MIMXRT1024-EVK

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Revision History

Rev. Code	Date	By	Description
X	2020-03-01	Shawn Shi	X Version for PPL BOM
A	2020-03-18	Shawn Shi	A Version for pilot board production
B1	2020-07-01	Shawn Shi	1. Change USER_LED PINMUX from GPIO_AD_B0_05 to GPIO_AD_B1_08 2. Change R177 value from 0ohm to 22ohm to improve EMI.

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: MIMXRT1024-EVK

Page Title: COVER

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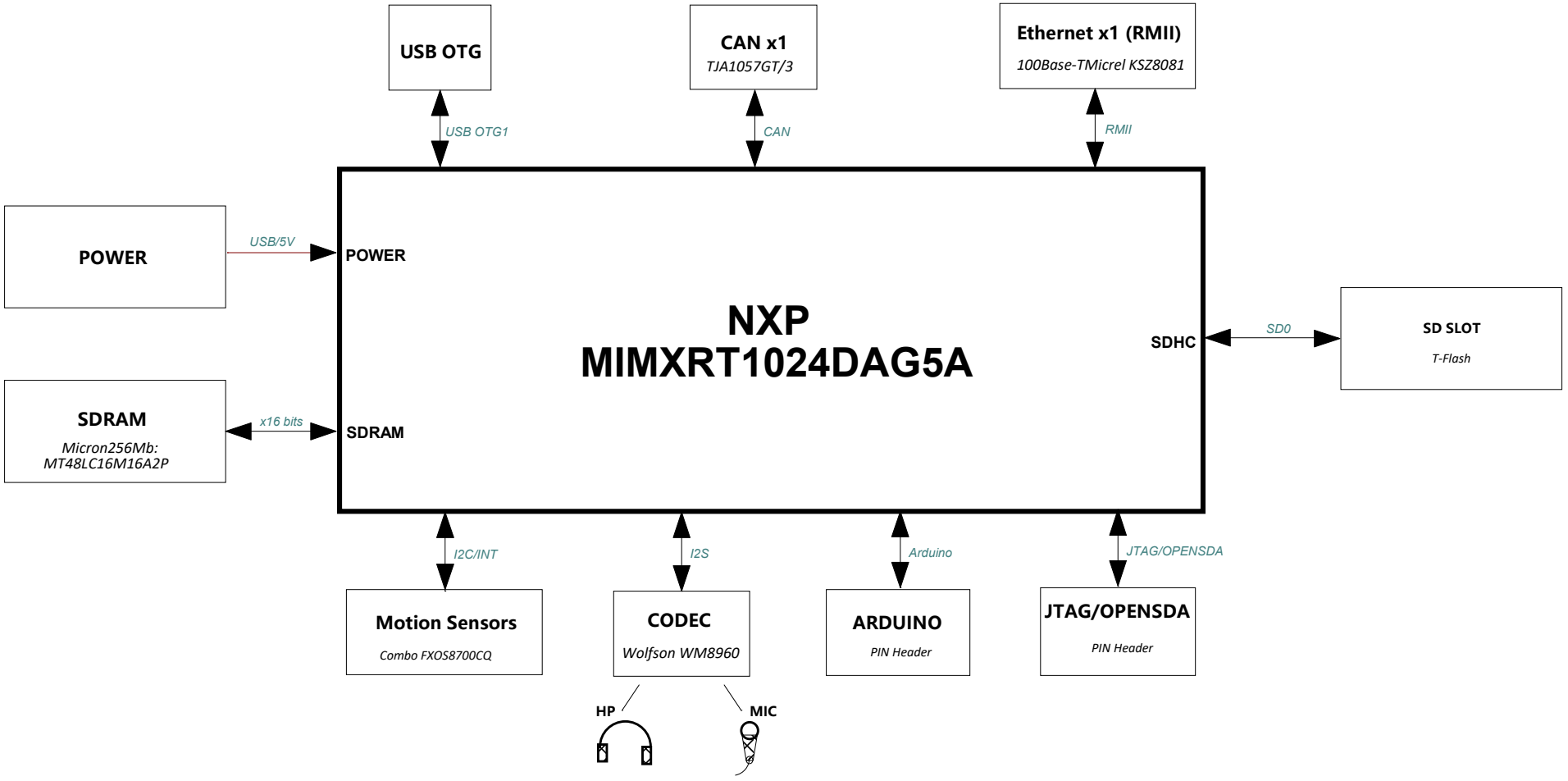
Blcok Diagram Rev B1

 # MIMXRT1024-EVK



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Drawing Title: MIMXRT1024-EVK

