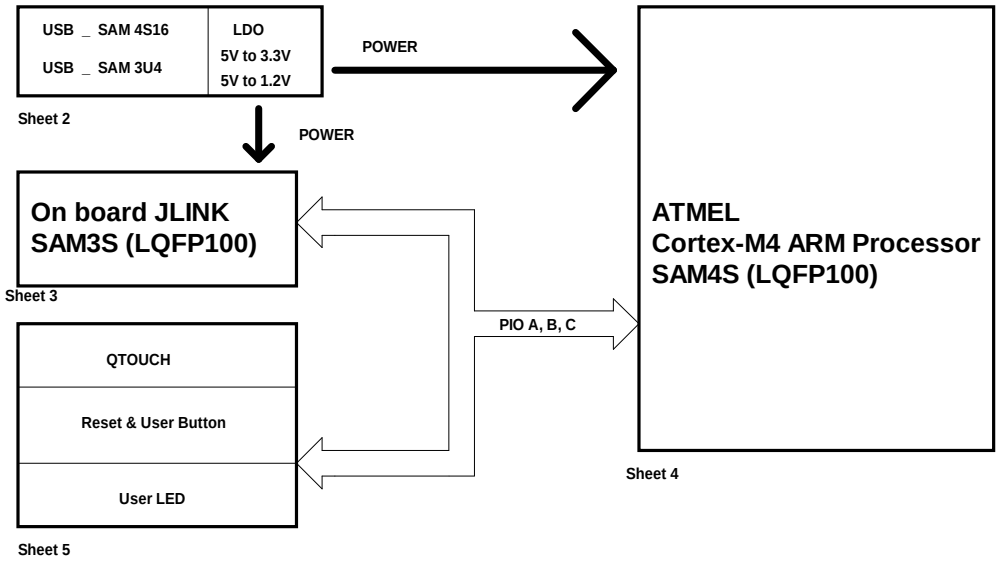

DEFAULT NO POPULATE PARTS

PAGE	REFERENCE	FUNCTION
2	R47	Disconnect internal LDO
3	R196	Optional pull up for TDI-3U
	R198	Optional pull up for NRST-3U
	C72	EMI obsorbing Cap
	R148	Optional pull up for TCKOUT
	R150	Optional pull up for TRSTOUT and TRSTIN
	R151	Optional pull up for TDIIN or TDIOUT
	R152	Optional pull up for TMSOUT and TMSIN
4	R27	Optional pull up for serial flash NCS.
	R178	Optional pull up for Upper bit of SRAM CS
	R179	Optional pull up for lowerr bit of SRAM CS
	R208	Optional jumper for PC14 to roll back to RevA
	R22	Optional pull up for PA3 (SDA)
	R23	Optional pull up for PA4 (SCL)
	C73	EMI obsorbing Cap
	MN7	SERIAL FLASH

PIO MUXING

Two 512KB SRAM is assigned on SMC BUS, one is located on NCS0, and another one is located on NCS1

