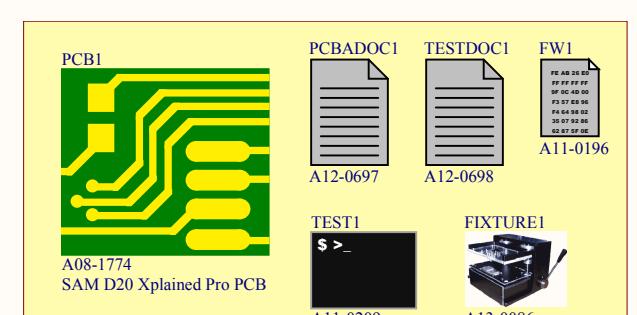


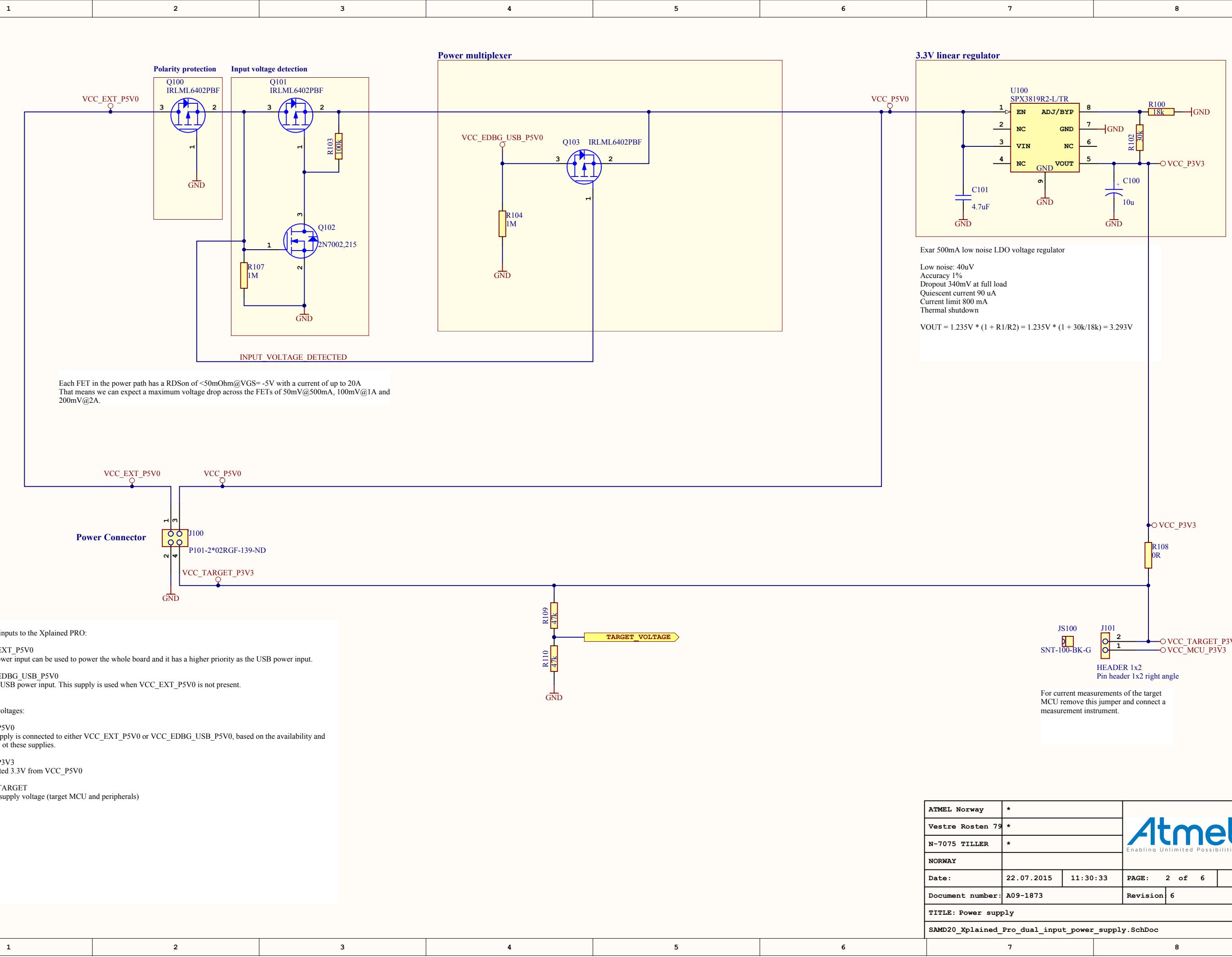
LABEL1

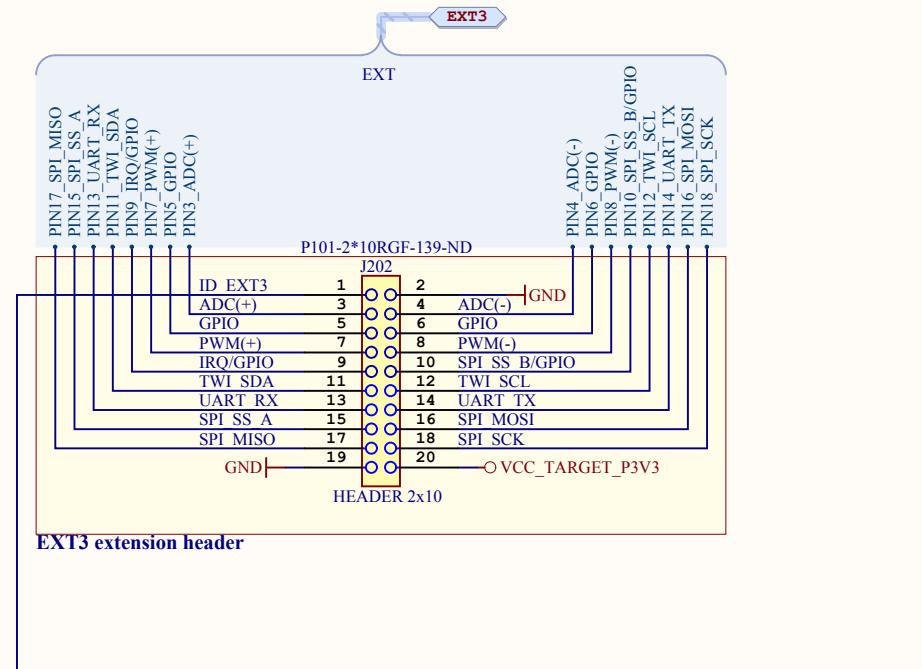
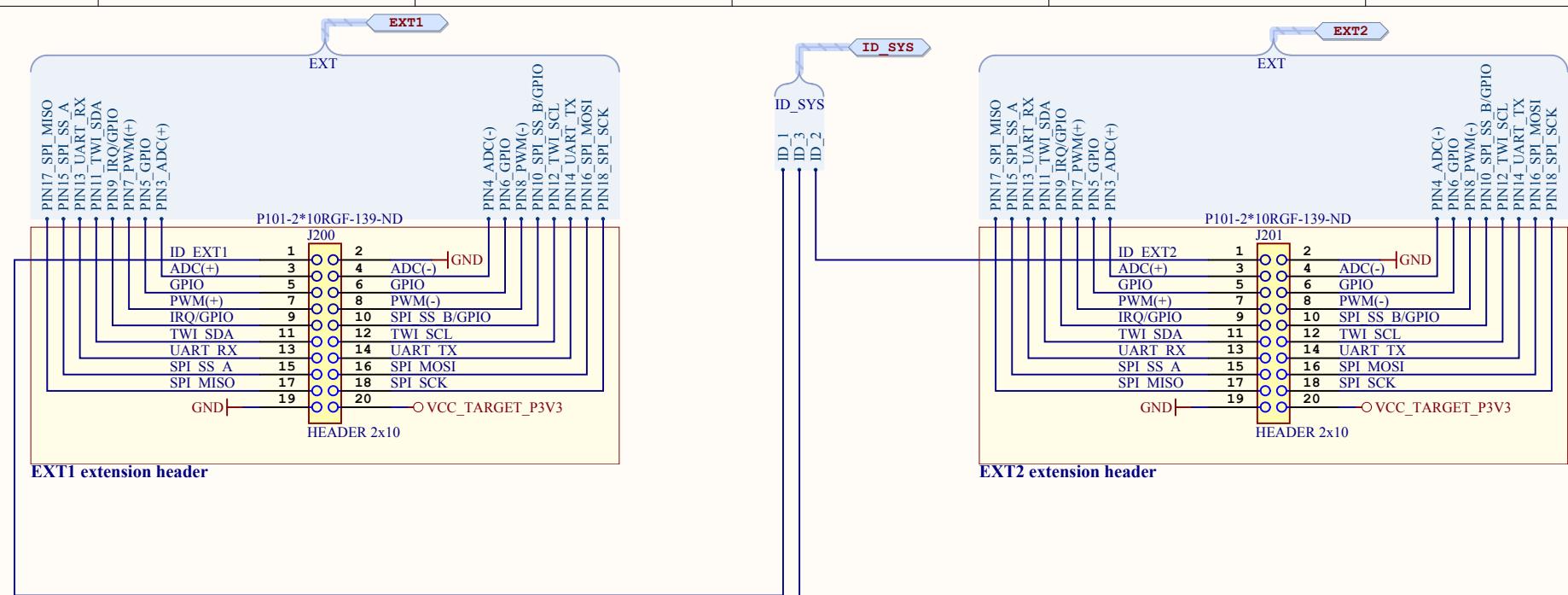
| |
|--|
| <input type="checkbox"/> Product number/revision |
| <input type="checkbox"/> Serial number |

