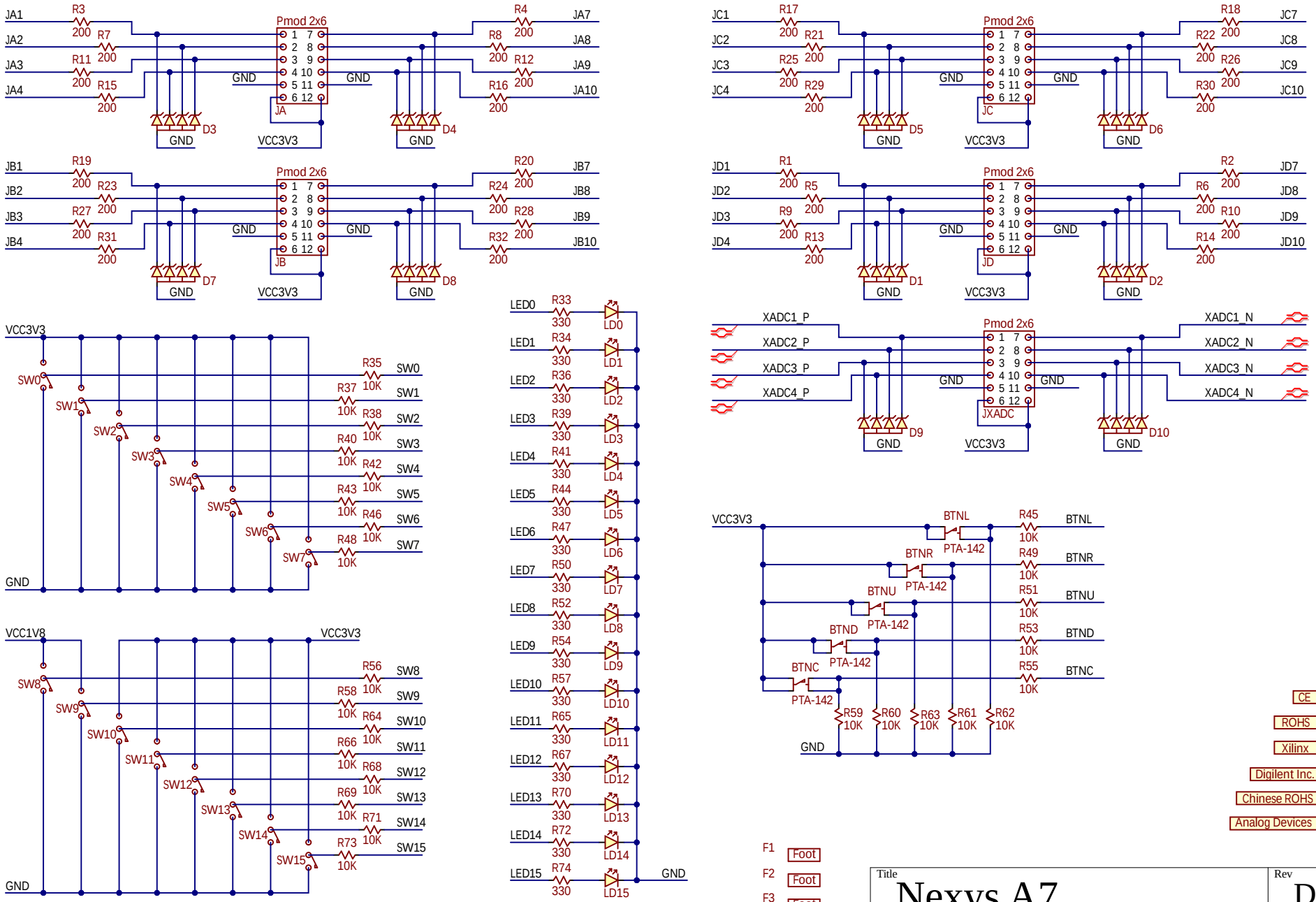

Title: Nexys A7

Rev: D.2

Circuit	PMOD, I/O
Doc#	500-292
Engineer	EG
Author	DL
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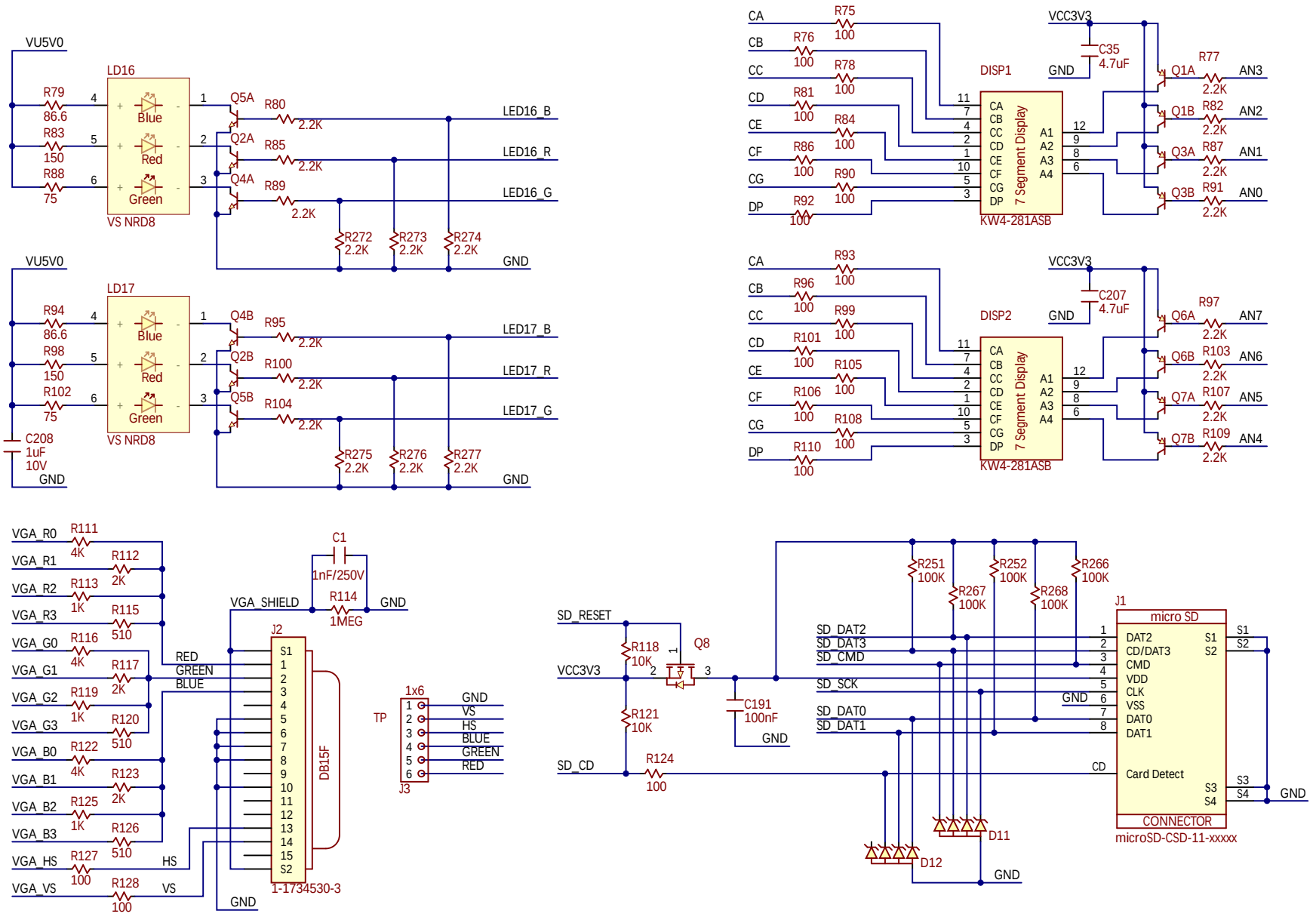