Page Title: BLOCK DIAGRAM

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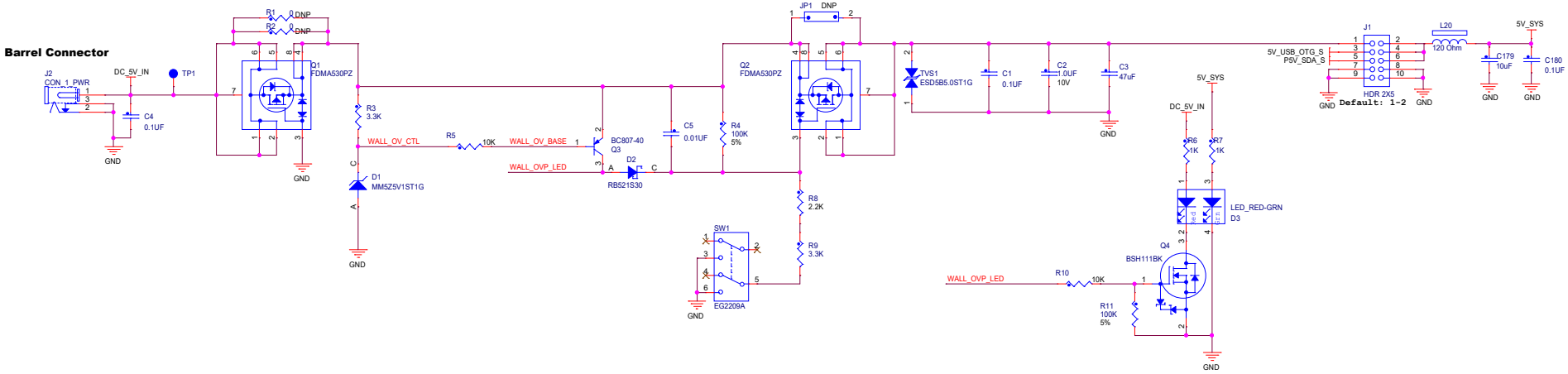
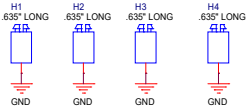
Main Power



Board Mounting Holes



Ground TPs

Layout Note: Place Ground TPs
to assist signal measurement.

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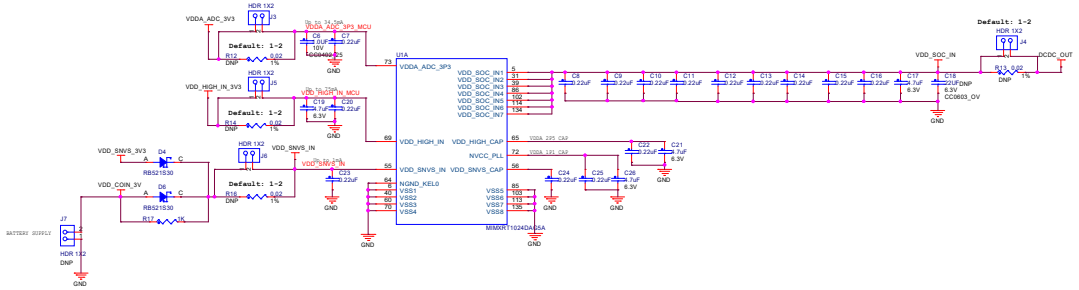
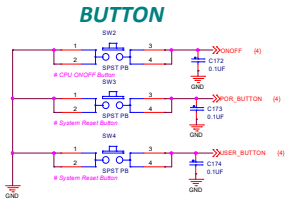
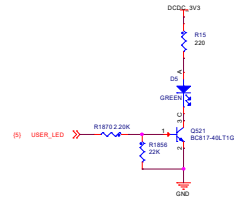
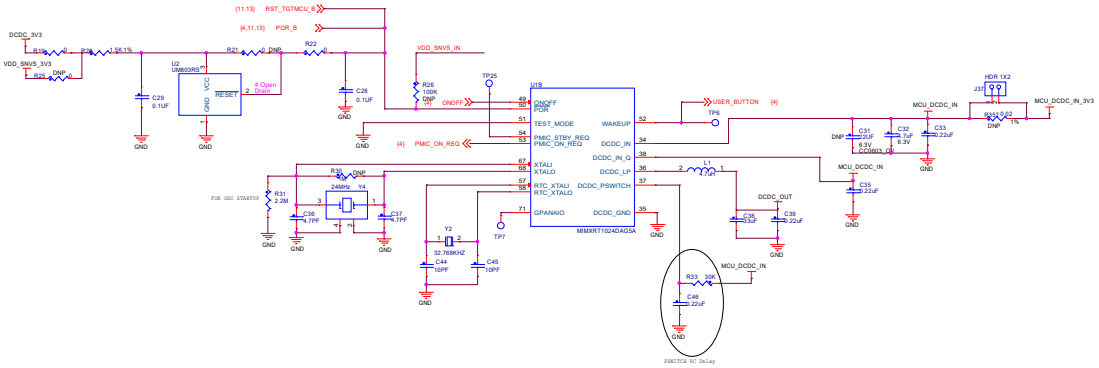


