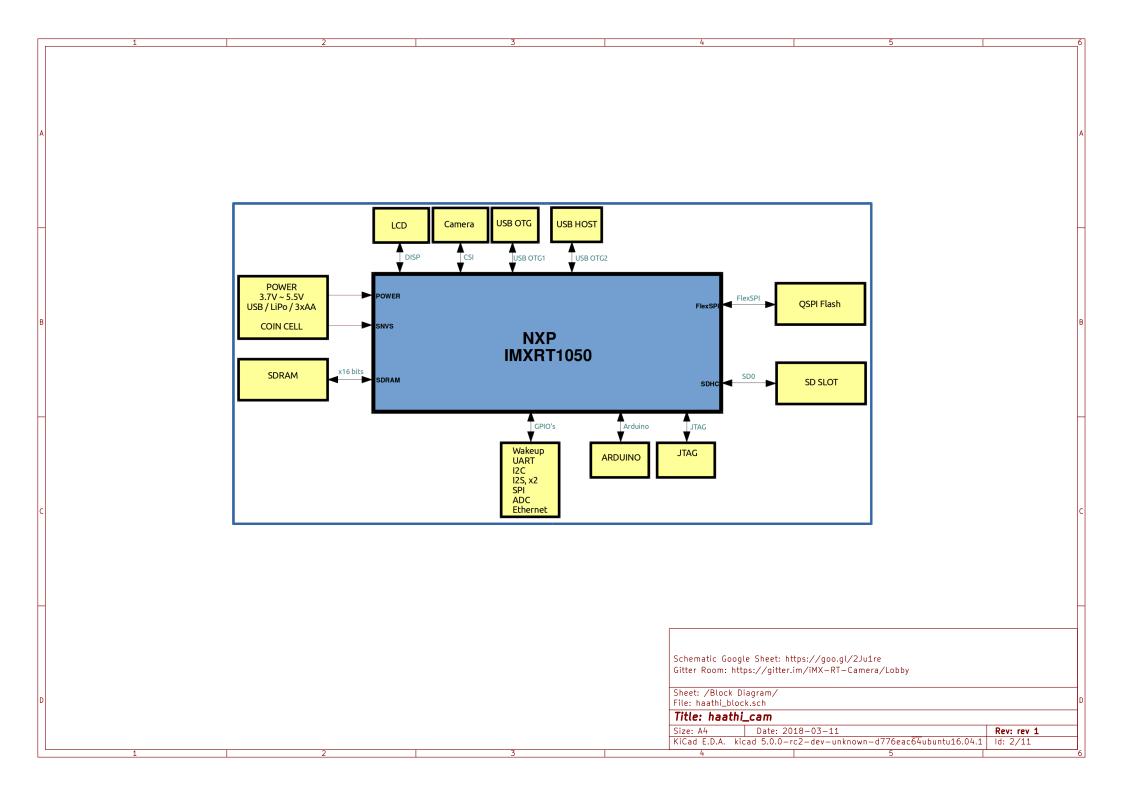
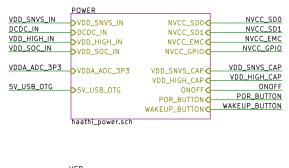
Block Diagram :: INDEX :: 1. Block Diagram 2. Schematic haathi_block.sch a. Power **b.** MCU i.MXRT1052 c. LCD Schematic d. USB e. Memory (SD card, QSPI Flash) f. Interfaces (GPIO/JTAG) g. SD-RAM h. CSI Camera i. Misc (Jumpers etc) 3. References and Discussion haathi_schematic.sch a. Schematic Google Sheet: https://goo.gl/2Ju1re b. Gitter Room: https://gitter.im/iMX-RT-Camera/Lobby Schematic Google Sheet: https://goo.gl/2Ju1re Gitter Room: https://gitter.im/iMX-RT-Camera/Lobby Sheet: / File: haathi.sch Title: haathi_cam Size: A4 Date: 2018-03-11 Rev: rev 1 KiCad E.D.A. kicad 5.0.0-rc2-dev-unknown-d776eac64ubuntu16.04.1 ld: 1/11





	USB		
5V_USB_OTG	♦5V_USB_OTG		
USB_OTG1_D-	OUSB_OTG1_D-		
USB_OTG1_D+	OUSB OTG1 D+		
USB_OTG1_ID	OUSB OTG1 ID	USB GND EXTERN	USB_GND_EXTERN
5V_USB_HS	♦5V USB HS	5V USB HS EXTERN	5V_USB_HS_EXTERN
