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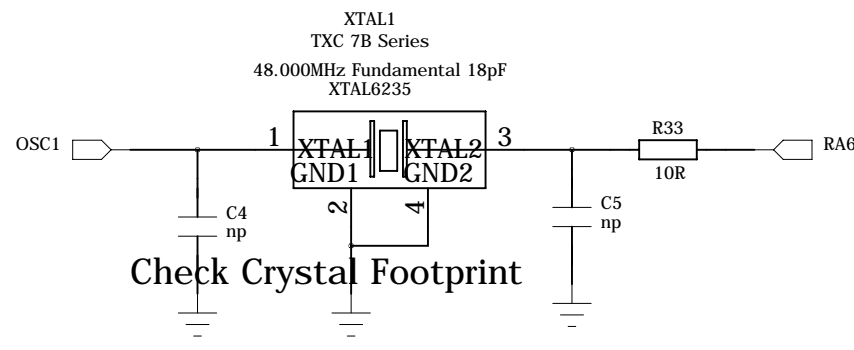
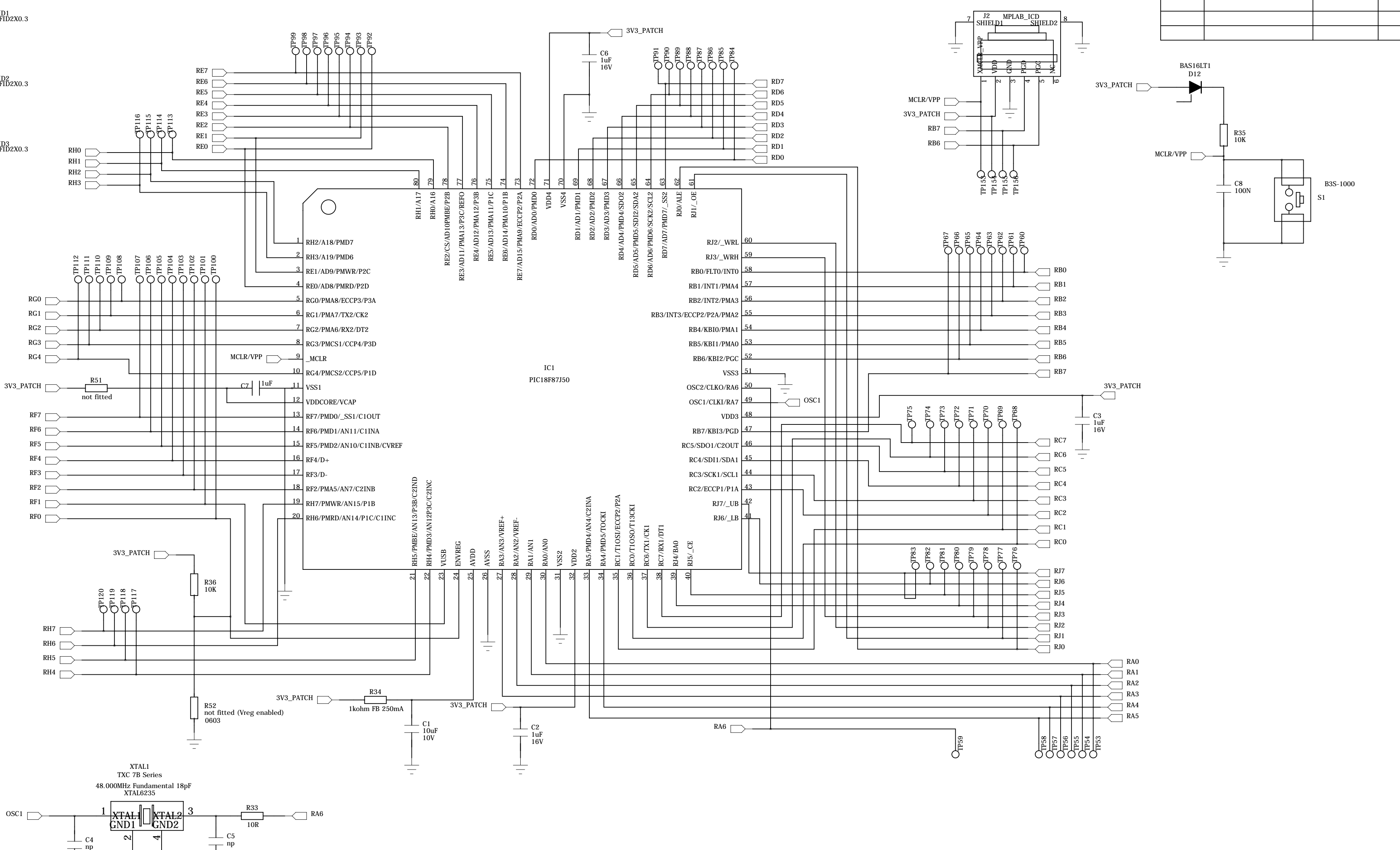
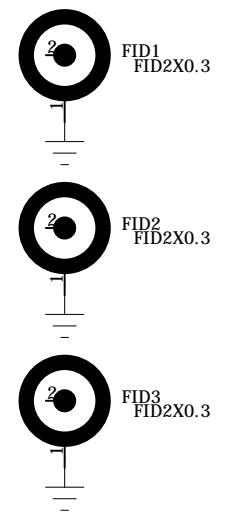
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TITLE: The rasp@berrie Patch Board			
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Draft	A2	MMP04-V01.00	1
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DRAWN: Nigel Berrie	DATED: 20/06/2012
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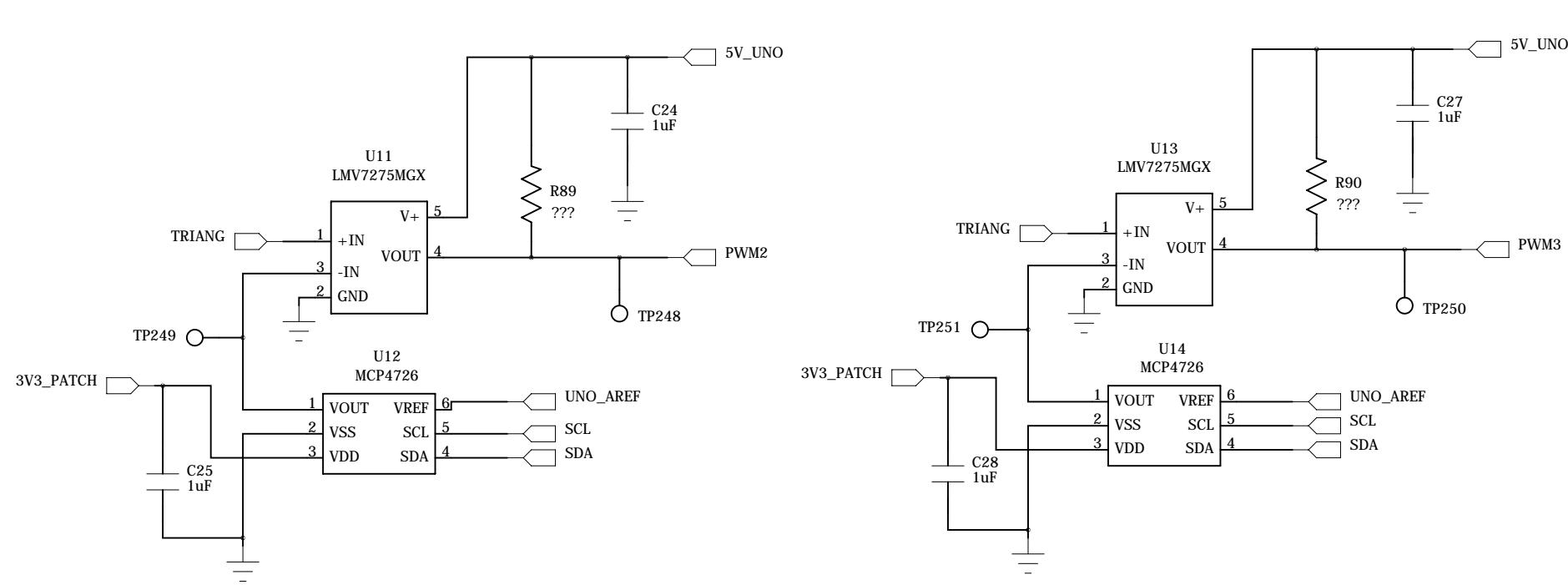
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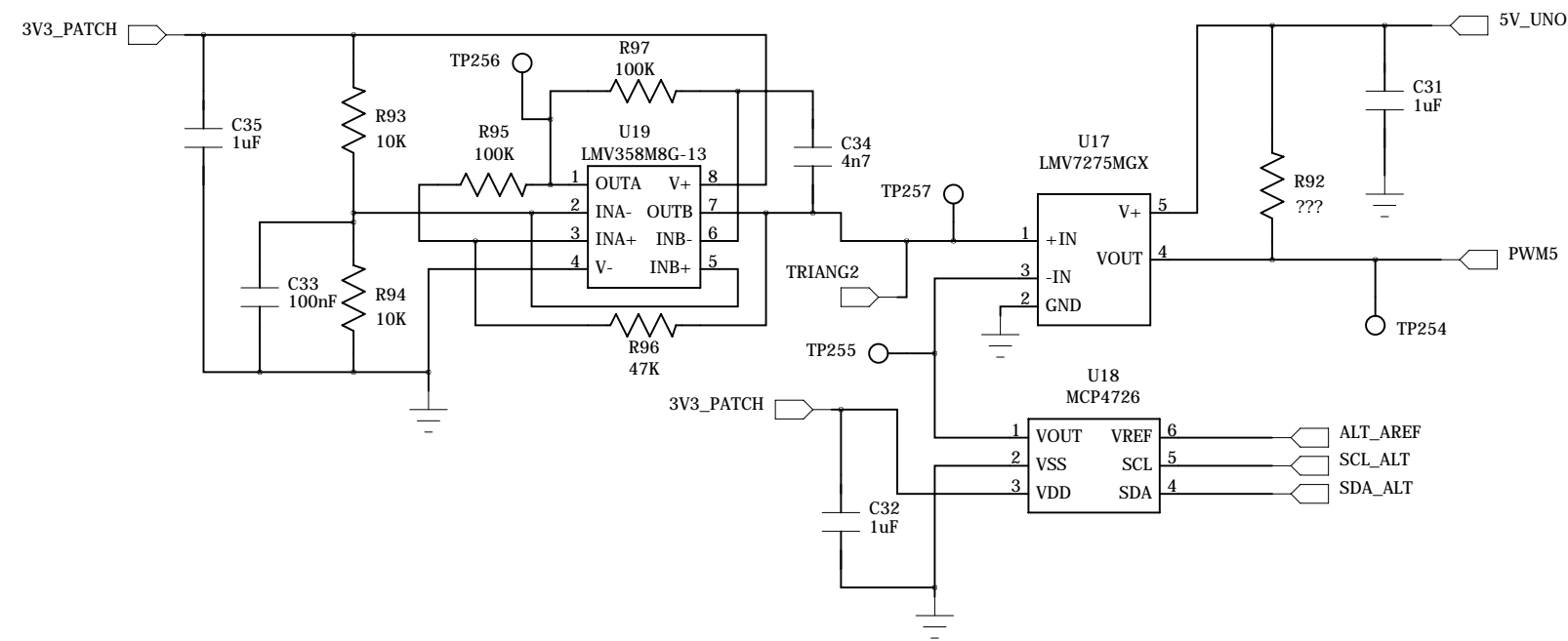
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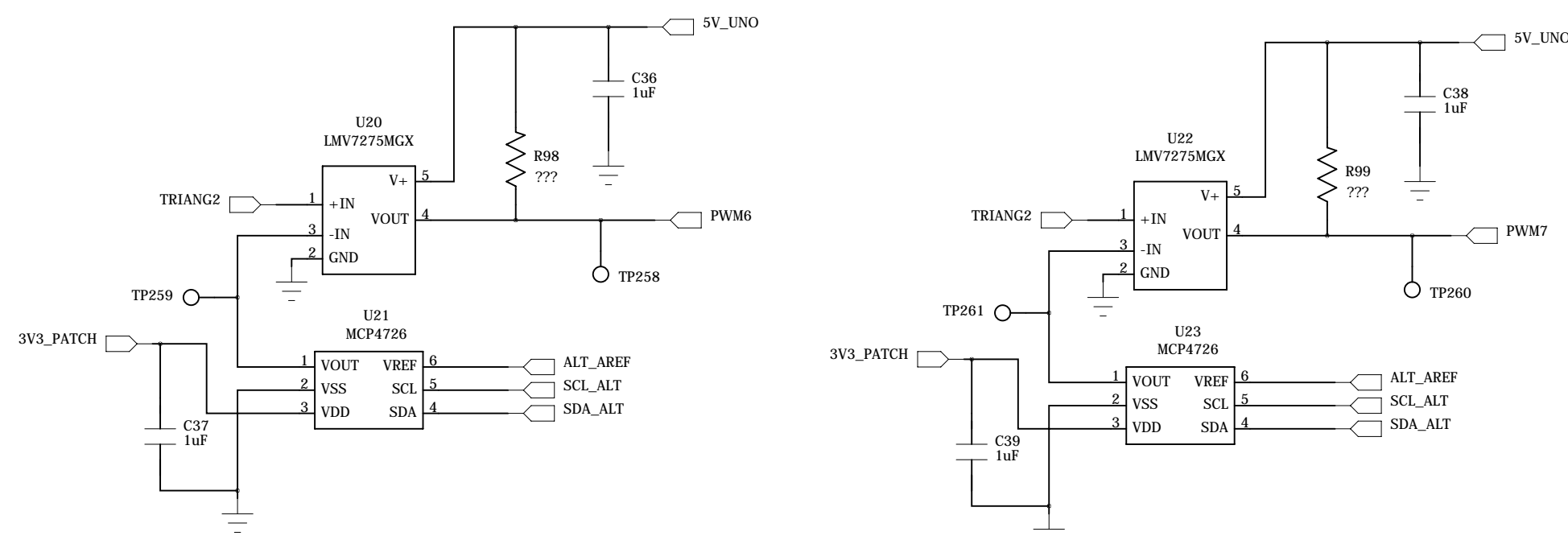
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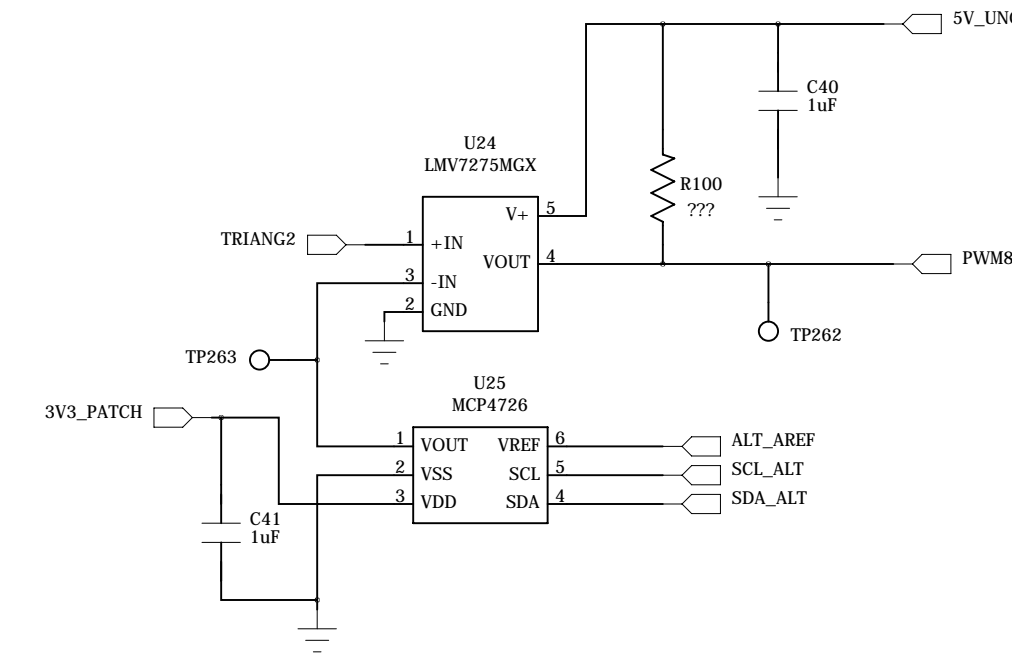
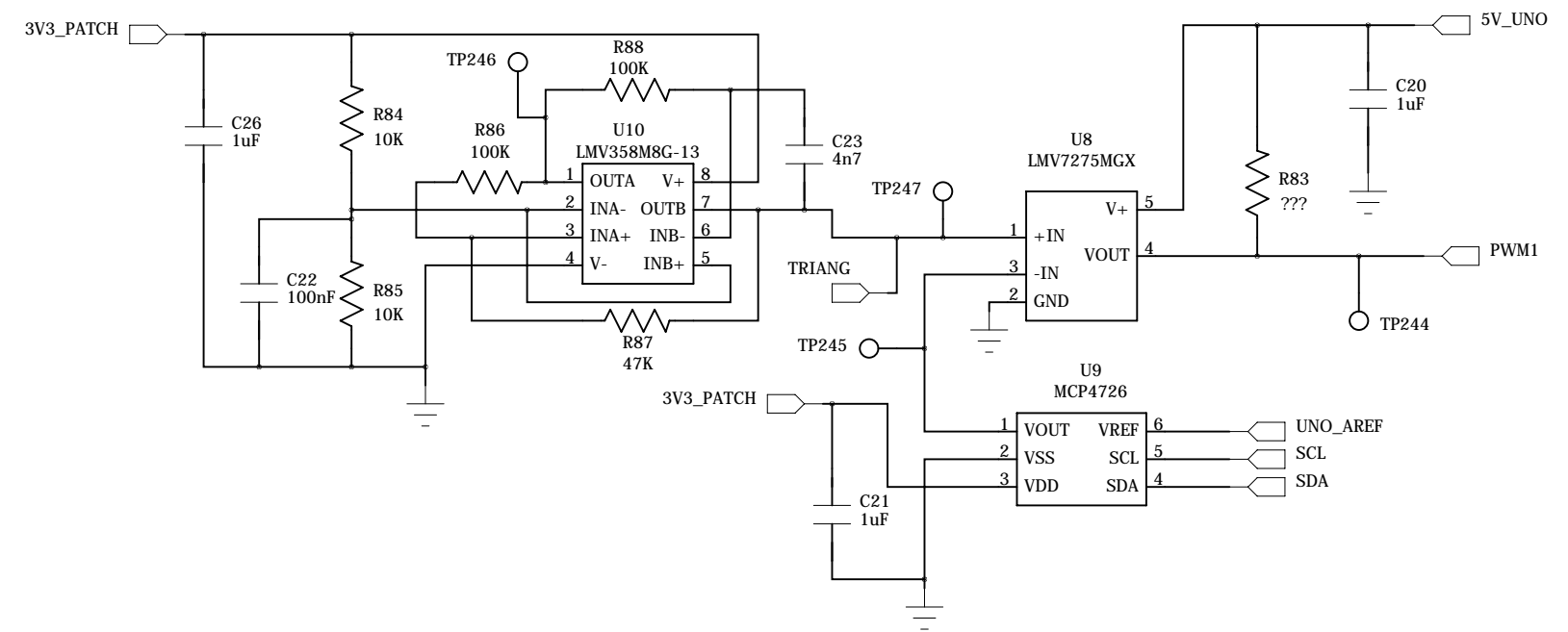
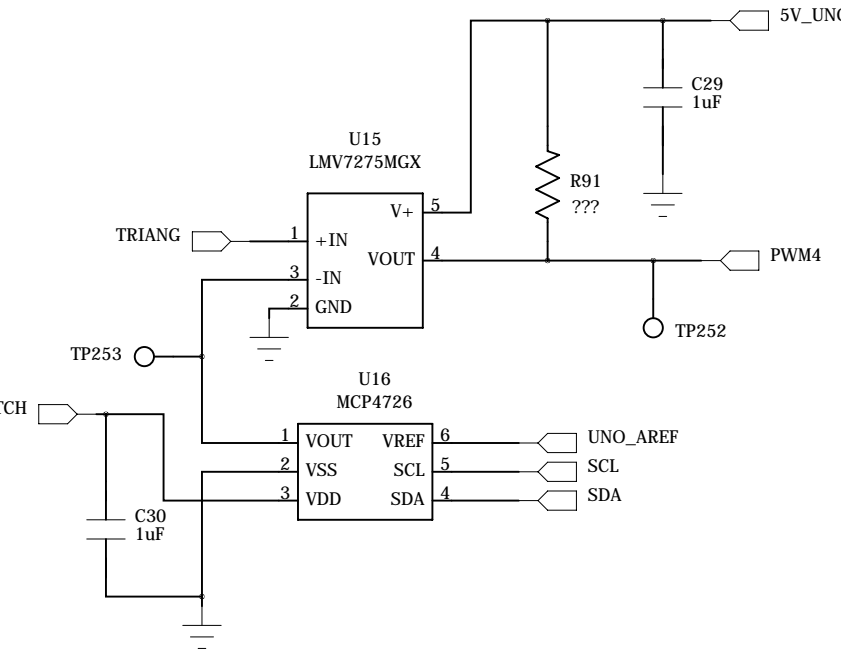
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SPECIFICATIONS AND EXTRA INFORMATION

