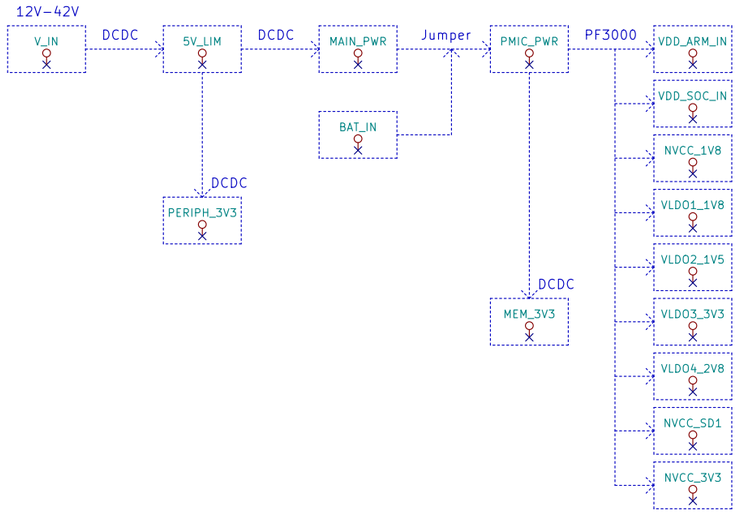
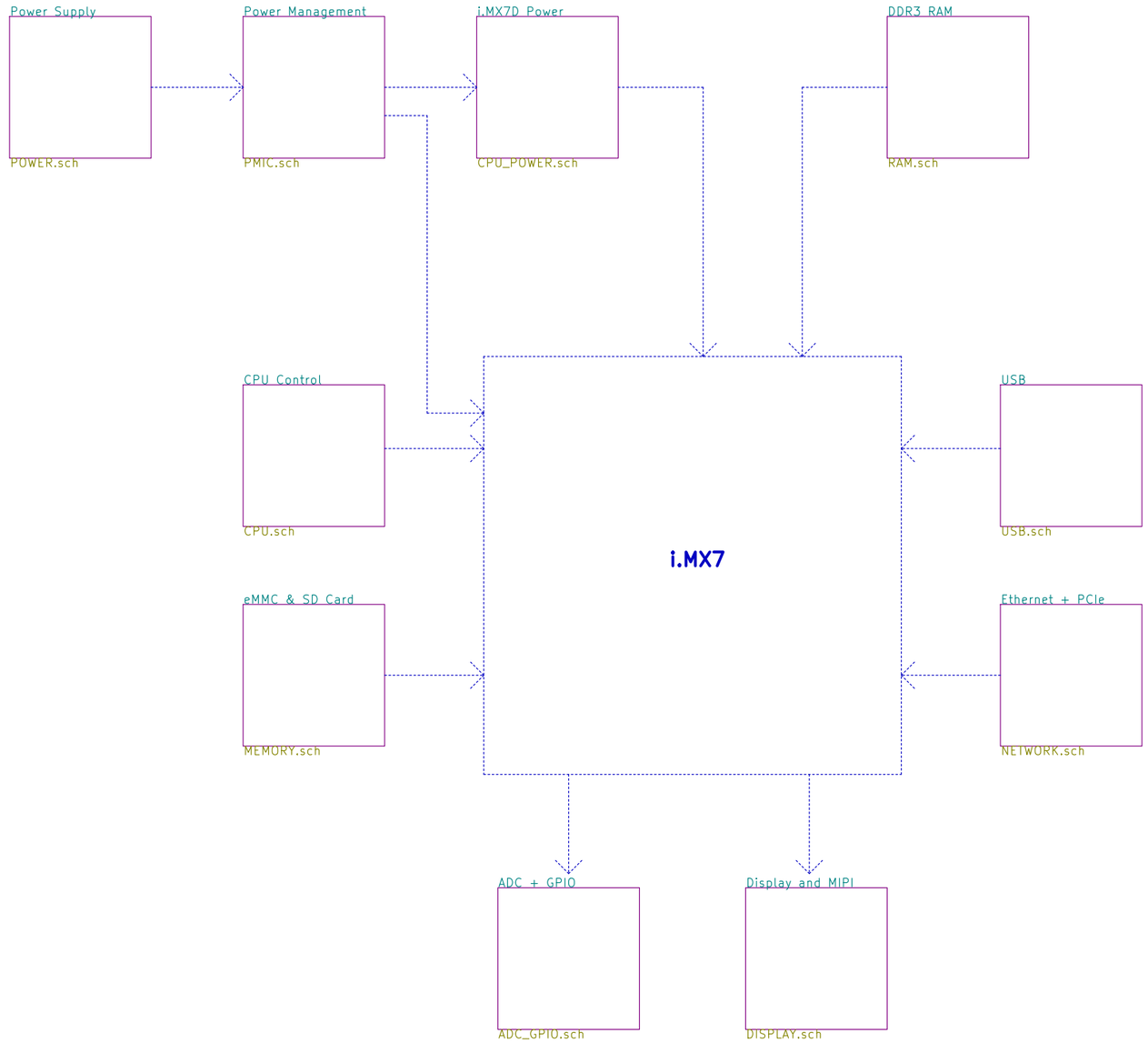
Power tree