Title	Nexys A7	Rev D.2
		Copyright 2021
Circuit	7 SEG, VGA, SD	
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Engineer	EG	
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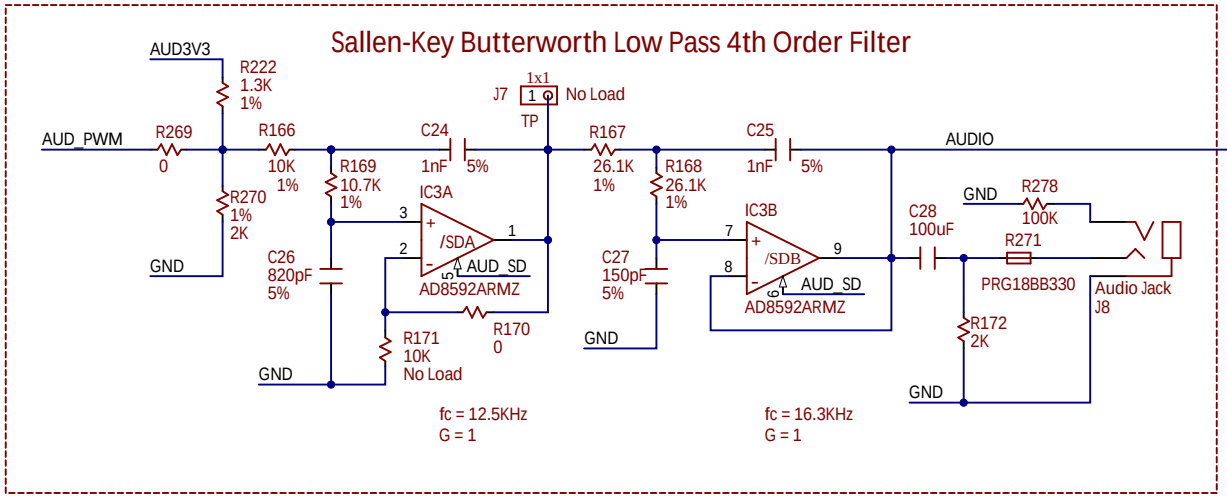

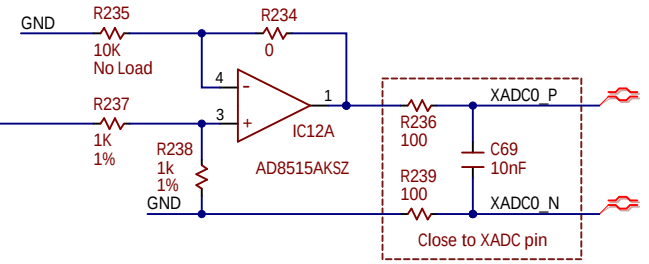

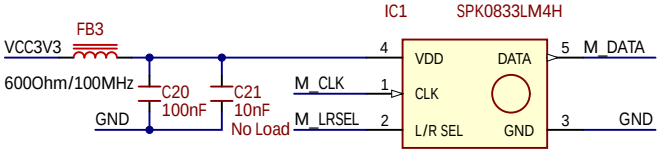

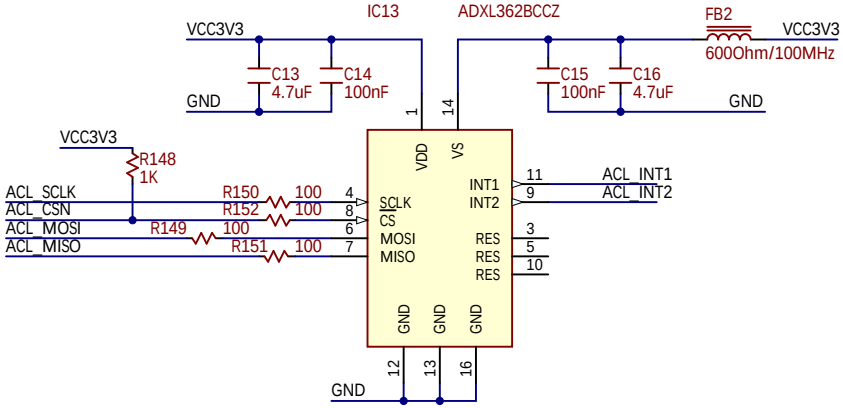

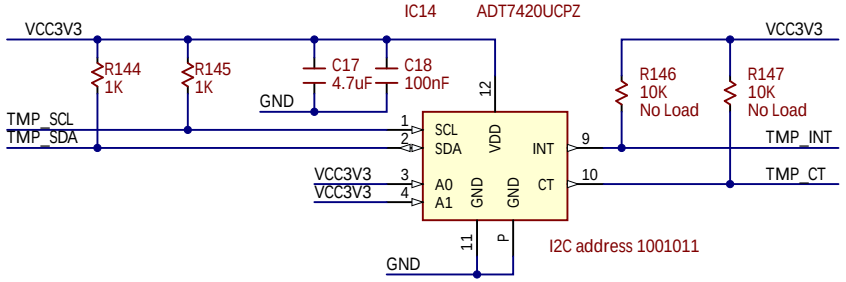

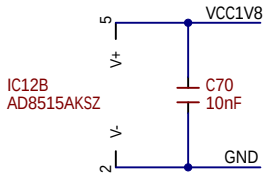

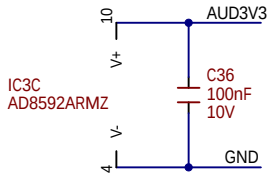

For more information on the parts used in this design, please refer to:

http://www.analog.com/ad8592 (CMOS Single Supply RRIO Dual Op Amp with±250 mA Output Current and Shutdown Mode)

http://www.analog.com/ad8515 (1.8 V Low Power CMOS Rail-to-Rail Input/Output Operational Amplifier)

http://www.analog.com/adxl362 (Micropower, 3-Axis, ±2 g/±4 g/±8 g Digital Output MEMS Accelerometer)

http://www.analog.com/adt7420 (±0.25°C Accurate, 16-Bit Digital I2C Temperature Sensor)

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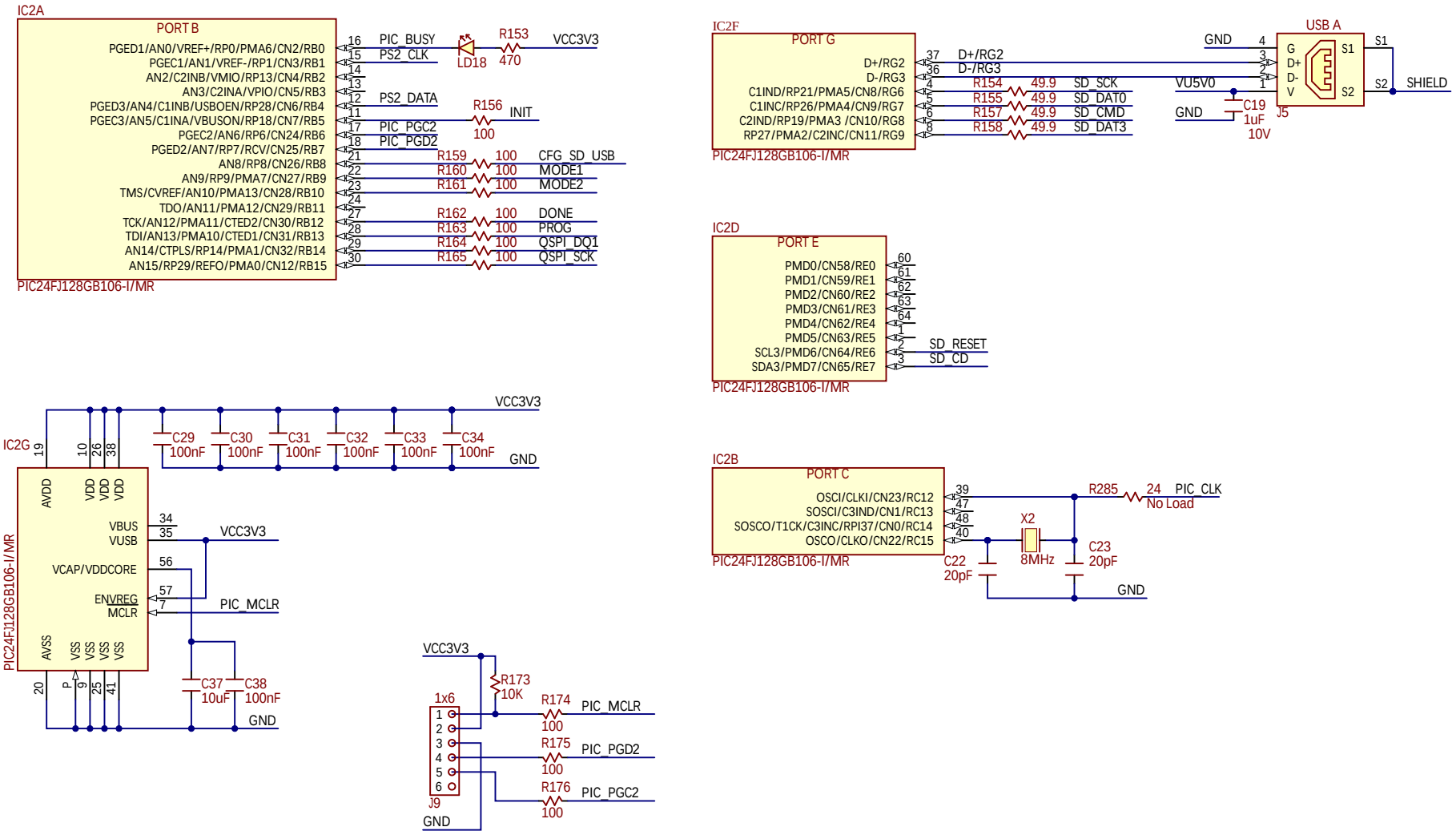

