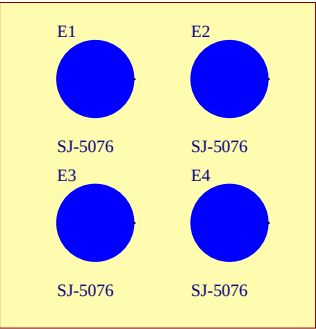
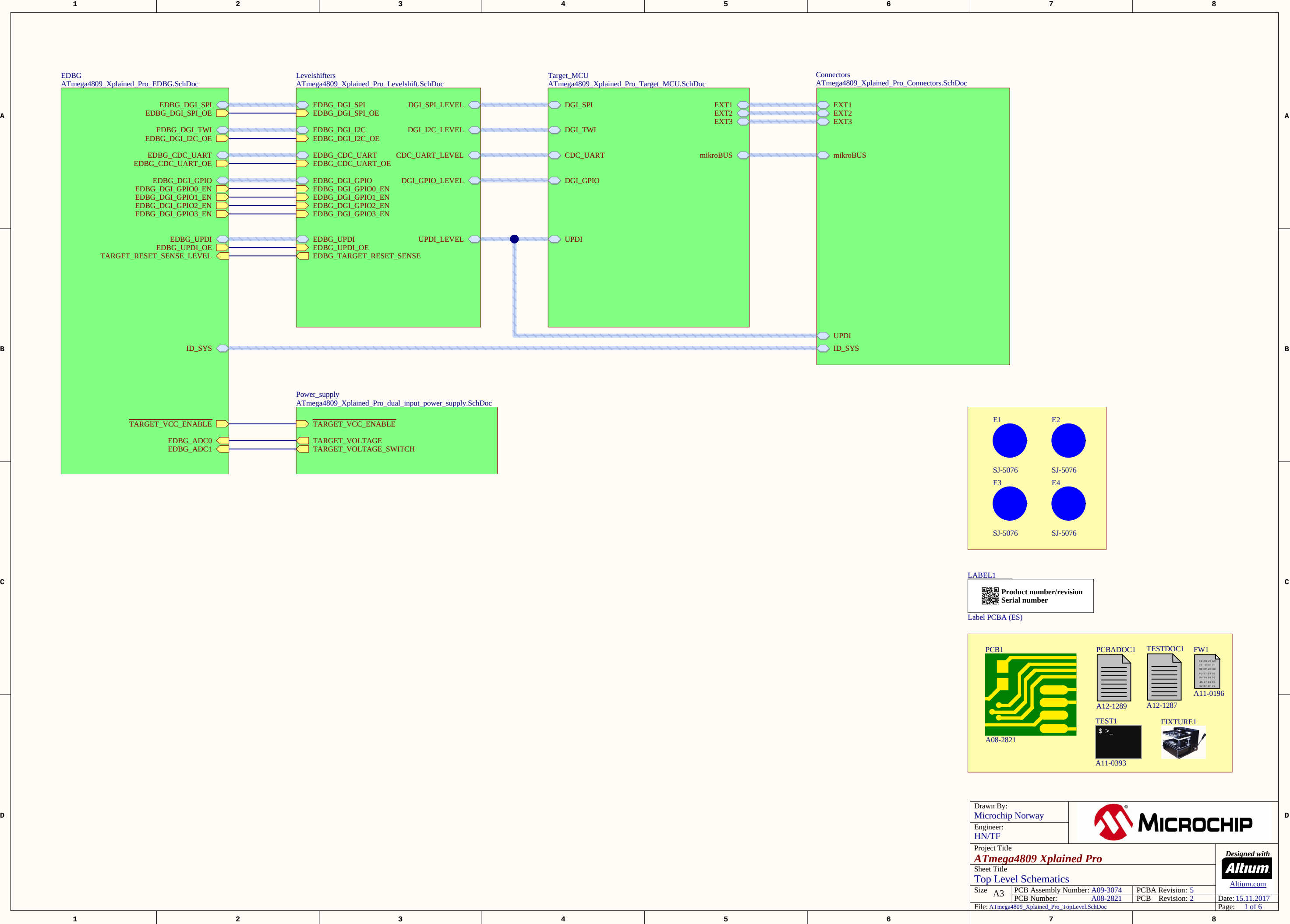
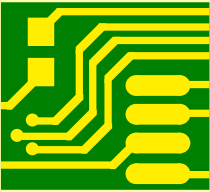




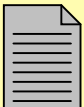
LABEL1

**Product number/revision**
**Serial number**

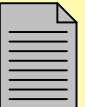
Label PCBA (ES)



PCB1
A08-2821



PCBADOC1
A12-1289



TESTDOC1
A12-1287



FW1
A11-0196

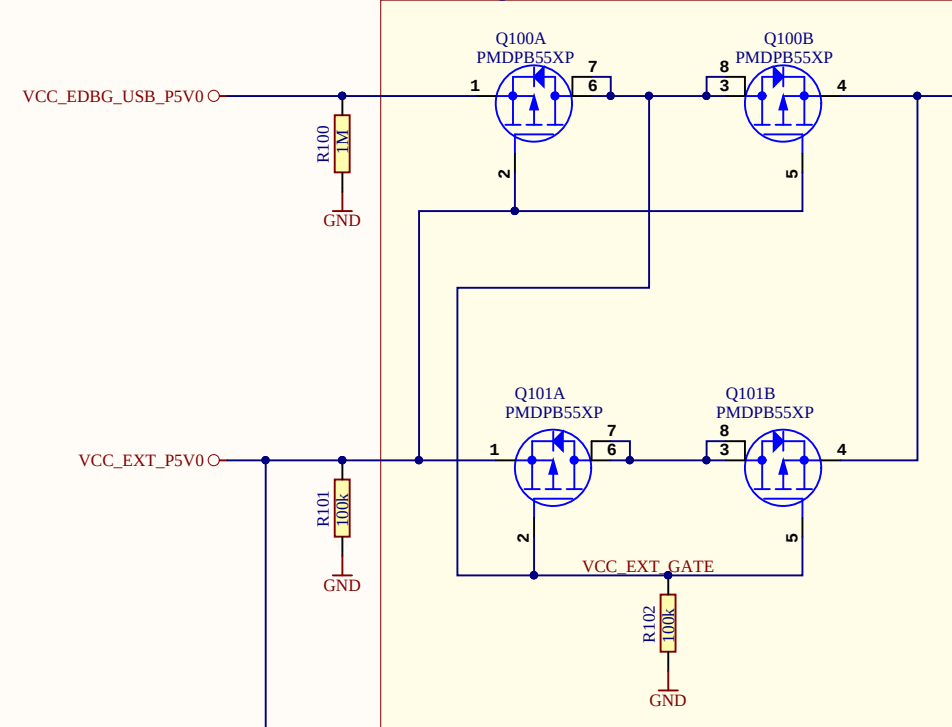


TEST1
\$ >_
A11-0393

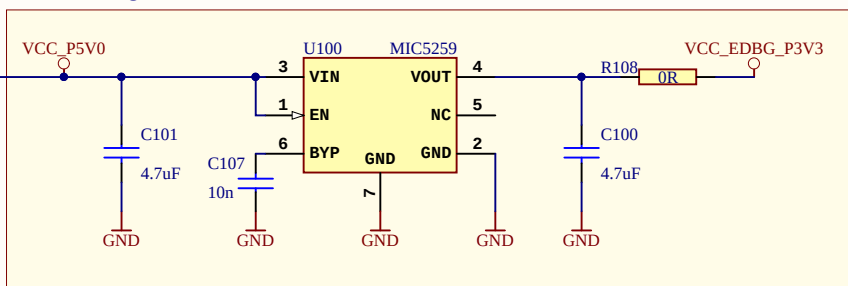


FIXTURE1

Power multiplexer

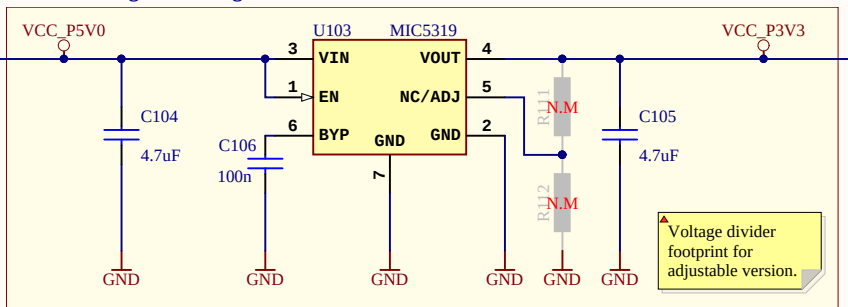


3.3V linear regulator EDBG



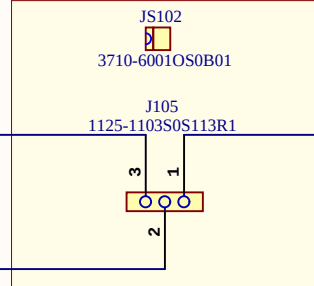
▲ Iout max = 300mA
Accuracy 3%
Low noise: 30 uVrms (10 Hz to 100 kHz)
Dropout 300mV at full load
Quiescent current 105 uA (no load)
Current limit max 475 mA
Thermal shutdown
Minimum capacitance required on output is 1uF (with less than 300mOhm ESR)