USB_OTG2_D-	OUSB OTG2 D-	USB_OTG2_DEXTERN	USB_OTG2_DEXTERN
USB_OTG2_D+	OUSB_OTG2_D+	USB_OTG2_D+_EXTERN	USB_OTG2_D+_EXTERN
USB_OTG2_ID	USB_OTG2_ID	USB_OTG2_ID_EXTERN	HICD OTCO ID EVTEDN
	haathi_usb.sch	000_0102_00_0101010100	

	CSI CAMERA		
GPI0_B1_08	OGPIO B1 08	GPIO AD B1 04	GPIO_AD_B1_04
GPI0_B1_09	OGPIO B1 09	GPIO_AD_B1_05	GPIO_AD_B1_05
GPI0_B1_10	OGPIO_B1_10	GPIO_AD_B1_06	GPIO_AD_B1_06
GPI0_B1_11	OGPIO_B1_11	GPIO_AD_B1_07	GPIO_AD_B1_07
	0 01 10_01_11	GPIO AD B1 08	GPIO_AD_B1_08
GPIO_EMC_30	OGPIO EMC 30	GPIO AD B1 09	GPIO_AD_B1_09
GPIO_EMC_31	OGPIO EMC 31	GPIO AD B1 10	GPIO_AD_B1_10
GPIO_EMC_32	GPIO_EMC_32	GPIO_AD_B1_114	GPIO_AD_B1_11
GPIO_EMC_33	GPIO_EMC_33	GPIO AD B1 120	GPIO_AD_B1_12
	D 01 10_E116_55	GPIO AD B1 13C	GPIO_AD_B1_13
I2C1_SDA	DI2C1 SDA	GPIO_AD_B1_14C	GPIO_AD_B1_14
I2C1_SCL	DI2C1_SCL	GPIO_AD_B1_15	GPIO_AD_B1_15
		00b_b1_13 C	
	haathi_camera.sch		

м	EMORY SD card QSF	PI FLASH	
