MIMXRT1020-EVK

Table of Content

Revision History

Rev. Code	Date	By	Description
A1	2017-12-01	Shawn Shi	A1 Version for pilot board production
A2	2018-1-30	Shawn Shi	SD_PWEN change to GPIO_SD_B1_04 pin,DNP C141, add R314,R315 to support SPI NAND boot, Delete R48, add J37
A3	2018-4-24	Shawn Shi	Update BOM only, Change R22 from 1K to 0 ohm, DNP C6, DNP U26

1. Unless Otherwise Specified:

   All resistors are in ohms, 1/16 Watt,0402
   All capacitors are in uF,0402
   All voltages are DC
   All polarized capacitors are aluminum electrolytic

2. Interrupted lines coded with the same letter or letter combinations are electrically connected.

3. Device type number is for reference only. The number varies with the manufacturer.

4. Special signal usage:
   _B Denotes - Active-Low Signal
   <> or [] Denotes - Vectored Signals

5. Interpret diagram in accordance with American National Standards Institute specifications, current revision, with the exception of logic block symbology.

ICAP Classification: CP: __ IUO: X PUBI: __

Drawing Title: MIMXRT1020-EVK

Page Title: COVER

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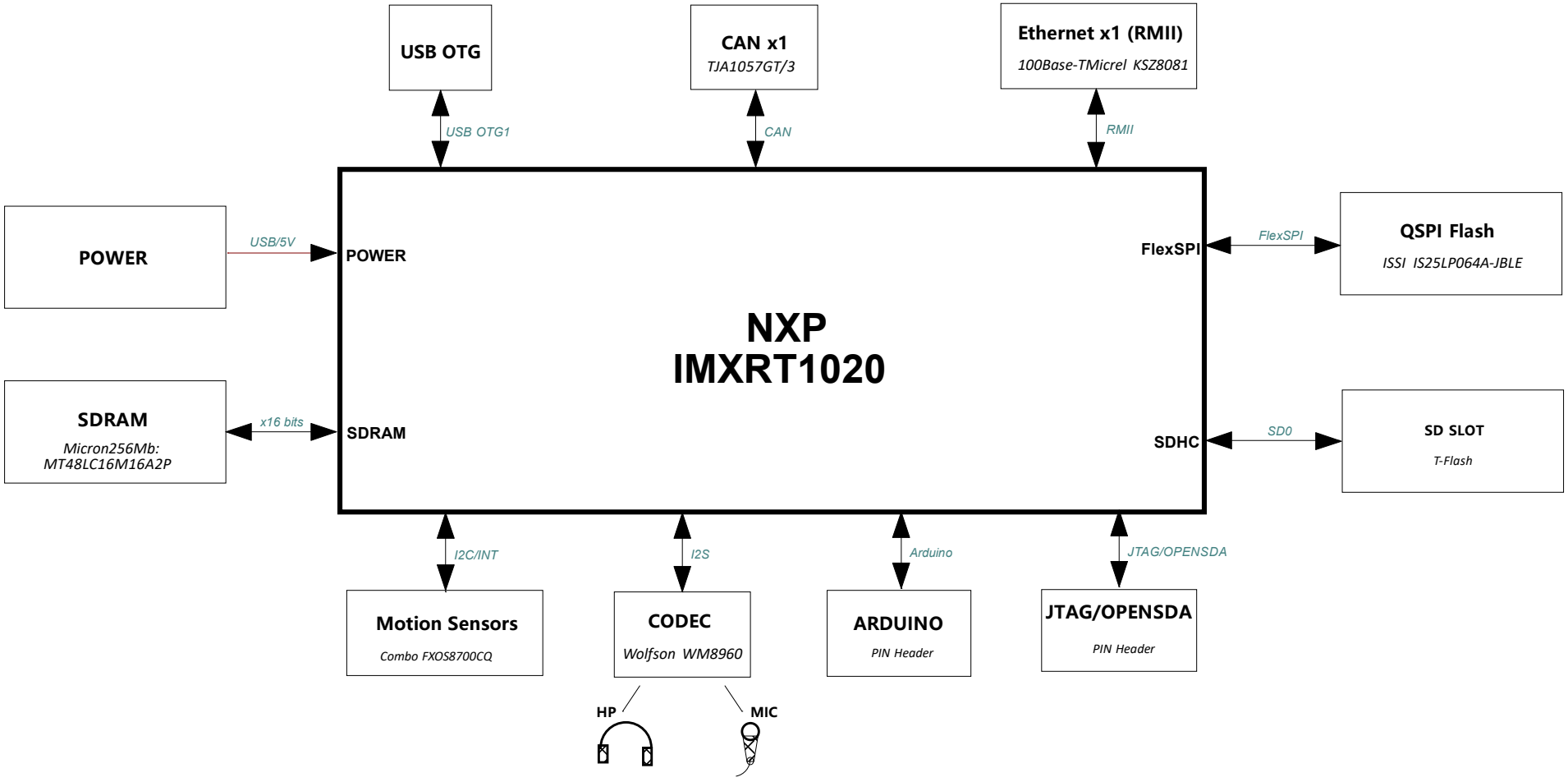
Blcok Diagram Rev A3

MIMXRT1020-EVK



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Drawing Title: MIMXRT1020-EVK