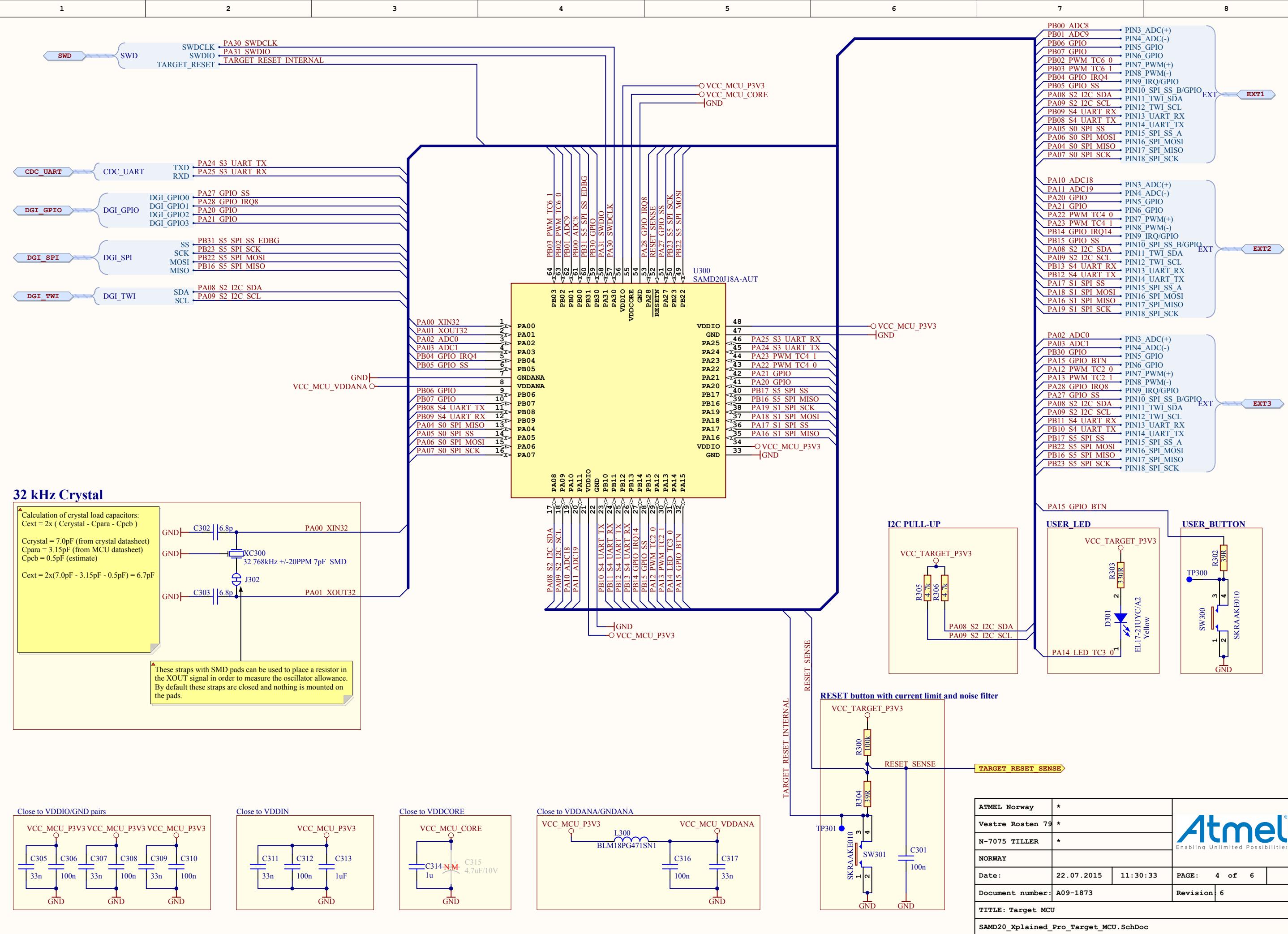
Label PCB

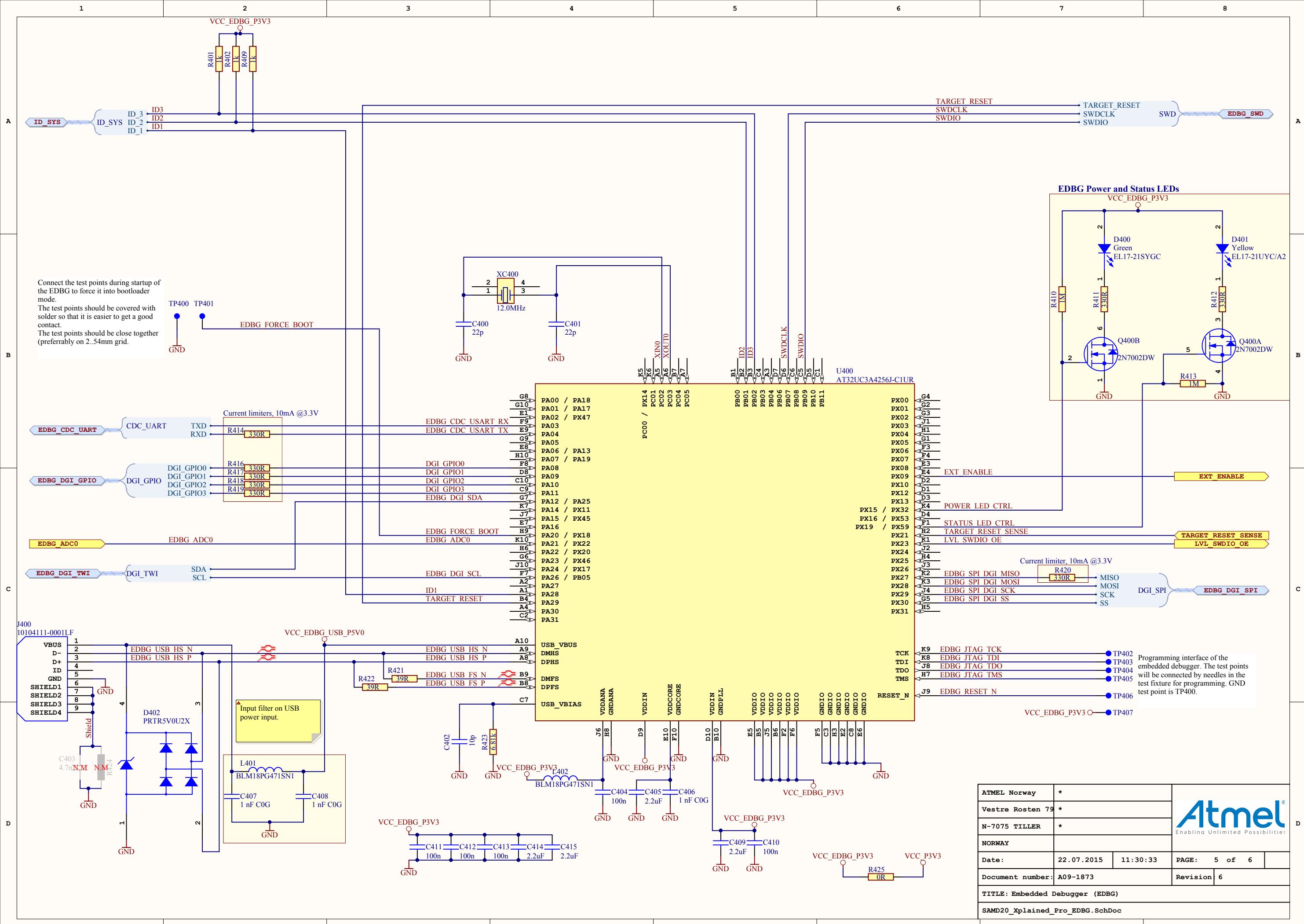


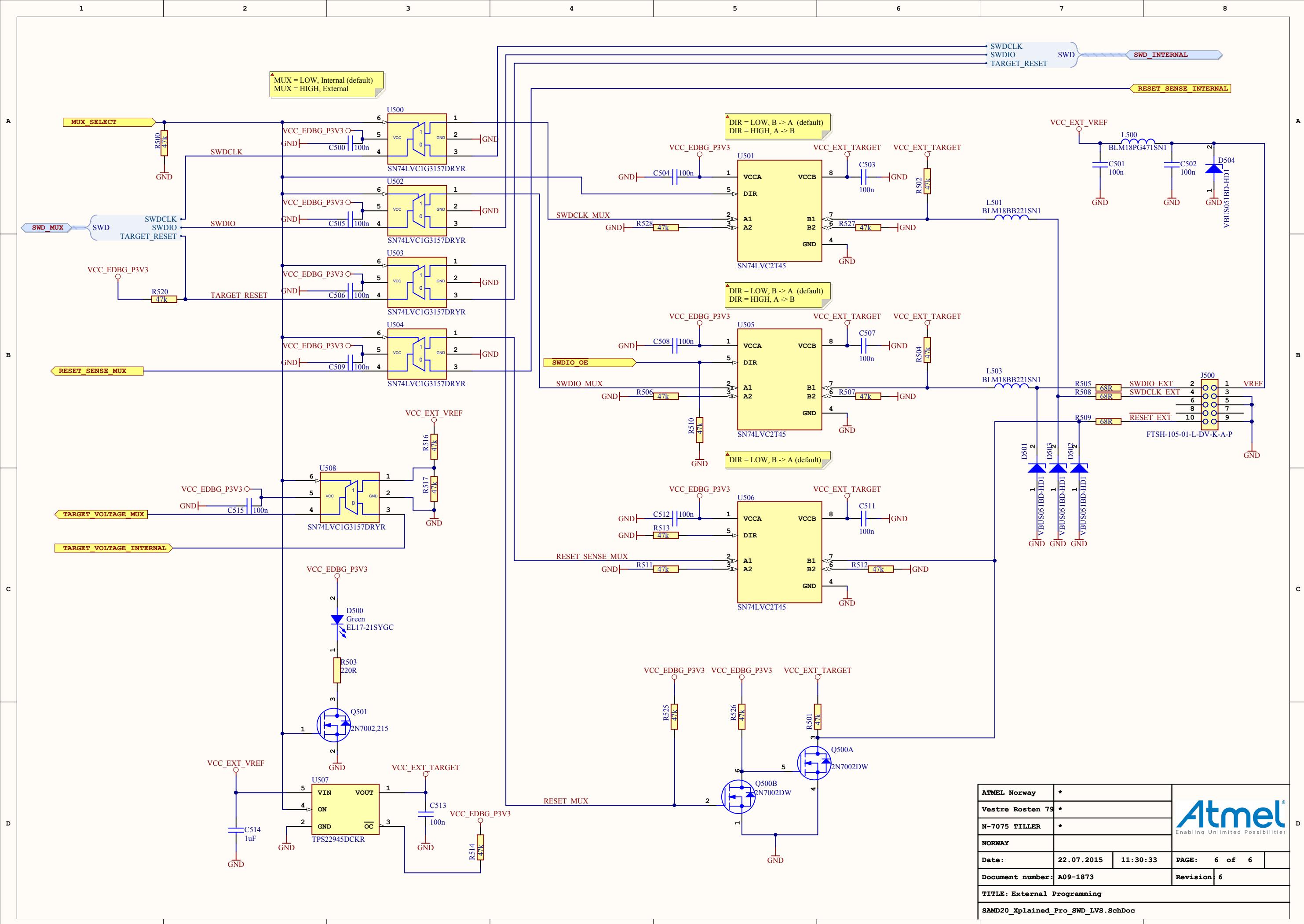
| | | | |
|-------------------------------------|------------|--|--------------|
| ATMEL Norway | * | Atmel Enabling Unlimited Possibilities | |
| Vestre Rosten 79 | * | | |
| N-7075 TILLER | * | | |
| NORWAY | | | |
| Date: | 22.07.2015 | 11:30:32 | PAGE: 1 of 6 |
| Document number: | A09-1873 | Revision | 6 |
| TITLE: Top Level Schematics | | | |