Title	Nexys A7
Rev	D.2
Copyright	2021
Circuit	USB HID
Doc#	500-292
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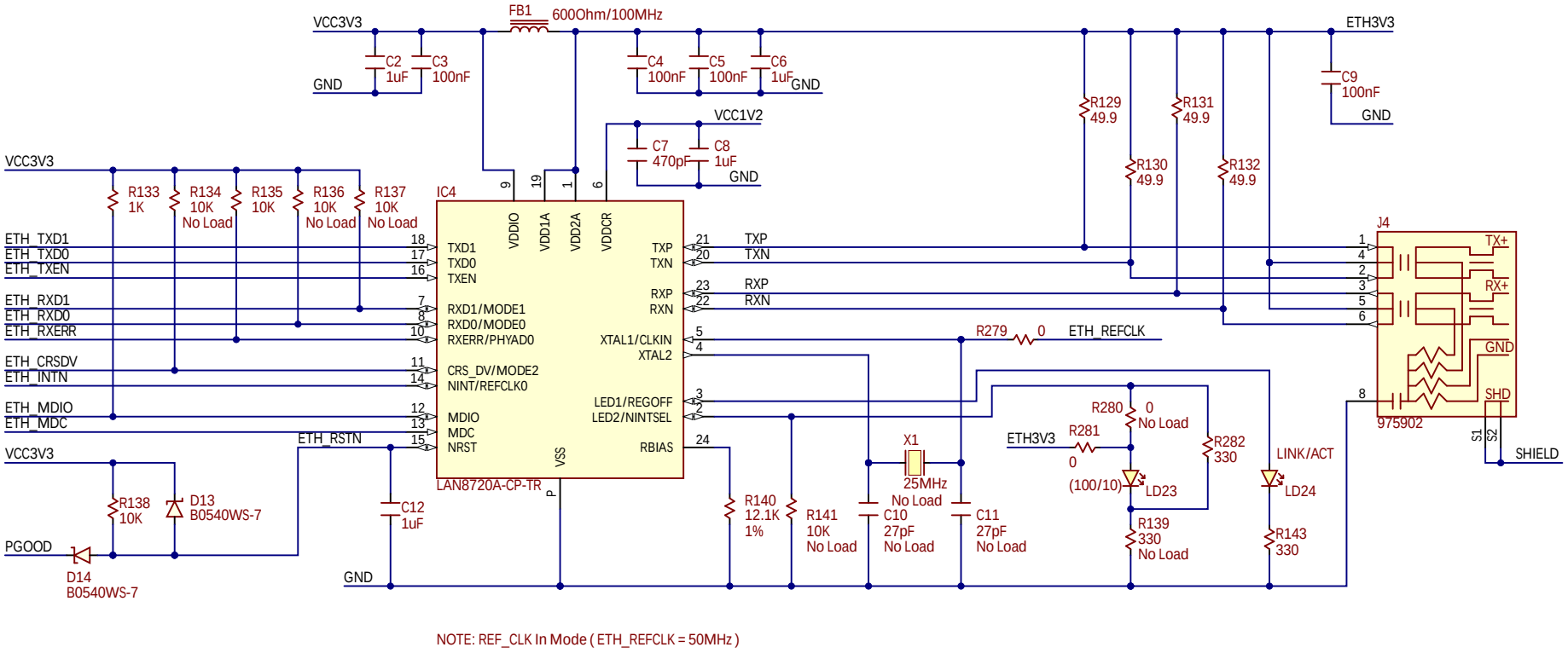

NOTE: REF_CLK In Mode (ETH_REFCLK = 50MHz)

Title	Nexys A7	Rev D.2
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Circuit	ETHERNET	
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For the -50T variant: IC8=XC7A50T-1CSG324I

IC8A — BANK 14

LED17_G	R11	IO_0_14	CG
CB	R10	IO_25_14	BTNU
		IO_L4P_T0_D04_14	LED16_B
		IO_L4N_T0_D05_14	SW7
		IO_L5P_T0_D06_14	SW2
		IO_L5N_T0_D07_14	LED4
		IO_L6N_T0_D08_VREF_14	SW5
		IO_L7P_T1_D09_14	LED3
		IO_L7N_T1_D10_14	AN4
		IO_L8P_T1_D11_14	BTNC
		IO_L8N_T1_D12_14	BTND
		IO_L9P_T1_DQS_14	LED16_G
		IO_L9N_T1_DQS_D13_14	BTNR
		IO_L10P_T1_D14_14	LED16_R
		IO_L10N_T1_D15_14	LED17_R
		IO_L11P_T1_SRCC_14	BTNL
		IO_L11N_T1_SRCC_14	SW4
		IO_L12P_T1_MRCC_14	CE
		IO_L12N_T1_MRCC_14	SW3
		IO_L13P_T2_MRCC_14	AN5
		IO_L13N_T2_MRCC_14	LED9
		IO_L14P_T2_SRCC_14	LED8
		IO_L14N_T2_SRCC_14	LED6
		IO_L16N_T2_A15_D31_14	SW6
		IO_L17P_T2_A14_D30_14	LED7
		IO_L17N_T2_A13_D29_14	LED5
		IO_L18P_T2_A12_D28_14	CF
		IO_L18N_T2_A11_D27_14	SW14
		IO_L19P_T3_A10_D26_14	SW13
		IO_L19N_T3_A09_D25_VREF_14	LED14
		IO_L20P_T3_A08_D24_14	SW15
		IO_L20N_T3_A07_D23_14	LED15
		IO_L21P_T3_DQS_14	LED10
		IO_L21N_T3_DQS_A06_D22_14	LED13
		IO_L22P_T3_A05_D21_14	SW11
		IO_L22N_T3_A04_D20_14	AN7
		IO_L23P_T3_A03_D19_14	AN2
		IO_L23N_T3_A02_D18_14	CA
		IO_L24P_T3_A01_D17_14	
		IO_L24N_T3_A00_D16_14	

