

A

B

C

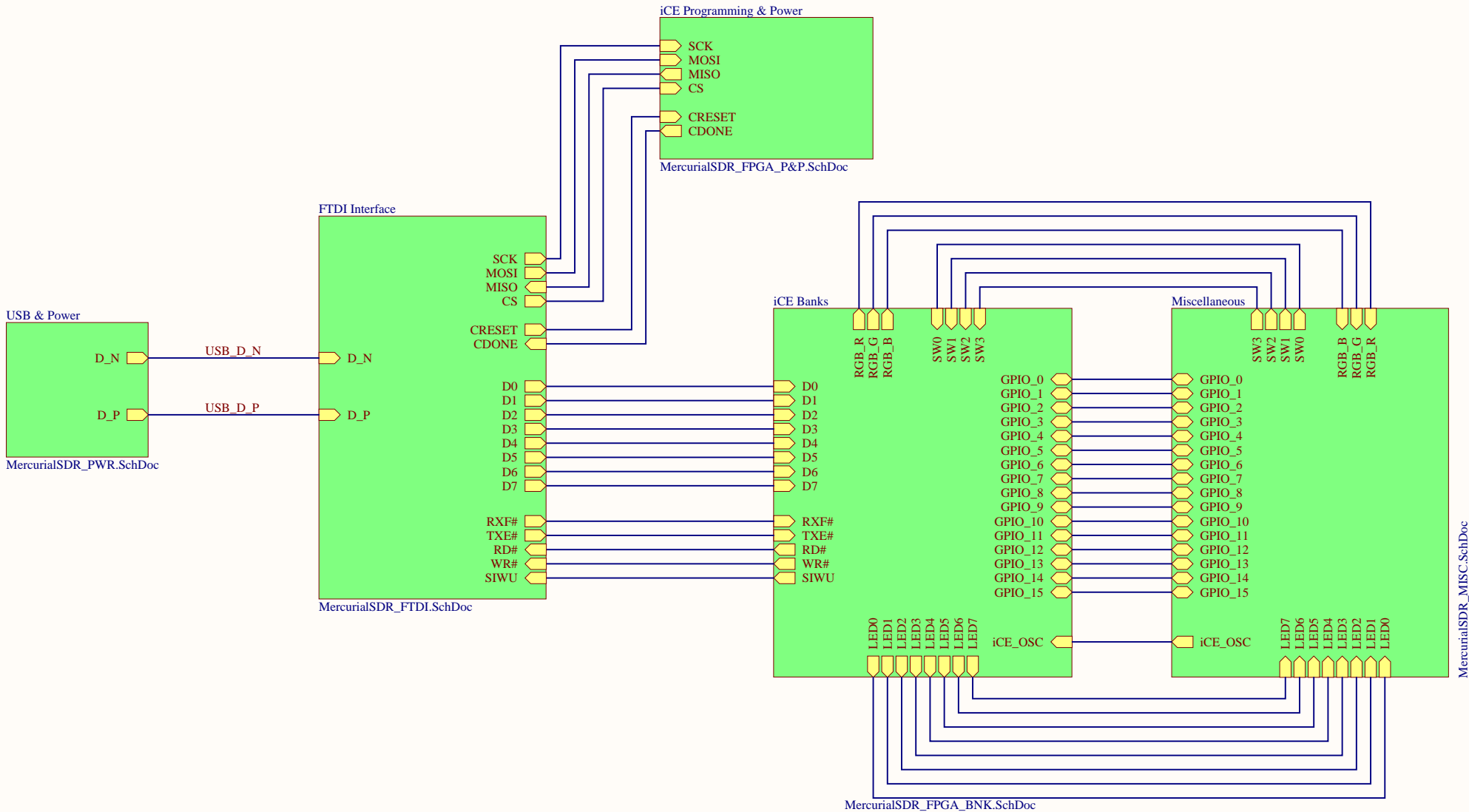
D

A

B

C

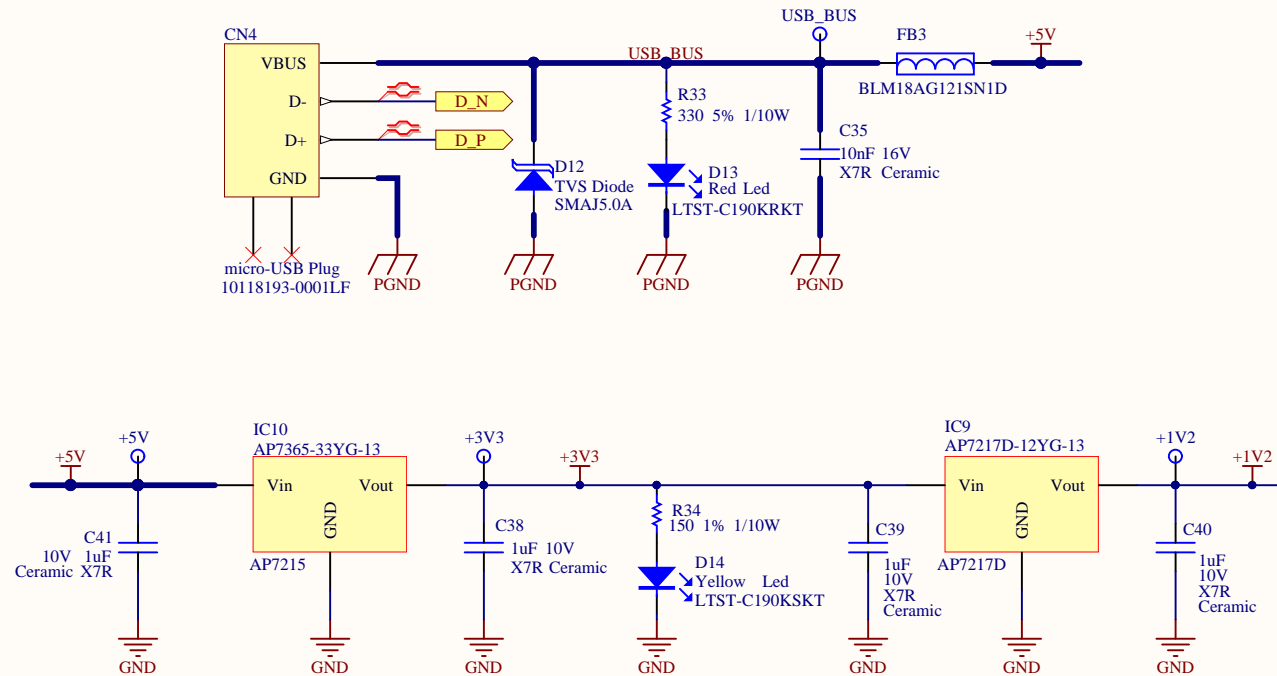
D



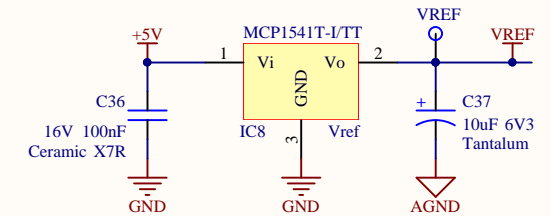
| | | |
|------------------------------|--------------------------------------|---------------------------|
| Title | | |
| MercurialSDR - Block Diagram | | |
| Size | Number | Revision |
| A4 | | Rev2.0 |
| Date: | 11/10/2019 | Sheet 1 of 6 |
| File: | C:\Users\...\MercurialSDR_BLK.SchDoc | Drawn By: Andres Højnadel |