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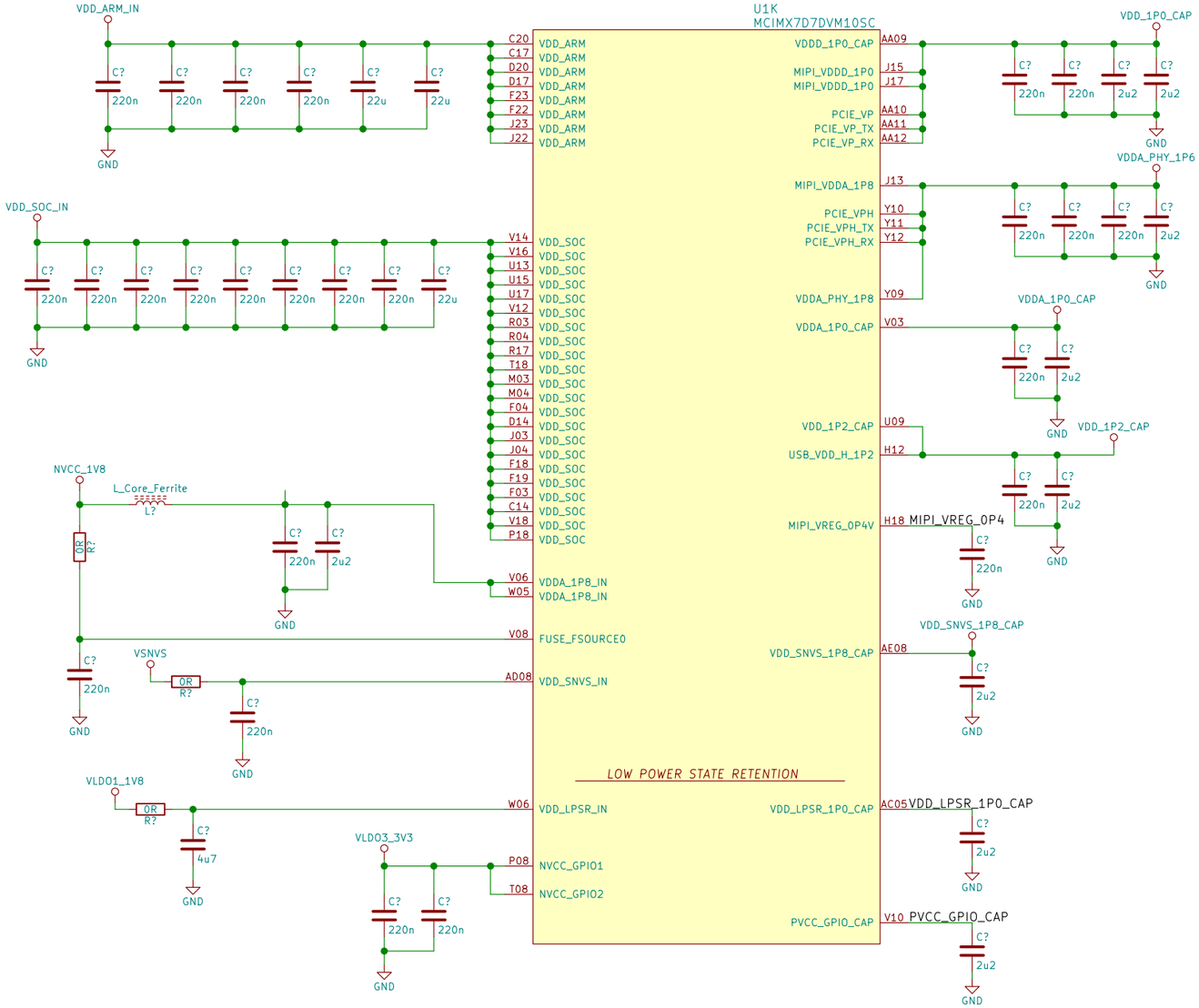
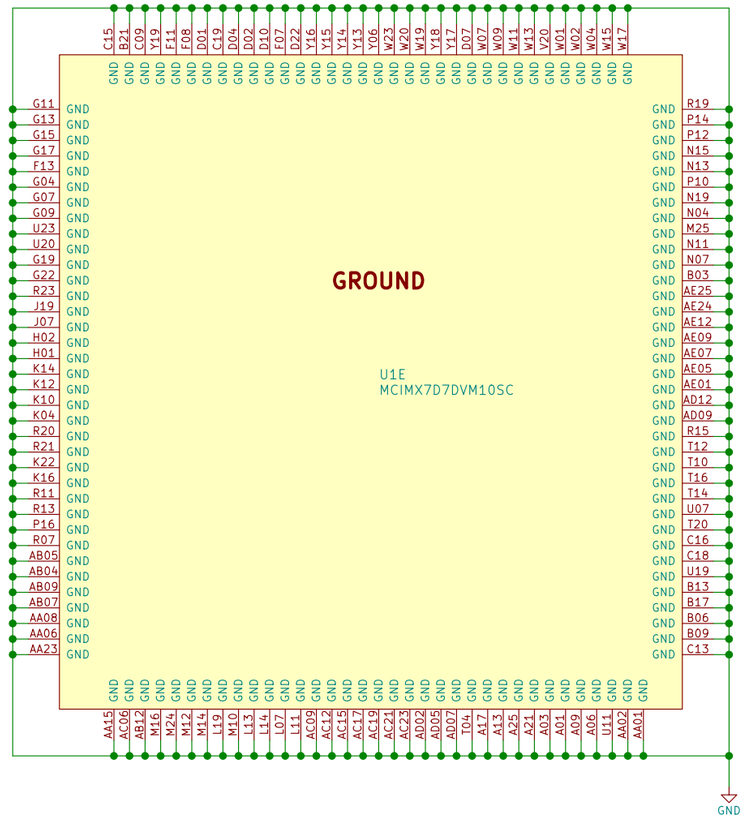