XC7A100T-1CSG324C

IC8B — BANK 15

JB9	G13	IO_0_15	JB1
CC	K16	IO_25_15	TMP_SCL
		IO_L1P_T0_AD0P_15	ACL_INT1
		IO_L1N_T0_AD0N_15	TMP_CT
		IO_L2P_T0_AD8P_15	CPU_RESETN
		IO_L2N_T0_AD8N_15	VGA_VS
		IO_L3P_T0_DQS_AD1P_15	VGA_HS
		IO_L3N_T0_DQS_AD1N_15	AUD_PWM
		IO_L4P_T0_15	JB8
		IO_L4N_T0_15	ACL_MOSI
		IO_L5P_T0_AD9P_15	AUD_SD
		IO_L5N_T0_AD9N_15	TMP_INT
		IO_L6P_T0_15	XA3_P
		IO_L6N_T0_VREF_15	XA3_N
		IO_L7P_T1_AD2P_15	XA2_P
		IO_L7N_T1_AD2N_15	XA2_N
		IO_L8P_T1_AD10P_15	XA1_P
		IO_L8N_T1_AD10N_15	XA1_N
		IO_L9P_T1_DQS_AD3P_15	XA4_P
		IO_L9N_T1_DQS_AD3N_15	XA4_N
		IO_L10P_T1_AD11P_15	ACL_MISO
		IO_L10N_T1_AD11N_15	JB7
		IO_L11P_T1_SRCC_15	ACL_CSN
		IO_L11N_T1_SRCC_15	TMP_SDA
		IO_L12P_T1_MRCC_15	JB10
		IO_L12N_T1_MRCC_15	JB3
		IO_L13P_T2_MRCC_15	ACL_SCLK
		IO_L13N_T2_MRCC_15	JB2
		IO_L14P_T2_SRCC_15	JB4
		IO_L14N_T2_SRCC_15	LED17_B
		IO_L15P_T2_DQS_15	JA8
		IO_L15N_T2_DQS_ADV_B_15	JA7
		IO_L16P_T2_A28_15	CD
		IO_L16N_T2_A27_15	LED2
		IO_L17P_T2_A26_15	LED0
		IO_L17N_T2_A25_15	JA4
		IO_L18P_T2_A24_15	AN3
		IO_L18N_T2_A23_15	DP
		IO_L19P_T3_A22_15	ACL_INT2
		IO_L19N_T3_A21_VREF_15	JA1
		IO_L20P_T3_A20_15	JA3
		IO_L20N_T3_A19_15	JA2
		IO_L21P_T3_DQS_15	JA10
		IO_L21N_T3_DQS_A18_15	JA9
		IO_L22P_T3_A17_15	AN0
		IO_L22N_T3_A16_15	AN1
		IO_L23P_T3_FOE_B_15	LED1
		IO_L23N_T3_FWE_B_15	SW0
		IO_L24P_T3_RS1_15	
		IO_L24N_T3_RS0_15	

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IC8D — BANK 34

DDR_CS	K6	IO_0_34	DDR_CAS
SW9	U8	IO_25_34	DDR_CKE
		IO_L1P_T0_34	DDR_A13
		IO_L1N_T0_34	DDR_A4
		IO_L2P_T0_34	DDR_WE
		IO_L2N_T0_34	DDR_A7
		IO_L3P_T0_DQS_34	DDR_ODT
		IO_L3N_T0_DQS_34	DDR_A6
		IO_L4P_T0_34	DDR_A11
		IO_L4N_T0_34	DDR_A8
		IO_L5P_T0_34	DDR_CK_P
		IO_L5N_T0_34	DDR_CK_N
		IO_L6P_T0_34	DDR_UDM
		IO_L6N_T0_VREF_34	DDR_DQ14
		IO_L7P_T1_34	DDR_DQ11
		IO_L7N_T1_34	DDR_DQ9
		IO_L8P_T1_34	DDR_UDQS_P
		IO_L8N_T1_34	DDR_UDQS_N
		IO_L9P_T1_DQS_34	DDR_DQ10
		IO_L9N_T1_DQS_34	DDR_DQ12
		IO_L10P_T1_34	
		IO_L10N_T1_34	DDR_DQ15
		IO_L11P_T1_SRCC_34	DDR_DQ8
		IO_L11N_T1_SRCC_34	DDR_DQ13
		IO_L12P_T1_MRCC_34	DDR_A9
		IO_L12N_T1_MRCC_34	DDR_A5
		IO_L13P_T2_MRCC_34	DDR_A1
		IO_L13N_T2_MRCC_34	DDR_BA1
		IO_L14P_T2_SRCC_34	DDR_BA0
		IO_L14N_T2_SRCC_34	DDR_A10
		IO_L15P_T2_DQS_34	DDR_A0
		IO_L15N_T2_DQS_34	DDR_RAS
		IO_L16P_T2_34	DDR_BA2
		IO_L16N_T2_34	DDR_A3
		IO_L17P_T2_34	DDR_A2
		IO_L17N_T2_34	DDR_A12
		IO_L18P_T2_34	DDR_DQ5
		IO_L18N_T2_34	DDR_DQ7
		IO_L19P_T3_34	DDR_DQ4
		IO_L19N_T3_VREF_34	DDR_DQ1
		IO_L20P_T3_34	DDR_LDQS_P
		IO_L20N_T3_34	DDR_LDQS_N
		IO_L21P_T3_DQS_34	DDR_DQ3
		IO_L21N_T3_DQS_34	DDR_DQ6
		IO_L22P_T3_34	DDR_DQ0
		IO_L22N_T3_34	DDR_LDM
		IO_L23P_T3_34	DDR_DQ2
		IO_L23N_T3_34	SW8
		IO_L24P_T3_34	
		IO_L24N_T3_34	

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IC8E — BANK 35

M_LRSEL	F5	IO_0_35	VGA_G0
M_CLK	J5	IO_25_35	VGA_R2
		IO_L1P_T0_AD4P_35	VGA_B0
		IO_L1N_T0_AD4N_35	VGA_G2
		IO_L2P_T0_AD12P_35	VGA_G3
		IO_L2N_T0_AD12N_35	VGA_G1
		IO_L3P_T0_DQS_AD5P_35	VGA_B3
		IO_L3N_T0_DQS_AD5N_35	VGA_B1
		IO_L4P_T0_35	JC10
		IO_L4N_T0_35	UART_RTS
		IO_L5P_T0_AD13P_35	JC7
		IO_L5N_T0_AD13N_35	VGA_B2
		IO_L6P_T0_35	UART_TXD_IN
		IO_L6N_T0_VREF_35	VGA_R1
		IO_L7P_T1_AD6P_35	VGA_R3
		IO_L7N_T1_AD6N_35	VGA_R0
		IO_L8P_T1_AD14P_35	SD_SCK
		IO_L8N_T1_AD14N_35	SD_CD
		IO_L9P_T1_DQS_AD7P_35	ETH_RSTN
		IO_L9N_T1_DQS_AD7N_35	PS2_DATA
		IO_L10P_T1_AD15P_35	ETH_REFCLK
		IO_L10N_T1_AD15N_35	UART_RXD_OUT
		IO_L11P_T1_SRCC_35	CLK100MHZ
		IO_L11N_T1_SRCC_35	UART_CTS
		IO_L12P_T1_MRCC_35	PS2_CLK
		IO_L12N_T1_MRCC_35	JD10
		IO_L13P_T2_MRCC_35	SD_RESET
		IO_L13N_T2_MRCC_35	SD_DAT3
		IO_L14P_T2_SRCC_35	JD7
		IO_L14N_T2_SRCC_35	JD9
		IO_L15P_T2_DQS_35	SD_DAT0
		IO_L15N_T2_DQS_35	SD_CMD
		IO_L16P_T2_35	JD2
		IO_L16N_T2_35	JD3
		IO_L17P_T2_35	SD_DAT2
		IO_L17N_T2_35	SD_DAT1
		IO_L18P_T2_35	JC4
		IO_L18N_T2_35	JC2
		IO_L19P_T3_35	JD8
		IO_L19N_T3_VREF_35	JD4
		IO_L20P_T3_35	JC9
		IO_L20N_T3_35	JD1
		IO_L21P_T3_DQS_35	JC8
		IO_L21N_T3_DQS_35	JC3
		IO_L22P_T3_35	AN6
		IO_L22N_T3_35	JC1
		IO_L23P_T3_35	SW12
		IO_L23N_T3_35	M_DATA
		IO_L24P_T3_35	
		IO_L24N_T3_35	