Page Title: BLOCK DIAGRAM

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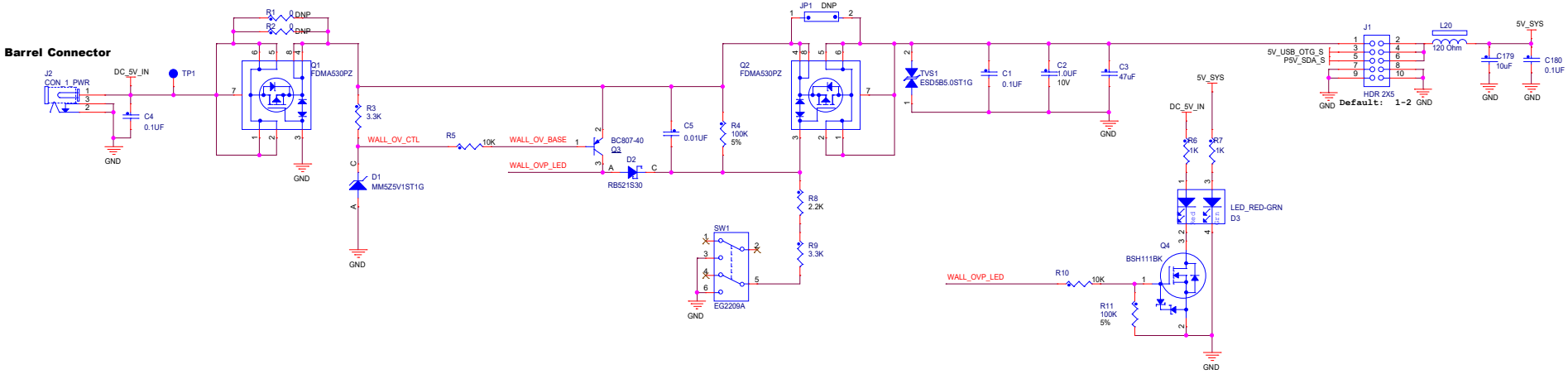
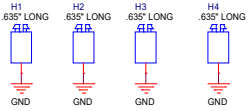
Main Power



Board Mounting Holes



Ground TPs

Layout Note: Place Ground TPs to assist signal measurement.

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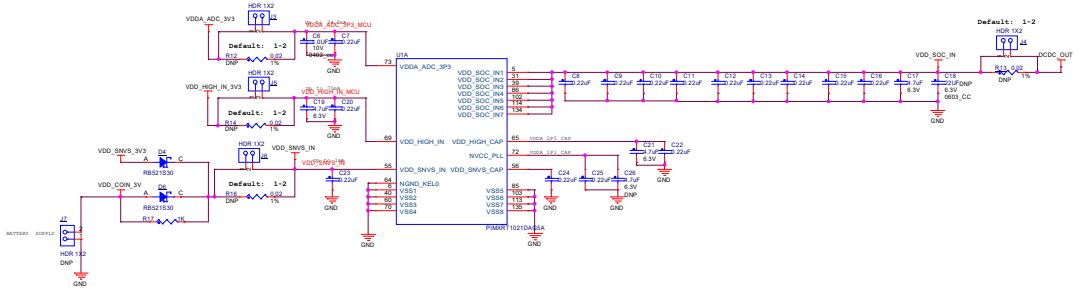
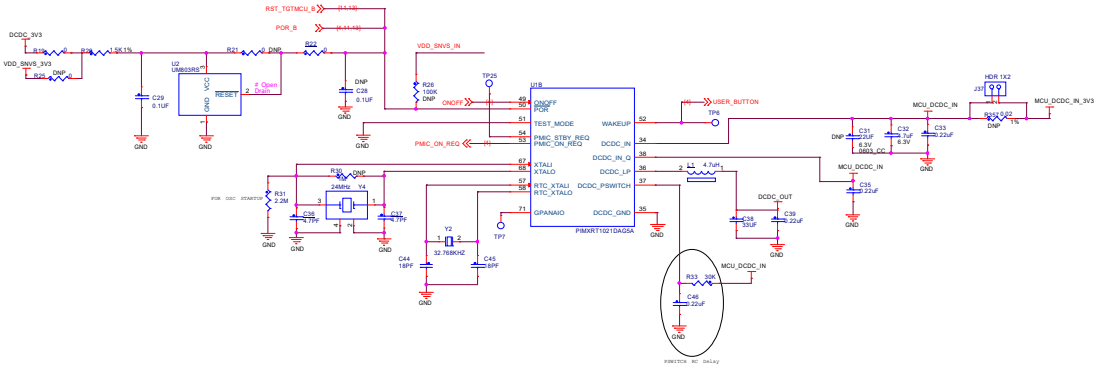
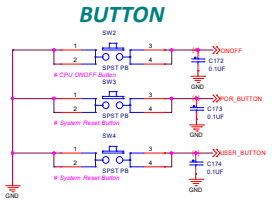