FlexSPI_SS0	FlexSPI_SS0	MCU_RESET_N	MCU_RESET_N
FlexSPI_D0_A	FlexSPI_CLK FlexSPI_DO_A	SD_CD_SW 	SD_CD_SW
FlexSPI_D2_A	FlexSPI_D1_A FlexSPI_D2_A	SD_PWREN	SD_PWREN SDO VSELECT
SD1 CIK	FlexSPI_D3_A SD1_CLK	SDO_VSELECT	NVCC_SD0
SD1_CMD	SD1_CMD SD1_D0	NVCC_SD1 C	NVCC_SD1
SD1_D1 SD1_D2	SD1_D1 SD1_D2		
	SD1_D3 aathi_memory.sch		

	CPU i.MX RT1052	
ONOFF	ONOFF	USB_OTG1_ID USB_OTG1_ID
VDD_SNVS_IN	→ VDD_SNVS_IN	USB_OTG2_ID USB_OTG2_ID
WAKEUP_BUTTON		SEMC_D[815] SEMC_D[815]
PMIC_ON_REQ		SEMC_CSO SEMC_CSO
PMIC_STBY_REQ	→PMIC_STBY_REQ	SEMC_WE SEMC_WE
NVCC_SD1	NVCC_SD1	SEMC_CKE SEMC_CKE
NVCC_SD0	NVCC_SD0	SEMC_CLK SEMC_CLK
VDD_SOC_IN		SEMC_RAS SEMC_RAS
VDD_SNVS_CAP		SEMC_CASC SEMC_CAS
VDD_USB_CAP	→VDD_USB_CAP	SEMC_A[012] SEMC_A[012]
VDD_HIGH_IN		SEMC_BA1 SEMC_BA1
VDD_HIGH_CAP	→VDD_HIGH_CAP	SEMC_BAO SEMC_BAO
SEMC_DM1	SEMC_DM1	SEMC_DMO SEMC_DMO
ENET_MDC		SEMC_D[07] SEMC_D[07]
ENET_MDIO	- DENET_MDIO	NVCC_SEMC_3V3 NVCC_SEMC_3V3