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IC8C — BANK 16

		IO_L6N_T0_VREF_16	ETH_CRSDV
		IO_L11P_T1_SRCC_16	ETH_MDC
		IO_L11N_T1_SRCC_16	ETH_TXEN
		IO_L12P_T1_MRCC_16	ETH_INTN
		IO_L12N_T1_MRCC_16	ETH_TXD1
		IO_L13P_T2_MRCC_16	ETH_RXD0
		IO_L13N_T2_MRCC_16	ETH_RXERR
		IO_L14P_T2_SRCC_16	ETH_TXD0
		IO_L14N_T2_SRCC_16	ETH_MDIO
		IO_L19N_T3_VREF_16	ETH_RXD1

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IC9

VCC3V3 — C64 100nF — GND

4	VDD	OUT	3 — CLK100MHZ
1	STBY	GND	2 — GND

DSC1033CC1-100.0000T

XADC1

XADC1_P — R200 100 — XA1_P

C60 1nF — No Load

XADC1_N — R203 100 — XA1_N

XADC2

XADC2_P — R201 100 — XA2_P

C61 1nF — No Load

XADC2_N — R204 100 — XA2_N

XADC3

XADC3_P — R202 100 — XA3_P

C62 1nF — No Load

XADC3_N — R205 100 — XA3_N

XADC4

XADC4_P — R206 100 — XA4_P

C63 1nF — No Load

XADC4_N — R207 100 — XA4_N

Title	Nexys A7
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Circuit	FPGA BANKS
Doc#	500-292
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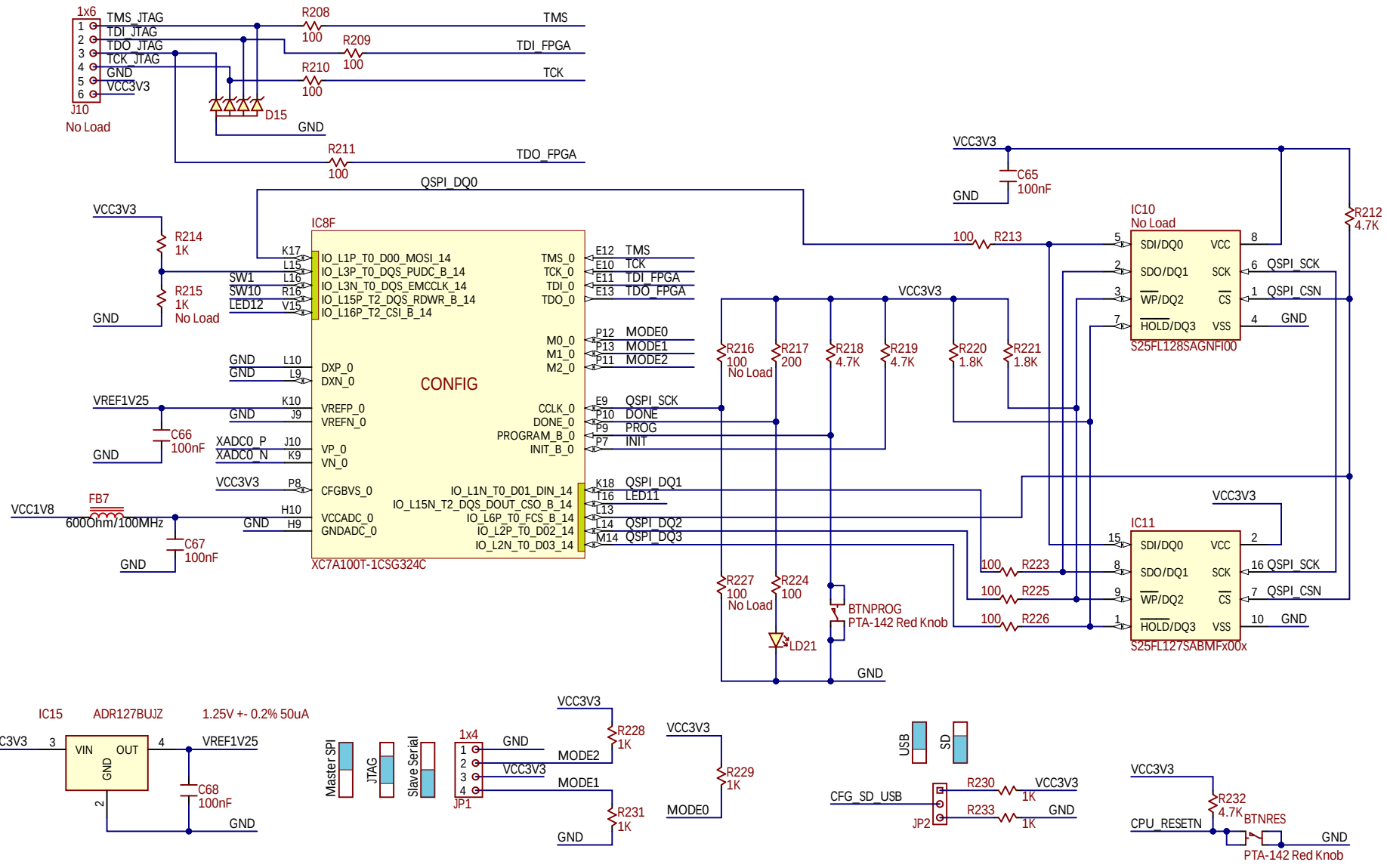