| SAMD20_Xplained_Pro_TopLevel.SchDoc | | | |



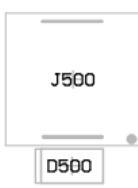
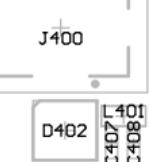
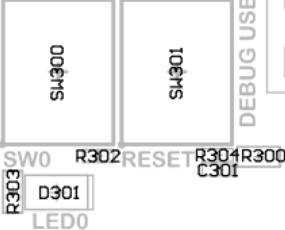








GND

EXTERNAL TARGET
SWD PROG/DEBUG

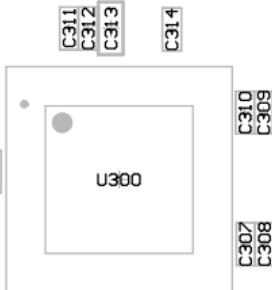
Atmel®

SAMD20 X PLAINED PRO

EXT1

| | | |
|------|------|----|
| ID | GND | 1 |
| PB00 | PB01 | 3 |
| PB06 | PB07 | 5 |
| PB02 | PB03 | 7 |
| PB04 | PB05 | 9 |
| PA08 | PA09 | 11 |
| PB09 | PB08 | 13 |
| PA05 | PA06 | 15 |
| PA04 | PA07 | 17 |
| GND | VCC | 19 |