Power Stage

USB to +3V3 and +1V2

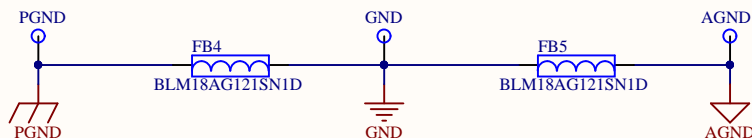


Reference Voltage



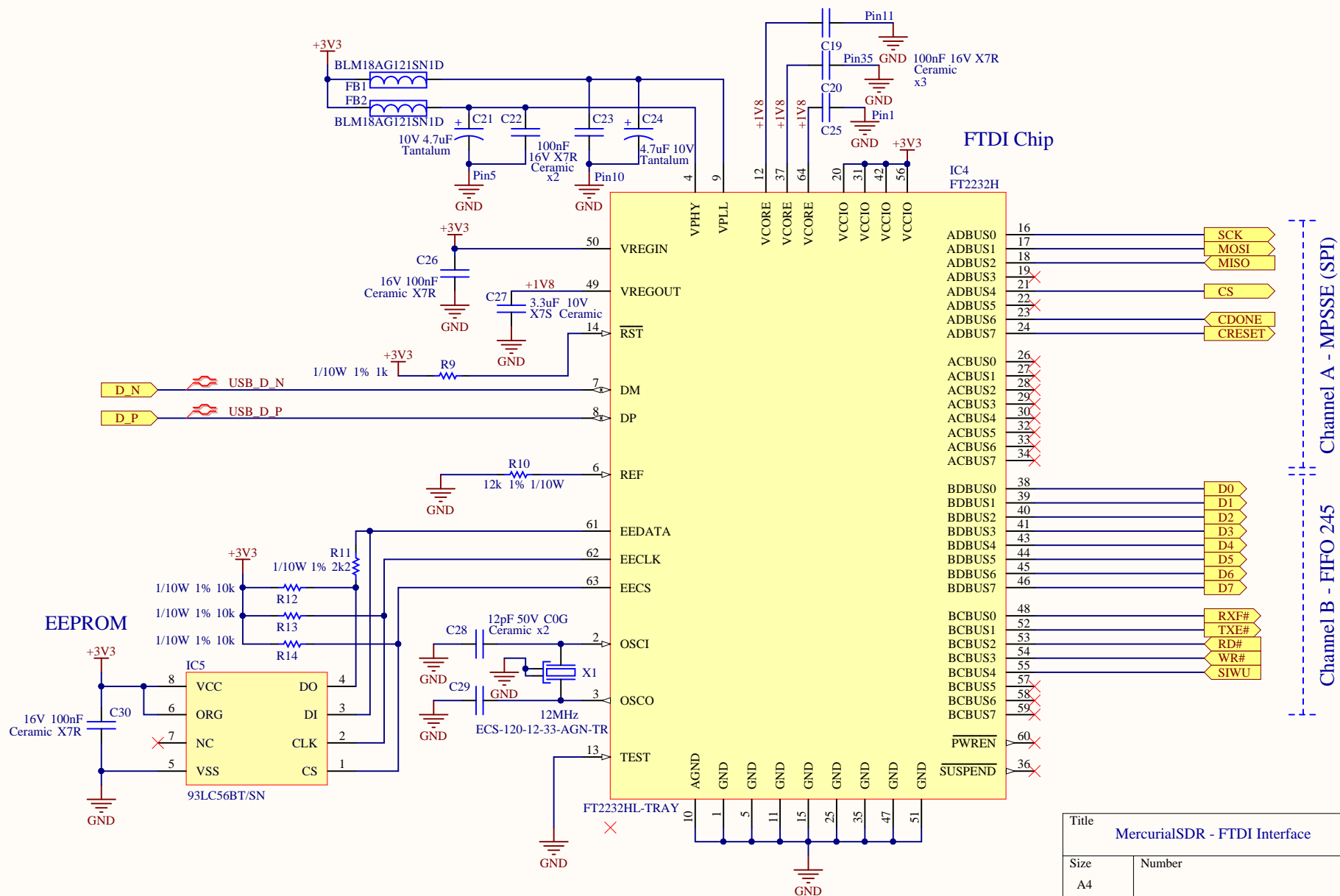
This is a precision voltage reference for DAC (IC1).
Them must be close.

Ground Connections



| | | |
|-------------------------------------|--------------------------------------|---------------------------|
| Title MercurialSDR - Power Stage | | |
| Size A4 | Number | Revision Rev2.0 |
| Date: | 11/10/2019 | Sheet 2 of 6 |
| File: | C:\Users\...\MercurialSDR_PWR.SchDoc | Drawn By: Andres Hojnadel |