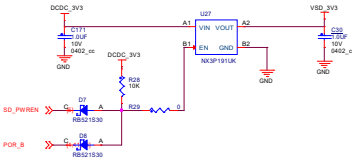


BUTTON

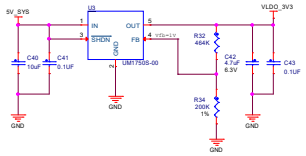


USER LED

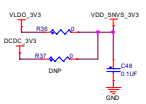
SD CARD POWER SWITCH



3V3 LDO for SNVS

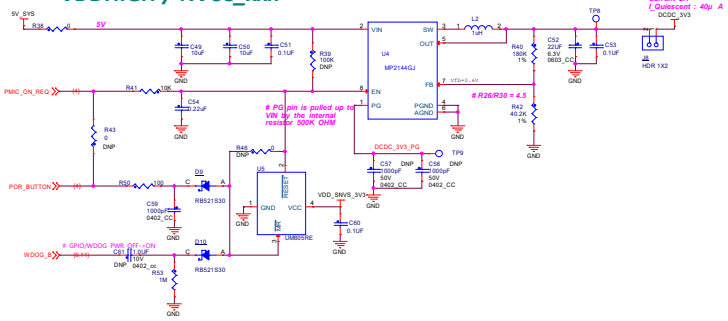


SNVS

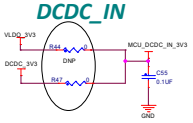


ADC

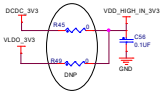
VDDHIGH / NVCC_xxx



DCDC_IN

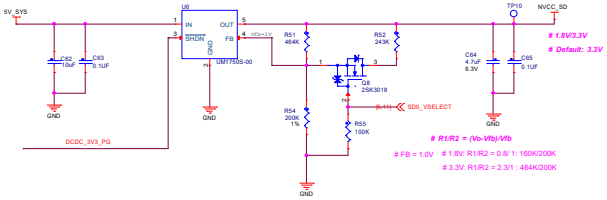


VDD_HIGH_IN



NVCC_SD <SD3.0>

MAX 350 mA



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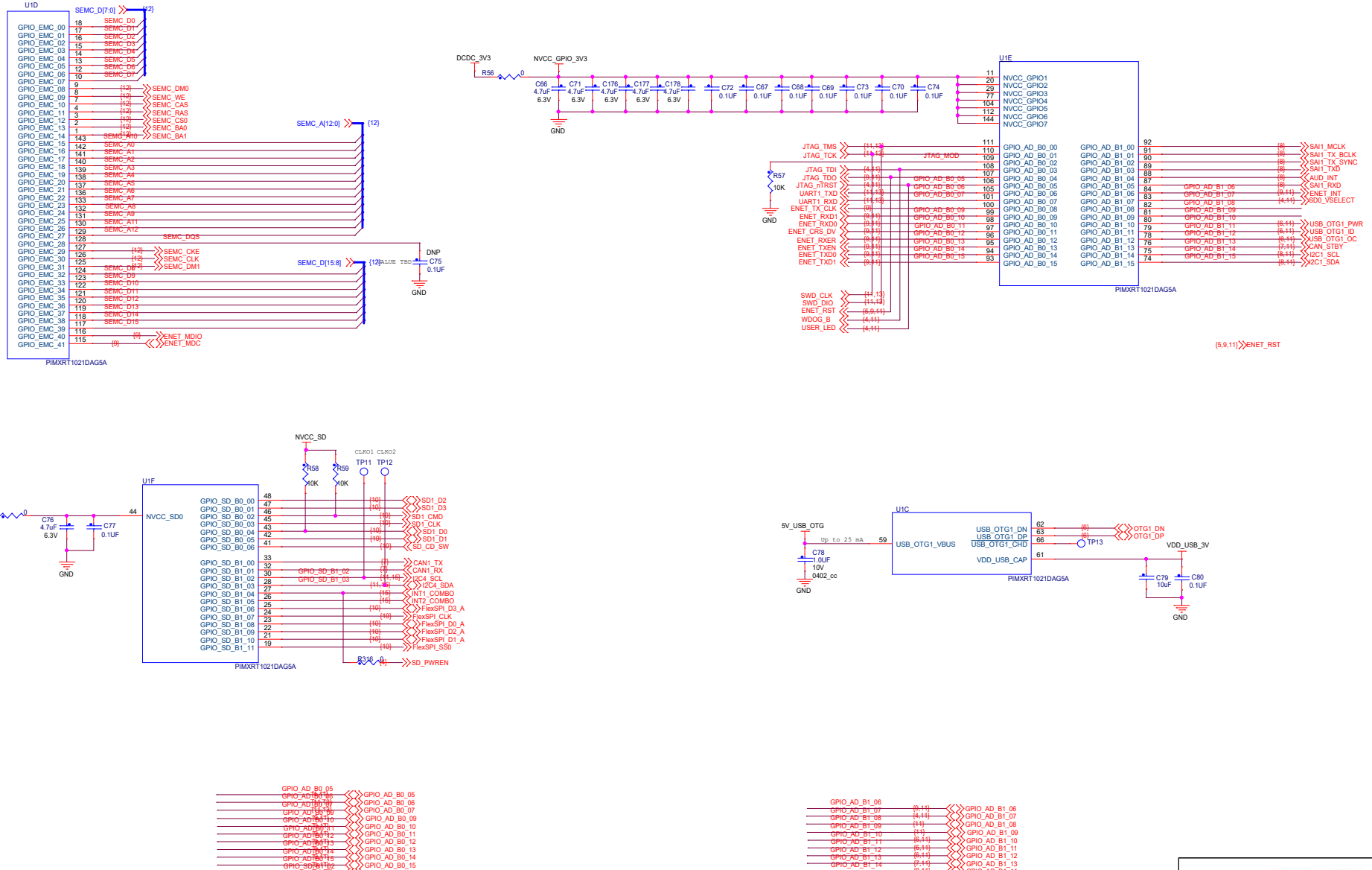
MCU PINOUT