J200



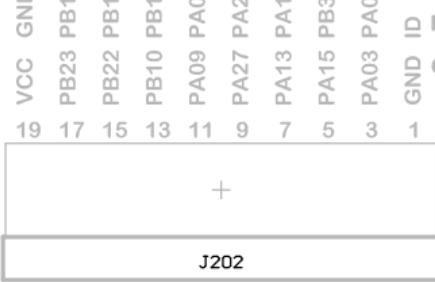
SAMD20J18

EXT2

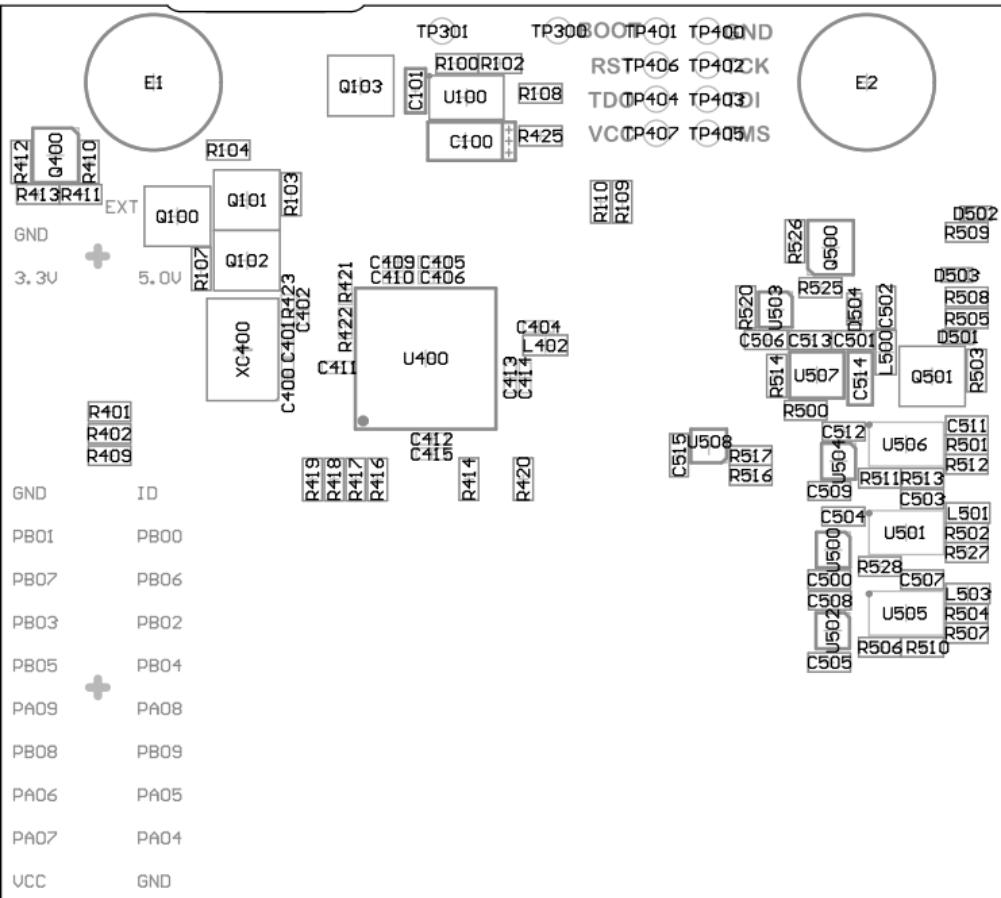
| | | |
|------|------|----|
| ID | GND | 1 |
| PA10 | PA11 | 3 |
| PA20 | PA21 | 5 |
| PA22 | PA23 | 7 |
| PB14 | PB15 | 9 |
| PA08 | PA09 | 11 |
| PB13 | PB12 | 13 |
| PA17 | PA18 | 15 |
| PA16 | PA19 | 17 |
| GND | VCC | 19 |

J201

EXT3



GND



XPLAINED PRO EXTENSION HEADER

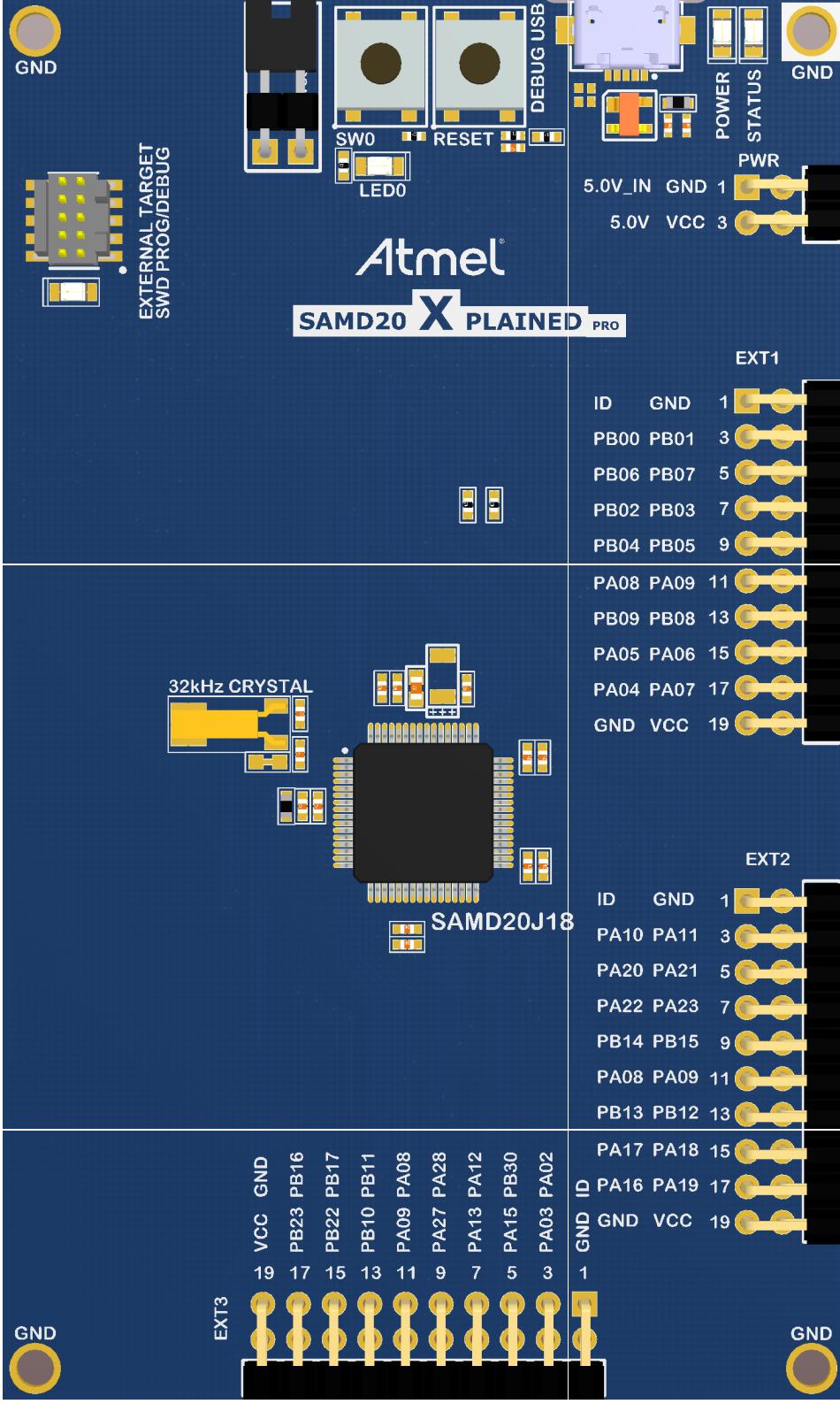
| GND | ID |
|------|------|
| PA11 | PA10 |
| PA21 | PA20 |
| PA23 | PA22 |
| PB15 | PB14 |
| PA09 | PA08 |
| PB12 | PB13 |
| PA18 | PA17 |
| PA19 | PA16 |
| VCC | GND |