3.3V linear regulator Target

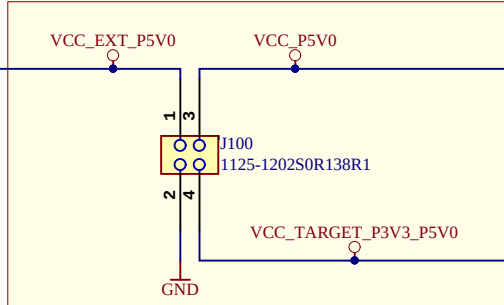


▲ 500mA low noise LDO voltage regulator
Noise: 40uVrms
Accuracy 2%
Dropout 200 mV at full load
Quiescent current 90 uA
Current limit 700 mA
Thermal shutdown
Minimum capacitance required on output is 2.2uF (with low ESR)

3.3V or 5.0V Selector



Power Connector



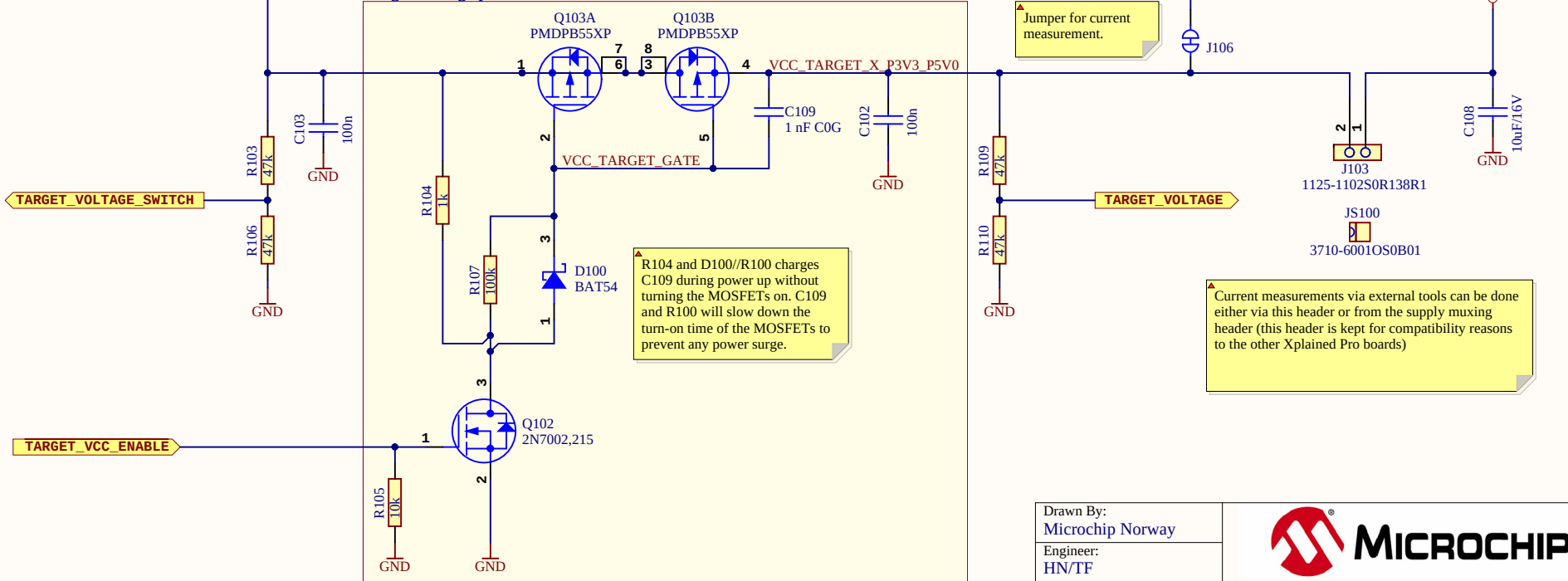
▲ Power inputs/outputs to the Xplained PRO:
VCC_EXT_P5V0 (input)
This power input can be used to power the whole board and it has a higher priority as the USB power input.

VCC_P5V0 (output)
This supply is connected to either VCC_EXT_P5V0 or VCC_EDBG_USB_P5V0, based on the availability and priority of these supplies.

VCC_TARGET_P3V3_P5V0 (output)
Target supply voltage (target MCU and peripherals)

Power input multiplexer priority:
1. VCC_EXT_IN
2. VCC_EDBG_USB

Target Voltage power switch with slew rate control



A

B

C

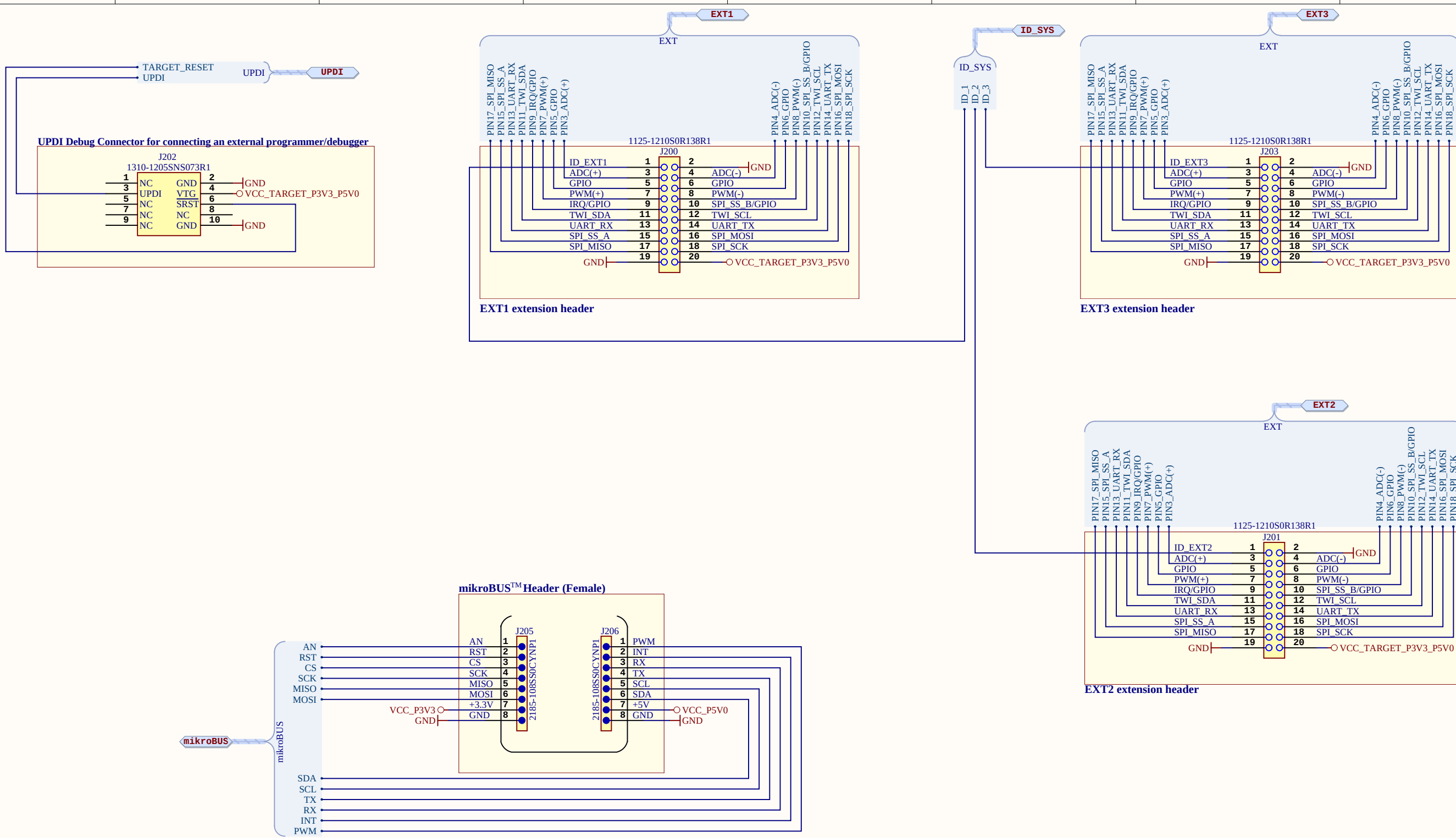
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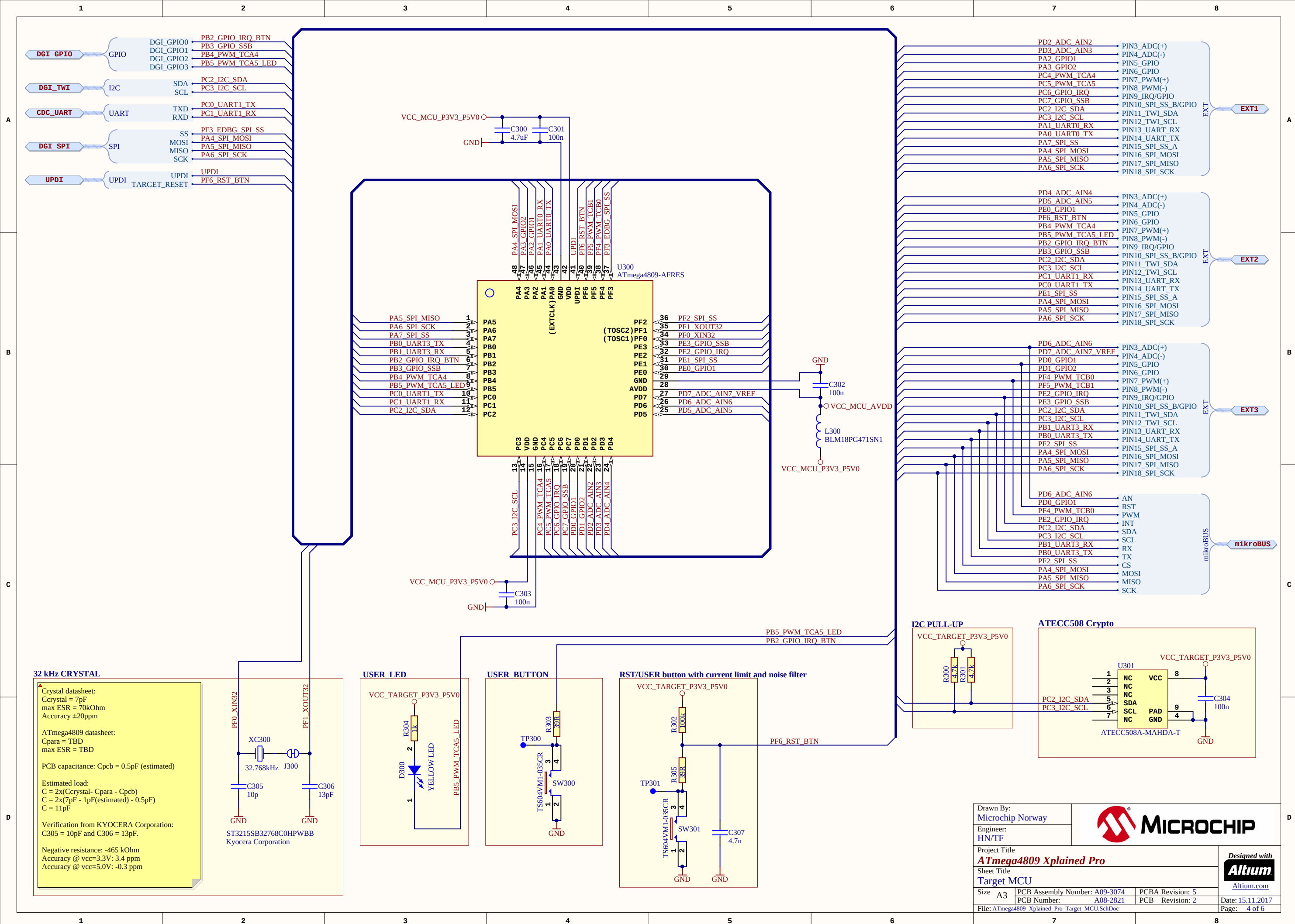
A