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Size: C	Document Number: SCH-29856, PDF: SPF-29856		Rev: A3
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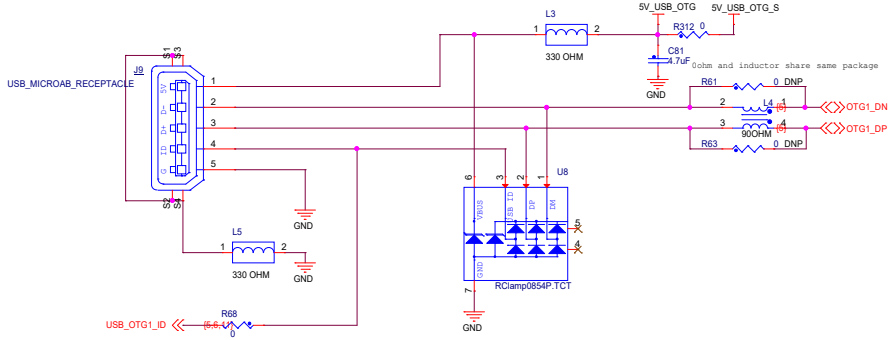
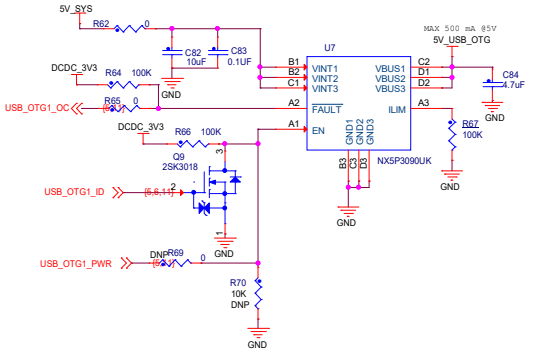
USB OTG



USB POWER



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Page Title: **USB**

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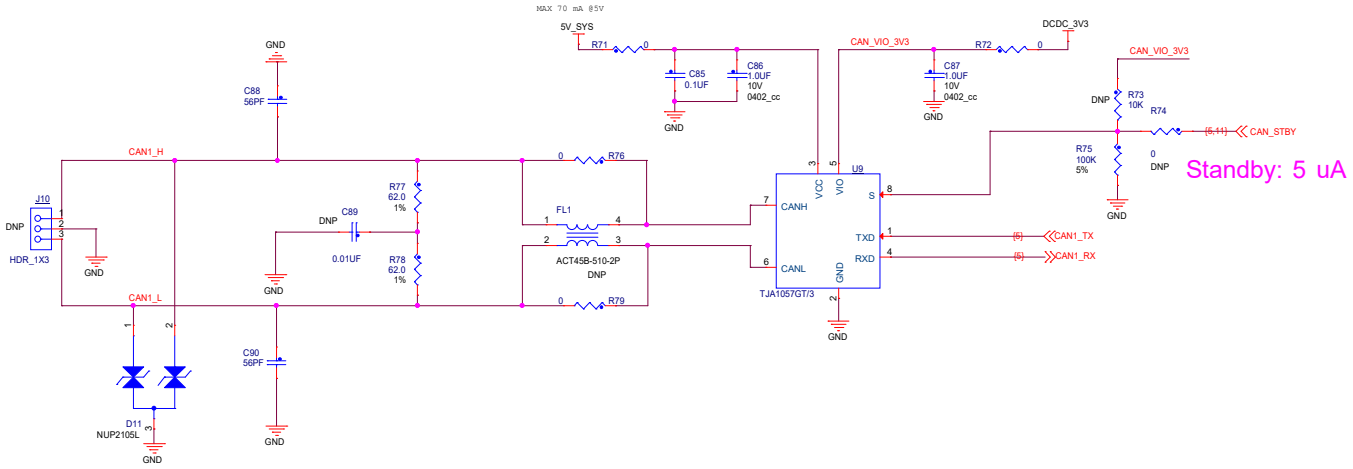
CAN BUS



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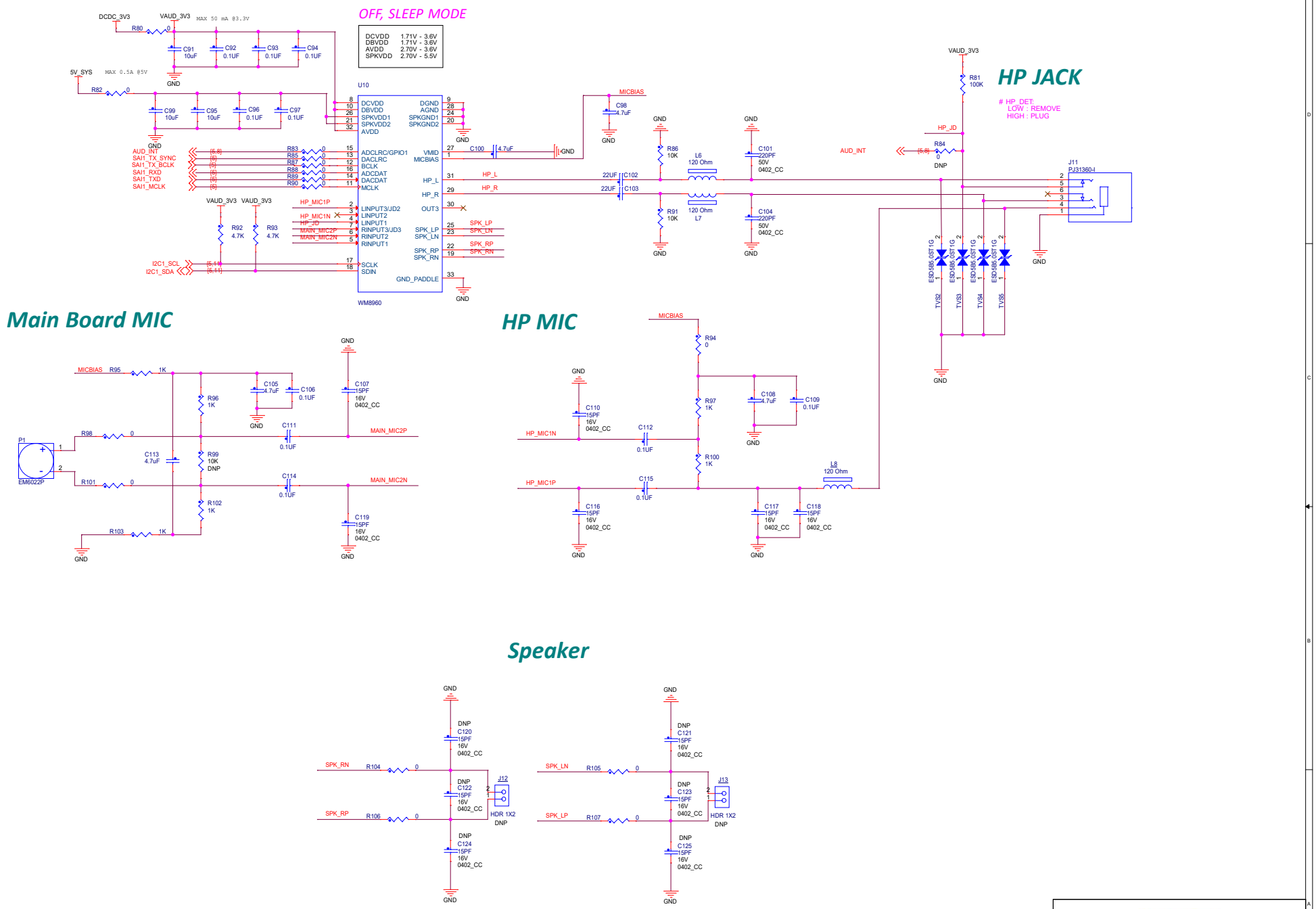