BUTTON

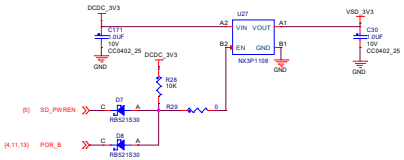


USER LED

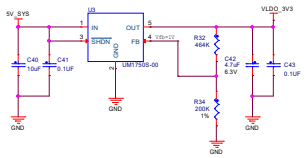




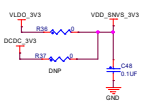
SD CARD POWER SWITCH



3V3 LDO for SNVS

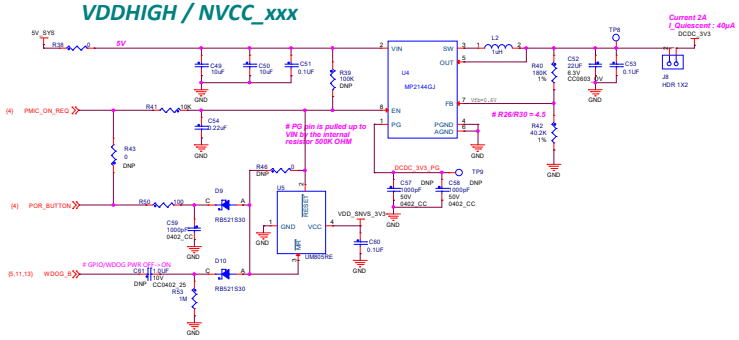


SNVS

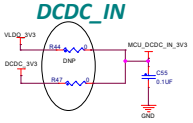


ADC

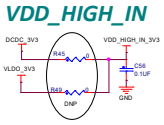
VDDHIGH / NVCC_xxx



DCDC_IN

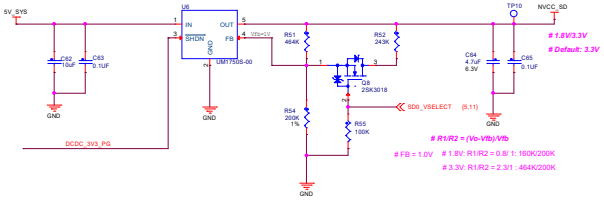


VDD_HIGH_IN



NVCC_SD <SD3.0>

MAX 350 mA



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Drawing Title:	MIMXRT1024-EVK	
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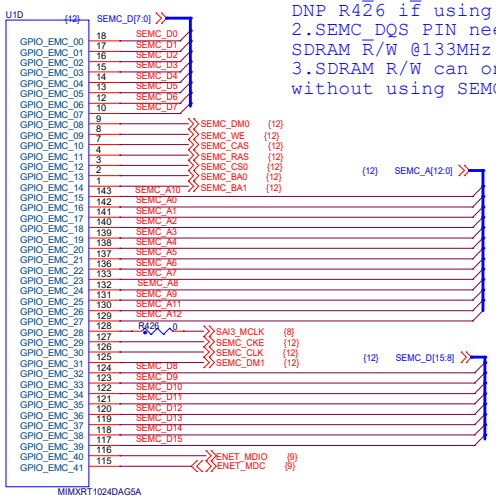
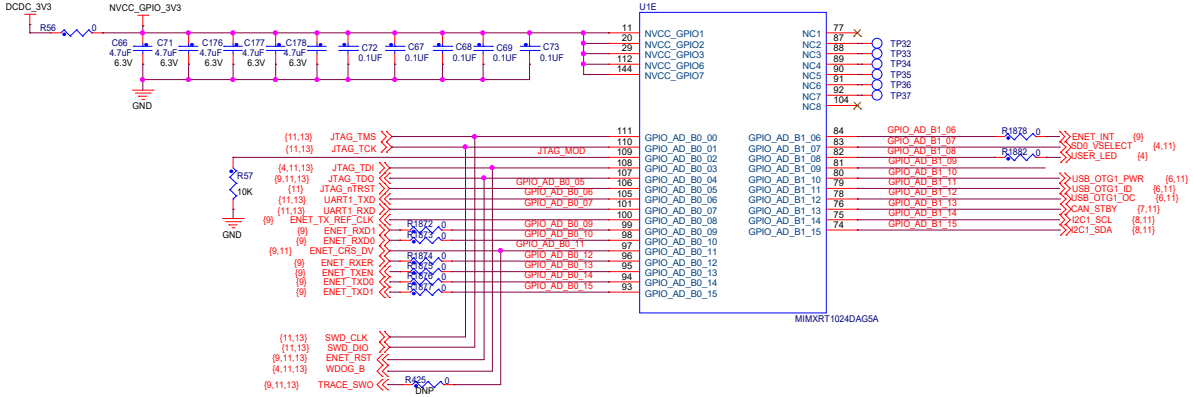
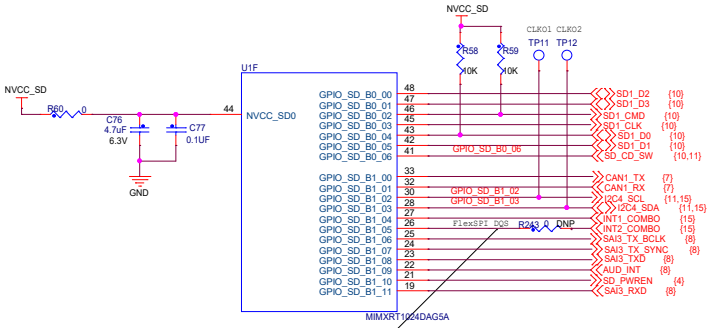
MCU PINOUT

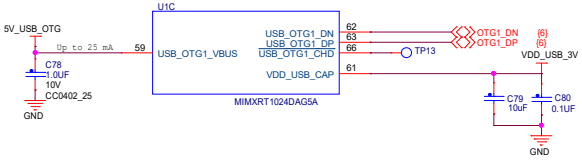
1.GPIO_EMC_28 default to be SAI3_MCLK, DNP R426 if using SEMC_DQS Funciton.
2.SEMC_DQS PIN need to be floating for SDRAM R/W @133MHz.
3.SDRAM R/W can only reach 66MHz without using SEMC_DQS.