eg1. TP15 is Uno_AD4_5V0 - so is Arduino interface signal AD4, on 5V logic as a default

eg2. TP172 is Uno_AD5_3V3 - so is Arduino interface signal AD5, but on the 3V3 side of the logic level shifter

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Test Point Grid

	Decade 0	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5	Decade 6	Decade 7	Decade 8	Decade 9
Unit 0		Uno_PB1_5V0	Uno_ADC3_Ana	Patch_J3P8	Patch_J4P3	Patch_J4P13	PIC_RB0_3V3	PIC_RC2_3V3	PIC_RJ4_3V3	PIC_RD6_3V3
Unit 1	Uno_PD0_5V0	Uno_PB2_5V0	Uno_ADC4_Ana	Patch_J3P9	Patch_J4P4	Patch_J4P14	PIC_RB1_3V3	PIC_RC3_3V3	PIC_RJ5_3V3	PIC_RD7_3V3
Unit 2	Uno_PD1_5V0	Uno_PB3_5V0	Uno_ADC5_Ana	Patch_J3P10	Patch_J4P5	Patch_J4P15	PIC_RB2_3V3	PIC_RC4_3V3	PIC_RJ6_3V3	PIC_RE0_3V3
Unit 3	Uno_PD2_5V0	Uno_PB4_5V0	Patch_J3P1	Patch_J3P11	Patch_J4P6	PIC_RA0_3V3	PIC_RB3_3V3	PIC_RC5_3V3	PIC_RJ7_3V3	PIC_RE1_3V3
Unit 4	Uno_PD3_5V0	Uno_PB5_5V0	Patch_J3P2	Patch_J3P12	Patch_J4P7	PIC_RA1_3V3	PIC_RB4_3V3	PIC_RC6_3V3	PIC_RD0_3V3	PIC_RE2_3V3