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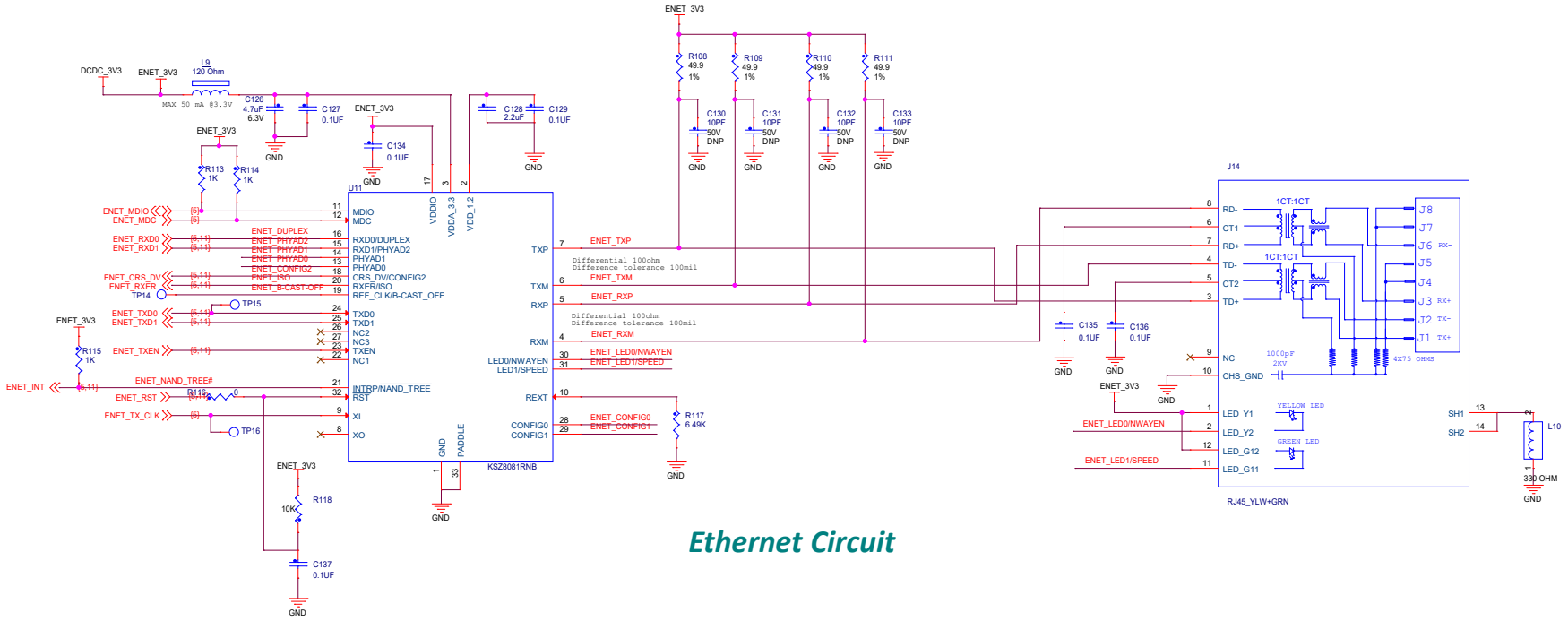
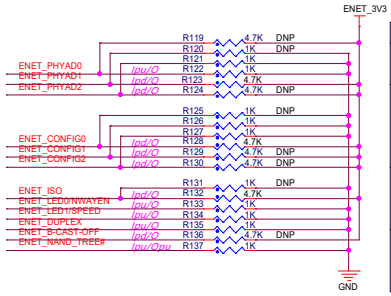


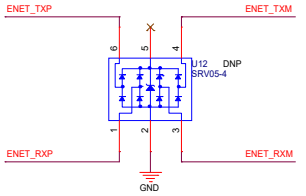
Ethernet Circuit



# CFG	Description
PHYAD[2:0]	PHY ADDR 00-XXX (00010 DEFAULT)
CONFIG[2:0]	IF MODE 001 RMII 101 RMII Back-to-Back xxx Reserved-not used
ISO	ISOLATE mode Pull-up = Enable Pull-down (default) = Disable
SPEED	SPEED mode Pull-up (default) = 100Mbps Pull-down = 10Mbps