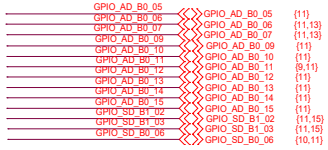


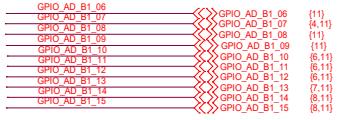




FlexSPI_DQS PIN need floating for QSPI Flash RW @133MHz







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Drawing Title: **MIMXRT1024-EVK**

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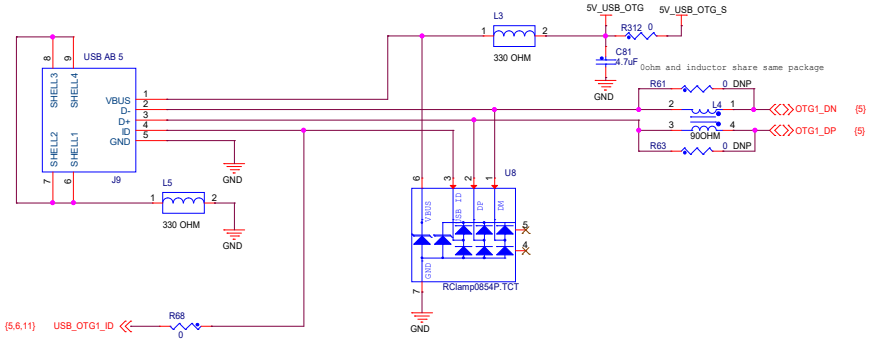
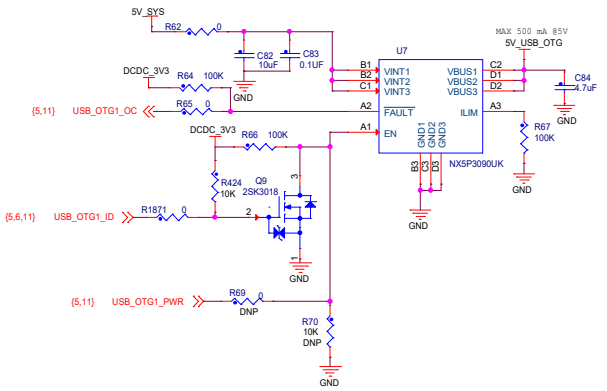
USB OTG



USB POWER



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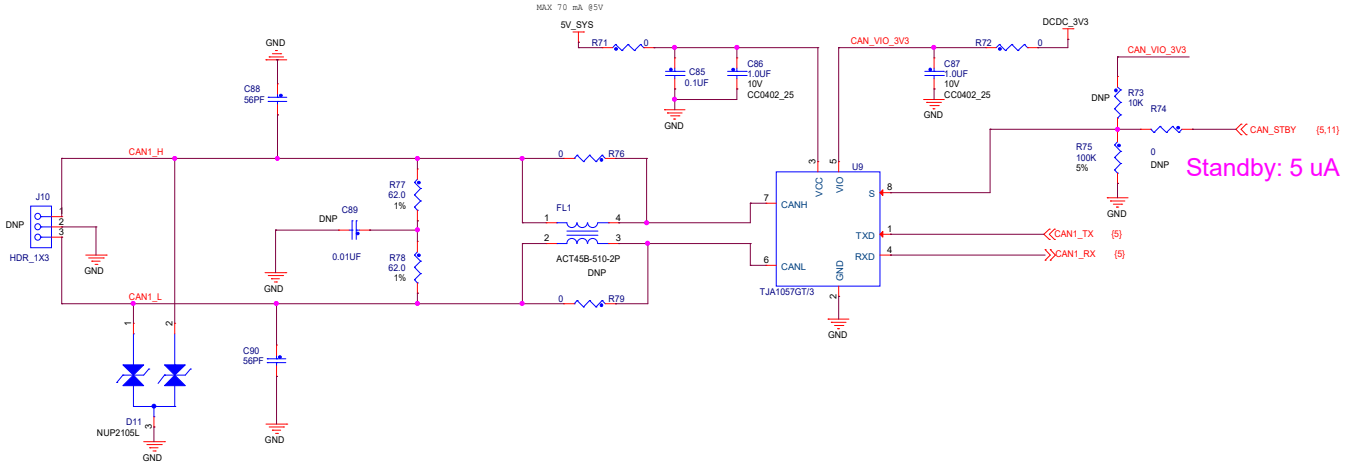
CAN BUS