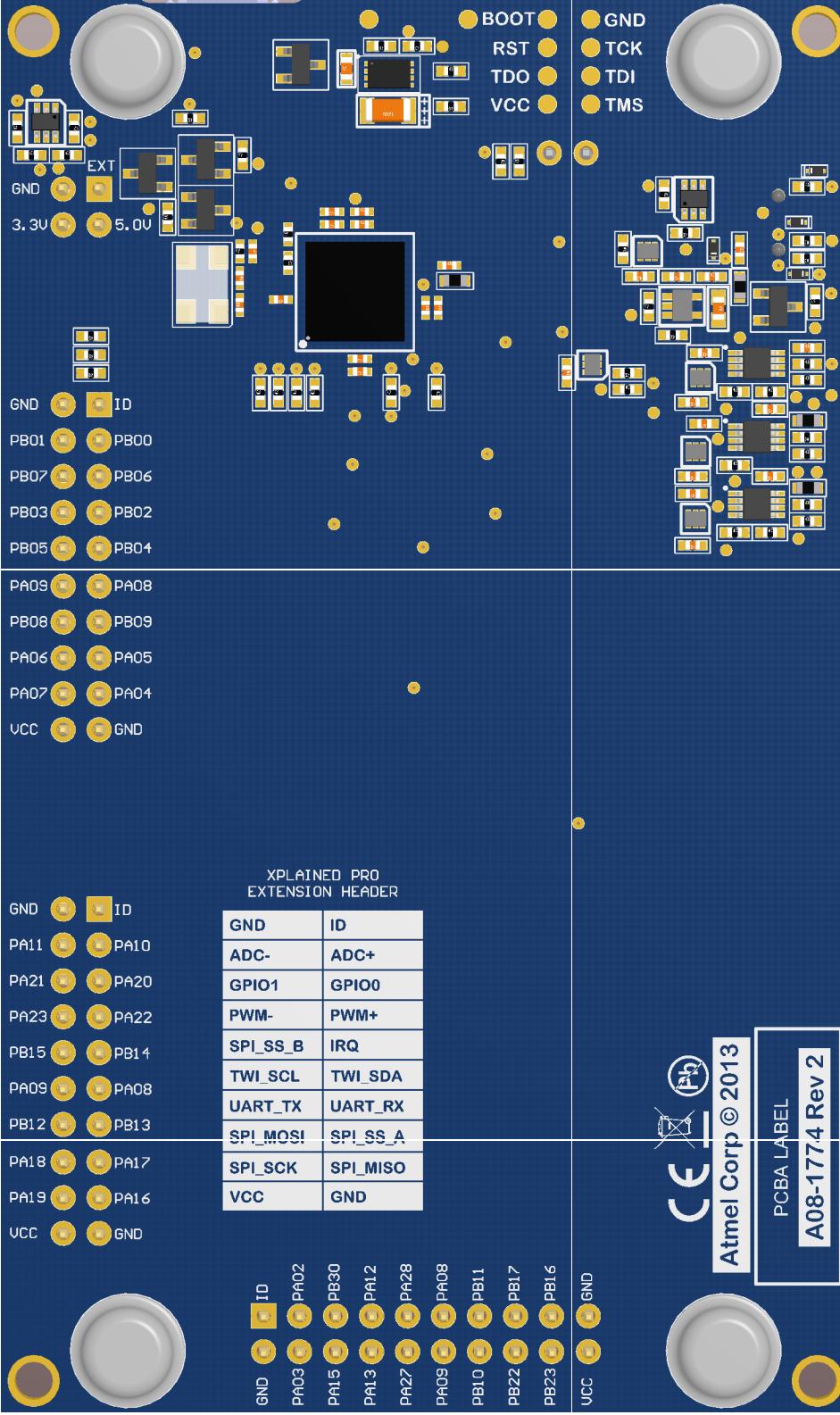
| ID | PA02 | PB30 | PA12 | PA28 | PA08 | PB11 | PB17 | PB22 | PB23 | PB16 | GND |
|-----|------|------|------|------|------|------|------|------|------|------|-----|
| GND | PA03 | PA15 | PA13 | PA27 | PA09 | PB10 | PB17 | PB22 | PB23 | PB16 | GND |
| UCC | | | | | | | | | | | |