# CFG	Description
DUPLEX	DUPLEX mode Pull-up (default) = Half Duplex Pull-down = Full Duplex
NWAYEN	Nway Auto-Negotiation Pull-up (default) = Enable Pull-down = Disable
B_CAST_OFF	Broadcast Off - for PHY Address 0 Pull-up = PHY Address 0 set as unique PHY addr Pull-down (default) = PHY Address 0 set as broadcast PHY addr
NAND_TREE#	NAND Tree Mode Pull-up (default) = Disable Pull-down = Enable

ESD PROTECTION



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Page Title: **ETHERNET**

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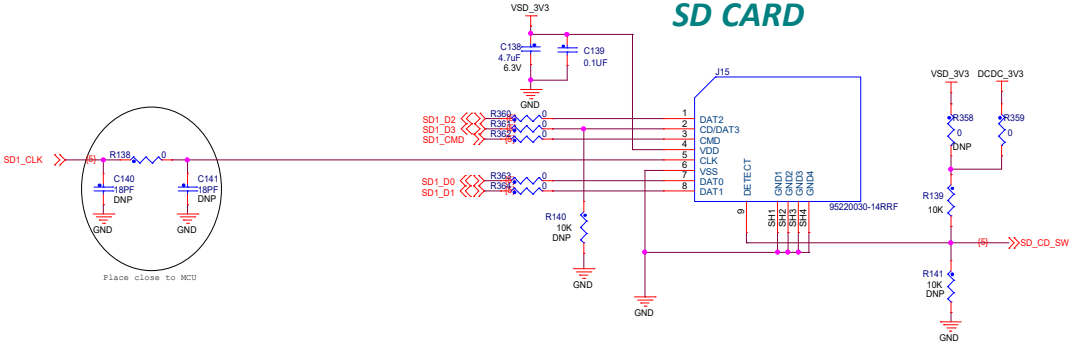
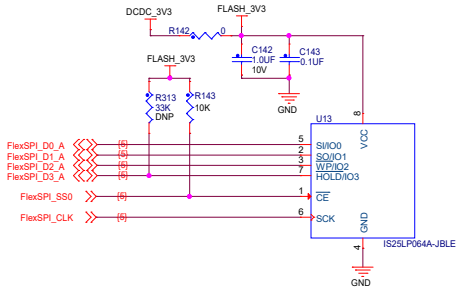
SD CARD



3v3 QSPI Flash



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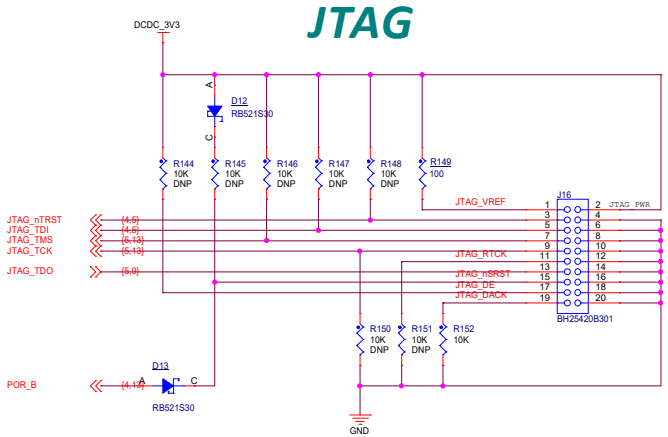
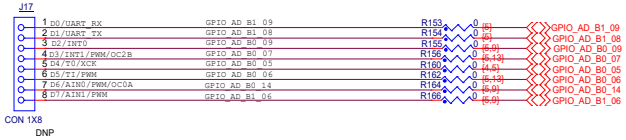
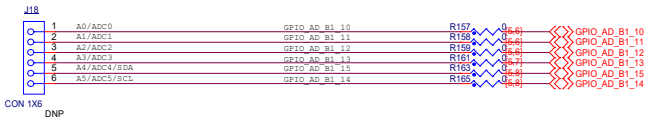
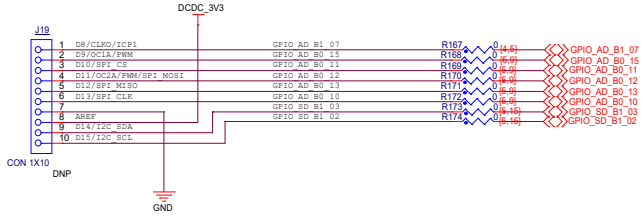
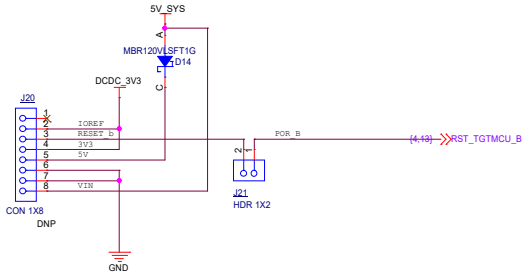


Arduino Interface









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Drawing Title: **MIMXRT1020-EVK**