PIOA	USAGE	PIOA	USAGE	PIOB	USAGE	PIOC	USAGE	PIOC	USAGE
PA0	SMC_A17	PA16	J3.6	PB0	J2.3 default	PC0	SMC_D0	PC16	N/A
PA1	SMC_A18	PA17	J2.5	PB1	J2.4	PC1	SMC_D1	PC17	User LED D10
PA2	J3.7 default	PA18	J3.4 & SMC_A14	PB2	J1.3 & J4.3	PC2	SMC_D2	PC18	SMC_A0
PA3	J1.1 & J4.1	PA19	J3.4 optional & SMC_A15	PB3	J1.4 & J4.4	PC3	SMC_D3	PC19	SMC_A1
PA4	J1.2 & J4.2	PA20	J3.1 & SMC_A16	PB4	JTAG	PC4	SMC_D4	PC20	SMC_A2
PA5	User_button BP2	PA21	J2.6	PB5	JTAG	PC5	SMC_D5	PC21	SMC_A3
PA6	J3.7 optional	PA22	J2.1	PB6	JTAG	PC6	SMC_D6	PC22	SMC_A4
PA7	CLK_32K	PA23	J3.3	PB7	JTAG	PC7	SMC_D7	PC23	SMC_A5
PA8	CLK_32K	PA24	TSLIDR_SL_SNS	PB8	CLK_12M	PC8	SMC_NWE	PC24	SMC_A6
PA9	RX_UART0	PA25	TSLIDR_SL_SNSK	PB9	CLK_12M	PC9	Power on detect	PC25	SMC_A7
PA10	TX_UART0	PA26	TSLIDR_SM_SNS	PB10	USB_DDM	PC10	User LED D9	PC26	SMC_A8
PA11	J3.2 default	PA27	TSLIDR_SM_SNSK	PB11	USB_DDP	PC11	SMC_NRD	PC27	SMC_A9
PA12	MISO	PA28	TSLIDR_SR_SNS	PB12	ERASE	PC12	J2.2	PC28	SMC_A10
PA13	MOSI	PA29	TSLIDR_SR_SNSK	PB13	J2.3 optional	PC13	J2.7	PC29	SMC_A11
PA14	SPCK	PA30	J4.5	PB14	N/A	PC14	SMC_NCS0	PC30	SMC_A12
PA15	J3.5	PA31	J1.5			PC15	SMC_NSC1	PC31	SMC_A13

TEST POINT

PAGE	REFERENCE	FUNCTION
2	TP7, TP8, TP9, TP10	GND
	TP13	VDDCORE-4S
	TP14	VDDCORE-3U
	TP15	VDDIN-3U
	TP22	Power Good of U5
	TP29	Input of U6
3	TP1	SAM3U4 Erase
	TP2	
	TP3	
	TP4	
	TP5	OB JLink Disable (low)
4	TP12	ADREF
	TP16	DBGU_RX
	TP17	DBGU_TX
	TP18	OB_JLINK_TDI
	TP19	OB_JLINK_TMS
	TP20	OB_JLINK_TCK
	TP21	OB_JLINK_TDO
	TP28	JTAGSEL