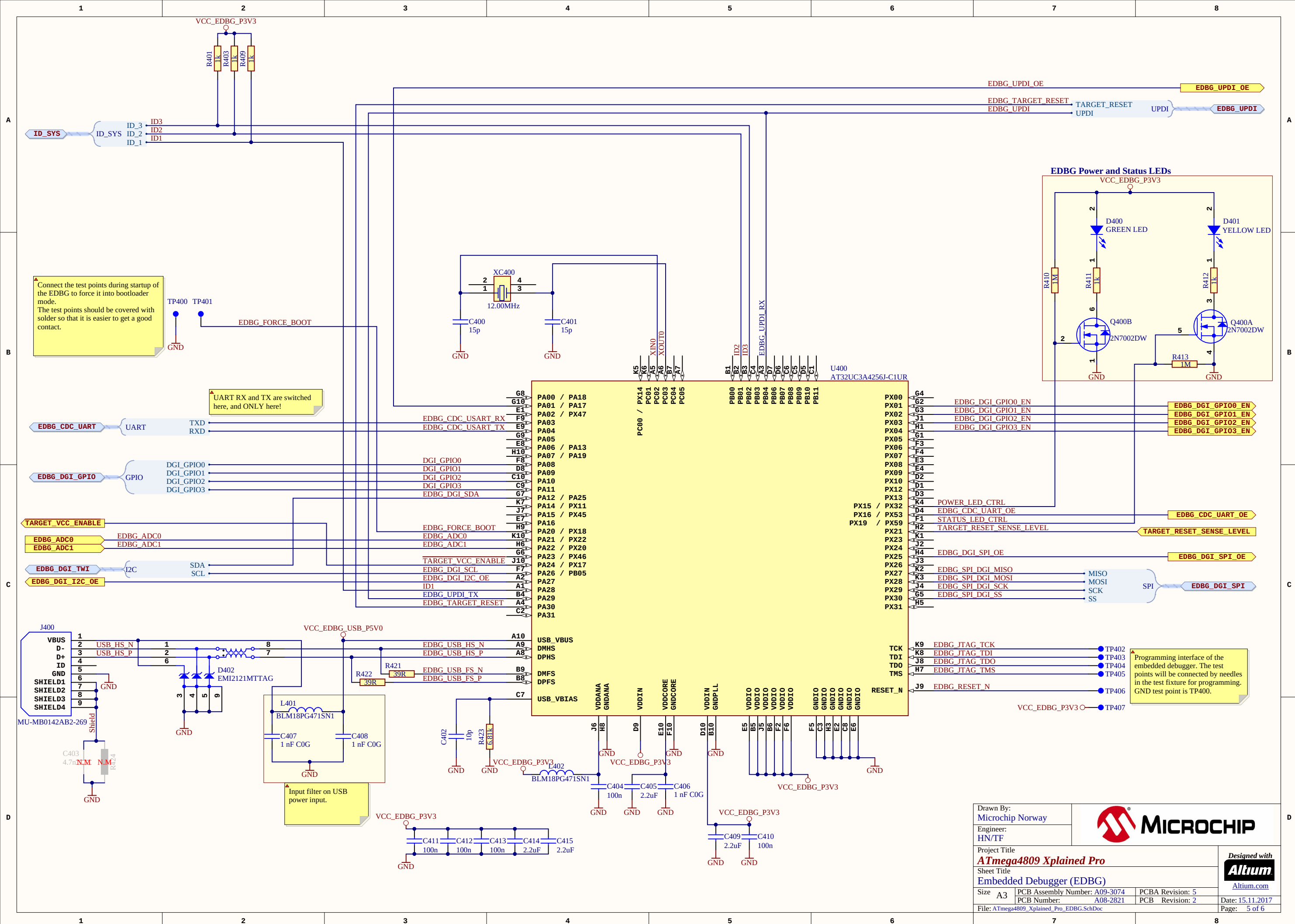
B

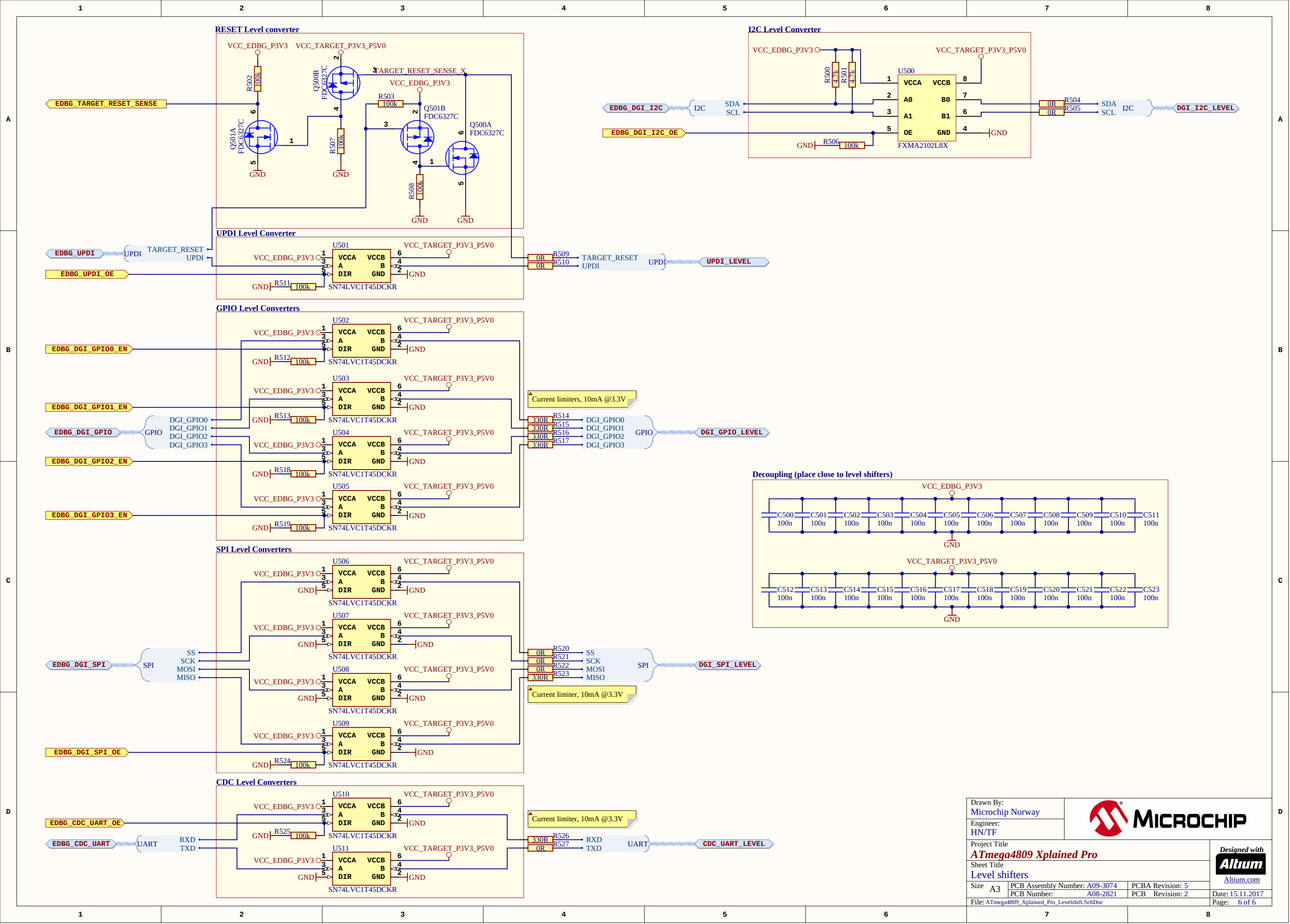
C

D

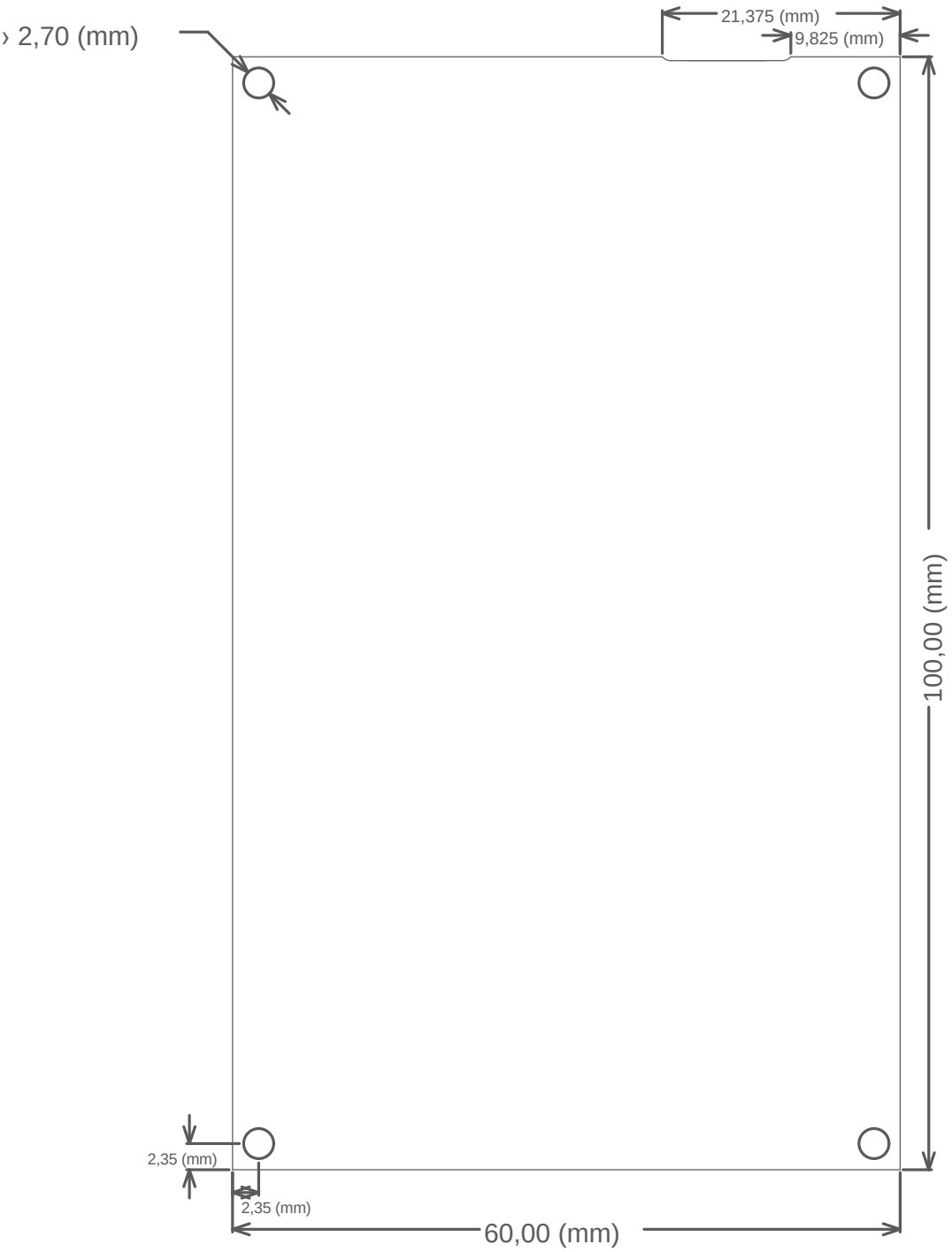




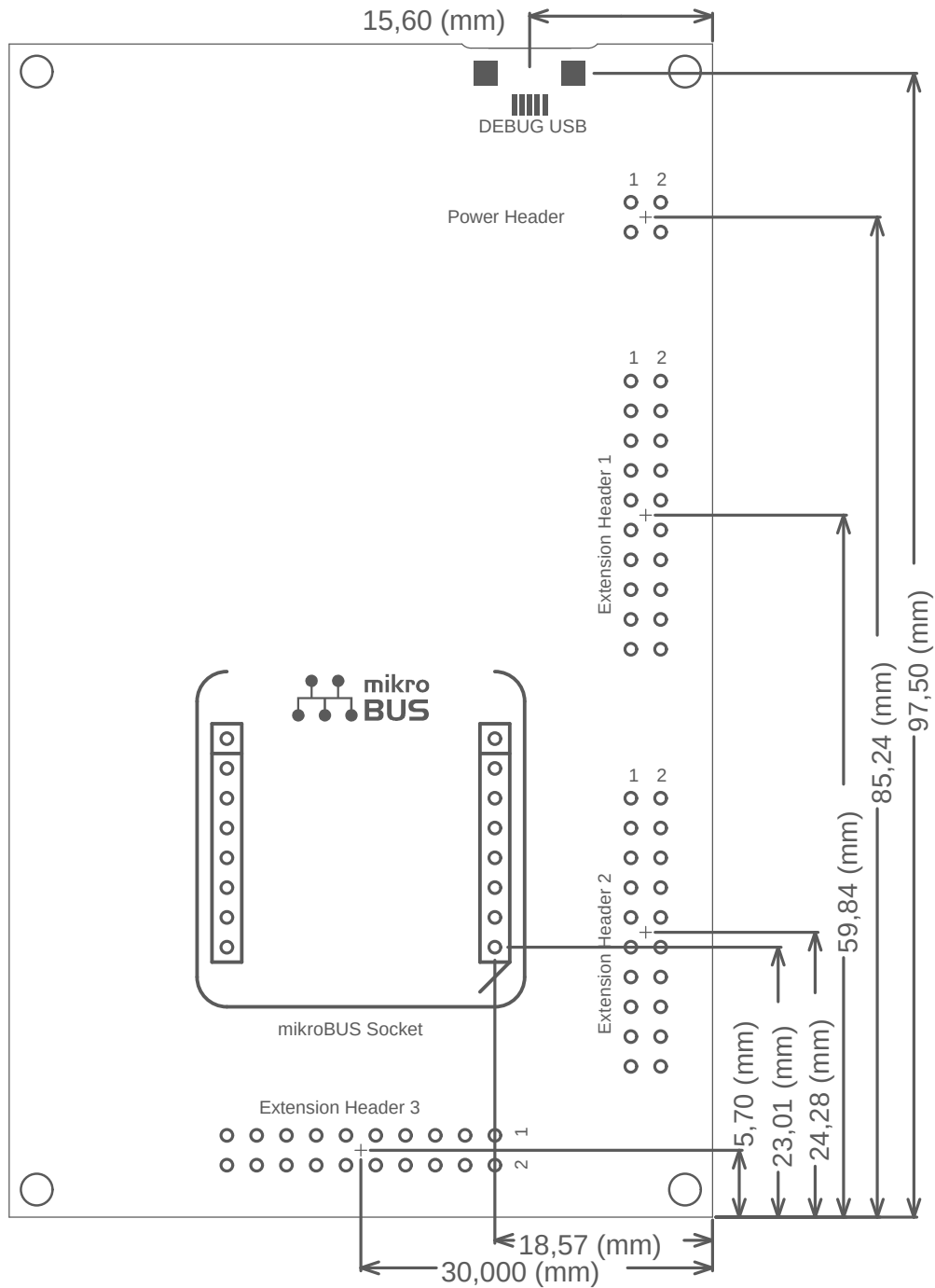




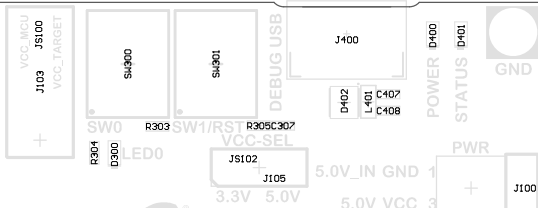
Mechanical Dimensions



Connector Placement

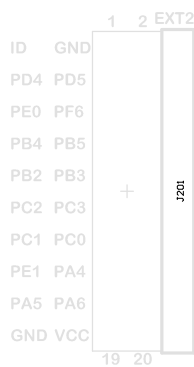
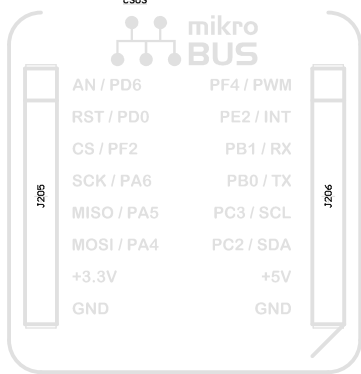
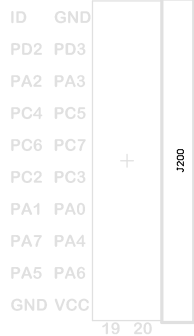
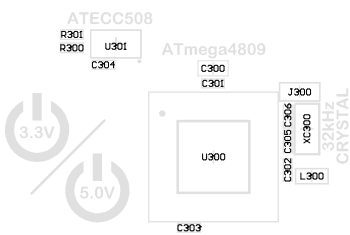