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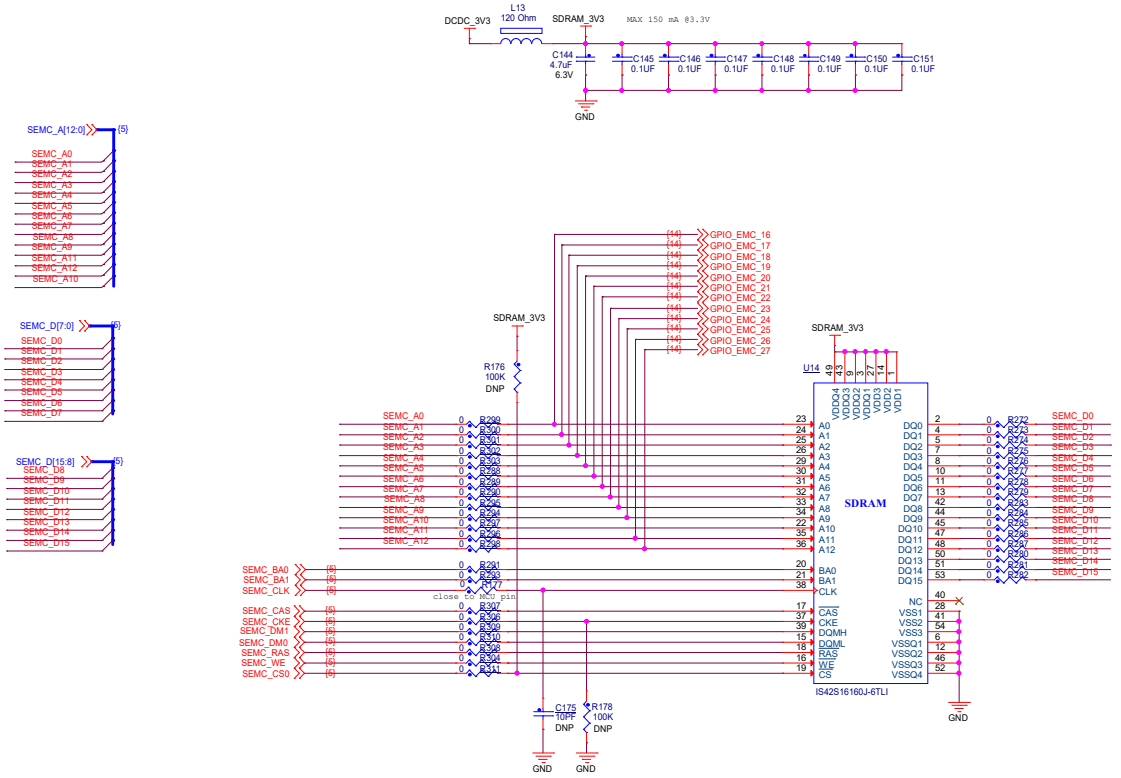
SDRAM



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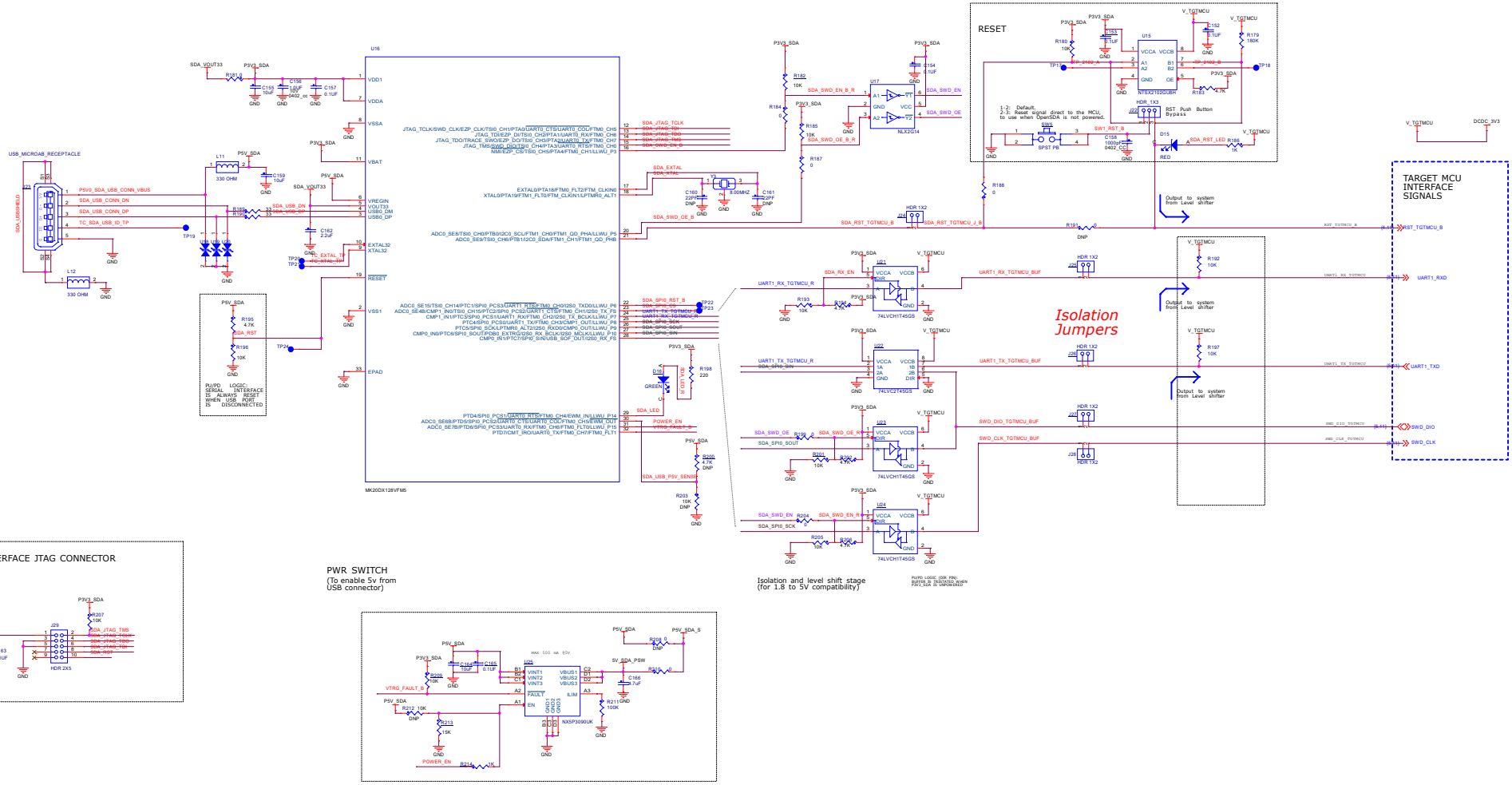
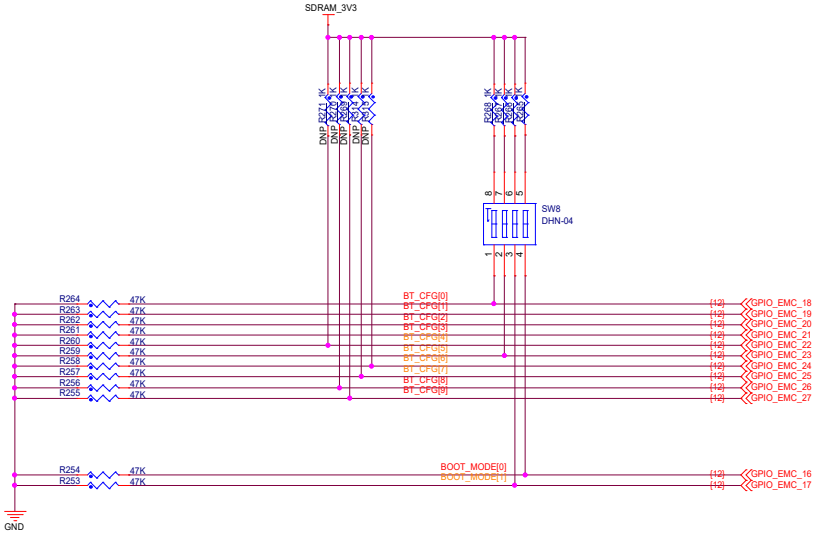
OpenSDA Interface