Unit 5	Uno_PD4_5V0	Uno_AD4_5V0 ¹	Patch_J3P3	Patch_J3P13	Patch_J4P8	PIC_RA2_3V3	PIC_RB5_3V3	PIC_RC7_3V3	PIC_RD1_3V3	PIC_RE3_3V3
Unit 6	Uno_PD5_5V0	Uno_AD5_5V0 ²	Patch_J3P4	Patch_J3P14	Patch_J4P9	PIC_RA3_3V3	PIC_RB6_3V3	PIC_RJ0_3V3	PIC_RD2_3V3	PIC_RE4_3V3
Unit 7	Uno_PD6_5V0	Uno_ADC0_Ana	Patch_J3P5	Patch_J3P15	Patch_J4P10	PIC_RA4_3V3	PIC_RB7_3V3	PIC_RJ1_3V3	PIC_RD3_3V3	PIC_RE5_3V3
Unit 8	Uno_PD7_5V0	Uno_ADC1_Ana	Patch_J3P6	Patch_J4P1	Patch_J4P11	PICRA5_3V3	PIC_RC0_3V3	PIC_RJ2_3V3	PIC_RD4_3V3	PIC_RE6_3V3
Unit 9	Uno_PB0_5V0	Uno_ADC2_Ana	Patch_J3P7	Patch_J4P2	Patch_J4P12	PIC_RA6_3V3	PIC_RC1_3V3	PIC_RJ3_3V3	PIC_RD5_3V3	PIC_RE7_3V3

Power Rail Names and brief specifications			
Name	Source	Nom Capacity milliAmperes	Notes
5V0_PI	R-Pi		
3V3_PI	R-Pi		
VIN_UNO	Patch	500	Polyfuse protection
5V_UNO	Uno		
3V3_UNO	Uno		
5V_Patch	Patch		
3V3_Patch	Patch		
VIN_Patch	Off-board		
5V_USBin	PATCH	500mA	Powers 3V3_USBin

	Decade 10	Decade 11	Decade 12	Decade 13	Decade 14	Decade 15	Decade 16	Decade 17	Decade 18