JUMPER and SOLDERDROP

PAGE	REFERENCE	DEFAULT	FUNCTION
2	JP7	CLOSE	Power SAM4S16
4	JP15	OPEN	SAM4S16 ERASE

REV	MODIF.	DES.	DATE	VER.	DATE
B	SEC EDIT	RCR	2-MAR-12	XXX	XX-XXX-XX
A	INIT EDIT	RCR	23-FEB-12	XXX	XX-XXX-XX

SAM4S_LQFP100_XPLAINED

Preface

SCALE 1/1

REV. B

SHEET 1/5

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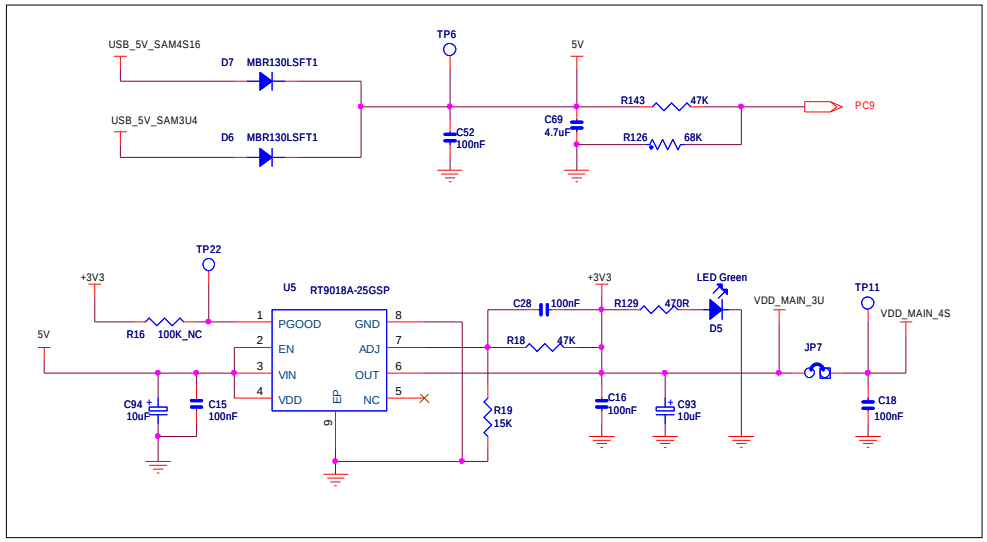
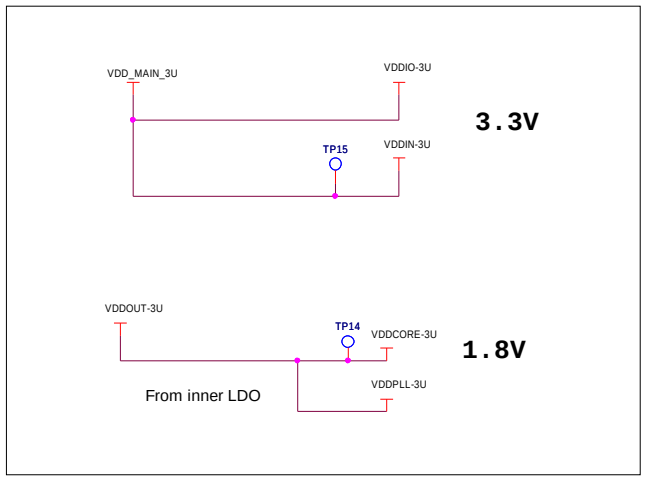
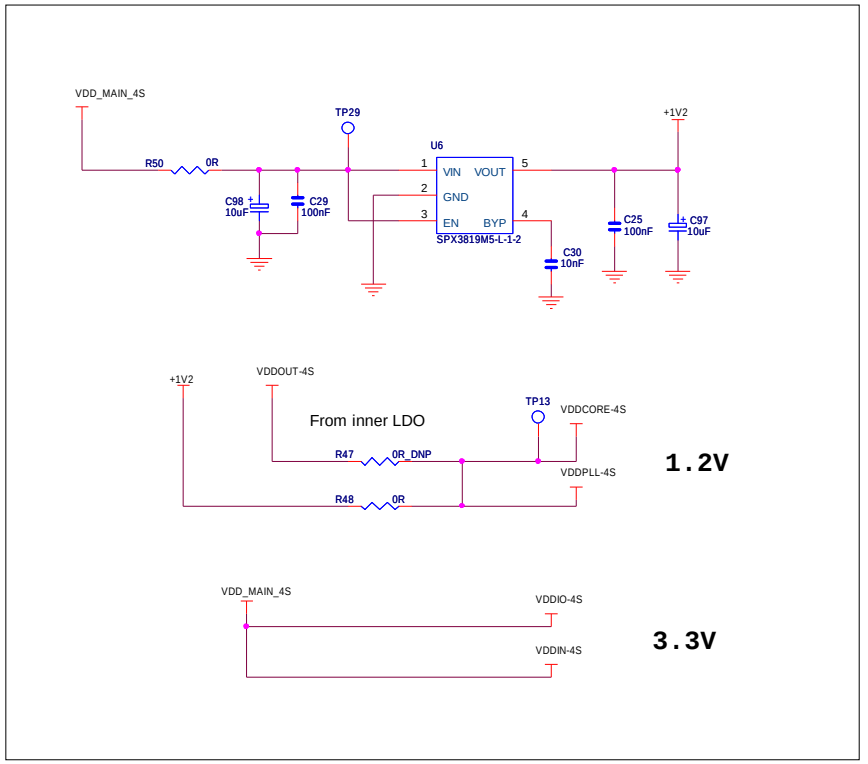