JTAG_TMS	JTAG_TMS	NVCC_GPIO_3V3 NVCC_GPIO_3V3
JTAG_TCK		DCDC_OUT DCDC_OUT
JTAG_TDI	-DJTAG_TDI	VDDA_ADC_3P3 VDDA_ADC_3P3
JTAG_TDO		SD1_CMD
JTAG_nTRST	-DJTAG_nTRST	SDO_VSELECT SDO_VSELECT
UART1_TXD	—DUART1_TXD	WDOG_B WDOG_B
UART1_RXD	—DUART1_RXD	SD CD SWC SD_CD_SW
CAN2_TX	—DCAN2_TX	ENET_RXER ENET_RXER
CAN2_RX	—DCAN2_RX	ENET_TX_CLK ENET_TX_CLK
I2C1_SCL	—DI2C1_SCL	ENET_TXEN ENET_TXEN
I2C1_SDA	DI2C1_SDA	ENET_TXD1 ENET_TXD1
SD_PWREN	SD_PWREN	ENET_TXDO ENET_TXDO
GPIO_AD_B1_03	—DGPIO_AD_B1_03	ENET_CRS_DV ENET_CRS_DV
AUD_INT	—DAUD_INT	ENET_RXD1 ENET_RXD1
SAI1_MCLK	—DSAI1_MCLK	ENET_RXDO ENET_RXDO
SAI1_RX_SYNC	SAI1_RX_SYNC	LCDIF_D[015] LCDIF_D[015]
SD1_CLK	—DSD1_CLK	LCDIF_VSYNC LCDIF_VSYNC
SD1_D0	—DSD1_D0	LCDIF_HSYNC LCDIF_HSYNC
SD1_D1	—DSD1_D1	LCDIF_ENABLE LCDIF_ENABLE
SD1_D2	DSD1_D2	LCDIF_CLK LCDIF_CLK
SD1_D3	—DSD1_D3	SAI1_TX_SYNC SAI1_TX_SYNC
FlexSPI_D3_B	FlexSPI_D3_B	SAI1_TX_BCLK SAI1_TX_BCLK