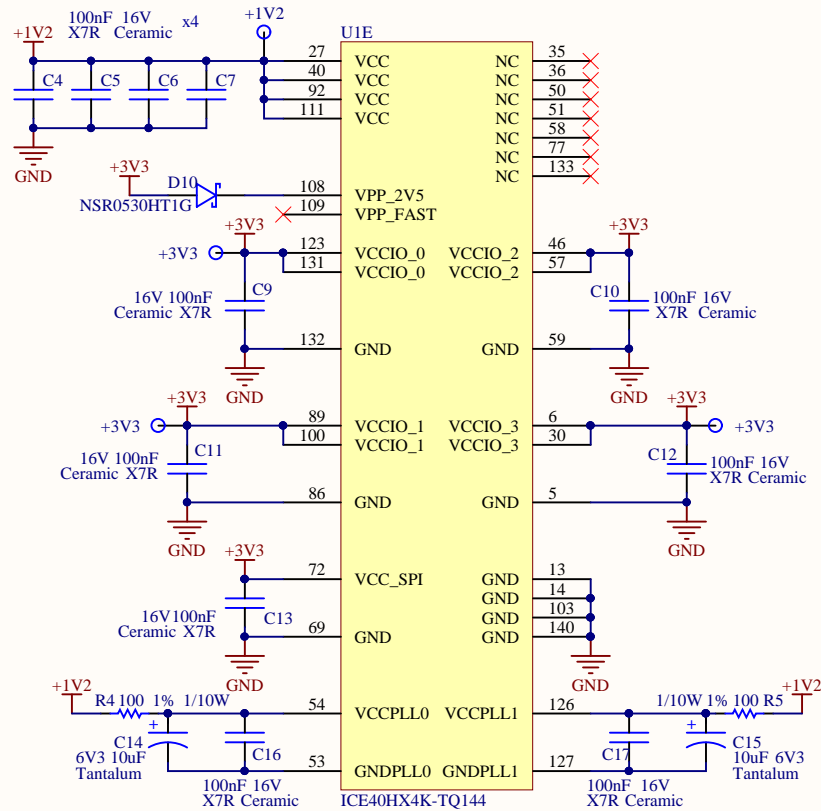
FTDI Interface



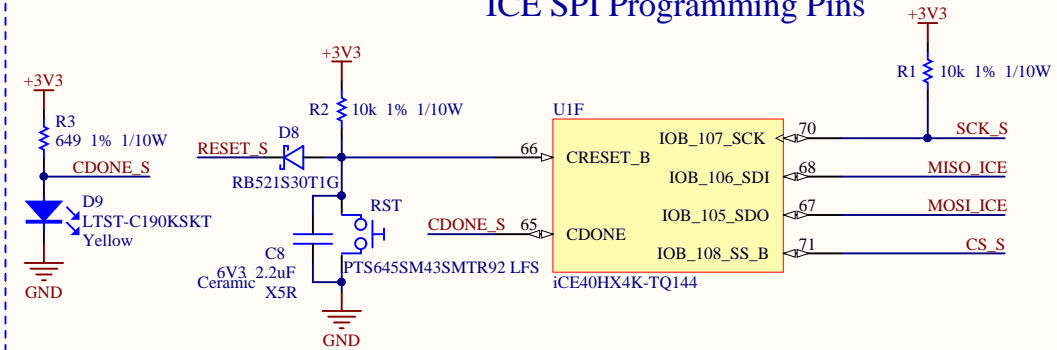
| | | | | | |
|-------|---------------------------------------|--|-------------------------------|--------------|-----------------|
| Title | | | MercurialSDR - FTDI Interface | | |
| Size | Number | | | Revision | |
| A4 | | | | Rev2.0 | |
| Date: | 11/10/2019 | | | Sheet 3 of 6 | |
| File: | C:\Users\...\MercurialSDR_FTDI\SchDoc | | | Drawn By: | Andres Hojnadel |