GND



MICROCHIP
ATMEGA4809 X PLAINED PRO

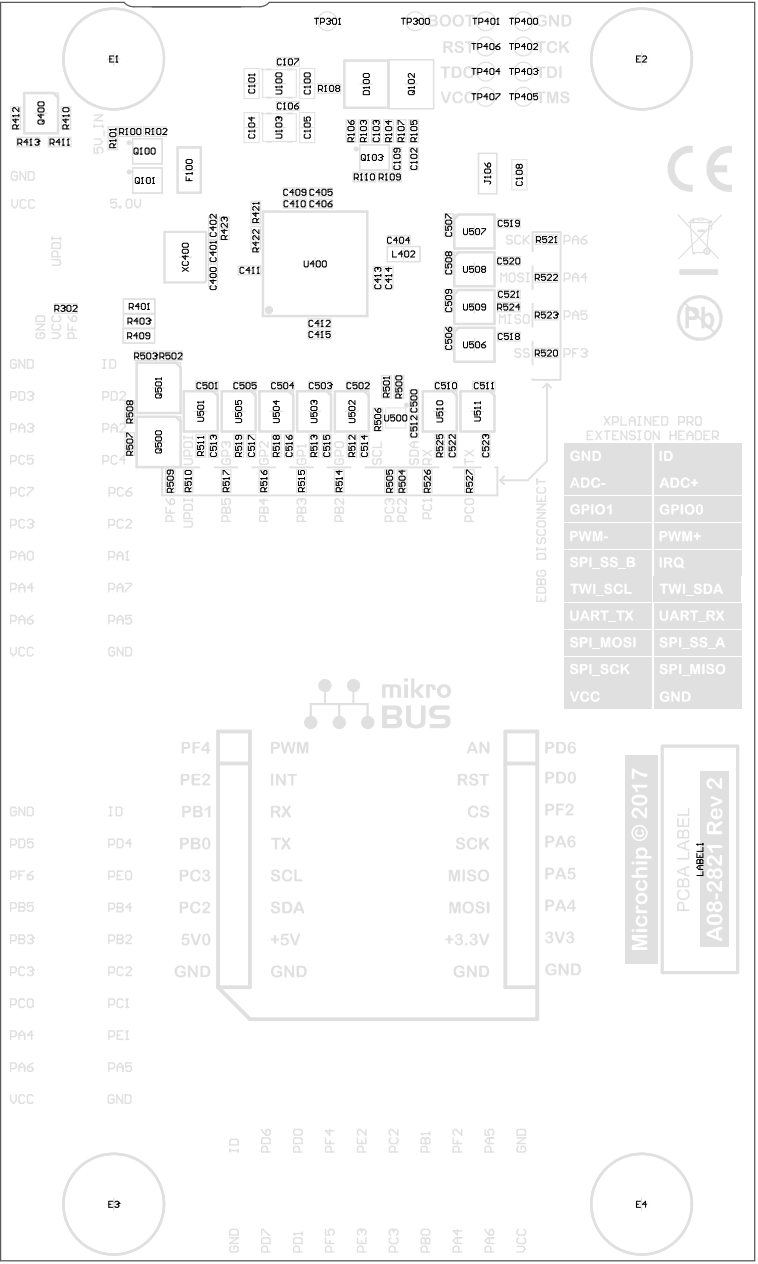
AVR

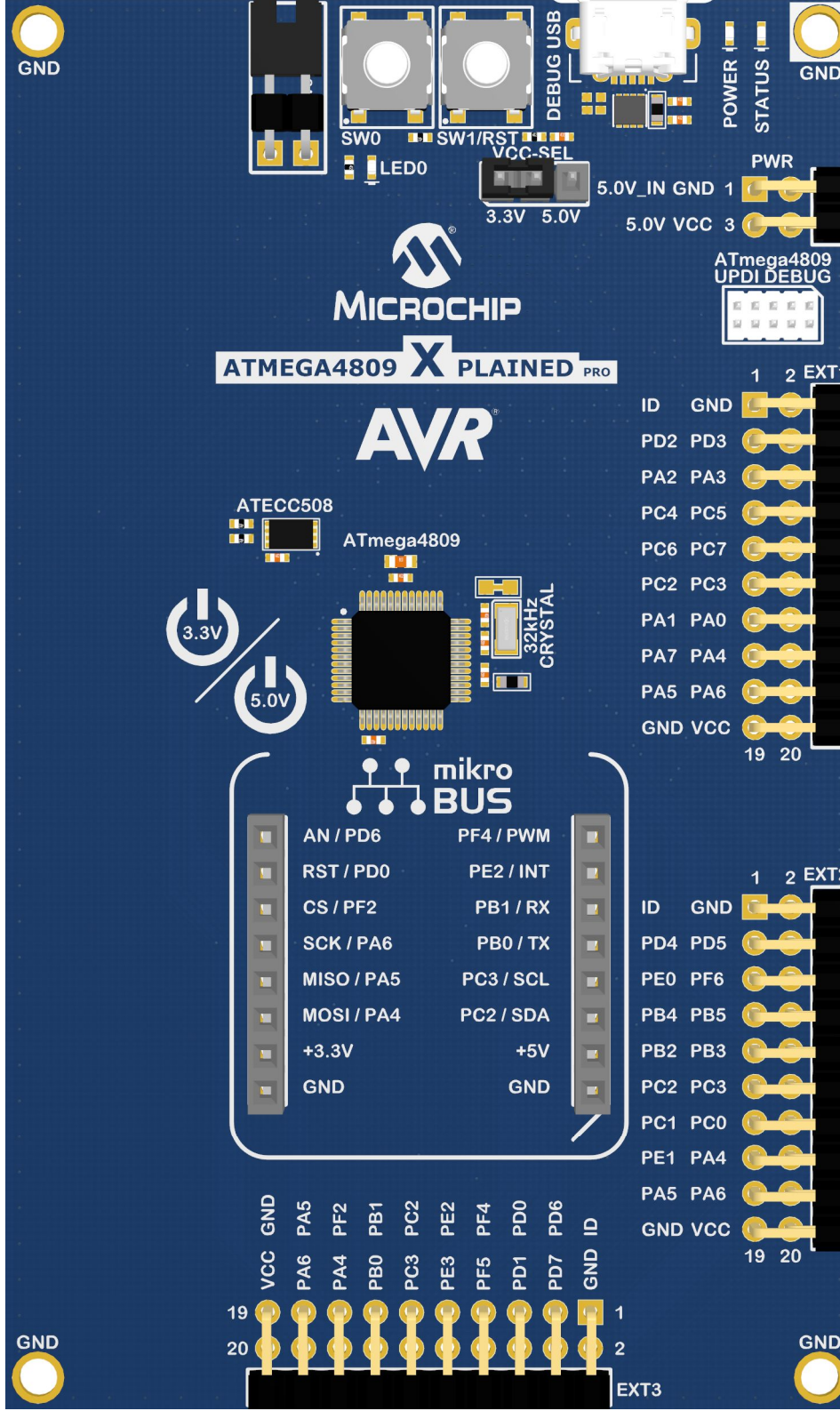