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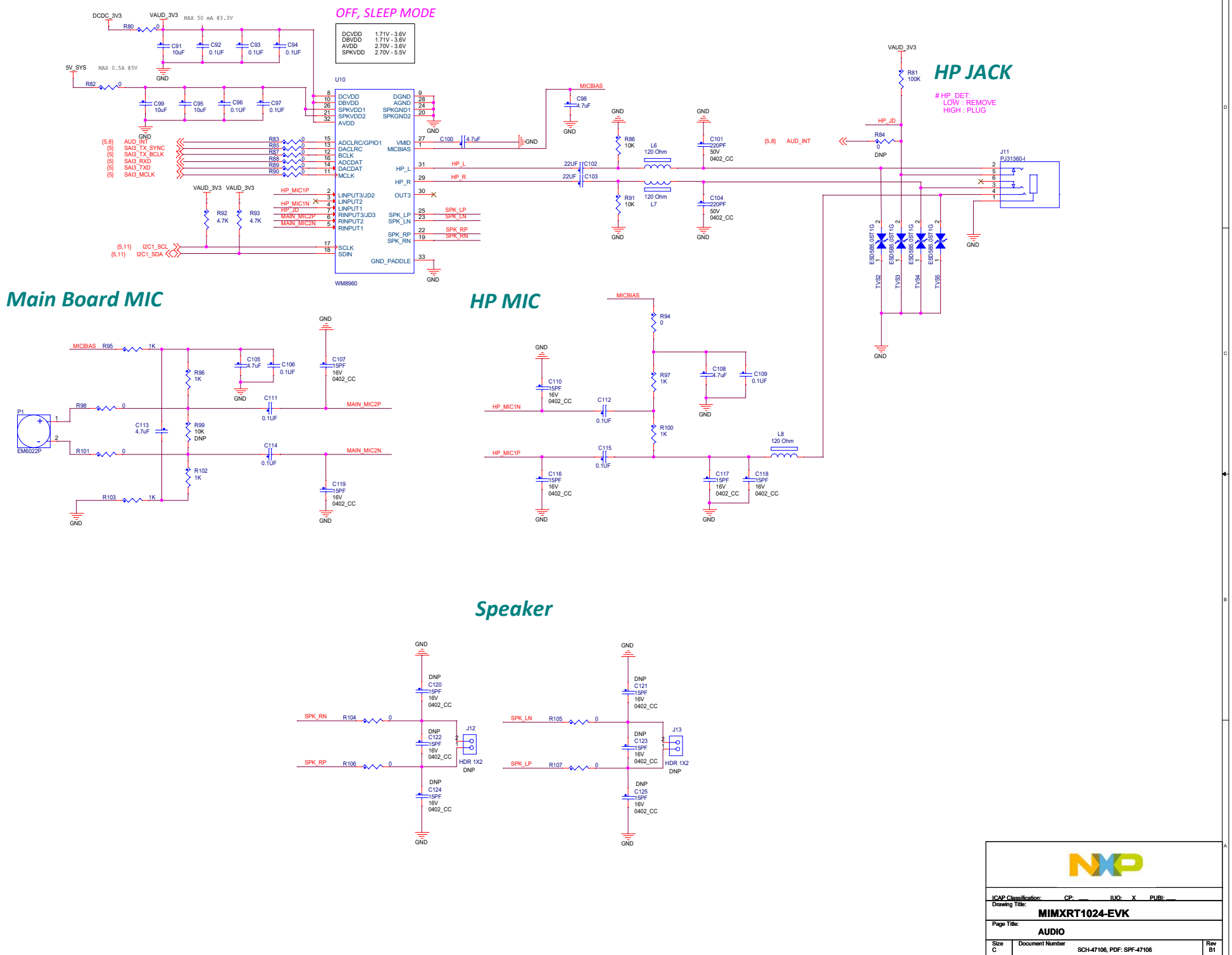

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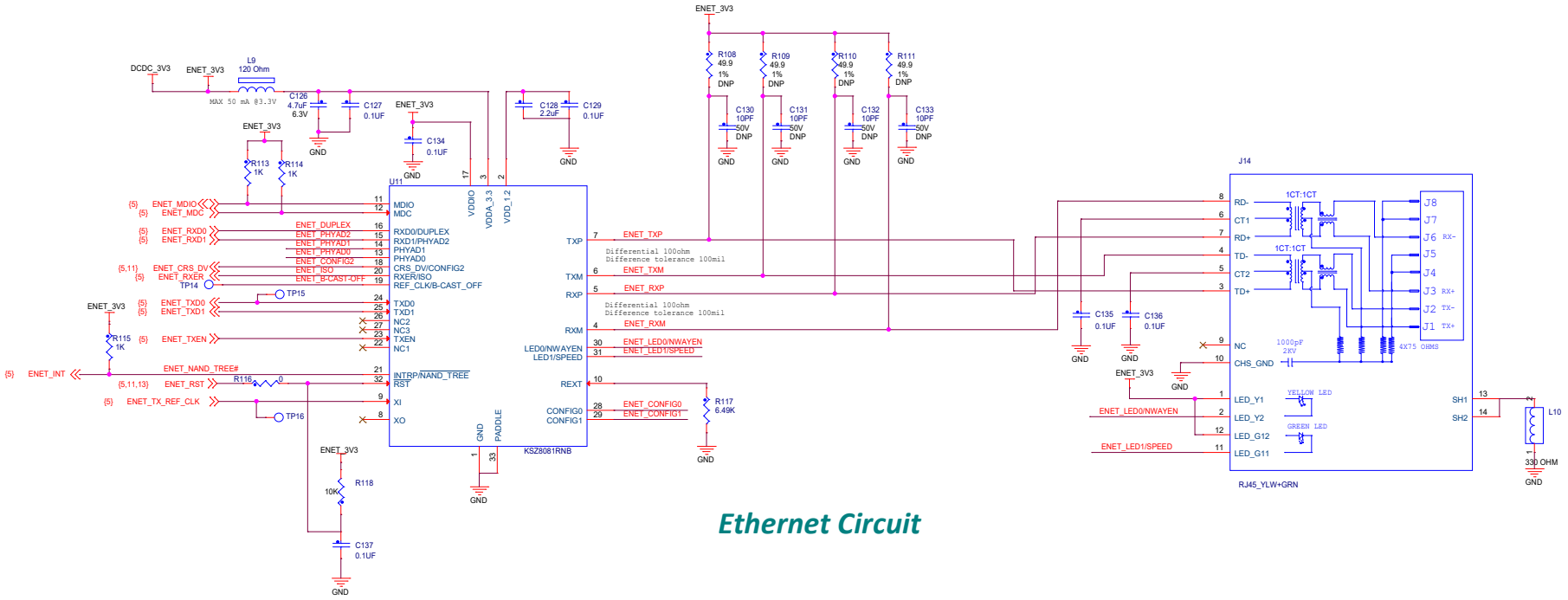
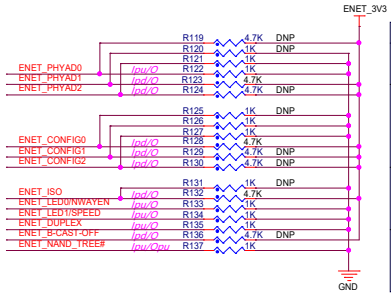