FlexSPI_D2_B	DFlexSPI_D2_B	SAI1_TXD SAI1_TXD
FlexSPI_D1_B	DFlexSPI_D1_B	SAI1_RXD SAI1_RXD
FlexSPI_D0_B	—DFlexSPI_D0_B	SAI1_RX_BCLK SAI1_RX_BCLK
FlexSPI_CLK_B	FlexSPI_CLK_B	I2C2_SCL I2C2_SCL
FlexSPI_SS0	—DFlexSPI_SS0	I2C2_SDA
FlexSPI_CLK	DFlexSPI_CLK	GPIO_AD_BO_00 GPIO_AD_BO_00
FlexSPI_D0_A	—DFlexSPI_DO_A	GPIO_AD_BO_01 GPIO_AD_BO_01
FlexSPI_D1_A	—DFlexSPI_D1_A	GPIO_AD_BO_02 GPIO_AD_BO_02
FlexSPI_D2_A	—DFlexSPI_D2_A	GPIO_AD_BO_03 GPIO_AD_BO_03
FlexSPI_D3_A	—DFlexSPI_D3_A	GPIO AD BO 04 GPIO AD BO 04
FlexSPI_SS_B	- DFlexSPI_SS_B	GPIO_AD_BO_05
5V_USB_OTG	5V_USB_OTG	GPIO_BO_04 GPIO_BO_04
USB_OTG1_D+	USB_OTG1_D+	GPIO_BO_05 GPIO_BO_05
USB_OTG1_D-	USB_OTG1_D-	GPIO BO 06 GPIO_BO_06
5V_USB_HS	5V_USB_HS	GPIO_BO_07 GPIO_BO_07
USB_OTG2_D+	USB_OTG2_D+	GPIO_B0_08 GPIO_B0_08
USB_OTG2_D-	USB_OTG2_D-	GPIO_BO_09 GPIO_BO_09
BACKLIGHT_CTL	BACKLIGHT_CTL	GPIO BO 104 GPIO_BO_10
GPIO_AD_B1_04	—DGPIO_AD_B1_04	GPIO_BO_11 GPIO_BO_11