Unit 0	PIC_RF0_3V3	PIC_RG2_3V3	PIC_RH7_3V3	RPI_CE1_3V3	RPI_5V0_5V0	RPI_VCTMS_3V3	Uno_PD3_3V3	Uno_PB5_3V3	LED8_ON
Unit 1	PIC_RF1_3V3	PIC_RG3_3V3	RPI_GPIO0_3V3	RPI_RX_3V3	RPI_SMRST_3V3	RPI_VCTCLK_3V3	Uno_PD4_3V3	Uno_AN4_3V3	
Unit 2	PIC_RF2_3V3	PIC_RG4_3V3	RPI_GPIO1_3V3	RPI_TX_3V3	RPI_SMTDL_3V3	GND	Uno_PD5_3V3	Uno_AN5_3V3	
Unit 3	PIC_RF3_3V3	PIC_RH0_3V3	RPI_GPIO2_3V3	RPI_SCLK_3V3	RPI_SMTDO_3V3	PIC_MCLR_VPP	Uno_PD6_3V3	LED1_ON	
Unit 4	PIC_RF4_3V3	PIC_RH1_3V3	RPI_GPIO3_3V3	RPI_MISO_3V3	RPI_SMTMS_3V3	PIC_VPIC_3V3	Uno_PD7_3V3	LED2_ON	
Unit 5	PIC_RF5_3V3	PIC_RH2_3V3	RPI_GPIO4_3V3	RPI_MOSI_3V3	RPI_SMTCLK_3V3	PIC_PGD_3V3	Uno_PB0_3V3	LED3_ON	
Unit 6	PIC_RF6_3V3	PIC_RH3_3V3	RPI_GPIO5_3V3	GND	RPI_SPARE_3V3	PIC_ICSPCLK_3V3	Uno_PB1_3V3	LED4_ON	
Unit 7	PIC_RF7_3V3	PIC_RH4_3V3	RPI_GPIO6_3V3	RPI_SCL_3V3	RPI_VCTRST_3V3	Uno_PD0_3V3	Uno_PB2_3V3	LED5_ON	
Unit 8	PIC_RG0_3V3	PIC_RH5_3V3	RPI_GPIO7_3V3	RPI_SDA_3V3	RPI_VCTDI_3V3	Uno_PD1_3V3	Uno_PB3_3V3	LED6_ON	
Unit 9	PIC_RG1_3V3	PIC_RH6_3V3	RPI_CE0_3V3	RPI_3V3_3V3	RPI_VCTDO_3V3	Uno_PD2_3V3	Uno_PB4_3V3	LED7_ON	