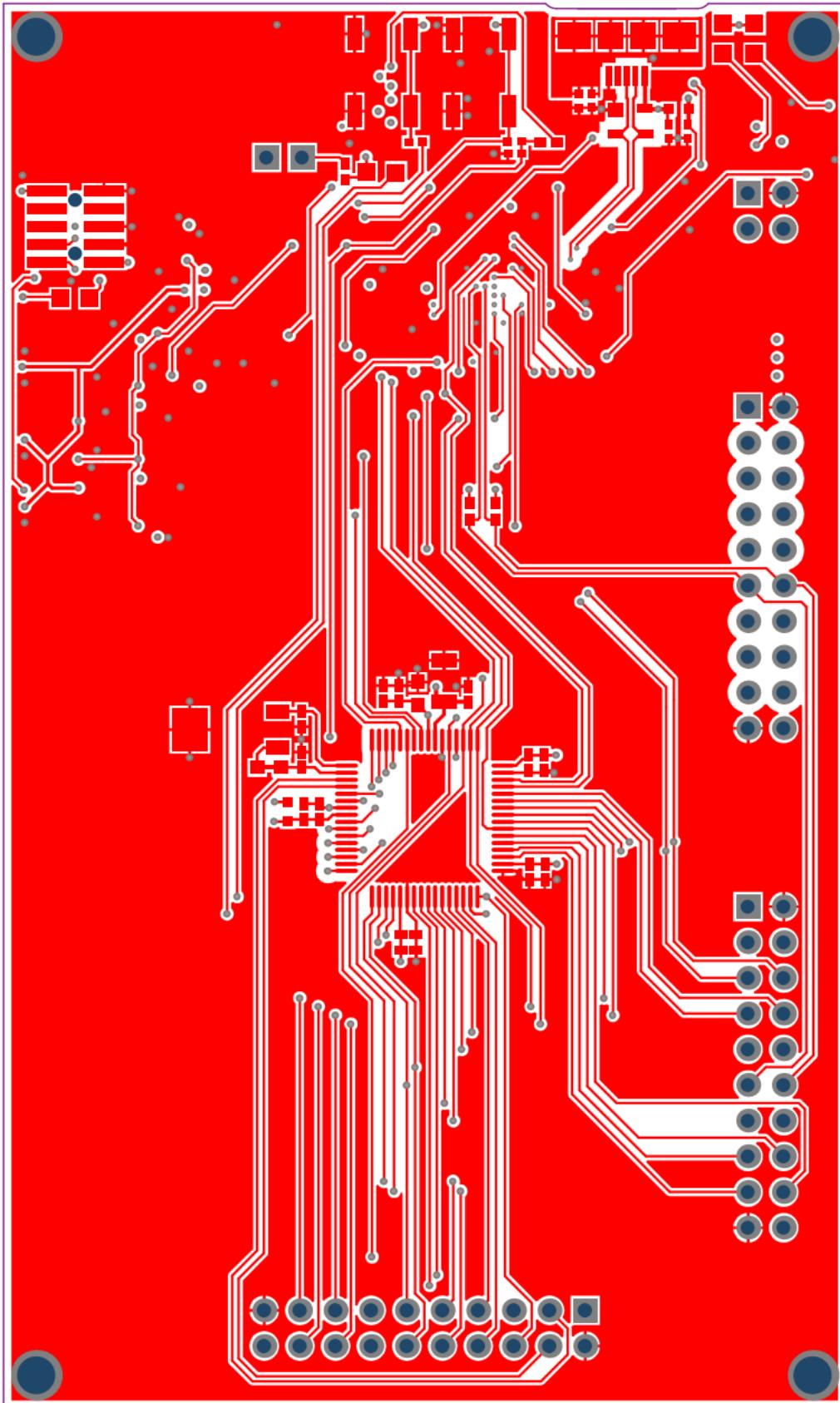
PCBA LABEL
A08-1774 Rev 2

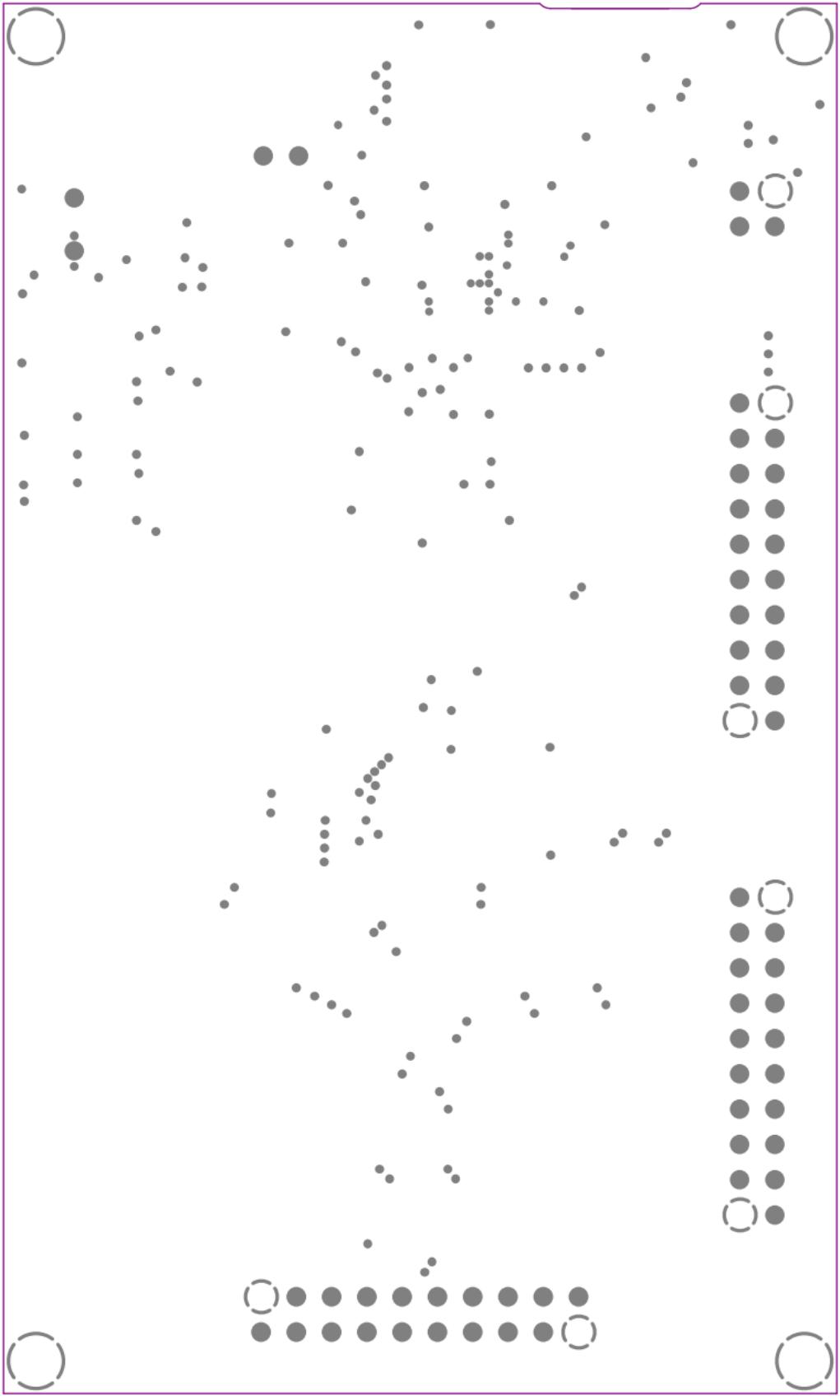


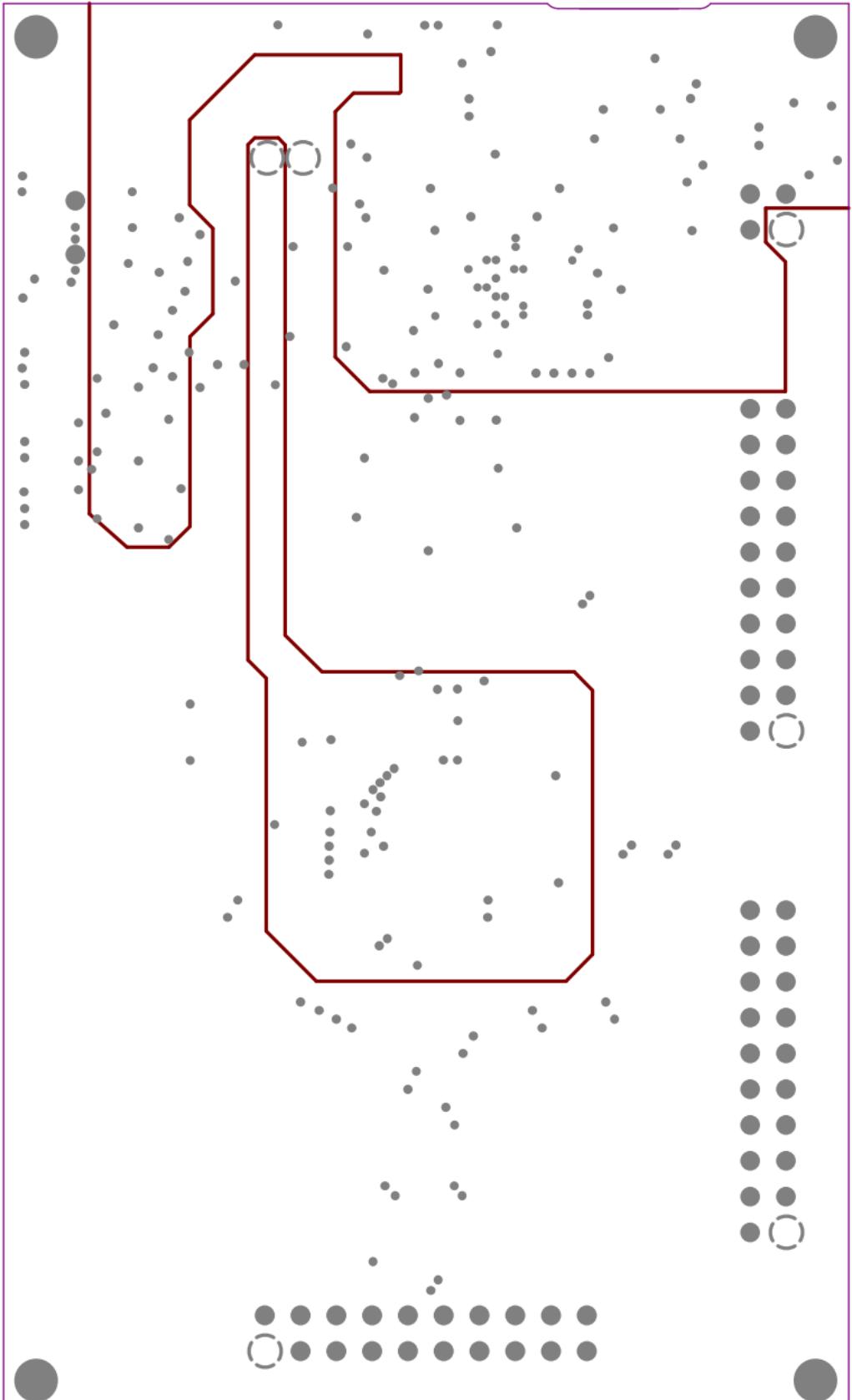
Atmel Corp © 2013

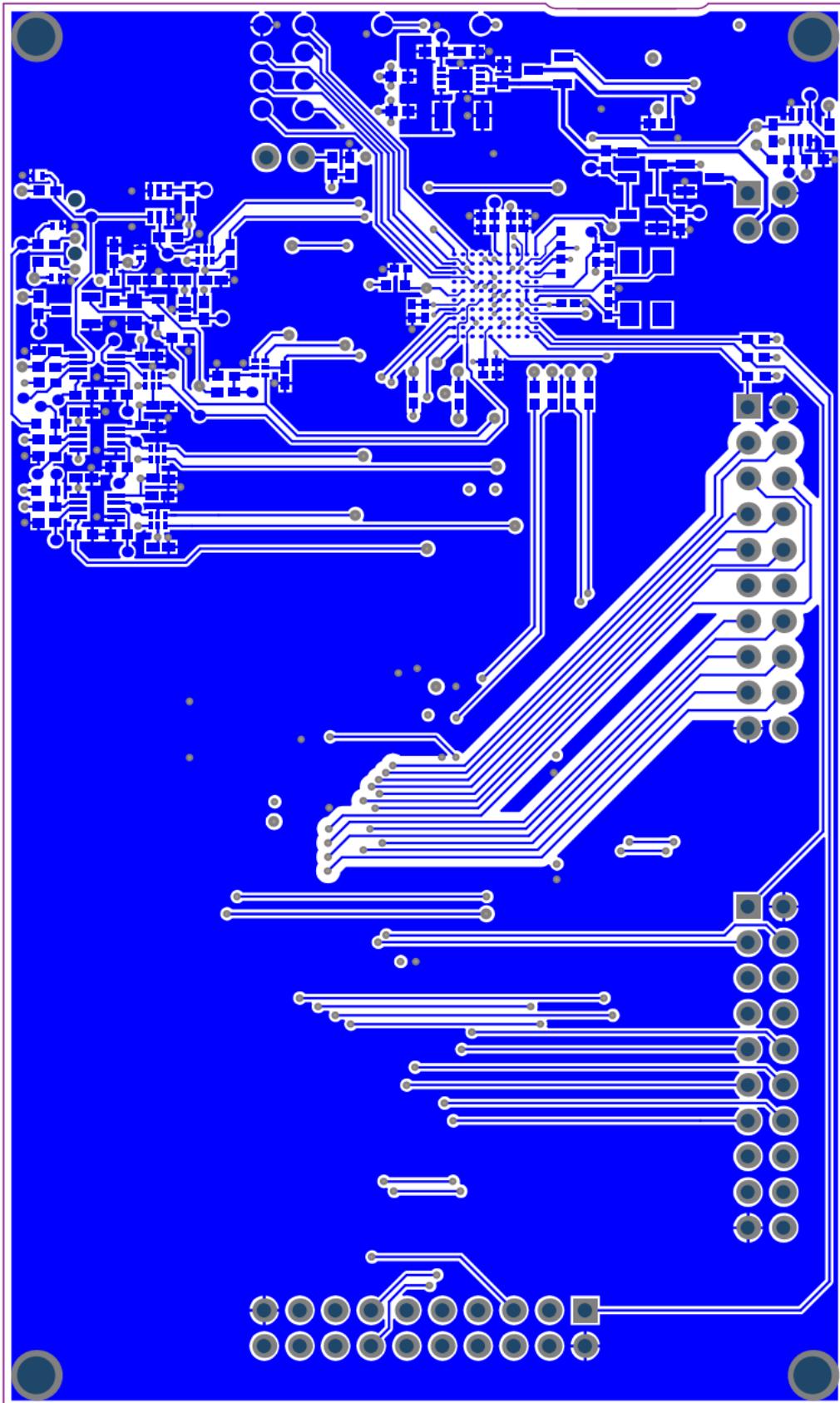












Component list

Bill of Materials Fitted For Variant [Default_assembly] of Project [SAMD20_Xplained_Pro.PjPCB] (No PCB Document Selected)



Source Data From:

SAMD20_Xplained_Pro.PjPCB

Project:

SAMD20_Xplained_Pro.PjPCB

Variant:

Default_assembly

Report Date: 22.07.2015 11:31:03
Print Date: <Parameter Curren <Parameter CurrentTime not found>