GPIO_AD_B1_05	—DGPIO_AD_B1_05	GPIO_BO_12 GPIO_BO_12
GPIO_AD_B1_06	GPIO_AD_B1_06	GPIO_BO_13 GPIO_BO_13
GPIO_AD_B1_07	GPIO_AD_B1_07	GPIO_BO_14 GPIO_BO_14
POR_BUTTON	POR_BUTTON	GPIO_BO_15 GPIO_BO_15
MCU_RESET_N	MCU_RESET_N	DCDC_IN DCDC_IN
	J. 1. GO_KESET_IN	GPIO_B1_15 GPIO_B1_15
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	INTERFACES GPIO JTAG		
	INTERFACES OFTO STAG	ENET_TX_CLK	ENET_TX_CLK
		ENET_TXEN	ENET_TXEN
		ENET_TXD1 C	ENET_TXD1
		ENET_RXD1	ENET_RXD1
MCU_RESET_N	MCU_RESET_N	BACKLIGHT_CTL C	BACKLIGHT_CTL
JTAG_nTRST	JTAG_nTRST	ENET_TXD0	ENET_TXD0
JTAG_TCK	JTAG_TCK	ENET_RXD0	ENET_RXD0
JTAG_TMS	JTAG_TMS	ENET_CRS_DV	ENET_CRS_DV
JTAG_TDO	JTAG_TDO	LCDIF_VSYNC	LCDIF_VSYNC
JTAG_TDI	JTAG_TDI	LCDIF_HSYNC	LCDIF_HSYNC
SV_USB_HS_EXTERN	5V_USB_HS_EXTERN	LCDIF_ENABLE	LCDIF_ENABLE
JSB_OTG2_DEXTERN	>USB_OTG2_DEXTERN	LCDIF_CLK d	LCDIF_CLK
JSB_OTG2_D+_EXTERN	>USB_OTG2_D+_EXTERN	LCDIF_D[015] d	LCDIF_D[015]