Common Power Section

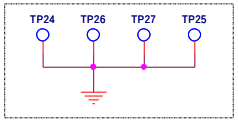


SAM3U Power Section

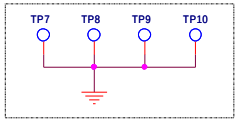


SAM4S16 Power Section

GND TEST POINT (Throughhole) at four corners



GND TEST POINT (SMD) near to chips, diagonal



REV	MODIF.	DES.	DATE	VER.	DATE
B	SEC EDIT	RCR	2-MAR-12	XXX	XX-XXX-XX
A	INIT EDIT	RCR	23-FEB-12	XXX	XX-XXX-XX

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POWER SUPPLY

SCALE 1/1

REV. B

SHEET 2/5

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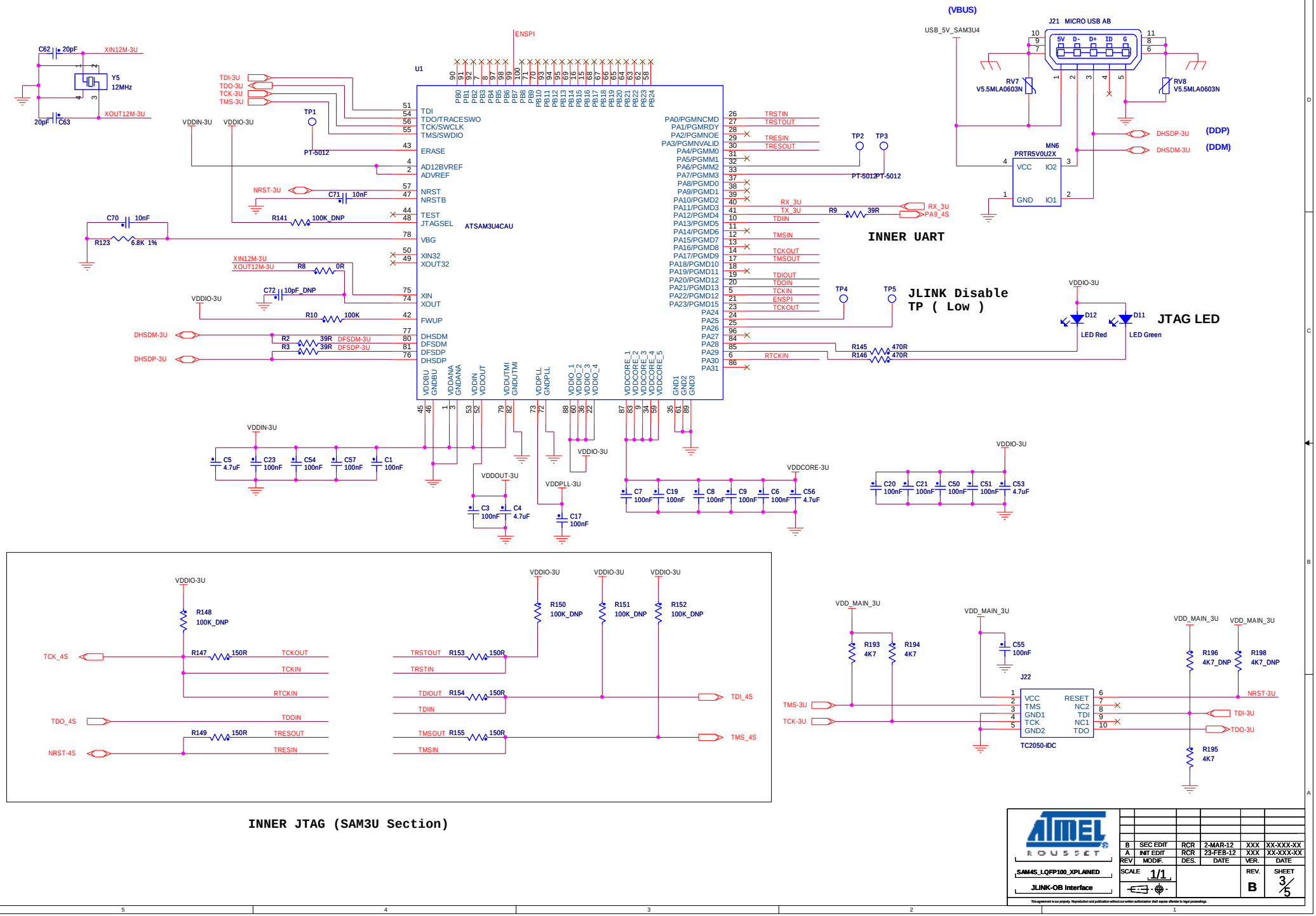