For more information on the parts used in this design, please refer to:

http://www.analog.com/adr127 (Precision, Micropower LDO Voltage References in TSOT)

Title	Nexys A7
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Circuit	CONFIG, SPI FLASH
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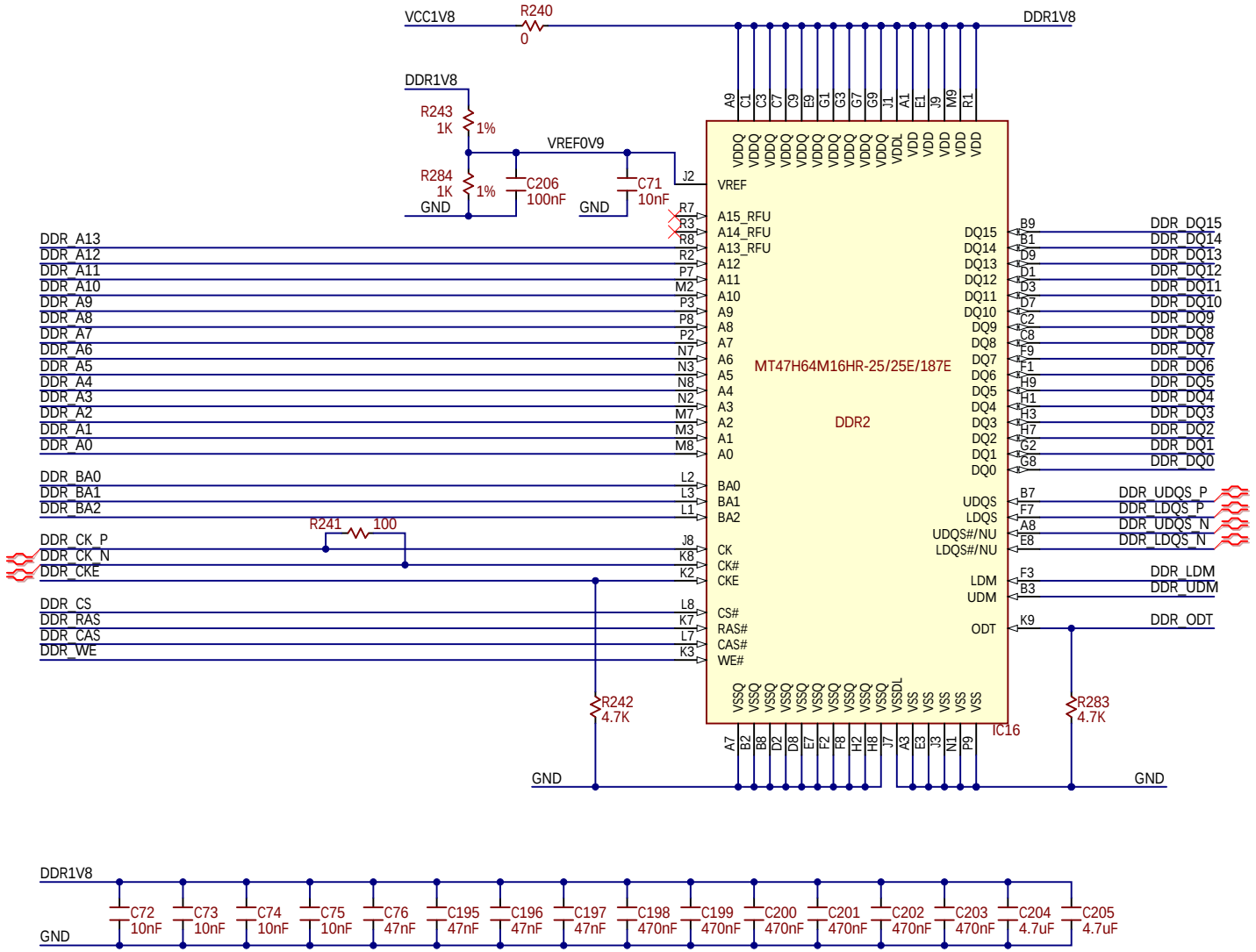

Title	Nexys A7
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Circuit	DDR2 Memory
Doc#	500-292
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Author	DL
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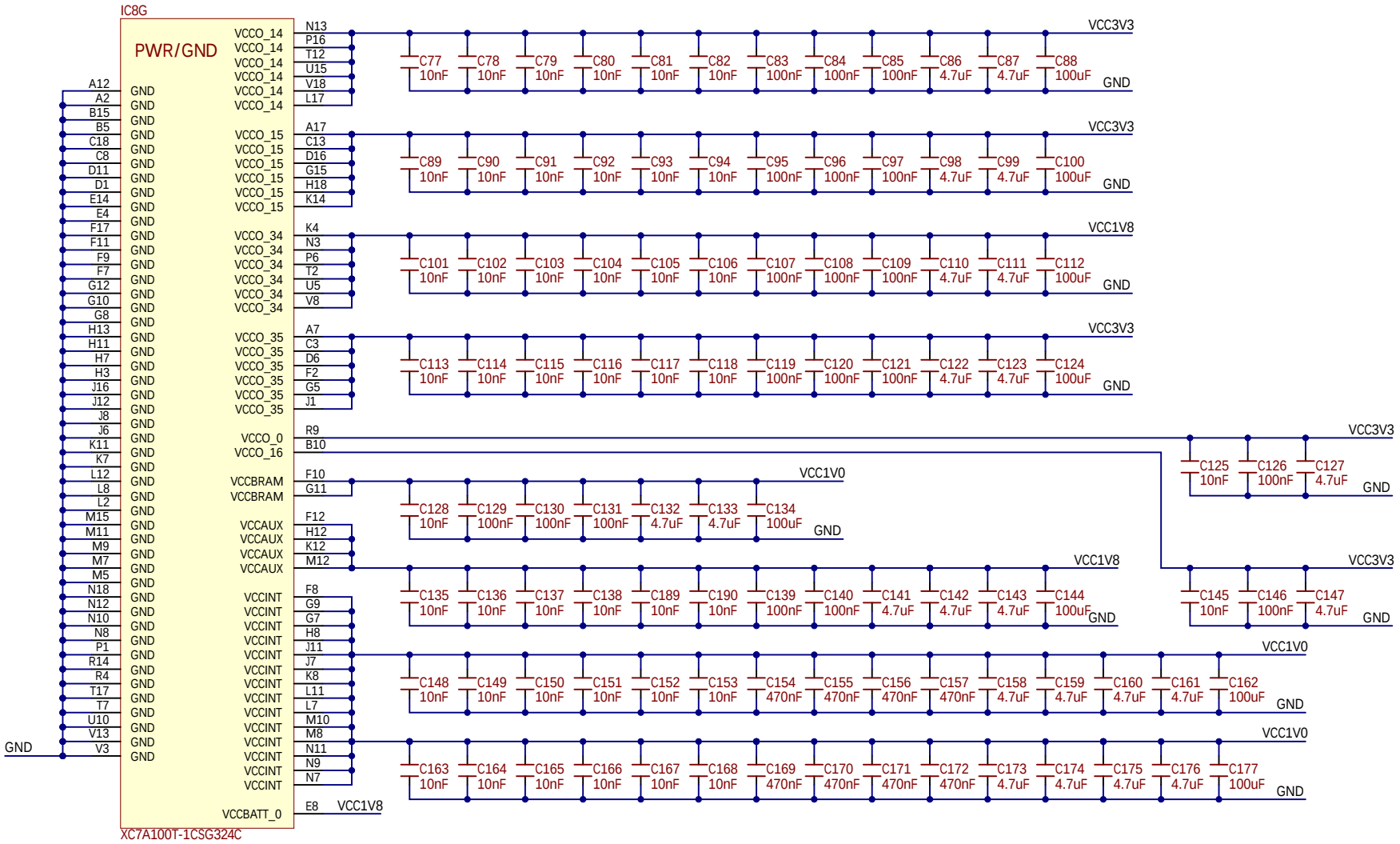