JSB_OTG2_ID_EXTERN	USB_OTG2_ID_EXTERN	CAN2_RX	CAN2_RX
JSB_GND_EXTERN	>USB_GND_EXTERN	CAN2_TX 	CAN2_TX
5V_USB_OTG	>5V_USB_OTG	SAI1_TX_SYNC	SAI1_TX_SYNC
WAKEUP_BUTTON	→WAKEUP_BUTTON	SAI1_TX_BCLK 🗗	SAI1_TX_BCLK
ONOFF	ONOFF	SAI1_TXD	SAI1_TXD
12C1_SCL	> 12C1_SCL	SAI1_RXD	SAI1_RXD
I2C1_SDA	DI2C1_SDA	SAI1_RX_BCLK	SAI1_RX_BCLK
UART1_TXD	DUART1_TXD	SAI1_RX_SYNC	SAI1_RX_SYNC
UART1_RXD I2C2_SCL	DUART1_RXD	AUD_INT 🗗	AUD_INT SAI1_MCLK
12C2_SDA	DI2C2_SCL	SAI1_MCLK	FlexSPI_SS_B
ENET_RXER	DI2C2_SDA	FlexSPI_SS_B	FlexSPI_CLK_B
GPIO_AD_BO_00	DENET_RXER	FlexSPI_CLK_B	FlexSPI_D0_B
GPIO_AD_BO_01	GPIO_AD_BO_00	FlexSPI_D0_B	FlexSPI_D1_B
GPIO_AD_B1_04	→GPIO_AD_B0_01 →GPIO_AD_B1_04	FlexSPI_D1_B	
GPIO_AD_B1_05	OGPIO_AD_B1_05		
GPIO_AD_B1_06	GPIO_AD_B1_06	GPI0_B1_15	GPI0_B1_15
	DGF10_AD_B1_00	GPIO_AD_B1_03	GPIO_AD_B1_03
	haathi interforme ook	0110_AD_B1_03 0	
	haathi_interfaces.sch		
SEMC_A[012]	SD RAM		SEMC_BA0