REV	MODIF.	DES.	DATE	VER.	DATE
B	SEC EDIT	RCR	2-MAR-12	XXX	XX-XXX-XX
A	INIT EDIT	RCR	23-FEB-12	XXX	XX-XXX-XX

SAM4S_LQFP100_XPLAINED

JLINK-OB Interface

SCALE 1/1

REV. B

SHEET 3/5

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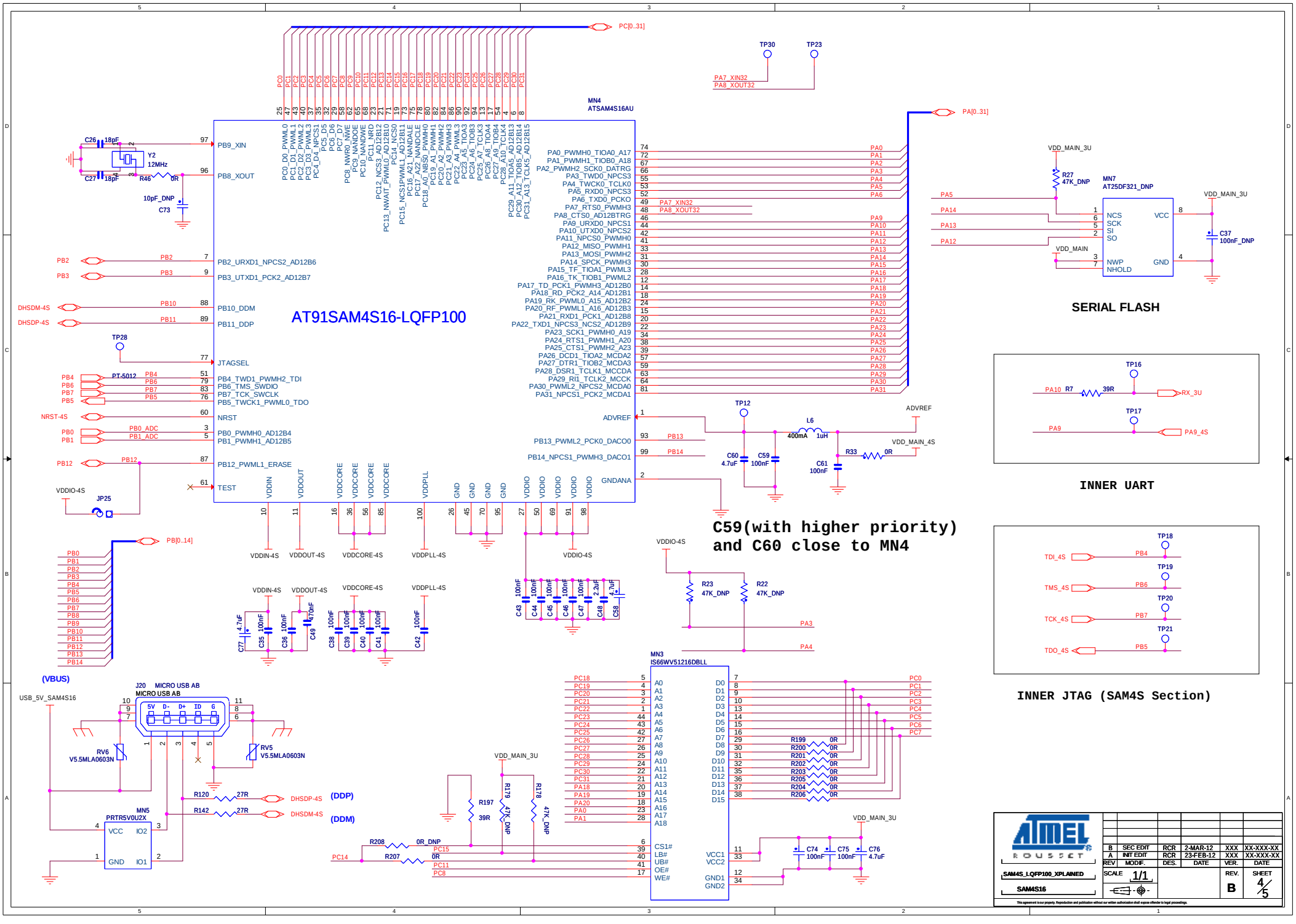
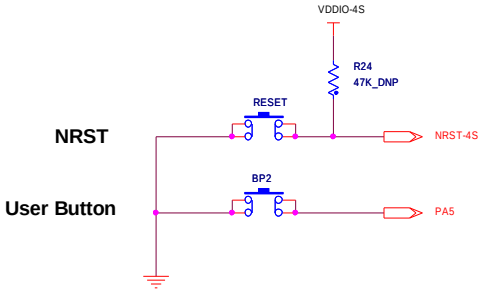
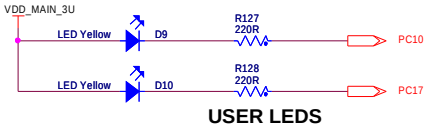
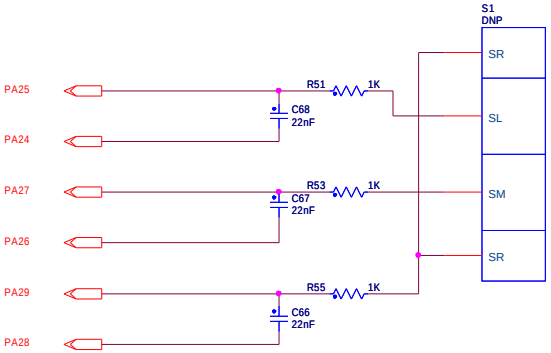