	Decade 20	Decade 21	Decade 22	Decade 23	Decade 24	Decade 25	Decade 26	Decade 27	Decade 28	Decade 29
Unit 0										
Unit 1										
Unit 2										
Unit 3										
Unit 4										
Unit 5										
Unit 6				unused						
Unit 7										
Unit 8										
Unit 9										

Note 1: Uno_AD4 can be disconnected from 5V logic to use as an Analogue input by taking off R15
 Note 2: Uno_AD5 can be removed from 5V logic and used in an Analogue way by disconnecting R16

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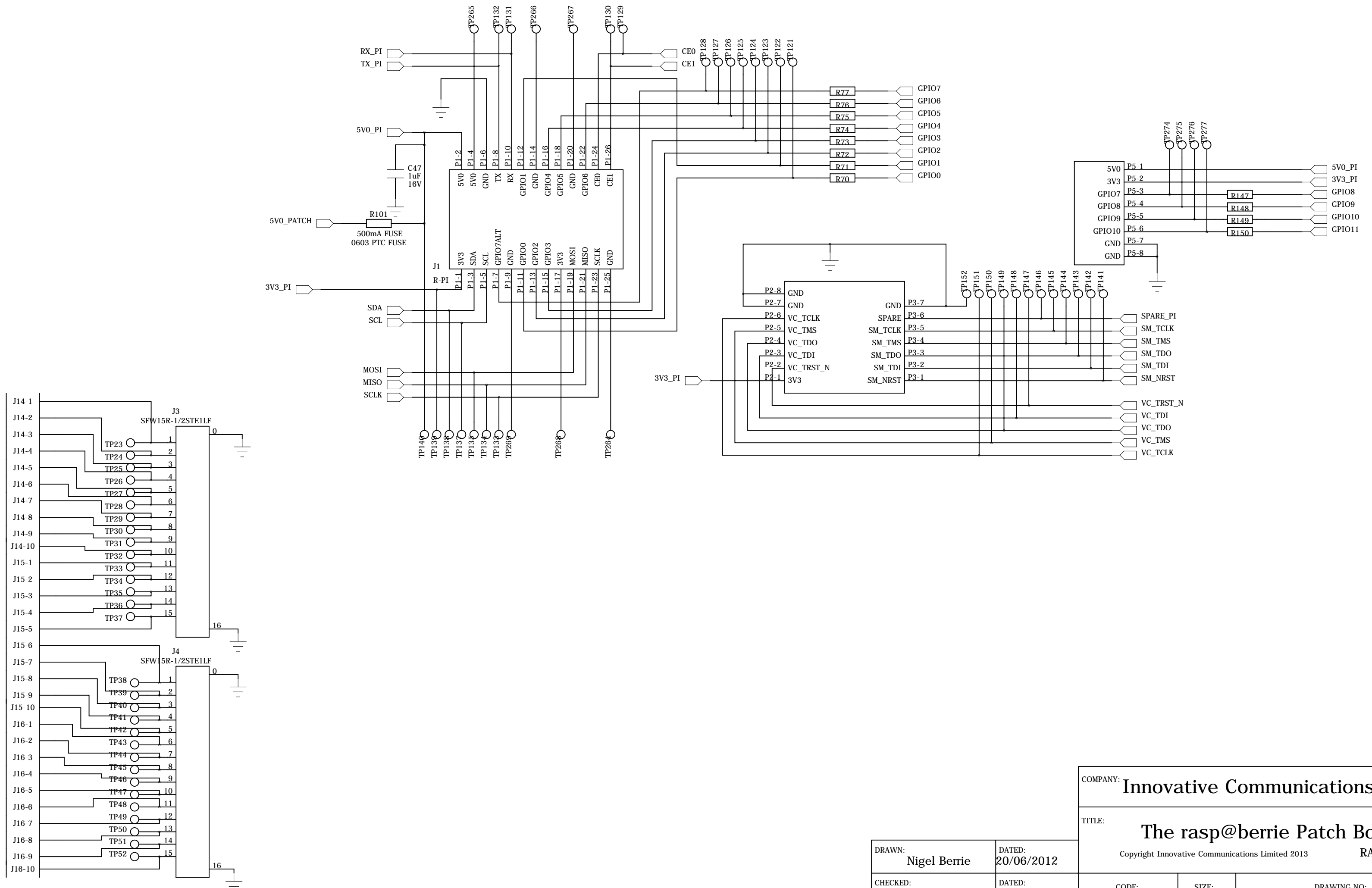
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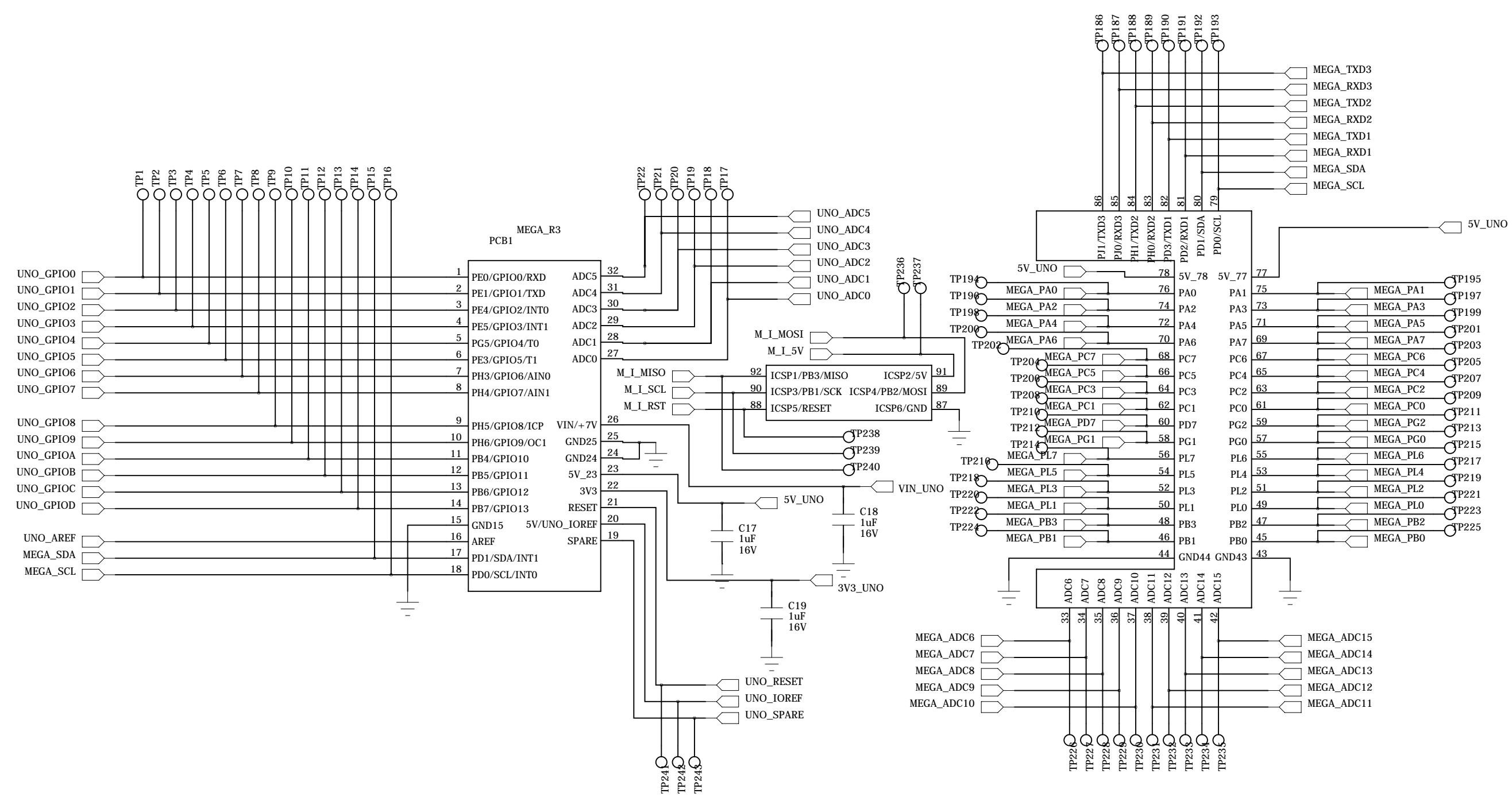
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ICSP Nets are deliberately given separate names so that they are only connected up to the SPI Interface if the user specifically intends to
 All 5V digital IO pins have been buffered to give 3V stepped down versions, but the Analogue AtoD inputs remain unbuffered, other than the first 6.