| Fitted | Designator | Quantity | Value | Manufacturer | MPN | Description |
|------------|--|----------|---|-----------------------------|---|--|
| Fitted | C100 | 1 | 10u | vishay | TR3A106K016C1700 | SMD tantalum capacitor, ESR = 1.7, 3216-18 (BA) 1206, |
| Fitted | C101 | 1 | 4.7uF | tdk | C1608X5R1A475K | Ceramic capacitor, SMD 0603, X5R, 10V, 10% (de31036) |
| Fitted | C301, C404, C410, C411, C412, C413 | 6 | 100n | Kemet | C0402C104K4RACTU | Ceramic capacitor, SMD 0402, X7R, 16V, +/-10% |
| Fitted | C302, C303 | 2 | 6.8p | | | Ceramic capacitor, SMD 0402, NP0, 50V, +/-5% |
| Fitted | C305, C307, C309, C311, C317 | 5 | 33n | Murata | GRM155R71E333KA88D | Ceramic capacitor, SMD 0402, X7R, 25V, +/-10% |
| Fitted | C306, C308, C310, C312, C316, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C511, C512, C513, C515 | 19 | 100n | Kemet | C0402C104K4RACTU | Ceramic capacitor, SMD 0402, X7R, 16V, +/-10% |
| Fitted | C313, C514 | 2 | 1uF | Murata | GRM188R61E105K | Ceramic capacitor, SMD 0603, X5R, 25V, +/-10% |
| Fitted | C314 | 1 | 1u | Kemet | C0402C105K9PAC | Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-10% (de26942) |
| Fitted | C400, C401 | 2 | 22p | | | Ceramic capacitor, SMD 0402, NP0, 50V, +/-5% |
| Fitted | C402 | 1 | 10p | | | Ceramic capacitor, SMD 0402, NP0, 50V, +/-5% |
| Fitted | C405, C409, C414, C415 | 4 | 2.2uF | Kemet | C0402C225M9PAC | Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20% |
| Fitted | C406, C407, C408 | 3 | 1nF COG | Murata | GRM1555C1H102JA01D | Ceramic capacitor, SMD 0402, COG, 50V, +/-5% |
| Fitted | D301, D401 | 2 | EL17-21UY/A2 | Everlight | 17-21UY/C5530-A3/TR8 | LED, Yellow, Wave length=591nm, SMD 0805, +/-70° |
| Fitted | D400, D500 | 2 | EL17-21SY/GC | Everlight | EL17-21SY/GC | LED, Green, Wave length=575nm, SMD 0805, +/-70° |
| Fitted | D402 | 1 | PRTR5V0UZX | Philips | PRTR5V0UZX | Double rail-to-rail USB ESD protection diode |
| Fitted | D501, D502, D503, D504 | 4 | VBUJS051BD-HD1 | vishay | VBUJS051BD-HD1 | Low capacitance ESD-Protection Diode in LIP1006-2L |
| Fitted | E1, E2, E3, E4 | 4 | SJ-5076 | | SJ-5076 | 2.8mm adhesive feet,diam 8.0mm |
| Fitted | FIXTURE1 | 1 | Xplained PRO MCU board Jupiter Test Fixture | ESCATEC | Xplained PRO MCU board Jupiter Test Fixture | Xplained PRO MCU board Jupiter Test Fixture |
| Fitted | FW1 | 1 | EDBG secured firmw are | ATMEL | | EDBG secured firmw are |
| Fitted | J100 | 1 | P101-2*02RGF-139-ND | | 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 | J200, J201, J202 | 3 | P101-210RGF-139-ND | | P101-210RGF-139-ND | Pin header, 2x10, Right Angle, 2.54mm, THT, Pin In Paste |
| Fitted | J400 | 1 | 10104111-0001LF | FOI | 10104111-0001LF | Micro USB AB Connector |
| Fitted | J500 | 1 | FTSH-105-01-LDV-K-A-P | SAMTEC | FTSH-105-01-LDV-K-A-P | SAMTEC FTSH series 50-mil micro header (vertical) |
| Fitted | JS100 | 1 | SNT-100-BK-G | SAMTEC | SNT-100-BK-G | Jump cap for 2.54mm pinheader |
| Fitted | L300, L401, L402 | 3 | BLM18PG471SN1 | Murata | BLM18PG471SN1 | SMD RF inductor 0603, Z=470Ohm (@100MHz), Max R(d)=0.65Ohm, Max current=1A |
| Fitted | L500 | 1 | BLM18PG471SN1 | Murata | BLM18PG471SN1 | SMD RF inductor 0603, Z=470Ohm (@100MHz), Max R(d)=0.65Ohm, Max current=1A |
| Fitted | L501, L503 | 2 | BLM18BB221SN1 | Murata | BLM18BB221SN1 | SMD RF inductor 0603, Z=220Ohm (@100MHz), Max R(d)=0.65Ohm, Max current=200mA |
| Fitted | LA881 | 1 | Label PCB4 | ACT Logimark AS | 505462 | PCBA identification label PP Top White Gloss |
| Fitted | PCB1 | 1 | SAMD20 Xplained Pro PCB | | | SAMD20 Xplained Pro PCB, 4 layer, 60mm x 100mm |
| Fitted | PCBADOC1 | 1 | A09-1978 PCBA Files | ATMEL | | SAMD20 Xplained Pro PCBA documentation |
| Fitted | Q100, Q101, Q103 | 3 | IRLML6402PBF | International Rectifier | IRLML6402PBF | P-ch. MOSFET, -30V, -3.7A continuous,RDS(ON)=0.05ohm@VGs=-4.5V, RDS(ON)=0.08ohm@VGs=-2.5V |
| Fitted | Q102, Q501 | 2 | 2N7002.215 | NXP | 2N7002.215 | N-Channel MOSFET, 60V, 0.300A continuous, 1.2A Peak, RDS(ON) = 3.00mΩ@VGs=4.5V, VGs(th)<2.5V |
| Fitted | Q400, Q500 | 2 | 2N7002DW | Fairchild | 2N7002DW | Dual N-Channel MOSFET, 60V, 115mA cont.,RDS(ON) < 7.5 ohm @50mA@5V, SOT-363 |
| Fitted | R100 | 1 | 18k | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R102 | 1 | 30k | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R103, R300 | 2 | 100k | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R104, R107, R410, R413 | 4 | 1M | KOA | RK73H1ETTP1004F | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R108, R425 | 2 | 0R | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R109, R110, R500, R501, R502, R504, R506, R507, R510, R511, R512, R513, R514, R516, R517, R520, R525, R526, R527, R528 | 20 | 47k | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R302, R304, R421, R422 | 4 | 39R | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R303, R411, R412, R414, R416, R417, R418, R419, R420 | 9 | 330R | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R305, R306 | 2 | 4.7k | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R401, R402, R409 | 3 | 1k | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R423 | 1 | 6.81k | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R503 | 1 | 220R | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | R505, R508, R509 | 3 | 68R | | | Thick film resistor, SMD 0402, 1/16W, 1% |
| Fitted | SW300, SW301 | 2 | SKRAAKE010 | ALPS | SKRAAKE010 | 6.2x6.2 mm SMD tact switch, same as A08-0091 but less force is needed |
| Fitted | TEST1 | 1 | SAMD20 Xplained Pro test | ATMEL | | Fixture eggTest for SAMD20 Xplained Pro |
| Fitted | TESTDOC1 | 1 | SAMD20 Xplained Pro Test Instructions | ATMEL | | SAMD20 Xplained Pro Test Instructions |
| Fitted | U100 | 1 | SPX3819P2-LTR | Exar | SPX3819P2-LTR | 500mA LDO, ADJ low noise, 8-DFN package |
| Fitted | U300 | 1 | SAMD20J16A-AUT | ATMEL | SAMD20J16A-AUT | Atmel 32-bit RISC MCU |
| Fitted | U400 | 1 | AT32UC3A4256I-C1UR | ATMEL | AT32UC3A4256I-C1UR | AVR 32-bit RISC MCU |
| Fitted | U500, U502, U503, U504, U508 | 5 | SN74LV1C1G315D7RYR | Texas Instruments | SN74LV1C1G315D7RYR | SPDT analog switch or 2:1 multiplexer |
| Fitted | U501, U505, U506 | 3 | SN74LVCT245DCURG4 | Texas Instruments | SN74LVCT245DCURG4 | Dual Voltage Level Translator SN74LVCT245 |
| Fitted | U507 | 1 | TPS22945DCKR | Texas Instruments | TPS22945DCKR | LOW-INPUT-VOLTAGE CURRENT-LIMITED LOAD SWITCH |
| Fitted | XC300 | 1 | 32.768kHz +/-20ppm 7pF | Micro Crystal | MS1V-T1K 32.768kHz 7pF +/-20ppm TA | 32.768 crystal, +/-20ppm, CL=7pF, max ESR 60kOhm, SMD |
| Fitted | XC400 | 1 | 12.0MHz | Fox Electronics | FQ5032B-12-C-C-200-1 | Fox FQ5032B 12.0MHz SMD crystal 738B-12 |
| Not Fitted | C315 | 0 | 4.7uF/10V | Kemet | T491A475K010AT | SMD tantalum capacitor, ESR = 5, 3216-18 (BA) 1206, polarized |
| Not Fitted | C403 | 0 | 4.7n | | | Ceramic capacitor, SMD 0402, X7R, 25V, +/-10% |
| Not Fitted | R424 | 0 | 1M | KOA | RK73H1ETTP1004F | Thick film resistor, SMD 0402, 1/16W, 1% |
| | 157 | | | | | |
| Approved | | Notes | | | | |