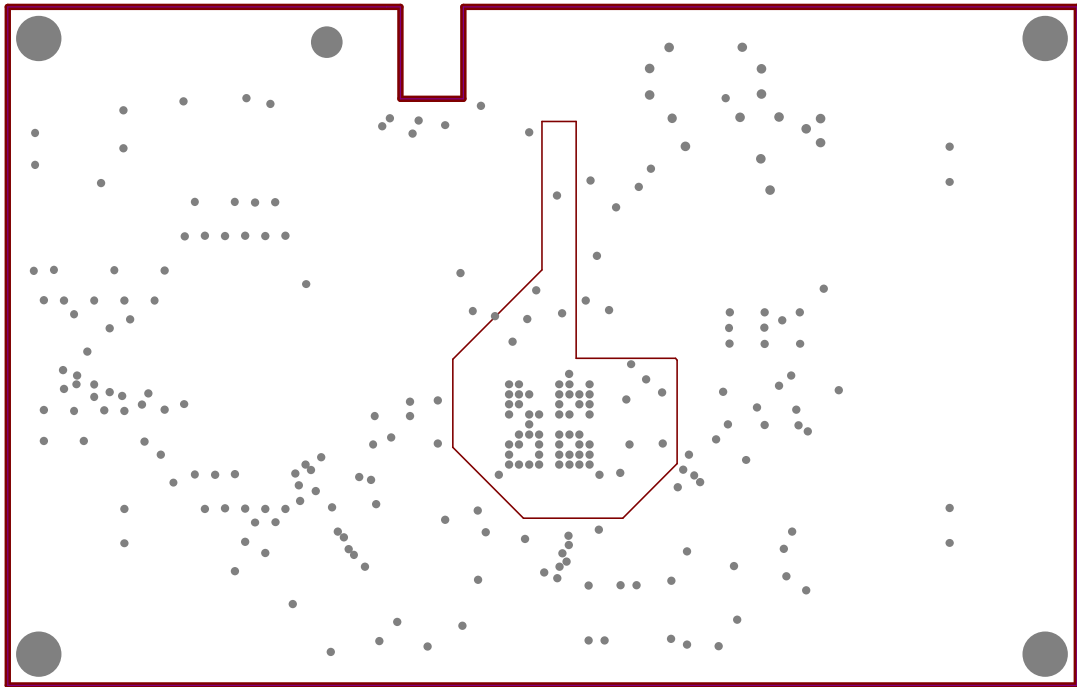
UC3-A3-xplained/pcbDoc











V08-0148 Rev 0

PCBA LABEL



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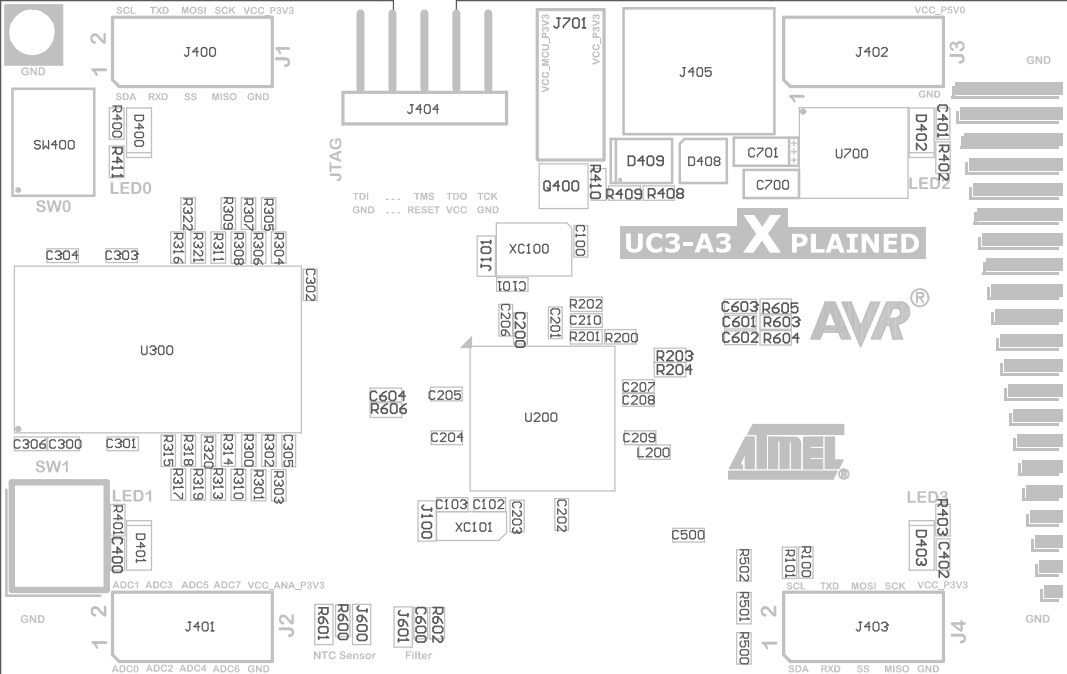


LP402

LP501

LP500

LP400



TP400



TP701

TP200

TP405



PCBA LABEL

A08-0748, Rev 6



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Component list

UC3-A3 Xplained Top Level

Source Data From:

UC3-A3-Xplained.PrjPcb

Project:

UC3-A3-Xplained.PrjPcb

Variant:

No_Flash



Report Date: 9/21/2010 10:24:54 AM

Print Date: 9/21/2010 10:24:51 AM

#	Designator	Quantity	Value	Manufacturer	MPN	Description
1	C100, C101	2	27p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
2	C102, C103	2	15p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
3	C200, C201, C202, C203, C204 C205, C209, C300, C301, C302 C303, C304, C305, C306, C500 C600	16	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
4	C206	1	4.7uF	Murata	GRM155R60J475ME87D	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20%
5	C207	1	2.2uF	Kemet	C0402C225M9PAC	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20%
6	C208	1	470p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
7	C210	1	10p			Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
8	C400, C401, C402	3	1n			Ceramic capacitor, SMD 0402, X7R, 50V, +/-10%
9	C601, C602, C603, C604	4	10n			Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
10	C700, C701	2	10u	Murata, vishay	GRM31CR71C106KA12L, TR3A106K016C1700	Ceramic capacitor, SMD 1206, X7R, 16V, ±10 %, SMD tantalum capacitor, ESR = 1.7, 3216-18 (EIA) 1206
11	D400, D401, D402, D403	4	EL17-21UYC/A2	Everlight	17-21UYC/S530-A3/TR8	LED, Yellow, Wave length=591nm, SMD 0805, ±70°
12	D408	1	PRTR5V0U2X	Philips	PRTR5V0U2X	Double rail-to-rail USB ESD protection diode
13	D409	1	SML-020MLT	ROHM	SML-020MLT	LED, 2 colour (RED/GREEN), transparent clear lens, SMD
14	J400, J401, J402, J403	4	CD075014 2X5	Freber	CD075014 2X5	2x5 pin header, 2.54 mm pitch, Pin-in-Paste THM
15	J404	1	2213R-10G	Multicomp	2213R-10G	Header, 2 Row, R/Angle, 10 Way
16	J405	1	MUSB-05-F-AB-SM-A	SAMTEC	MUSB-05-F-AB-SM-A	USB Mini-AB Connector, SMD
17	J701	1	Pin header 1x2 right angle	Pro-data International Corp	2213R-2G	1x2 pin header, right angle, 2.54 mm pitch, through-hole
18	JS700	1	SNT-100-BK-G	SAMTEC	SNT-100-BK-G	Jumper cap for 2.54mm pinheader
19	L200	1	BLM15BB221SN1	Murata	BLM15BB221SN1	SMD RF inductor 0402. Z=220Ohm (@100MHz), Max R(dc)=0.80Ohm, Max current=200mA
20	LABEL100	1	Label PCBA	ACT Logimark AS	505462	PCBA identification label PP Top White Gloss
21	PCB100	1	A08-0748			UC3-A3 Xplained PCB, 6-layer, size 54mm x 85mm
22	Q400	1	2N7002	Fairchild	2N7002	N-Channel MOSFET. 60V, 0.115A continuous, 0.8A Peak. RDS(ON) = 7.5Ohm@VGS=5.0V, VGS(th)<3V
23	R100, R101	2	47k			Thick film resistor, SMD 0402, 1/16W, 1%
24	R200, R201	2	39R			Thick film resistor, SMD 0402, 1/16W, 1%
25	R202	1	6.81k			Thick film resistor, SMD 0402, 1/16W, 1%
26	R203, R204, R300, R301, R302 R303, R304, R305, R306, R307 R308, R309, R310, R311, R313 R314, R315, R316, R317, R318 R319, R320, R321, R322	24	33R			Thick film resistor, SMD 0402, 1/16W, 1%
27	R400, R401, R402, R403, R408 R409	6	220R			Thick film resistor, SMD 0402, 1/16W, 1%
28	R410	1	1M	KOA	RK73H1ETTP1004F	Thick film resistor, SMD 0402, 1/16W, 1%
29	R411, R500, R501, R502, R600	5	100k			Thick film resistor, SMD 0402, 1/16W, 1%
30	R601	1	NCP18WF104J03RB	Murata	NCP18WF104J03RB	NTC Thermistor 100kOhm @ 25deg,1/10W, 5%, SMD 0603
31	R602	1	100R			Thick film resistor, SMD 0402, 1/16W, 1%
32	R603, R604, R605, R606	4	1k			Thick film resistor, SMD 0402, 1/16W, 1%
33	SW400	1	SKRAAKE010	ALPS	SKRAAKE010	6.2x6.2 mm SMD tact switch, same as A08-0091 but less force is needed
34	U200	1	AT32UC3A3256-CTUR	ATMEL	AT32UC3A3256-CTUR	AVR 32-bit RISC MCU
35	U300	1	MT48LC4M16A2P-7E	Micron	MT48LC4M16A2P-7E	64 Mbit SDRAM (1Meg x 16 x 4 banks), 133 MHz, 3.3V
36	U700	1	NCP1117LPST33T3G	ON Semiconductor	NCP1117LPST33T3G	The low power version of the popular NCP1117
37	XC100	1	12.0MHz	Fox Electronics	FQ5032B-12-C-C-C-200-1 / 738B-12	Fox FQ5032B 12.0MHz SMD crystal 738B-12
38	XC101	1	Q13FC1450000614	Epson Toyocom	FC-145 32.7680KA-A0 / Q13FC1450000614	32kHz crystal, SMD, 4.1 x 1.5 mm, FC-145

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Approved

Notes