SEMC_D[07]	>SEMC_A[012]	SEMC_BA0	SEMC_BA1
SEMC_D[815]	>SEMC_D[07]	SEMC_BA1 d	SEMC_RAS
SEMC_CLK	>SEMC_D[815]	SEMC_RAS	SEMC_CAS
SEMC_DM0	>SEMC_CLK	SEMC_CAS	SEMC_WE
SEMC_DM1	>SEMC_DMO	SEMC_WE	SEMC_CS0
00.110_0110	SEMC_DM1	SEMC_CSO	SEMC_CKE
		SEMC_CKE	
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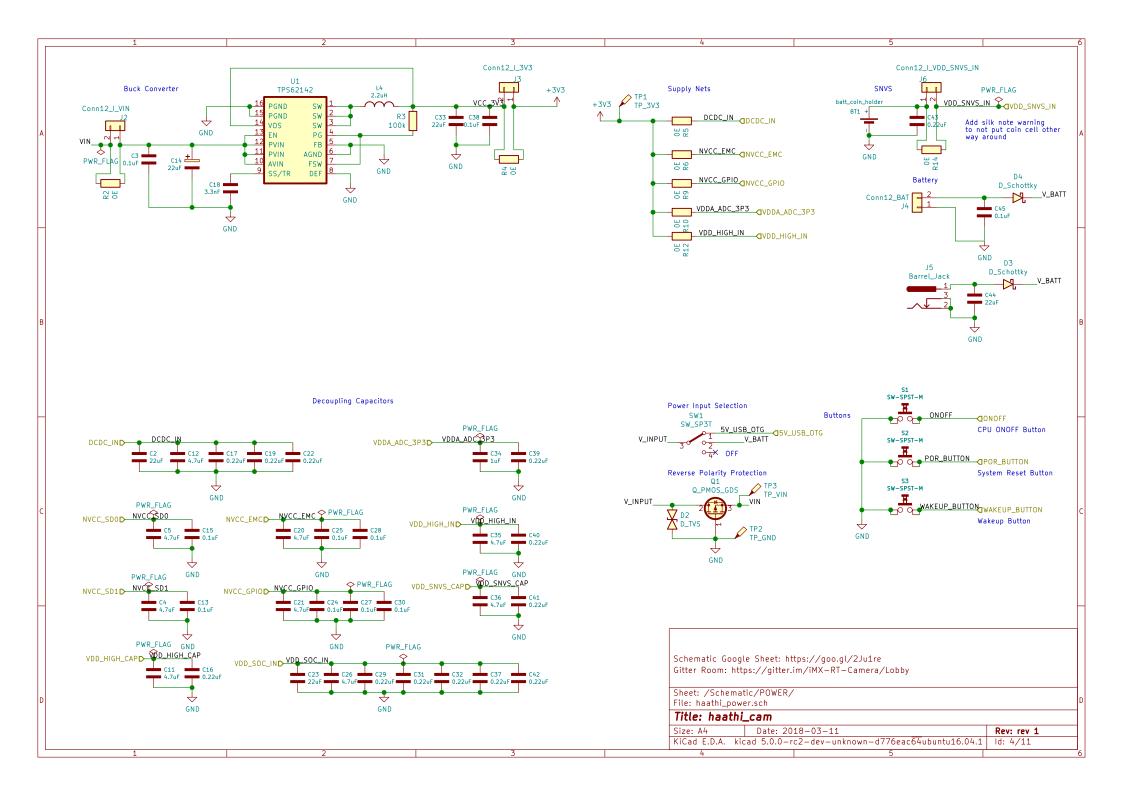
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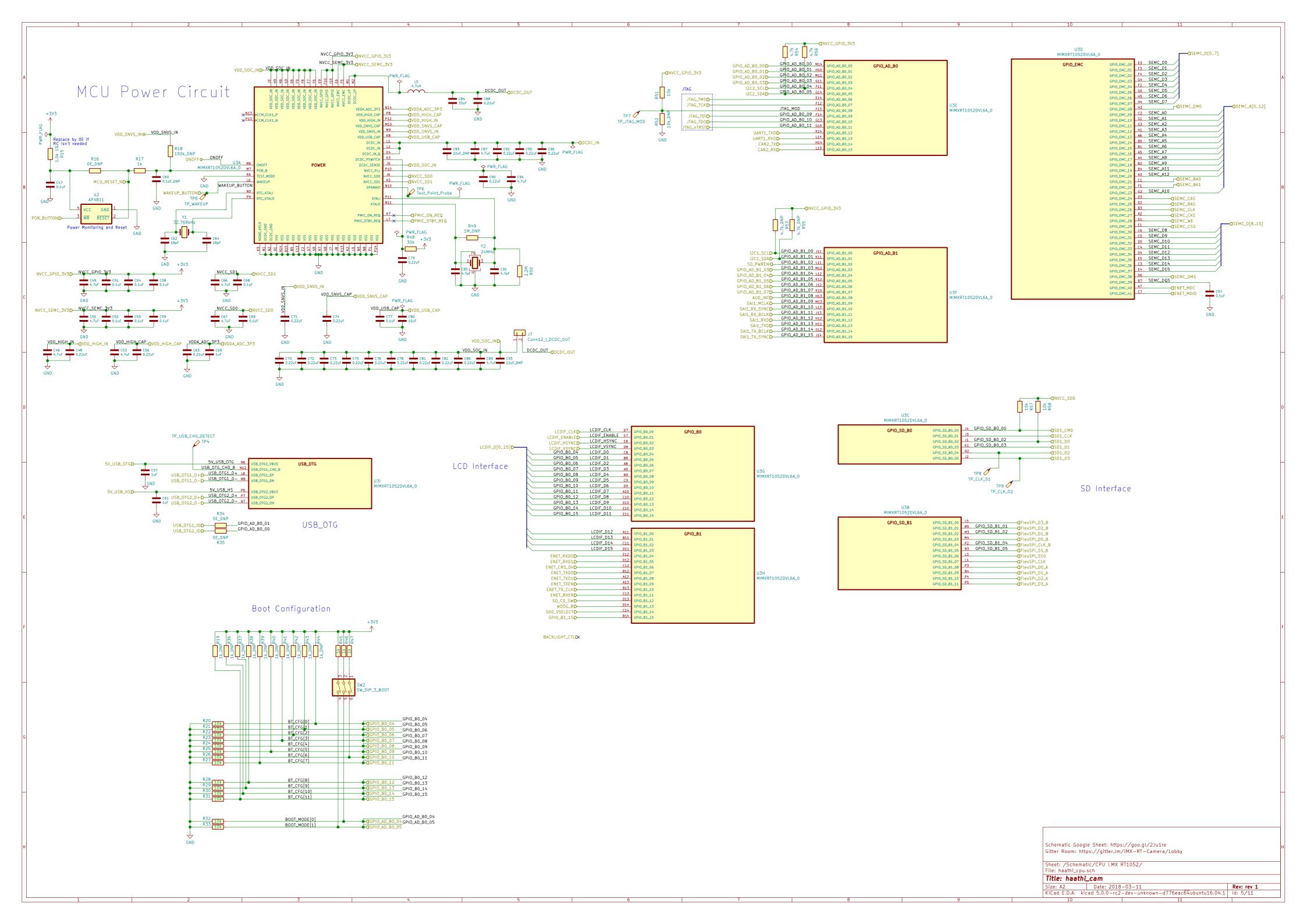
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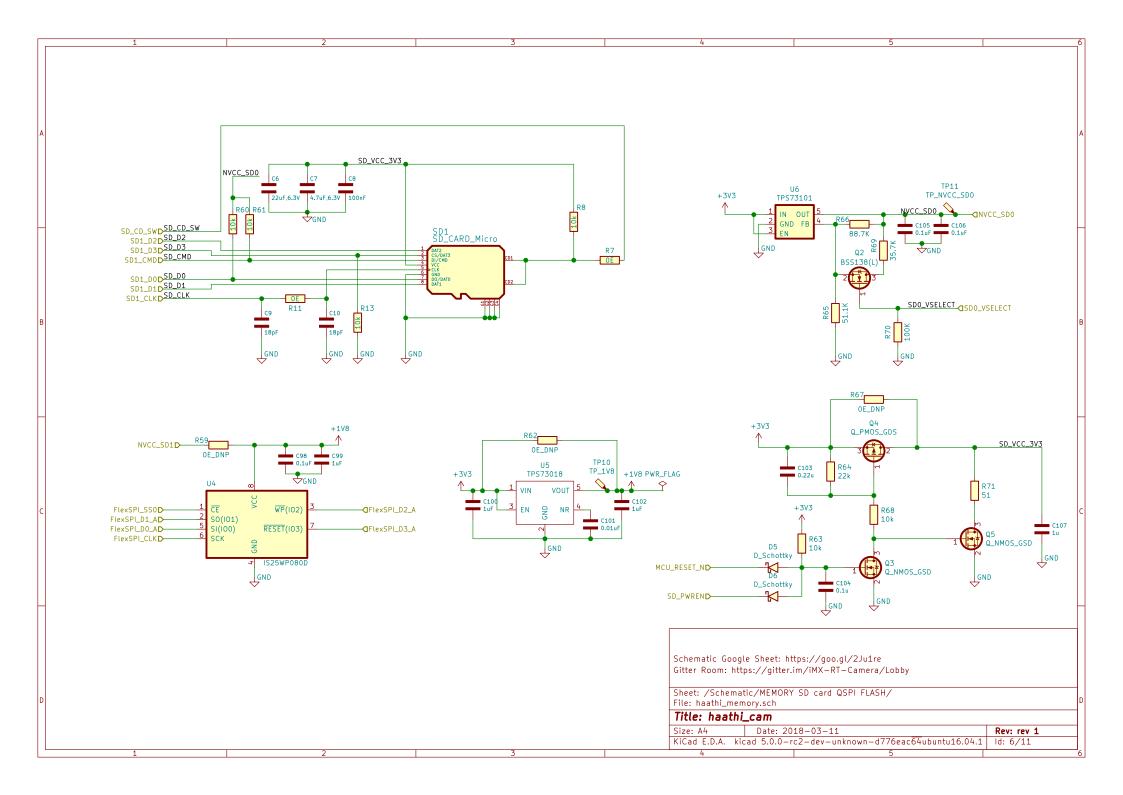
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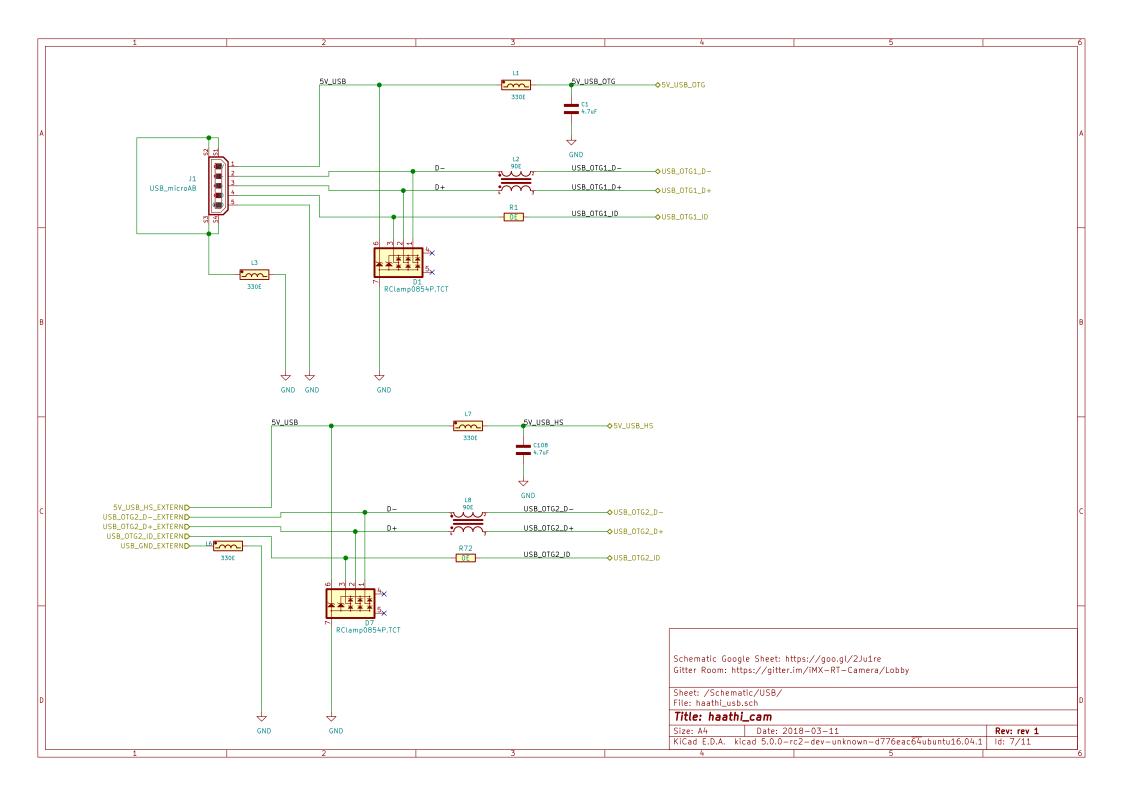
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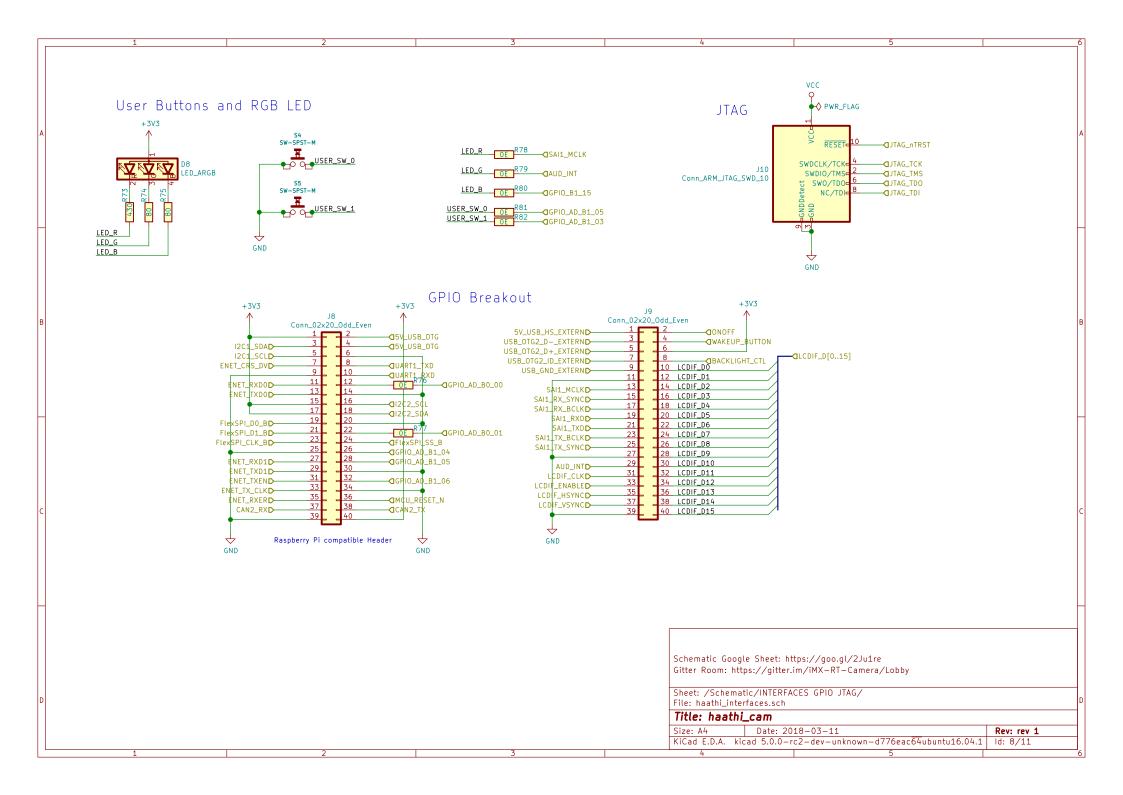
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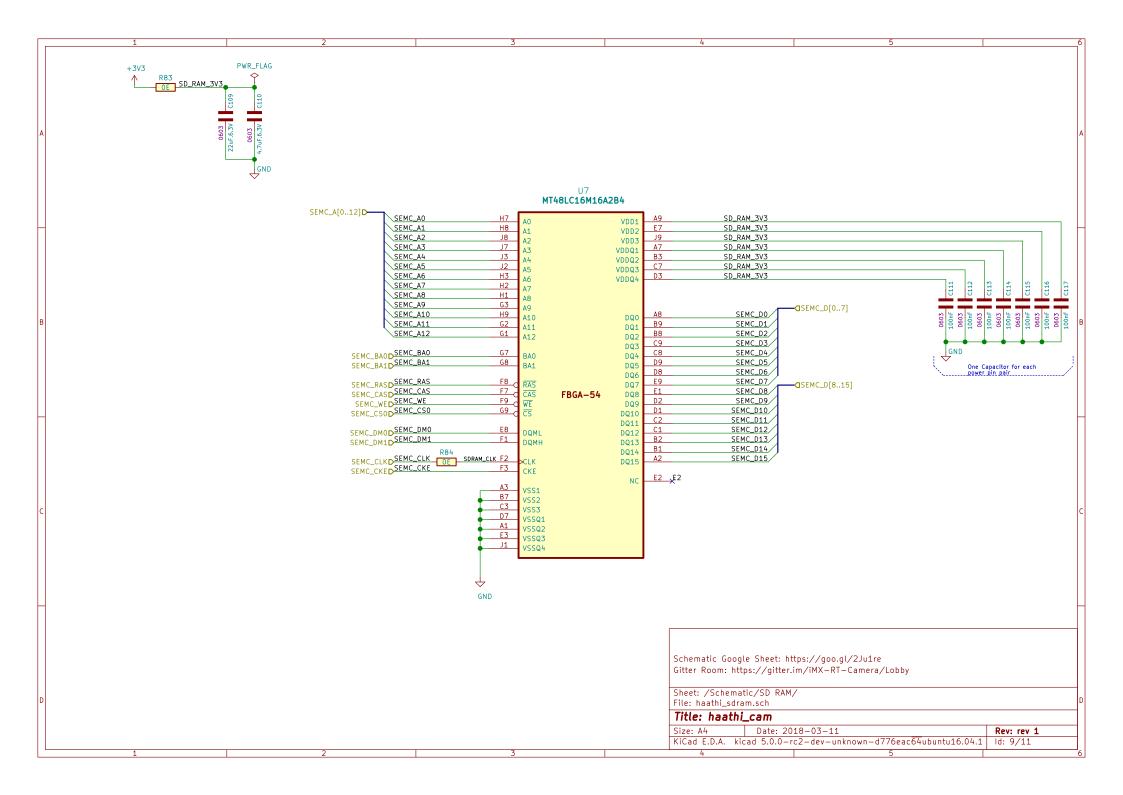


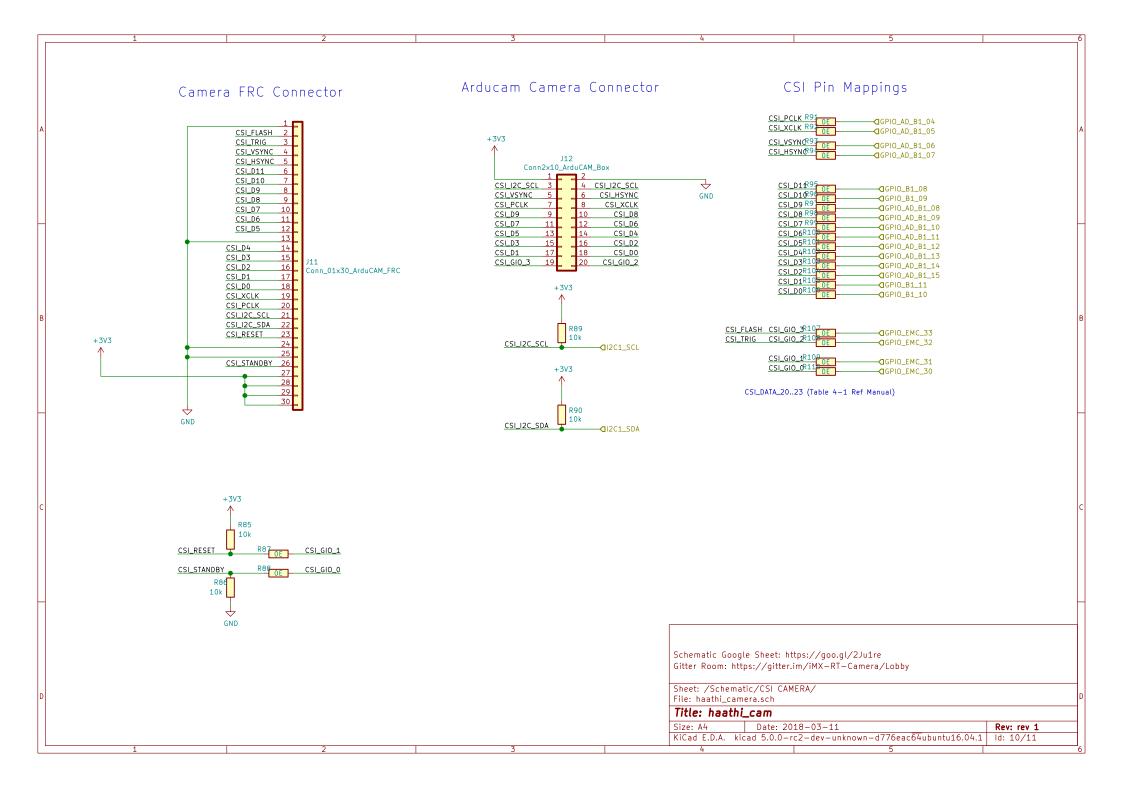












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