AT91SAM4S16-LQFP100
MN4
ATSAM4S16AU
SERIAL FLASH
INNER UART
INNER JTAG (SAM4S Section)
C59(with higher priority)
and C60 close to MN4
MN3
IS66WV51216DBLL
MN5
PRTR5V0U2X
MN7
AT25DF321_DNP
J20 MICRO USB AB
(VBUS)
(DDP)
(DDM)
SAM4S_LQFP100_XPLAINED
SAM4S16
SCALE 1/1
REV. B
SHEET 4/5

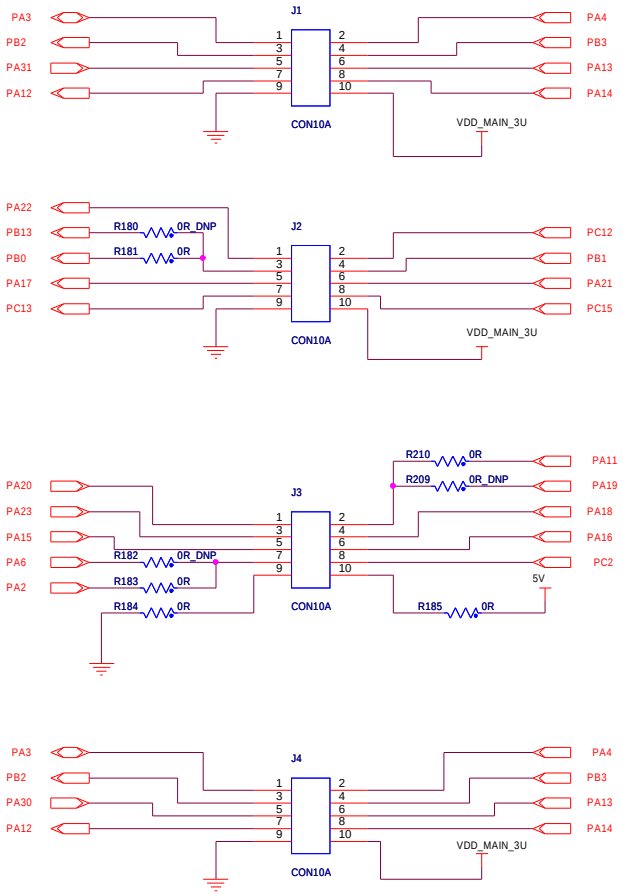




USER LEDS



Slider



Xplain Legacy Extension Boards Interface

REV	MODIF.	DES.	DATE	VER.	DATE
B	SEC EDIT	RCR	2-MAR-12	XXX	XX-XXX-XX
A	INIT EDIT	RCR	23-FEB-12	XXX	XX-XXX-XX

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USER INTERFACES

SCALE 1/1

REV. B

SHEET 5/5

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