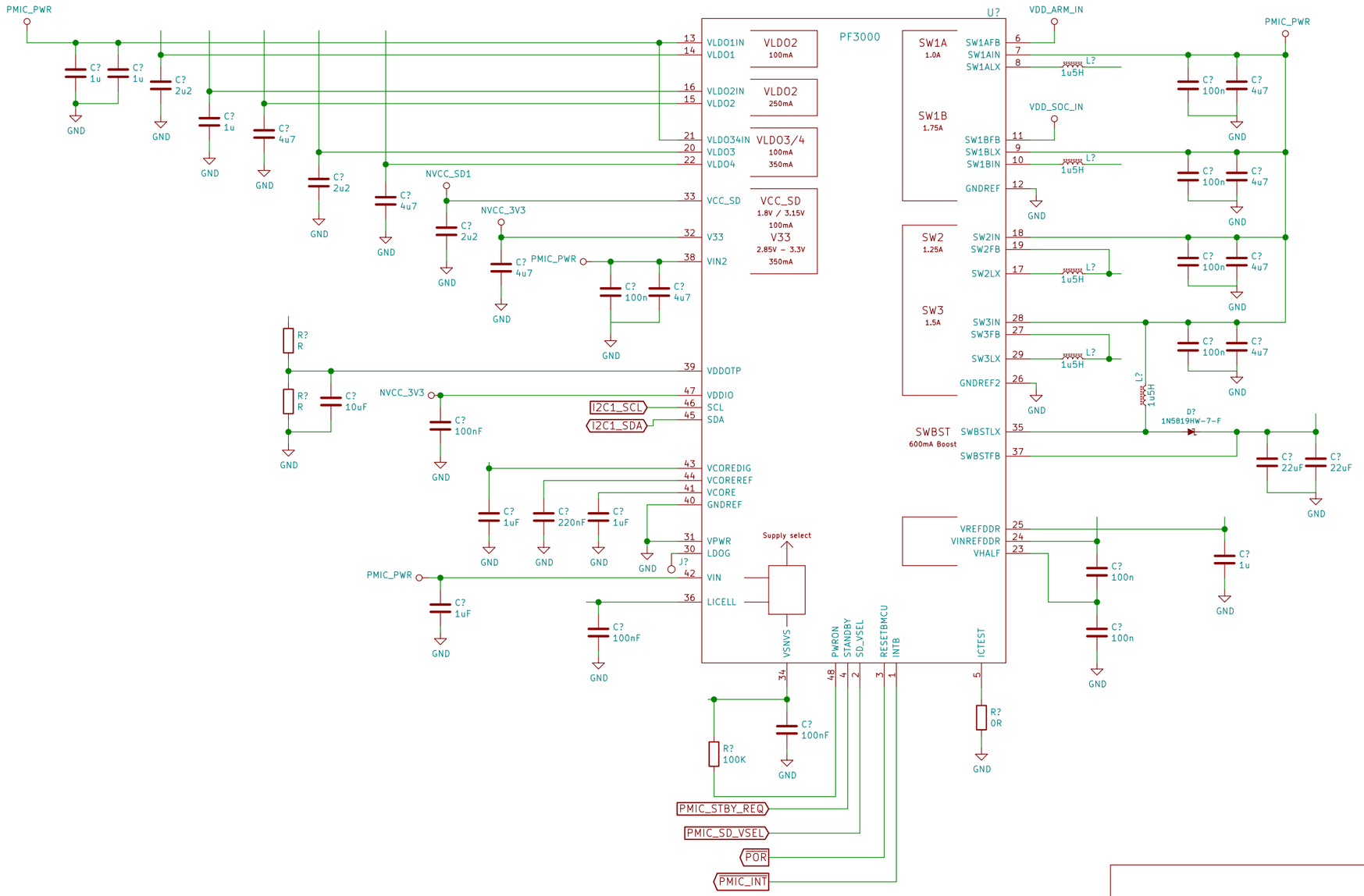
File: i.MX7_Test.sch		
Title:		
Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 1/11