ICE Programming & Power

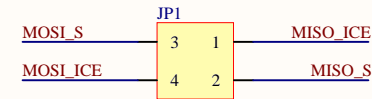
iCE Power



ICE SPI Programming Pins

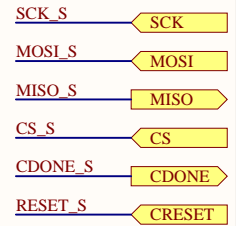


ICE/Flash programming selection

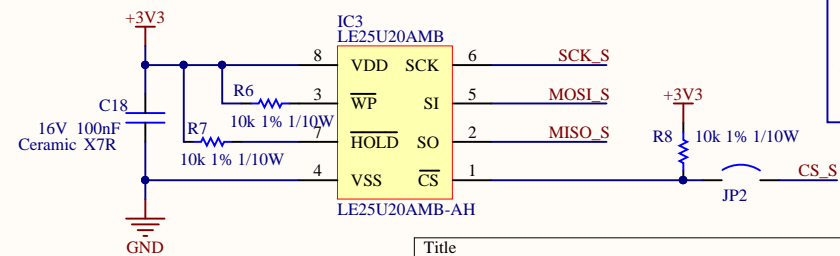


For programming Flash: shunt 1-3 & 2-4
For programming ICE: shunt 1-2 & 3-4

FTDI Ports



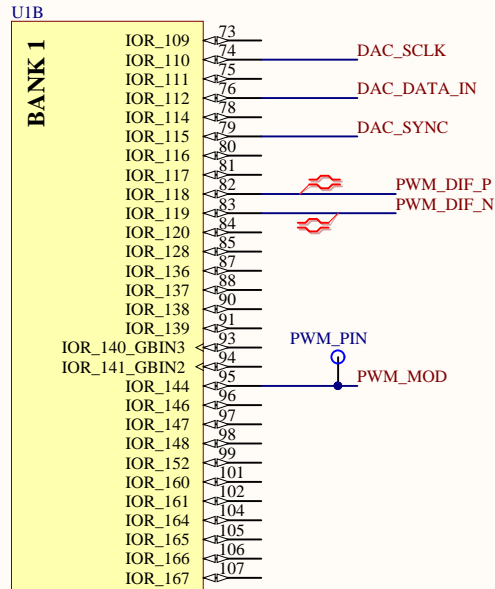
Flash Memory



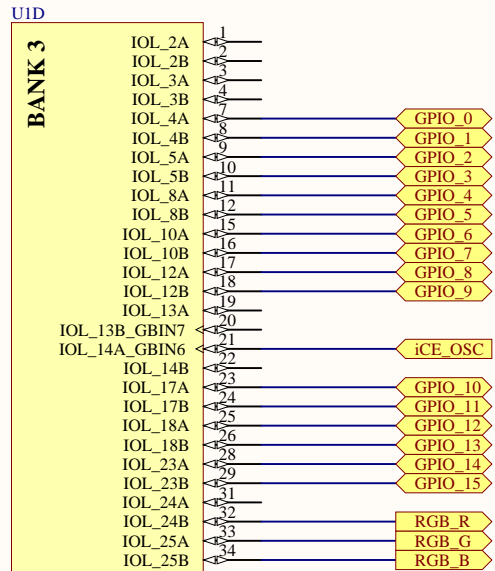
Remove JP2 only for programming ICE
Shunt JP2 for Flash programming or normal operation

| | | |
|--|--|---------------------------|
| Title MercurialSDR - iCE Power & Program. | | |
| Size A4 | Number | Revision Rev2.0 |
| Date: | 11/10/2019 | Sheet 4 of 6 |
| File: | C:\Users\...\MercurialSDR_FPGA_P&P_Sch | Drawn By: Andres Hojnadel |