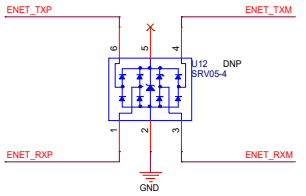
Ethernet Circuit



# 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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Drawing Title: **MIMXRT1024-EVK**

Page Title: **ETHERNET**

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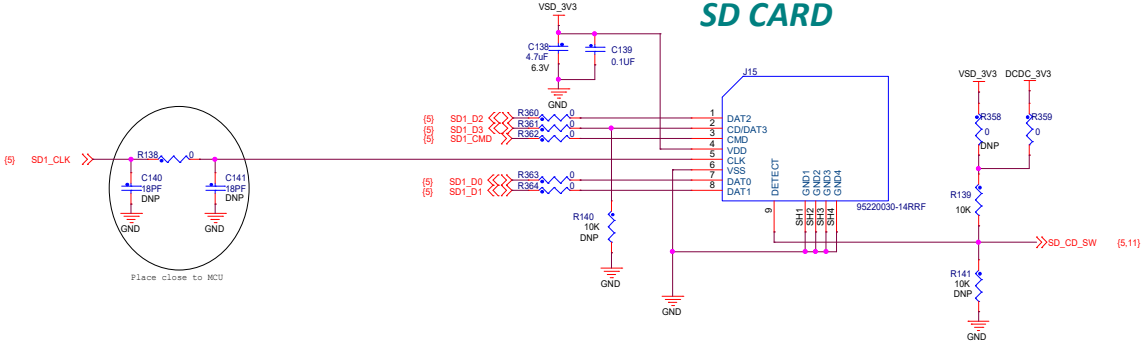
SD CARD



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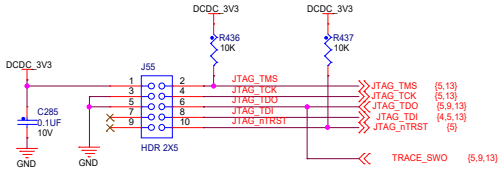
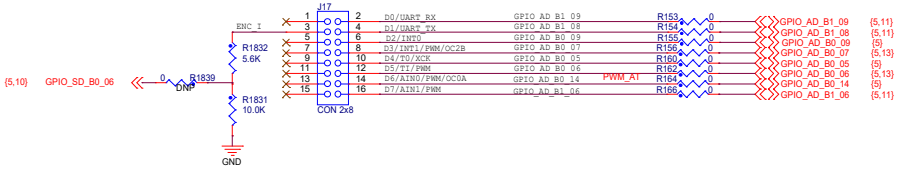
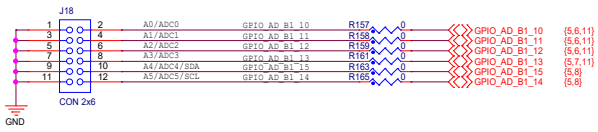
JTAG

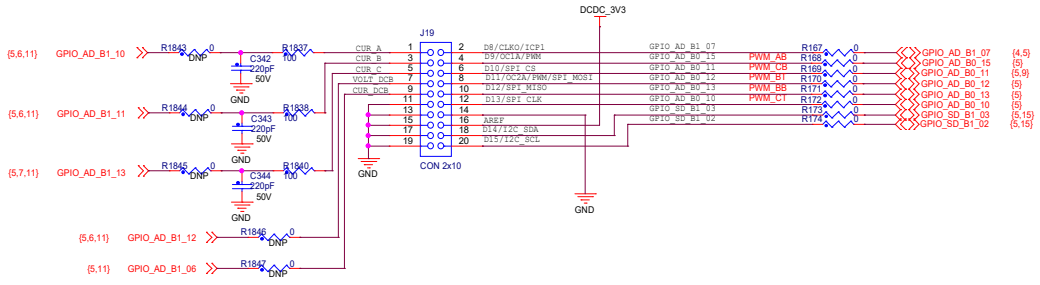


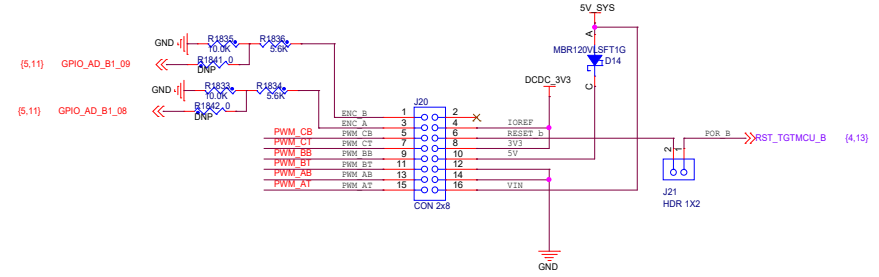
Note:to enable SWO trace function:
1. DNP R116
2. Populate R425