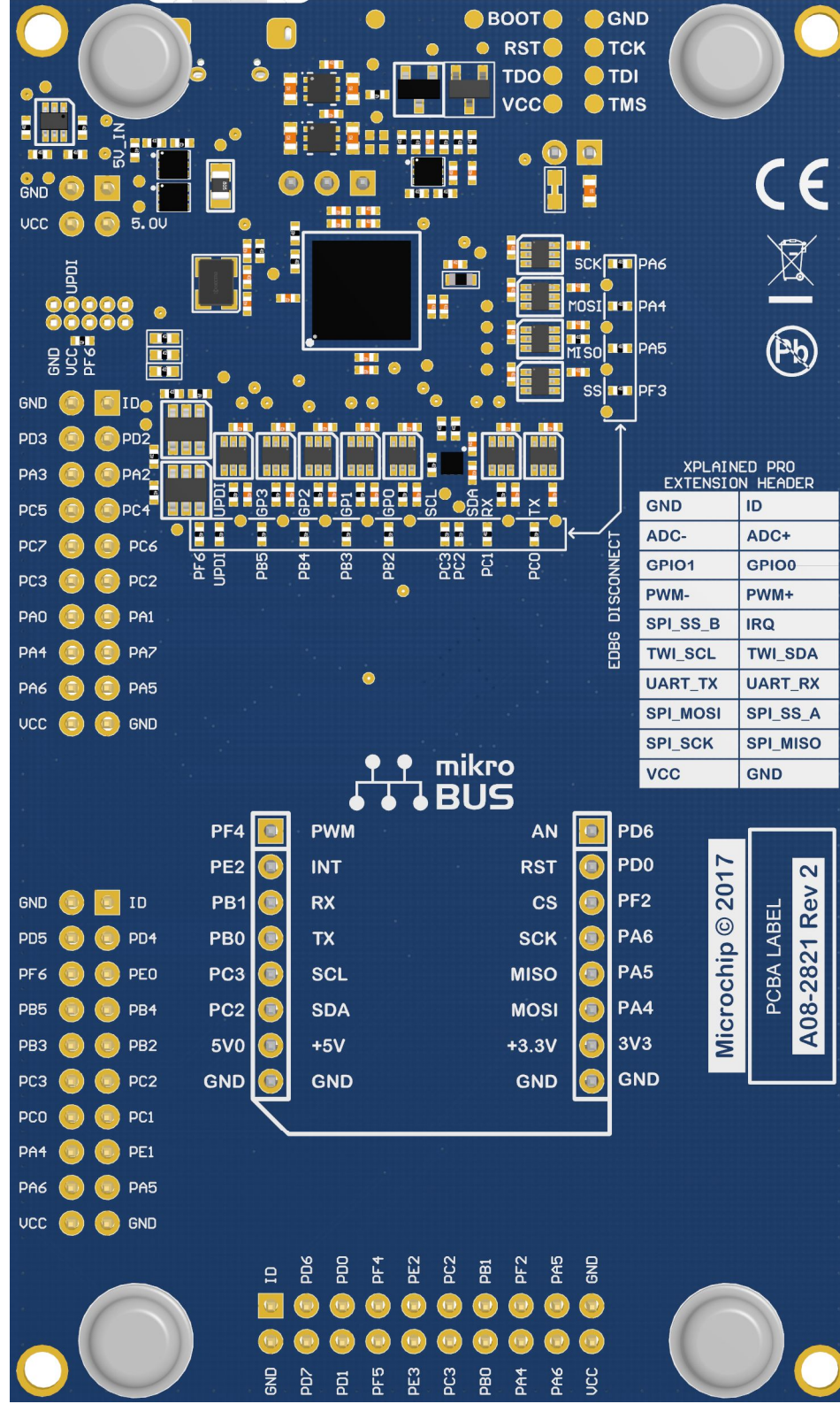
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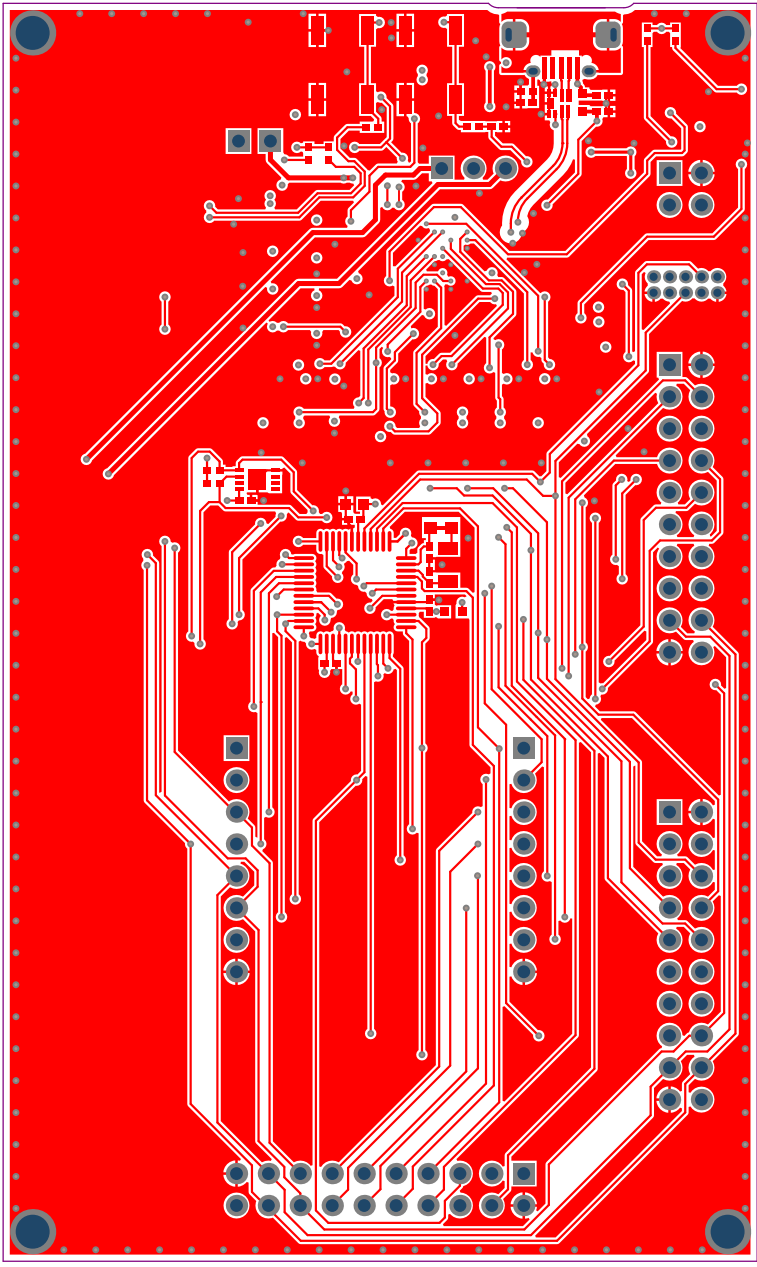