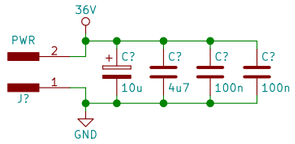
Sheet: /i.MX7D Power/		
File: CPU_POWER.sch		
Title:		
Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 2/11



Sheet: /Power Management/
File: PMIC.sch

Title:

Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 3/11



Sheet: /Power Supply/
File: POWER.sch

Title:

Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 4/11

DRAM_DATA[0..31]

DRAM_ADDR[0..14]

U2C
MCIMX7D7DVM10SC

DRAM

DRAM_DATA0	AD22	DRAM_DATA0	DRAM_ADDR00	AB19	DRAM_ADDR0
DRAM_DATA1	AD23	DRAM_DATA1	DRAM_ADDR01	AB16	DRAM_ADDR1
DRAM_DATA2	AE20	DRAM_DATA2	DRAM_ADDR02	AC18	DRAM_ADDR2
DRAM_DATA3	AE23	DRAM_DATA3	DRAM_ADDR03	AC20	DRAM_ADDR3
DRAM_DATA4	AE22	DRAM_DATA4	DRAM_ADDR04	AB21	DRAM_ADDR4
DRAM_DATA5	AD19	DRAM_DATA5	DRAM_ADDR05	Y23	DRAM_ADDR5
DRAM_DATA6	AD18	DRAM_DATA6	DRAM_ADDR06	V22	DRAM_ADDR6
DRAM_DATA7	AE19	DRAM_DATA7	DRAM_ADDR07	Y22	DRAM_ADDR7
SDQS0_P	AE21	DRAM_SDQS0_P	DRAM_ADDR08	W22	DRAM_ADDR8
SDQS0_N	AD21	DRAM_SDQS0_N	DRAM_ADDR09	V23	DRAM_ADDR9
DQM0	AD20	DRAM_DQM0	DRAM_ADDR10	T23	DRAM_ADDR10
			DRAM_ADDR11	U22	DRAM_ADDR11
DRAM_DATA8	AE14	DRAM_DATA8	DRAM_ADDR12	T22	DRAM_ADDR12
DRAM_DATA9	AE18	DRAM_DATA9	DRAM_ADDR13	P23	DRAM_ADDR13
DRAM_DATA10	AE17	DRAM_DATA10	DRAM_ADDR14	AB18	DRAM_ADDR14
DRAM_DATA11	AD16	DRAM_DATA11	DRAM_ADDR15	AB20	DRAM_ADDR15
DRAM_DATA12	AE16	DRAM_DATA12			
DRAM_DATA13	AD14	DRAM_DATA13			
DRAM_DATA14	AD13	DRAM_DATA14			
DRAM_DATA15	AE13	DRAM_DATA15			
SDQS1_P	AD15	DRAM_SDQS1_P	DRAM_SDBA0	R22	SDBA0
SDQS1_N	AE15	DRAM_SDQS1_N	DRAM_SDBA1	P22	SDBA1
DQM1	AD17	DRAM_DQM1	DRAM_SDBA2	N23	SDBA2
DRAM_DATA16	AA25	DRAM_DATA16			
DRAM_DATA17	W24	DRAM_DATA17			
DRAM_DATA18	V25	DRAM_DATA18			
DRAM_DATA19	W25	DRAM_DATA19	DRAM_CS0_B	AB23	CS0
DRAM_DATA20	AC25	DRAM_DATA20	DRAM_CS1_B	AA22	CS1
DRAM_DATA21	AB25	DRAM_DATA21			
DRAM_DATA22	AB24	DRAM_DATA22			
DRAM_DATA23	AC24	DRAM_DATA23			
SDQS2_P	Y24	DRAM_SDQS2_P			
SDQS2_N	Y25	DRAM_SDQS2_N	DRAM_RAS_B	AB15	RAS
DQM2	AA24	DRAM_DQM2	DRAM_CAS_B	AC14	CAS
			DRAM_SDWE_B	AB14	SDWE
DRAM_DATA24	R25	DRAM_DATA24			
DRAM_DATA25	N24	DRAM_DATA25	DRAM_SDCKE0	AB17	SDCKE0
DRAM_DATA26	P25	DRAM_DATA26	DRAM_SDCKE1	AB22	SDCKE1
DRAM_DATA27	N25	DRAM_DATA27			
DRAM_DATA28	U25	DRAM_DATA28			
DRAM_DATA29	R24	DRAM_DATA29			
DRAM_DATA30	U24	DRAM_DATA30	DRAM_ODT0	AC16	ODT0
DRAM_DATA31	V24	DRAM_DATA31	DRAM_ODT1	AA14	ODT1
SDQS3_P	T24	DRAM_SDQS3_P			
SDQS3_N	T25	DRAM_SDQS3_N			
DQM3	P24	DRAM_DQM3	DRAM_RESET	AC22	RESET
			DRAM_SDCLK0_P	AD24	SDCLK0_P
			DRAM_SDCLK0_N	AD25	SDCLK0_N
			NVCC_DRAM_CKE	Y20	NVCC_DRAM_CKE
			DRAM_VREF	AC13	DDR_VREF
			DRAM_ZQPAD	AB13	DRAM_ZQ