 If more than 6 Analogue Inputs are required with a 5V range, users are advised to use the ATmega2560 to do AtoD, even if they have to get the results by I2C or SPI bus

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9V nominal
7 to 13.5V OK
Absolute Max 18V
Centre Positive, 1.8mm socket

3V0_Patch is derived from 5V0 Patch so that all can be powered from USB

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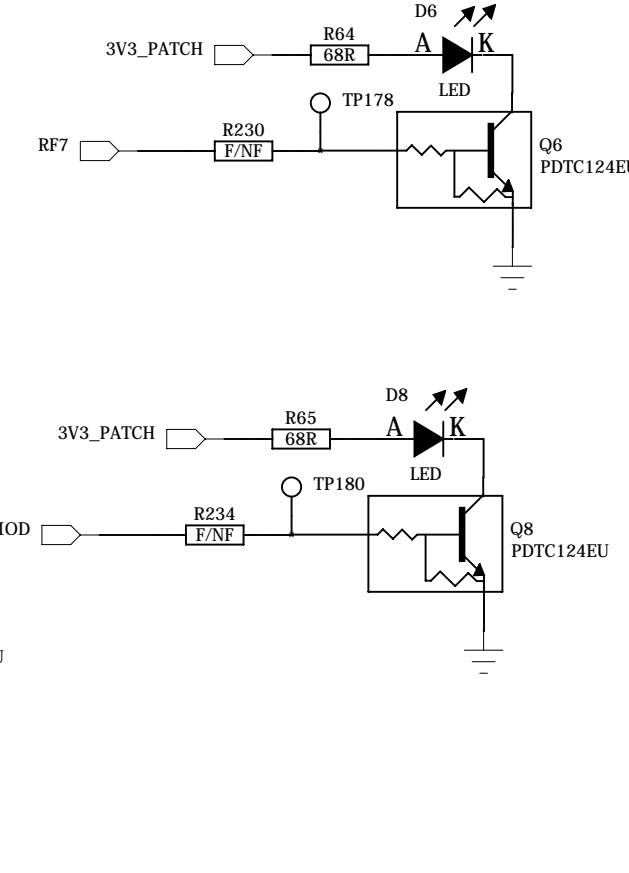
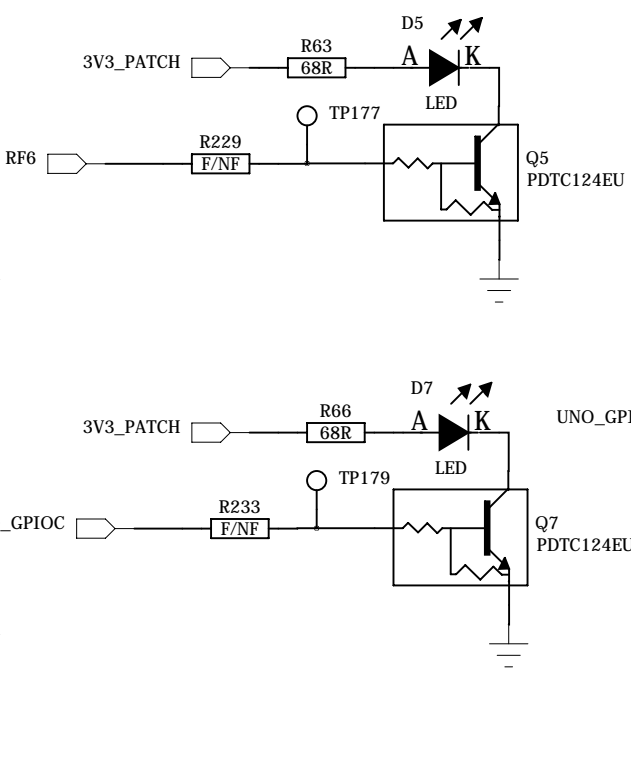
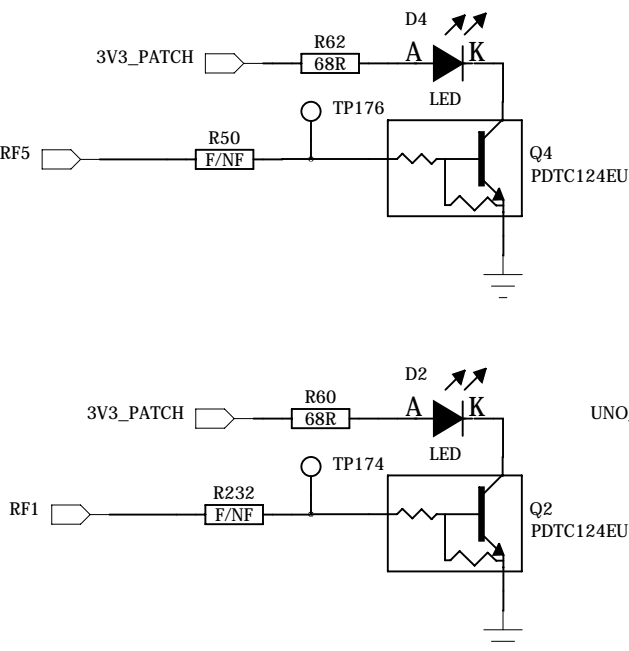
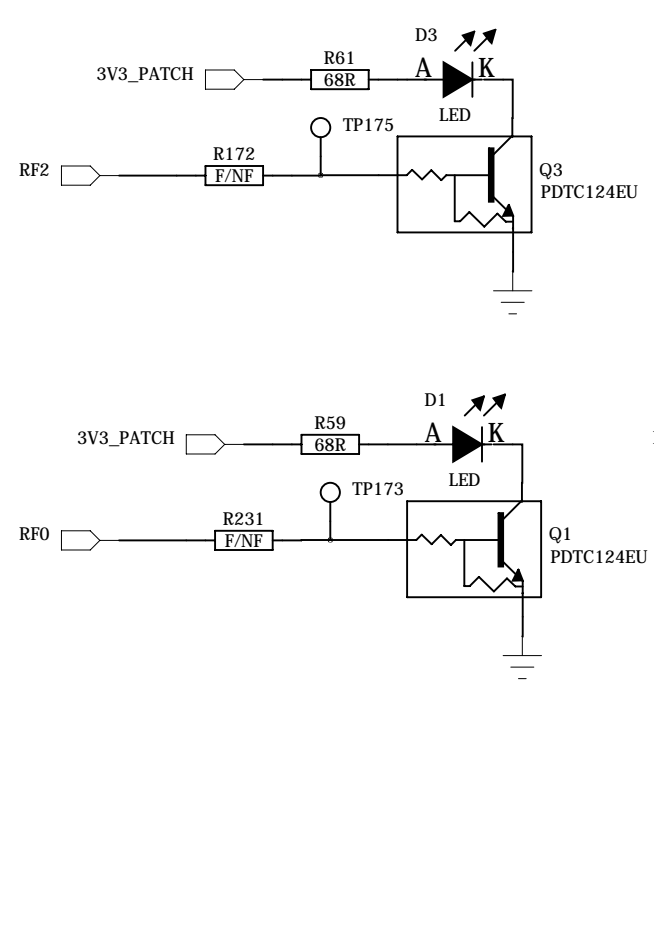