Title	Nexys A7
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Circuit	FPGA POWER
Doc#	500-292
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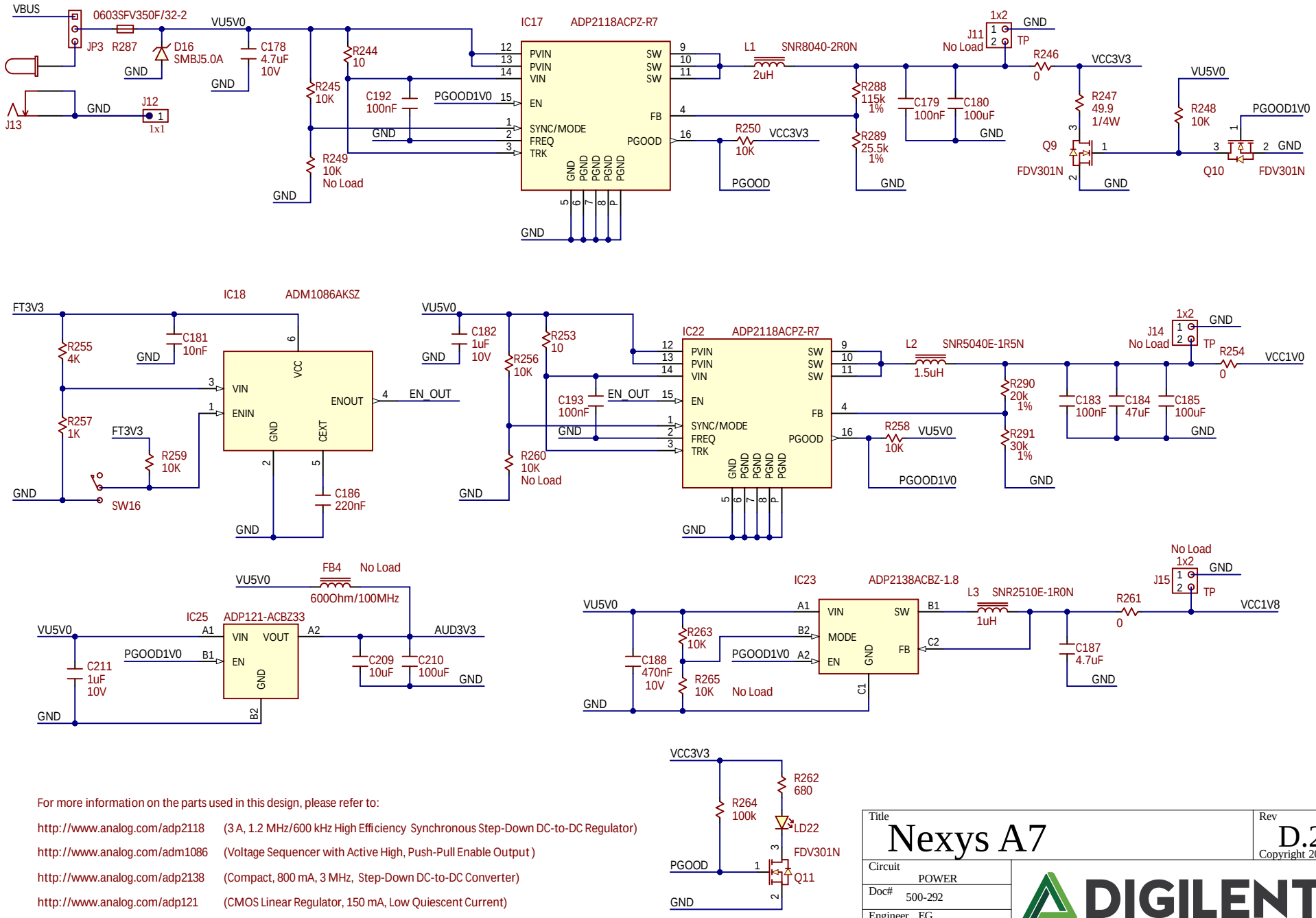

For more information on the parts used in this design, please refer to:

http://www.analog.com/adp2118 (3 A, 1.2 MHz/600 kHz High Efficiency Synchronous Step-Down DC-to-DC Regulator)

http://www.analog.com/adm1086 (Voltage Sequencer with Active High, Push-Pull Enable Output)

http://www.analog.com/adp2138 (Compact, 800 mA, 3 MHz, Step-Down DC-to-DC Converter)

http://www.analog.com/adp121 (CMOS Linear Regulator, 150 mA, Low Quiescent Current)

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