FUSE MAP

	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
TYPE	**BOOT_CFG[9]**	**BOOT_CFG[8]**	**BOOT_CFG[7]**	**BOOT_CFG[6]**	**BOOT_CFG[5]**	**BOOT_CFG[4]**	**BOOT_CFG[3]**	**BOOT_CFG[2]**	**BOOT_CFG[1]**	**BOOT_CFG[0]**
FlexSPI1 - Serial NOR	*HOLD TIME: 00 - 500us 01 - 1ms 10 - 3ms 11 - 10ms*		*0*	*0*	*0*	*0*	*FLASH_TYPE: 000-Device supports 3B read by default 001-Device supports 4B read by default 010-HyperFlash 1V8 011-HyperFlash 3V3 100-MXIC Octal DDR 101 - Micron Octal DDR 111 - QSPI device supports 3B read by default (on secondary pinmux opt i on)*			*EncryptedXIP 0 - Disabled 1- Enabled*
SD	*SD/SDXC Speed: 00 - Normal/SDR12 01 - High/SDR25 10 - SDR50 11 - SDR104*		*0*	*0*	*1*	*Bus Width: 0 - 1-bit 1 - 4-bit*	*SD Power Cycle Enable: '0' - No power cycle '1' - Enabled via USDHC_RST pad*	*SD Loopback Clock Source Sel: (for SDR50 and SDR104 only) '0' - through SD pad '1' - direct*	*Port Select: 0 - eSDHC1 1 - eSDHC2*	*Fast Boot: 0 - Regular 1 - Fast Boot*
FlexSPI1 - Serial NAND	*"CS_INTERVAL: CS de-asserted interval between two commands 0 – 100ns 1 – 200ns 2 – 400ns 3 – 50ns"*		*1*	*1*	*BOOT_SEARCH_COUNT: 0 - 1 1 - 2*	*COL_ADDRESS_WIDTH: 0 – 12bits 1 – 13bits*	*SPI NAND HOLD TIME 00 - 0 us 01 - 500us 10 - 1ms 11 - 3ms*		*BOOT_SEARCH_STRIDE: Search Stride for FCB and DBBT (in terms of pages) 0 - 64 1 - 128 2 - 256 3 - 32*	



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Drawing Title: **MIMXRT1020-EVK**

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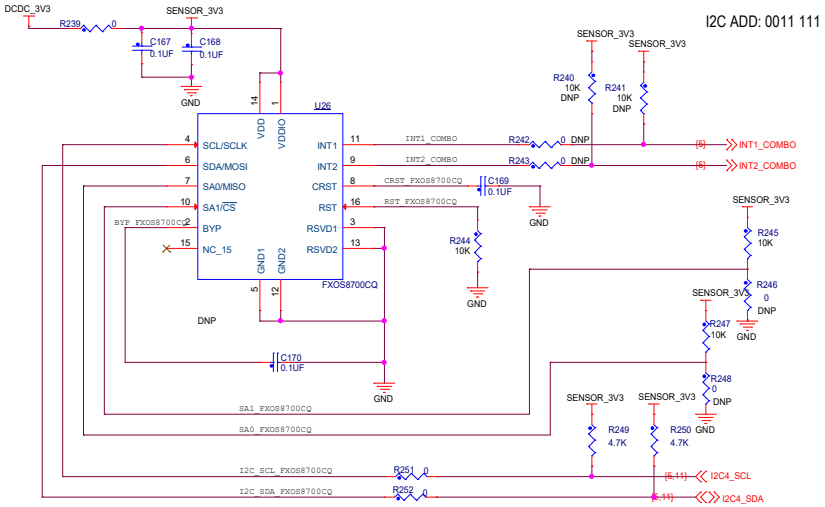
COMBO SENSOR



FXOS8700CQ COMBO SENSOR

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