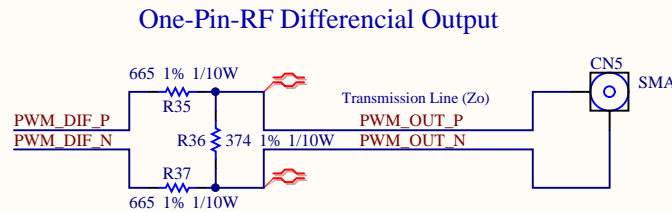
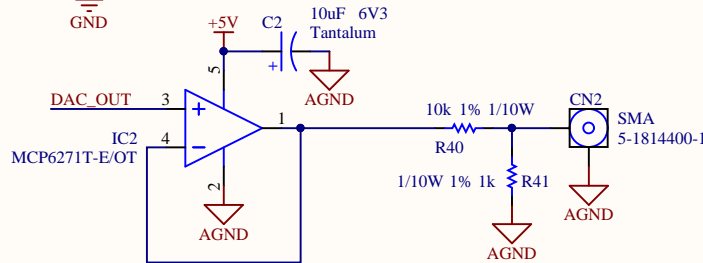
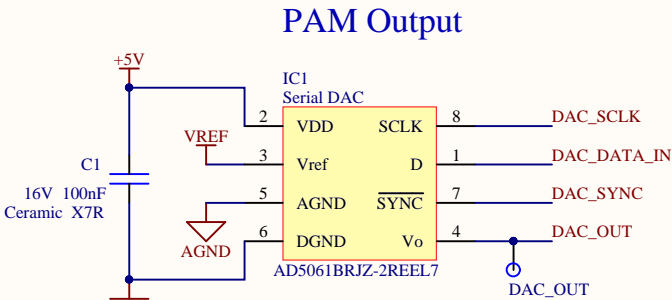
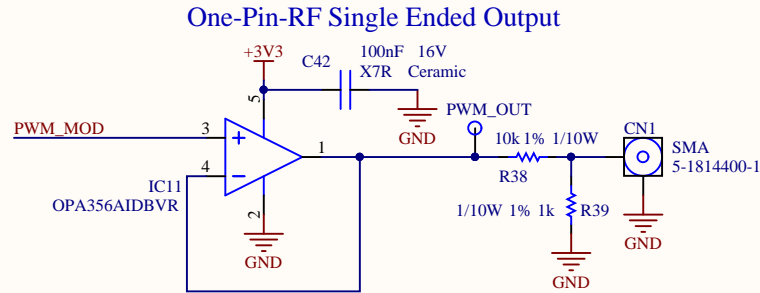
FPGA Banks



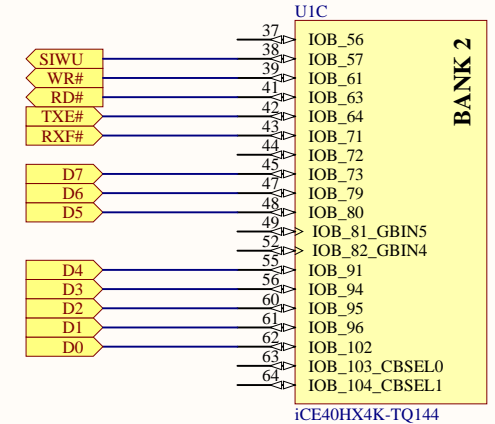
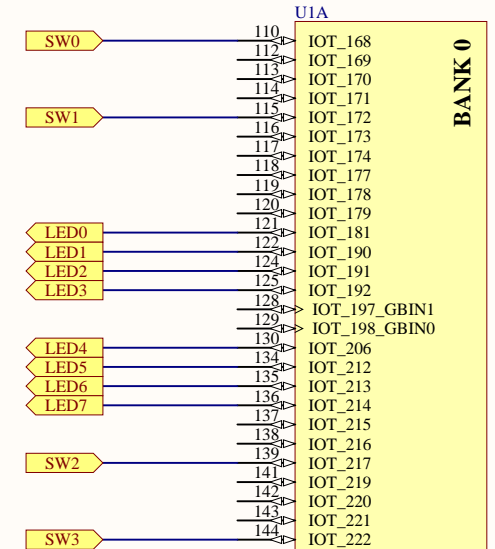
iCE40HX4K-TQ144