NVCC_DRAM	AA19	NVCC_DRAM			
NVCC_DRAM	AA18	NVCC_DRAM			
NVCC_DRAM	AA17	NVCC_DRAM			
NVCC_DRAM	AA16	NVCC_DRAM			
NVCC_DRAM	U21	NVCC_DRAM			
NVCC_DRAM	T21	NVCC_DRAM			
NVCC_DRAM	AA21	NVCC_DRAM			
NVCC_DRAM	AA20	NVCC_DRAM			
NVCC_DRAM	W21	NVCC_DRAM			
NVCC_DRAM	V21	NVCC_DRAM			
NVCC_DRAM	Y21	NVCC_DRAM			

R? 10k → GND

R? 0R → SDCLK0_P

R? 0R → SDCLK0_N

R? 0R → NVCC_DRAM_CKE

R? 240R → GND

C? 100n

C? 220n

C? 220n

NVCC_DRAM

VDD_VREF

R? 240R → GND

C? 220n

C? 220n

GND

GND

U?

MT41K256M16HA-125

DRAM_ADDR0	N3	A0		DQ0	E3
DRAM_ADDR1	P7	A1		DQ1	F7
DRAM_ADDR2	P3	A2		DQ2	F2
DRAM_ADDR3	N2	A3		DQ3	F8
DRAM_ADDR4	P8	A4		DQ4	H3
DRAM_ADDR5	P2	A5		DQ5	H8
DRAM_ADDR6	R8	A6		DQ6	G2
DRAM_ADDR7	R2	A7		DQ7	H7
DRAM_ADDR8	T8	A8		DQ8	D7
DRAM_ADDR9	R3	A9		DQ9	C3
DRAM_ADDR10	L7	A10/AP		DQ10	C8
DRAM_ADDR11	R7	A11		DQ11	C2
DRAM_ADDR12	N7	A12/BC		DQ12	A7
DRAM_ADDR13	T3	A13		DQ13	A2
DRAM_ADDR14	T7	A14		DQ14	B8
SDBA0	M2	BA0		DQ15	A3
SDBA1	N8	BA1			
SDBA2	M3	BA2			
CSO	L2	CS		LDQS	F3 SDQS1_P
RAS	J3	RAS		LDQS	G3 SDQS1_N
CAS	K3	CAS			
SDWE	L3	WE		UDQS	C7 SDQS0_P
SDCLK0_P	J7	CK		UDQS	B7 SDQS0_N
SDCLK0_N	K7	CK			
SDCKE0	K9	CKE			
RESET	T2	RESET			
ODT0	K1	ODT			
DQM1	E7	LDM		NC	J1
DQM0	D3	UDM		NC	J9
		VREFCA	M8	NC	L1
		VREFDQ	H1	NC	M7
		ZQ	L8	NC	L9

GND	A9	GND	B1	GNDQ	
GND	B3	GND	B9	GNDQ	
GND	E1	GND	D1	GNDQ	
GND	G8	GND	D8	GNDQ	
GND	J2	GND	E2	GNDQ	
GND	J8	GND	E8	GNDQ	
GND	M1	GND	F9	GNDQ	
GND	M9	GND	G1	GNDQ	
GND	P1	GND	G9	GNDQ	
GND	P9	GND			
GND	T1	GND			
GND	T9	GND			

NVCC_DRAM

VDD_VREF

R? 240R → GND

C? 220n

C? 220n

GND

GND

U?

MT41K256M16HA-125

DRAM_ADDR0	N3	A0		DQ0	E3
DRAM_ADDR1	P7	A1		DQ1	F7
DRAM_ADDR2	P3	A2		DQ2	F2
DRAM_ADDR3	N2	A3		DQ3	F8
DRAM_ADDR4	P8	A4		DQ4	H3
DRAM_ADDR5	P2	A5		DQ5	H8
DRAM_ADDR6	R8	A6		DQ6	G2
DRAM_ADDR7	R2	A7		DQ7	H7
DRAM_ADDR8	T8	A8		DQ8	D7
DRAM_ADDR9	R3	A9		DQ9	C3
DRAM_ADDR10	L7	A10/AP		DQ10	C8
DRAM_ADDR11	R7	A11		DQ11	C2
DRAM_ADDR12	N7	A12/BC		DQ12	A7
DRAM_ADDR13	T3	A13		DQ13	A2
DRAM_ADDR14	T7	A14		DQ14	B8
SDBA0	M2	BA0		DQ15	A3
SDBA1	N8	BA1			
SDBA2	M3	BA2			
CSO	L2	CS		LDQS	F3 SDQS3_P
RAS	J3	RAS		LDQS	G3 SDQS3_N
CAS	K3	CAS			
SDWE	L3	WE		UDQS	C7 SDQS2_P
SDCLK0_P	J7	CK		UDQS	B7 SDQS2_N
SDCLK0_N	K7	CK			
SDCKE0	K9	CKE			
RESET	T2	RESET			
ODT0	K1	ODT			
DQM3	E7	LDM		NC	J1
DQM2	D3	UDM		NC	J9
		VREFCA	M8	NC	L1
		VREFDQ	H1	NC	M7
		ZQ	L8	NC	L9