Arduino Interface









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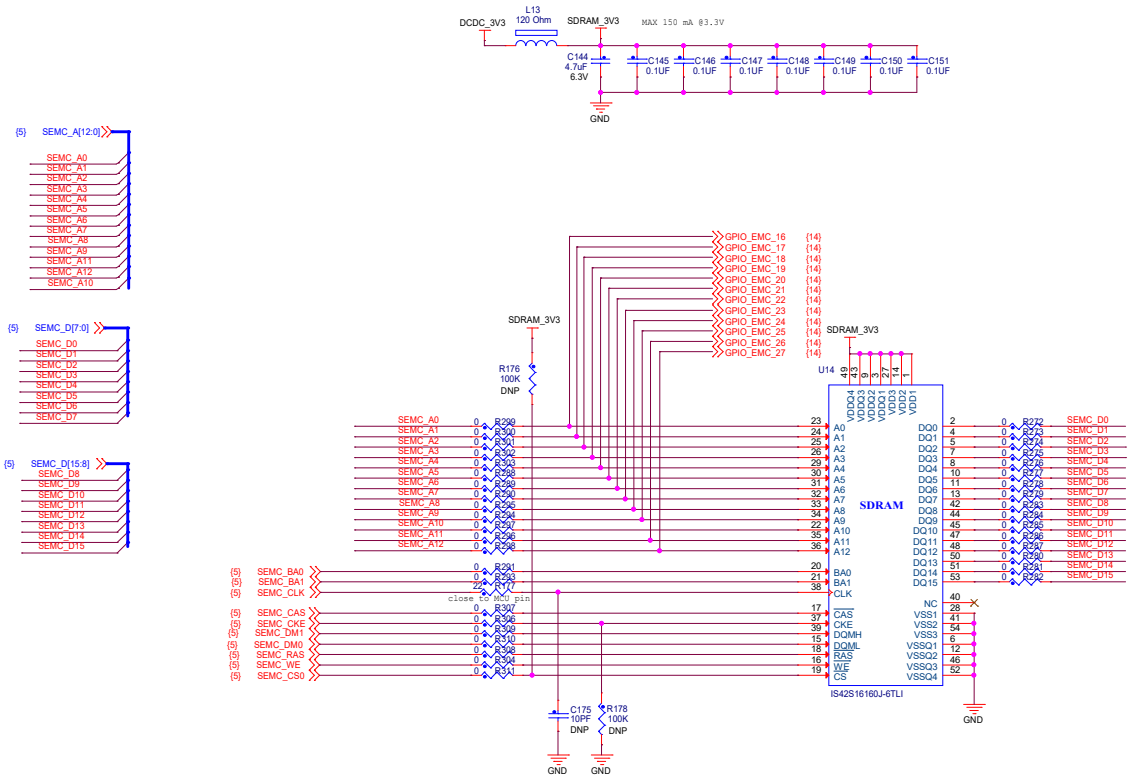
SDRAM