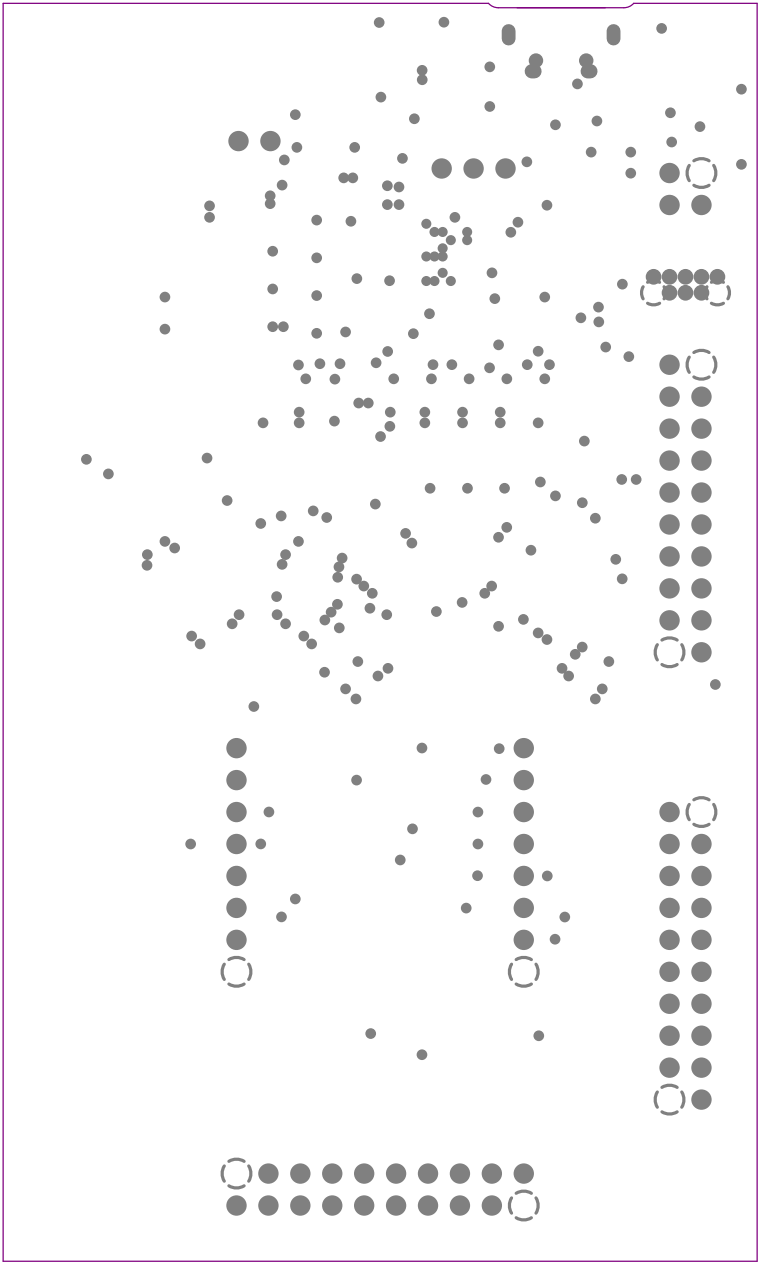
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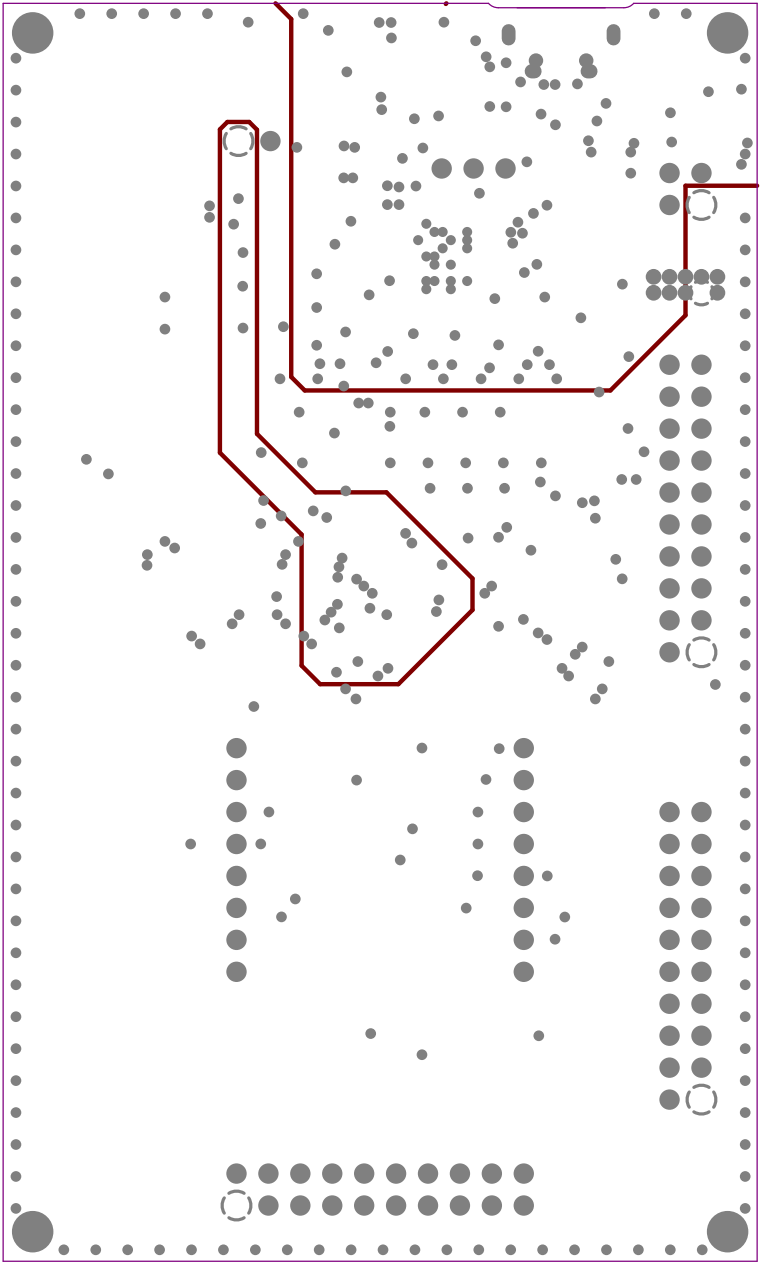


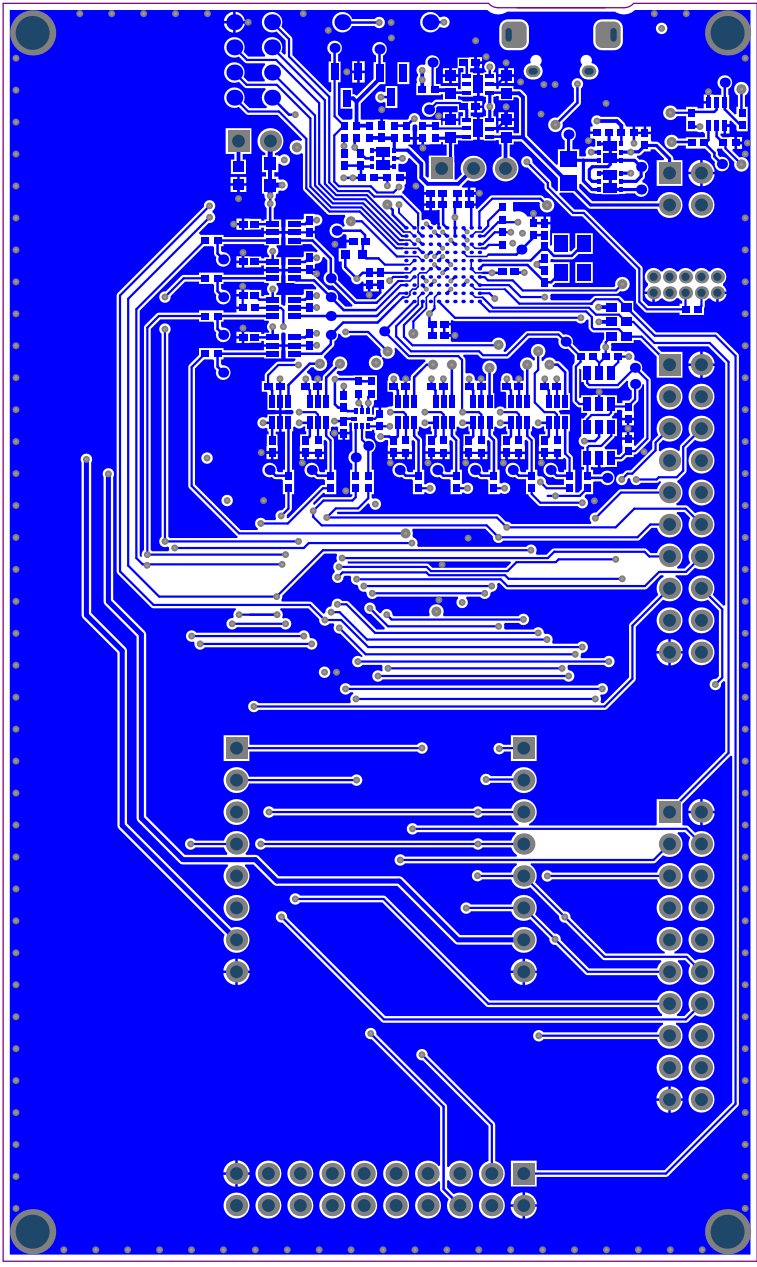












Component list

Top Level Schematics

Source Data From:
Project:
Variant:

ATmega4809_Xplained_Pro.PrjPCB
ATmega4809_Xplained_Pro.PrjPCB
Default_assembly



Report Date: 15.11.2017 11:27:19
Print Date: 15.11.2017 11:27:03

Fitted	Designator	Quantity	Value	Manufacturer	MPN	Description
Fitted	C100, C101, C104, C105, C300	5	4.7uF	WALSIN Technology Corporation	0603X475K100CT	Ceramic capacitor, SMD 0603, X5R, 10V, 10% (de31036)
Fitted	C102, C103, C106, C301, C302, C303, C304, C404, C410, C411, C412, C413, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C523	36	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
Fitted	C107	1	10n	YAGEO CORP	CC0402KRX7R8BB103	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
Fitted	C108	1	10uF/16V	Taiyo Yuden	EMK107BBJ106MA-T	Ceramic capacitor, SMD 0603, X5R, 16V, 10uF ± 20% (High Density)
Fitted	C109, C406, C407, C408	4	1 nF COG	Murata	GRM1555C1H102JA01D	Ceramic capacitor, SMD 0402, COG, 50V, +/-5%
Fitted	C305	1	10p	AVX	04025A100JA T2A	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C306	1	13pF	Murata	GRM1555C1H130JA01D	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C307	1	4.7n	PHYCOMP	2238 587 15632	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10% (de35287)
Fitted	C400, C401	2	15p	AVX	04025A150JA T2A	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
Fitted	C402	1	10p	AVX	04025A100JA T2A	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	D100	1	BAT54	Philips	BAT54	Schottky diode, V(rrm)=30V, I(f)=0.1A, V(f)=0.4V (at If = 0.01A), I(r)=0.5uA (at Vrrm), t(rr)=5ns, SMD SOT23
Fitted	D300, D401	2	YELLOW LED	ROHM	SML-P12YT786R	LED, SMD 0402, Yellow, Wave length=586nm, 7.6mcd @ (1mA, 1.9Vt)
Fitted	D400	1	GREEN LED	ROHM	SML-P12MT786R	LED, SMD 0402, Green, Wave length=569nm, 2.1mcd @ (1mA, 1.9Vt)rohm
Fitted	D402	1	EM2121MTTAG	ON Semiconductor	EM2121MTTAG	EM2121, S2EM2121 Single Pair Common Mode Filter with ESD Protection
Fitted	E1, E2, E3, E4	4	SJ-5076	3M	SJ-5076	2.8mm adhesive feet,diam 8.0mm
Fitted	F100	1	MC36213	Multicomp	MC36213	Resetable PTC fuse, Ih = 0.5A, It = 1.0A, 0805 package
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 firmware	ATMEL		EDBG secured firmware
Fitted	J100	1	1125-1202S0R138R1	WCOON HARDWARE ELECTRONICS CO., LTD	1125-1202S0R138R1	Pin header, 2x2, Right Angle, 2.54mm, THt, Pin In Paste
Fitted	J103	1	Pin header 1x2 right angle	WCOON HARDWARE ELECTRONICS CO., LTD	1125-1102S0R138R1	1x2 pin header, right angle, 2.54 mm pitch, through-hole
Fitted	J105	1	1125-1103S0S113R1	WCOON HARDWARE ELECTRONICS CO., LTD	1125-1103S0S113R1	1x3 pin header, 2.54mm pitch, Pin-in-Paste THM
Fitted	J200, J201, J203	3	1125-1210S0R138R1	WCOON HARDWARE ELECTRONICS CO., LTD	1125-1210S0R138R1	Pin header, 2x10, Right Angle, 2.54mm, THM, Pin In Paste
Fitted	J202	1	PIN HEADER 2x5	WCOON HARDWARE ELECTRONICS CO., LTD	1310-1205S0S073R1	2x5 pin header, 1.27mm pitch, THM
Fitted	J205, J206	2	2185-108SS0CYNP1	WCOON HARDWARE ELECTRONICS CO., LTD	2185-108SS0CYNP1	1x8 receptacle pin header, 2.54mm pitch THM, PIP
Fitted	J400	1	MU-MB0142AB2-269	Allen Creations Corp.	MU-MB0142AB2-269	USB micro AB, Surface mount signals and DP shield
Fitted	JS100, JS102	2	3710-6001OS0B01	WCOON HARDWARE ELECTRONICS CO., LTD	3710-6001OS0B01	Jumpier cap for 2.54mm pinheader
Fitted	L300, L401, L402	3	BLM18PG471SN1	Murata	BLM18PG471SN1	SMD RF inductor 0603, Z=470Ohm (@100MHz), Max R(dc)=0.65Ohm, Max current=1A
Fitted	LABEL1	1	Label PCB(A ES)	ACT Logmark AS	505462	PCBA Label for board with ES device
Fitted	PCB1	1	A Tmega4809 Xplained Pro PCB documentation			ATmega4809 Xplained Pro PCB documentation
Fitted	PCBADC01	1	A09-3074 PCB(A Files			A Tmega4809 Xplained Pro PCB(A documentation
Fitted	Q100, Q101, Q103	3	PMDP855XP	NXP	PMDP855XP	Dual P-Channel MOSFET, -20V, RDS(ON) < 55 mOhm @ -3.4A @ -4.5V
Fitted	Q102	1	2N7002.215	NXP	2N7002.215	N-Channel MOSFET, 60V, 0.300A continuous, 1.2A Peak, RDS(ON) = 3.80hm@VGS=4.5V, VGS(th)<2.5V
Fitted	Q400	1	2N7002DW	Fairchild	2N7002DW	Dual N-Channel MOSFET, 60V, 115mA cont,RDS(ON) < 7.5 Ohm @50mA@5V, SOT-363
Fitted	Q500, Q501	2	FDC6327C	Fairchild	FDC6327C	Dual NP-ch MOSFET, 20V, 2.7A/-1.9A cont, 8A/-8A pulse, RDS(ON)<0.0810hm@VGS=4.5V, VGS(th)<1.5V, SSOT6
Fitted	R100, R410, R413	3	1M	ASJ	CR10-1004-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R101, R102, R107, R302, R502, R503, R506, R507, R508, R511, R512, R513, R518, R519, R524, R525	16	100k	ASJ	CR10-1003-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R103, R106, R109, R110	4	47k	KOA	RK73H1ETT4702F	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R104, R304, R411, R412	4	1k	ASJ	CR10-1001-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R105	1	10k	vishay	CROW402210K0FKED	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R108, R504, R505, R509, R510, R520, R521, R522, R527	9	OR	(n/a)	RMCFD4022TOR00	RES 0.0 OHM 1/16W 0402 SMD, Thick film resistor, SMD 0402, 1/16W, 1%, Thick film resistor, SMD 0402, 1/16W, 1%, Thick film resistor, SMD 0402, 1/16W, 1%, Thick film resistor, SMD 0402, 1/16W, 1%, Thick film resistor, SMD 0402, 1/16W, 1%, Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R300, R301, R500, R501	4	4.7k	PHYCOMP	2322 706 74702L	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R303, R305, R421, R422	4	39R	ASJ	CR10-39R0-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R401, R403, R409	3	1k	ASJ	CR10-1001-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R423	1	6.81k	vishay	CROW40226K81FKED	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R514, R515, R516, R517, R523, R526	6	330R	ASJ	CR10-3300-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	SW300, SW301	2	TS604VML-035CR	Dailywell Electronics Co.LTD	TS604V ML-035CR-R	SWITCH, SMD, 260gf, 6.4mm X 6.2mm
Fitted	TEST1	1	ATmega4809 Xplained Pro test			Fixture test for ATmega4809 Xplained Pro
Fitted	TESTDOC1	1	A Tmega4809 Xplained Pro Test Instructions			ATmega4809 Xplained Pro Test Instructions
Fitted	U100	1	MIC5259	Microchip	MIC5259-3.3YML	300mA High PSRR, Low Noise uCAP CMOS LDO with 6-pad MLF 2x2mm
Fitted	U103	1	MIC5319	Microchip	MIC5319-3.3YML	500mA Ultra Low Dropout LDO regulator, 2% accuracy, 2mm x 2mm MLF
Fitted	U300	1	ATmega4809-AFRES	Microchip	ATmega4809-AFRES	Atmel 8-bit RISC MCU, 48K Flash, 48pin TQFP, Engineering Sample
Fitted	U301	1	ATECC508A I2C UDFN	MICROCHIP	ATECC508A-MA-HDA-T	ATECC508A with an I2C Interface and a 8 Pin UDFN Package with Paddle
Fitted	U400	1	AT32UC3A4256J-C1UR	ATMEL	AT32UC3A4256J-C1UR	AVR 32-bit RISC MCU
Fitted	U500	1	FXMA2102L8X	Fairchild	FXMA2102L8X	Dual supply, 2-bit, voltage translator, buffer, repeater, isolator for I2C applications
Fitted	U501, U502, U503, U504, U505, U506, U507, U508, U509, U510, U511	11	SN74LVC1T45DCKR	Texas Instruments	SN74LVC1T45DCKR	Single-Bit Dual-Supply Bus Transceiver with Configurable Voltage Translation and 3-State Outputs
Fitted	XC300	1	32.768kHz	Kyocera Corporation	ST3215SB32768C0HPWB8	Kyocera ST3215SB32768C0HPWB8, 32.768kHz, 7pF, SMD tuning fork crystal
Fitted	XC400	1	12.00MHz	Kyocera Crystal Device Corporation	CX3225GB12000H0KPSCL	Kyocera CX3225GB12000H0KPSCL, 12MHz, 12pF, SMD crystal
Not Fitted	C403	0	4.7n	PHYCOMP	2238 587 15632	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
Not Fitted	R111	0	100k	ASJ	CR10-1003-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Not Fitted	R112	0	47k	KOA	RK73H1ETT4702F	Thick film resistor, SMD 0402, 1/16W, 1%
Not Fitted	R424	0	1M	ASJ	CR10-1004-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Approved		172	Notes			