ICE40HX4K-TQ144



The resistors network must be close to the FPGA differential output pins

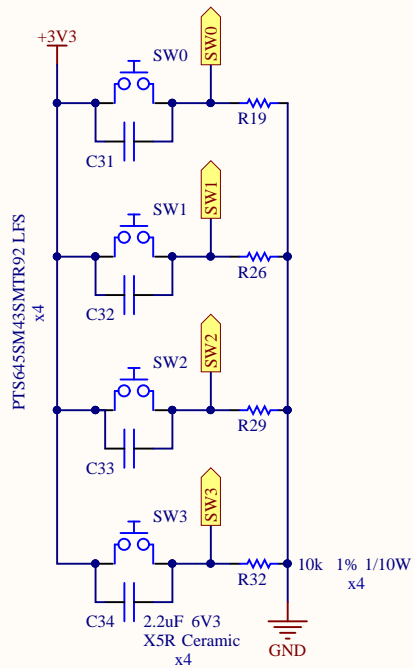


FIFO 245

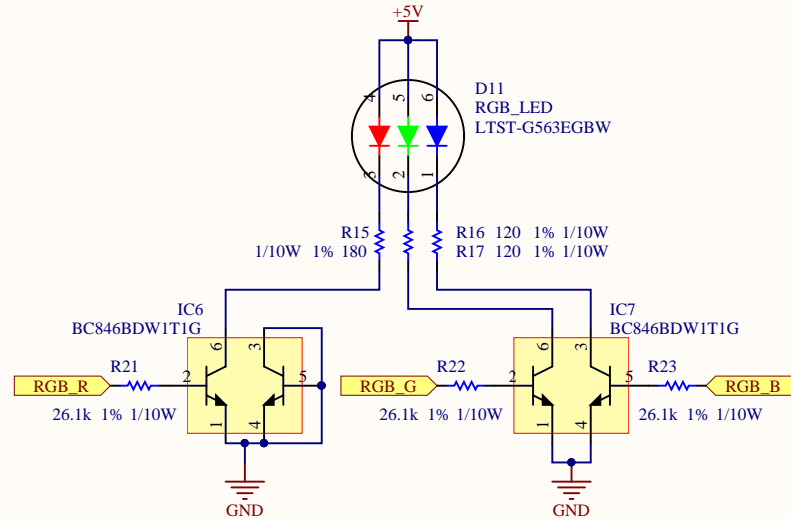
| | | |
|--------------------------|--|---------------------------|
| Title | | |
| MercurialSDR - iCE Banks | | |
| Size | Number | Revision |
| A4 | | Rev2.0 |
| Date: | 11/10/2019 | Sheet 5 of 6 |
| File: | C:\Users\...\MercurialSDR_FPGA_BNK_SDR | Drawn By: Andres Hojnadel |

Miscellaneous

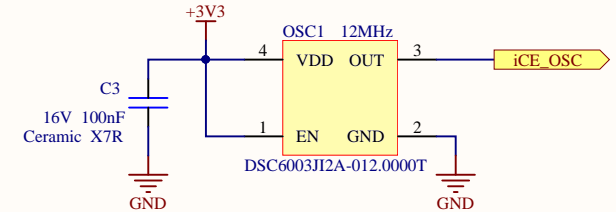
Buttons



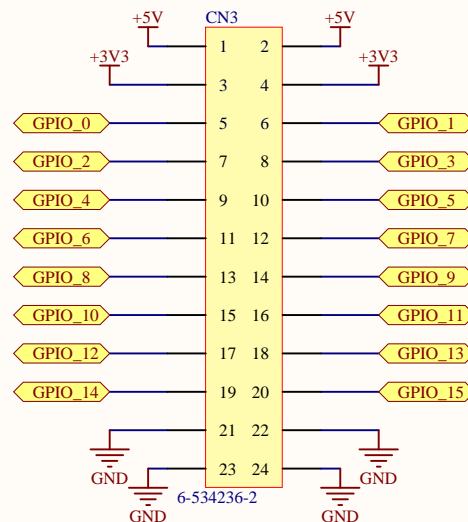
RGB Led



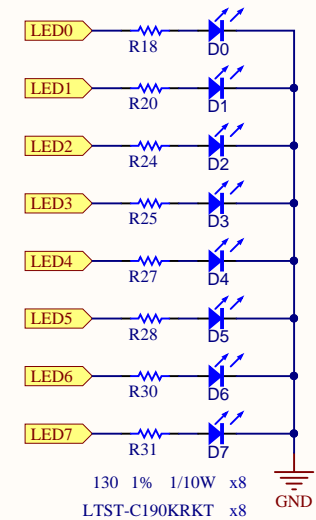
iCE Oscillator



GPIO Ports



8-Led Array



| | | |
|------------------------------|---------------------------------------|---------------------------|
| Title | | |
| MercurialSDR - Miscellaneous | | |
| Size | Number | Revision |
| A4 | | Rev2.0 |
| Date: | 11/10/2019 | Sheet 6 of 6 |
| File: | C:\Users\...\MercurialSDR_MISC.SchDoc | Drawn By: Andres Hojnadel |