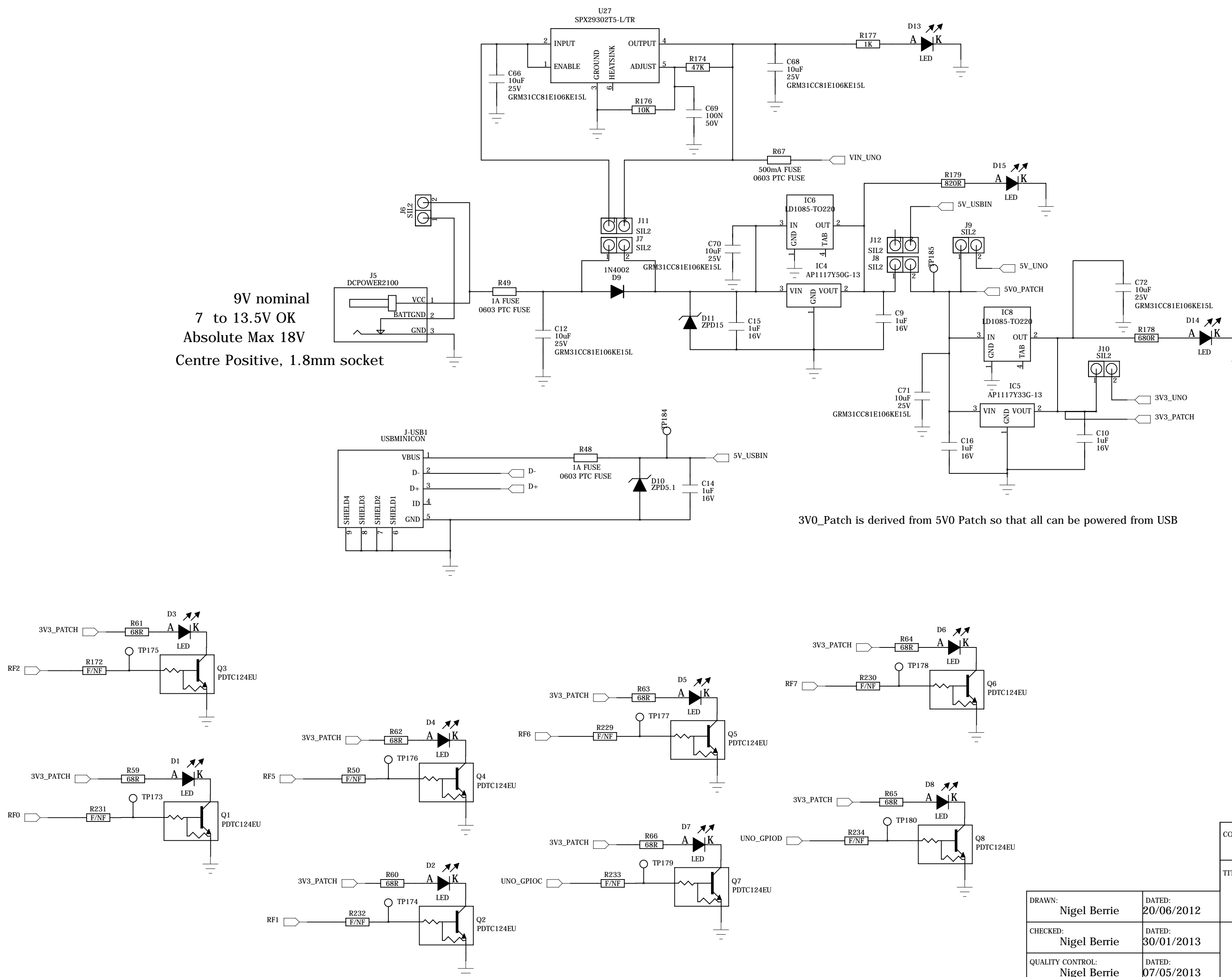
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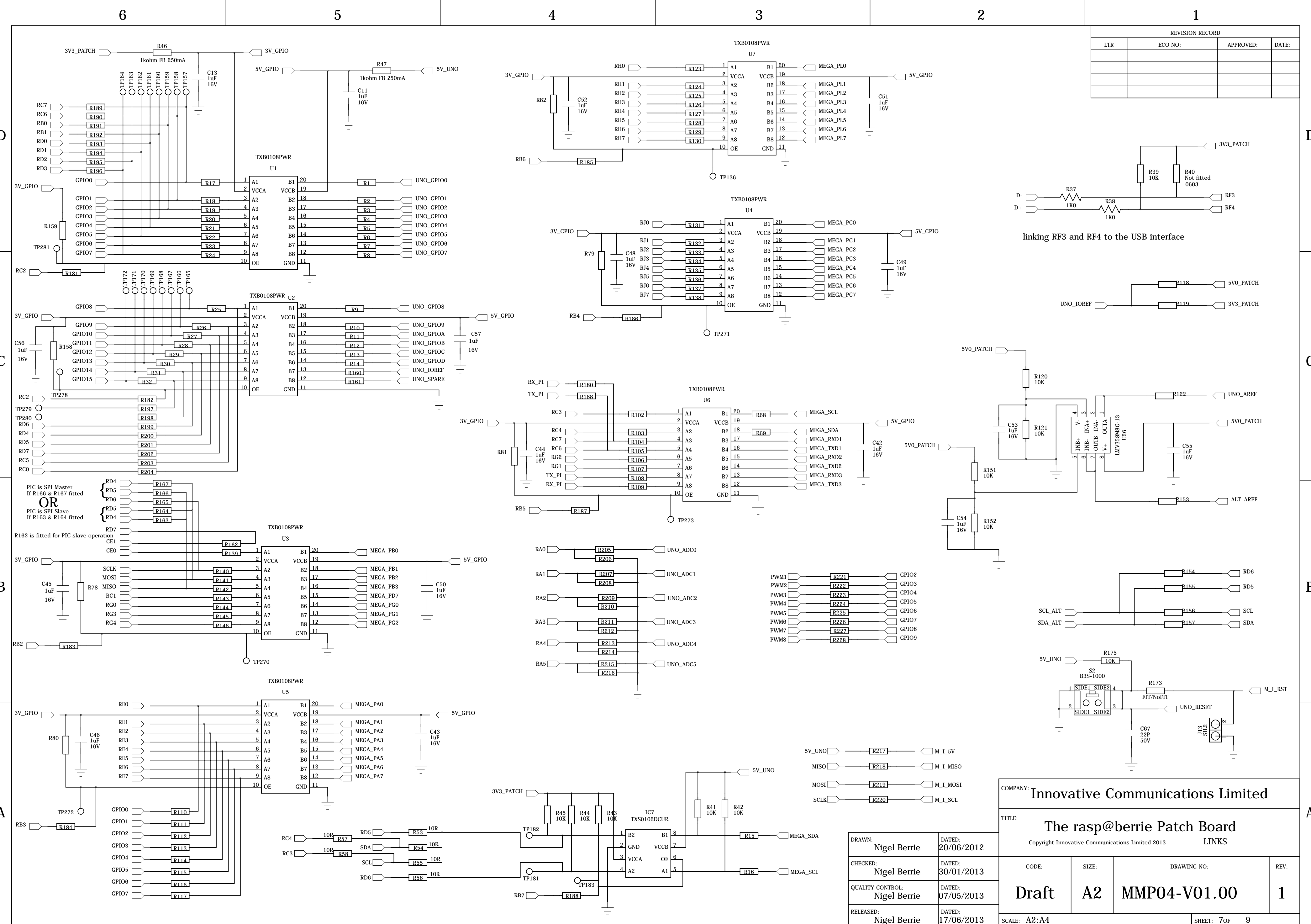
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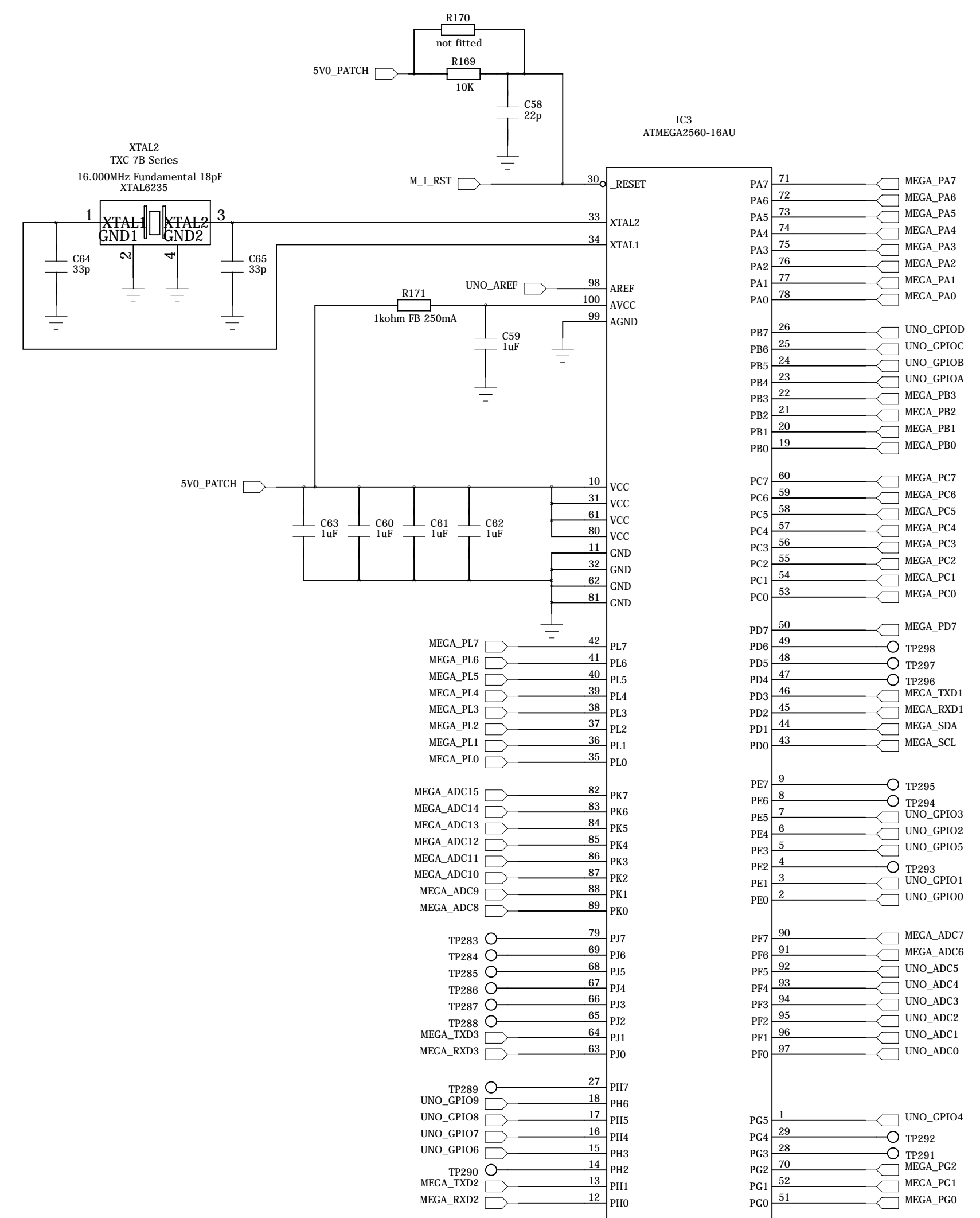
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