GND	A9	GND	B1	GNDQ	
GND	B3	GND	B9	GNDQ	
GND	E1	GND	D1	GNDQ	
GND	G8	GND	D8	GNDQ	
GND	J2	GND	E2	GNDQ	
GND	J8	GND	E8	GNDQ	
GND	M1	GND	F9	GNDQ	
GND	M9	GND	G1	GNDQ	
GND	P1	GND	G9	GNDQ	
GND	P9	GND			
GND	T1	GND			
GND	T9	GND			

NVCC_DRAM

Place near BANK0

C? 220n ×7

C? 22u

GND

GND J?

NVCC_DRAM

Place near BANK1

C? 220n ×7

C? 22u

GND

GND J?

NVCC_DRAM

Place near BANK0

C? 220n ×7

C? 22u

GND

GND J?

NVCC_DRAM

Place near BANK1

C? 220n ×7

C? 22u

GND

GND J?

NVCC_DRAM

Place near CPU

C? 220n ×6

C? 22u

GND

GND J? ×5

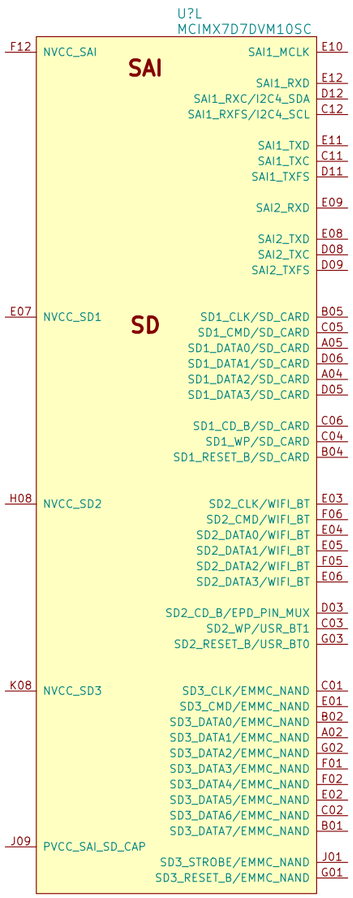
Place left points to CPU and
right points to RAM
for signal integrity measurement

J?	DRAM_DATA0	DRAM_DATA16	J?
J?			J?
J?	SDCLK0_P	SDCLK0_N	J?
J?			J?
J?	SDQS0_P	SDQS0_N	J?
J?			J?
J?	SDQS2_P	SDQS2_N	J?
J?			J?

Sheet: /DDR3 RAM/
File: RAM.sch

Title:

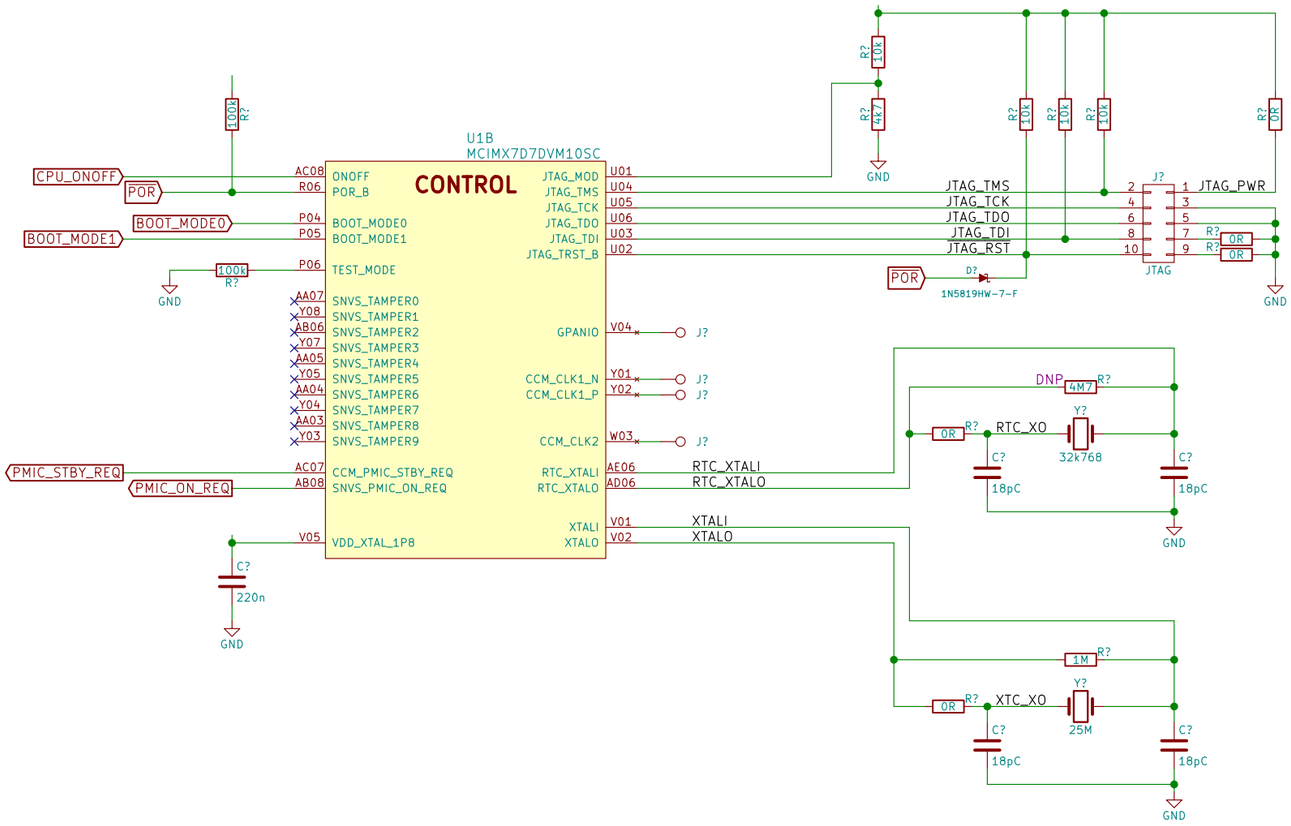
Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 5/11

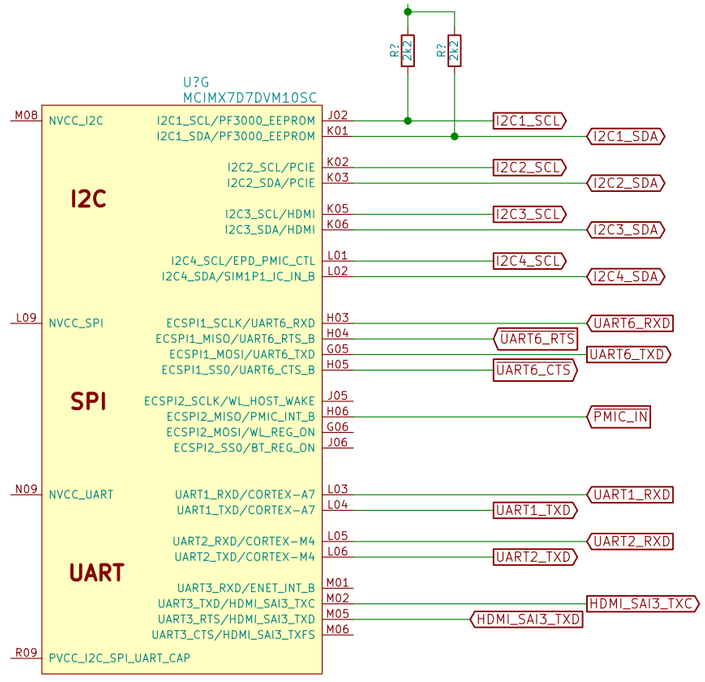


Sheet: /eMMC & SD Card/
File: MEMORY.sch

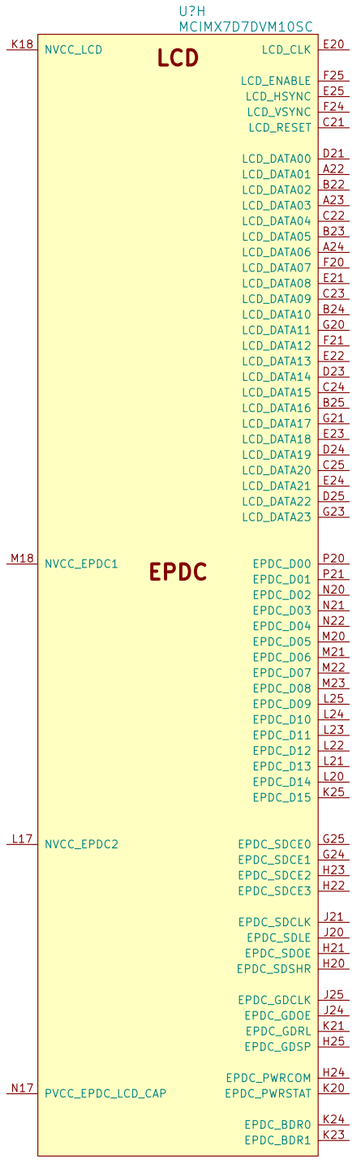
Title:

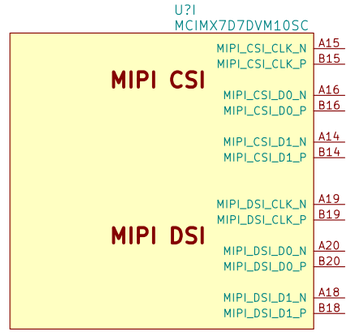
Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 6/11





Sheet: /CPU Control/	
File: CPU.sch	
Title:	
Size: A3	Date:
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1	Id: 7/11

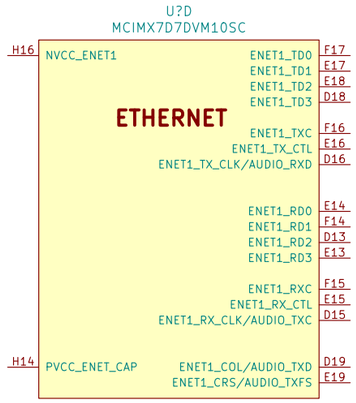


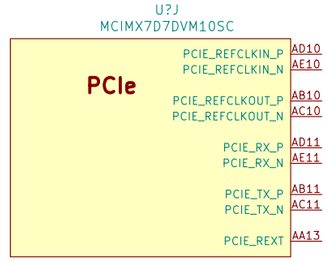


Sheet: /Display and MIPI/
File: DISPLAY.sch

Title:

Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 8/11

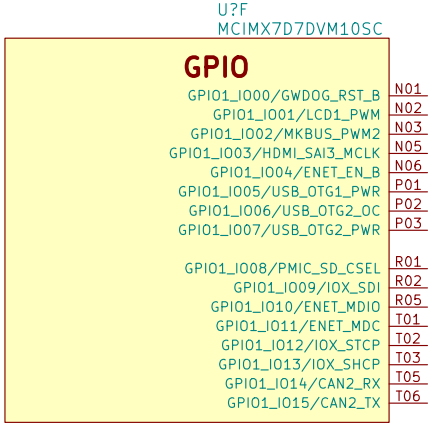


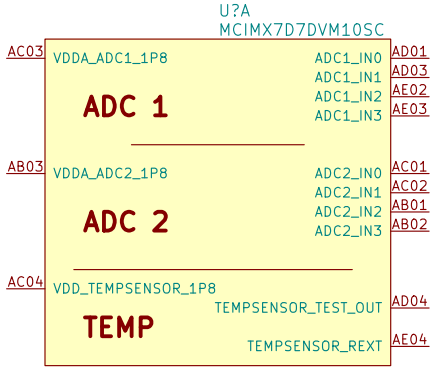


Sheet: /Ethernet + PCIe/
File: NETWORK.sch

Title:

Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 9/11

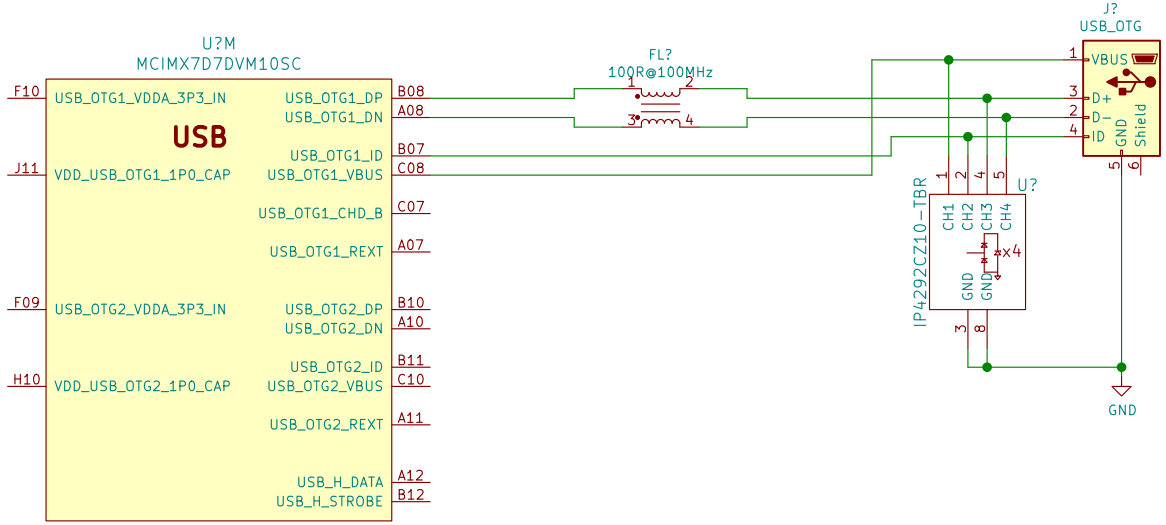




Sheet: /ADC + GPIO/
File: ADC_GPIO.sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 10/11



Sheet: /USB/ File: USB.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad no-vcs-found-766357ubuntu16.04.1		Id: 11/11