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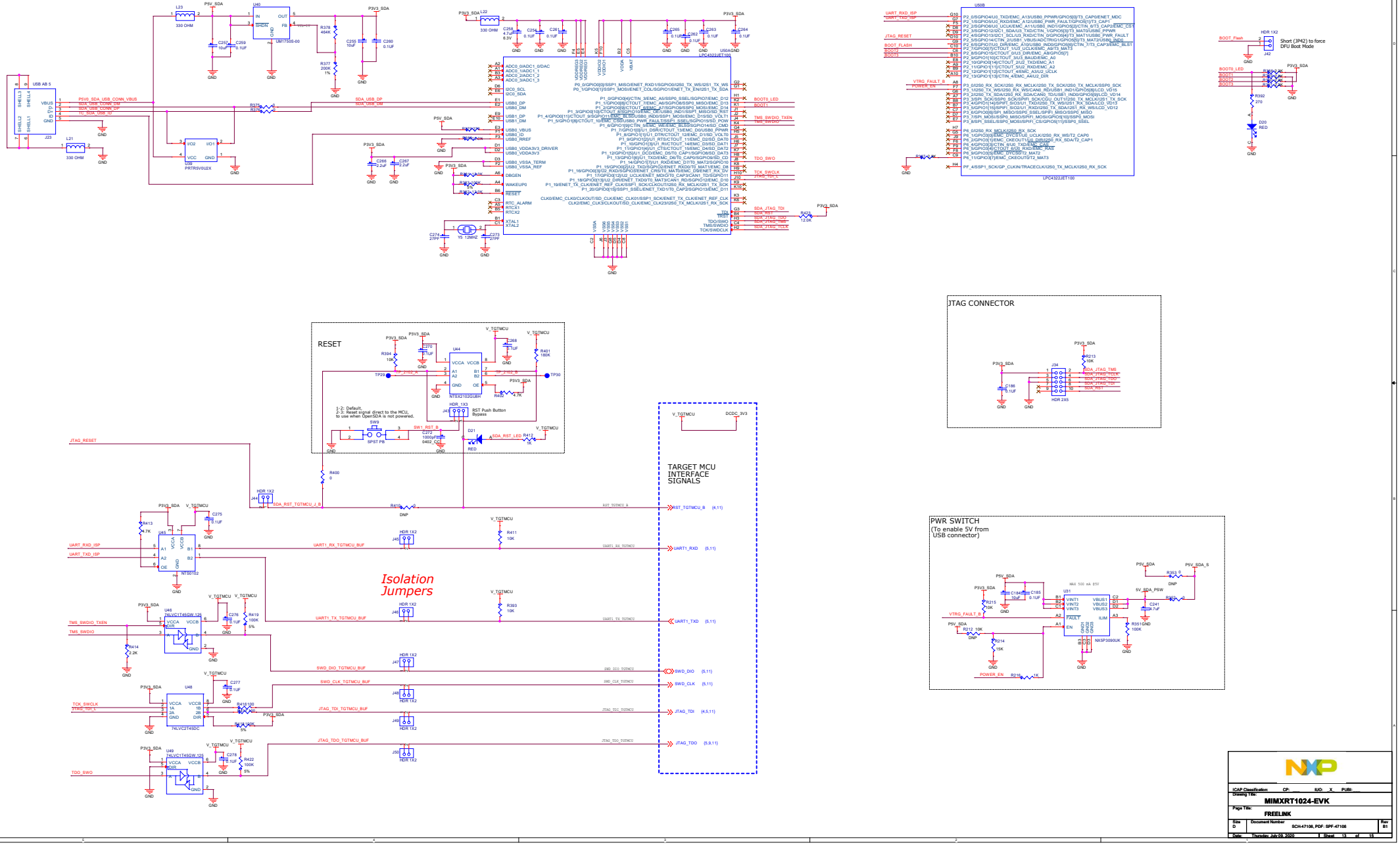
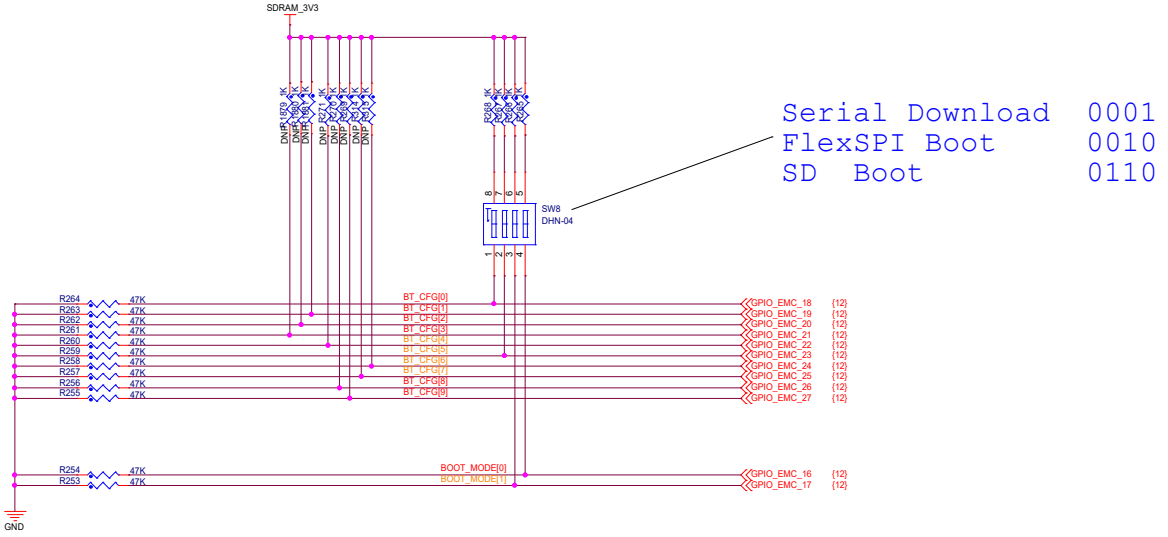
Freelink Interface



FUSE MAP

TYPE	BOOT_CFG[9] (0/1)	BOOT_CFG[8] (0/1)	BOOT_CFG[7] (0/1)	BOOT_CFG[6] (0/1)	BOOT_CFG[5] (0/1)	BOOT_CFG[4] (0/1)	BOOT_CFG[3] (0/1)	BOOT_CFG[2] (0/1)	BOOT_CFG[1] (0/1)	BOOT_CFG[0] (0/1)
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 option)			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



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Page Title: **BOOT**

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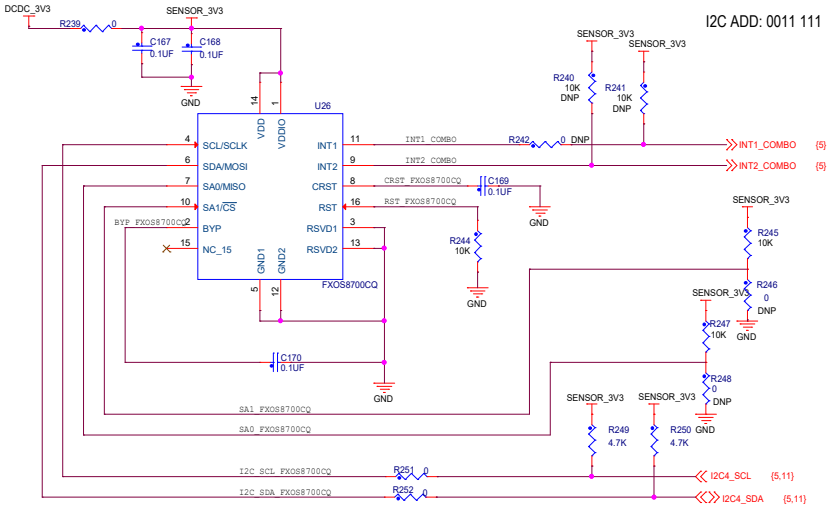
COMBO SENSOR



FXOS8700CQ COMBO SENSOR

ICAP Classification:	CP: ___ IUO: X PUBI: ___	
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