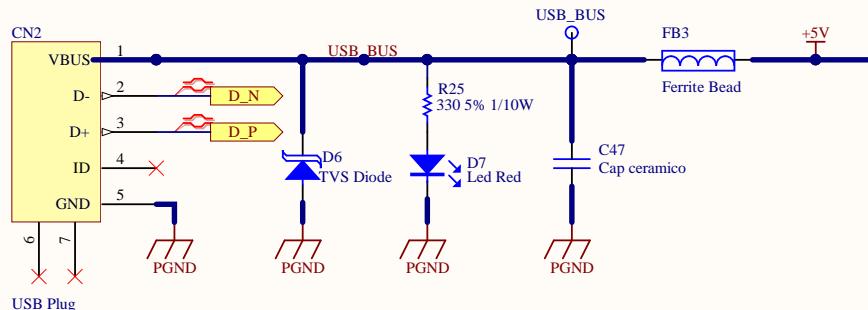
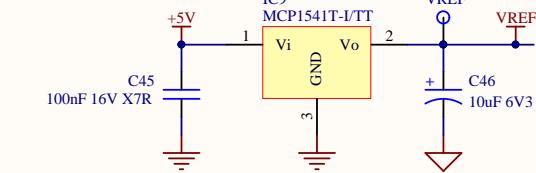


# Power Stage

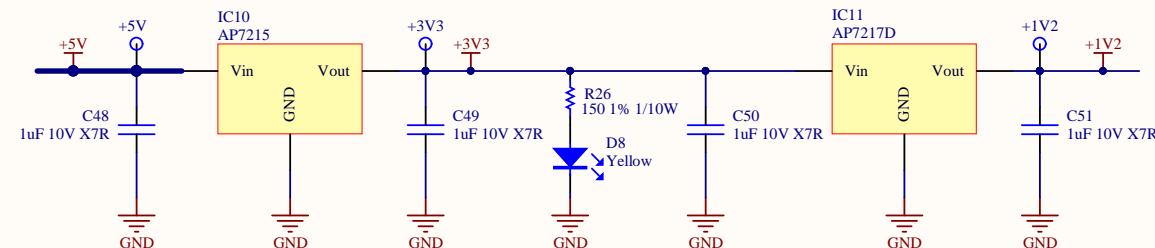
## USB to +3V3 and +1V2



## Reference Voltage

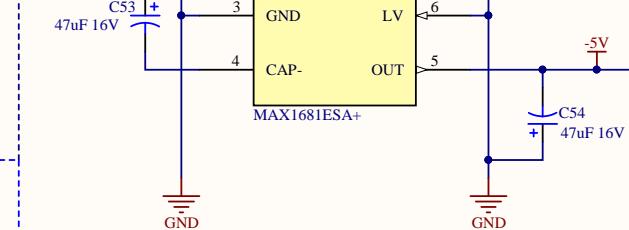
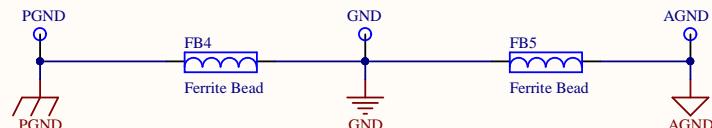


## Inverter Voltage



Es muy importante el ESR de los capacidores para el ripple

## Ground Connections



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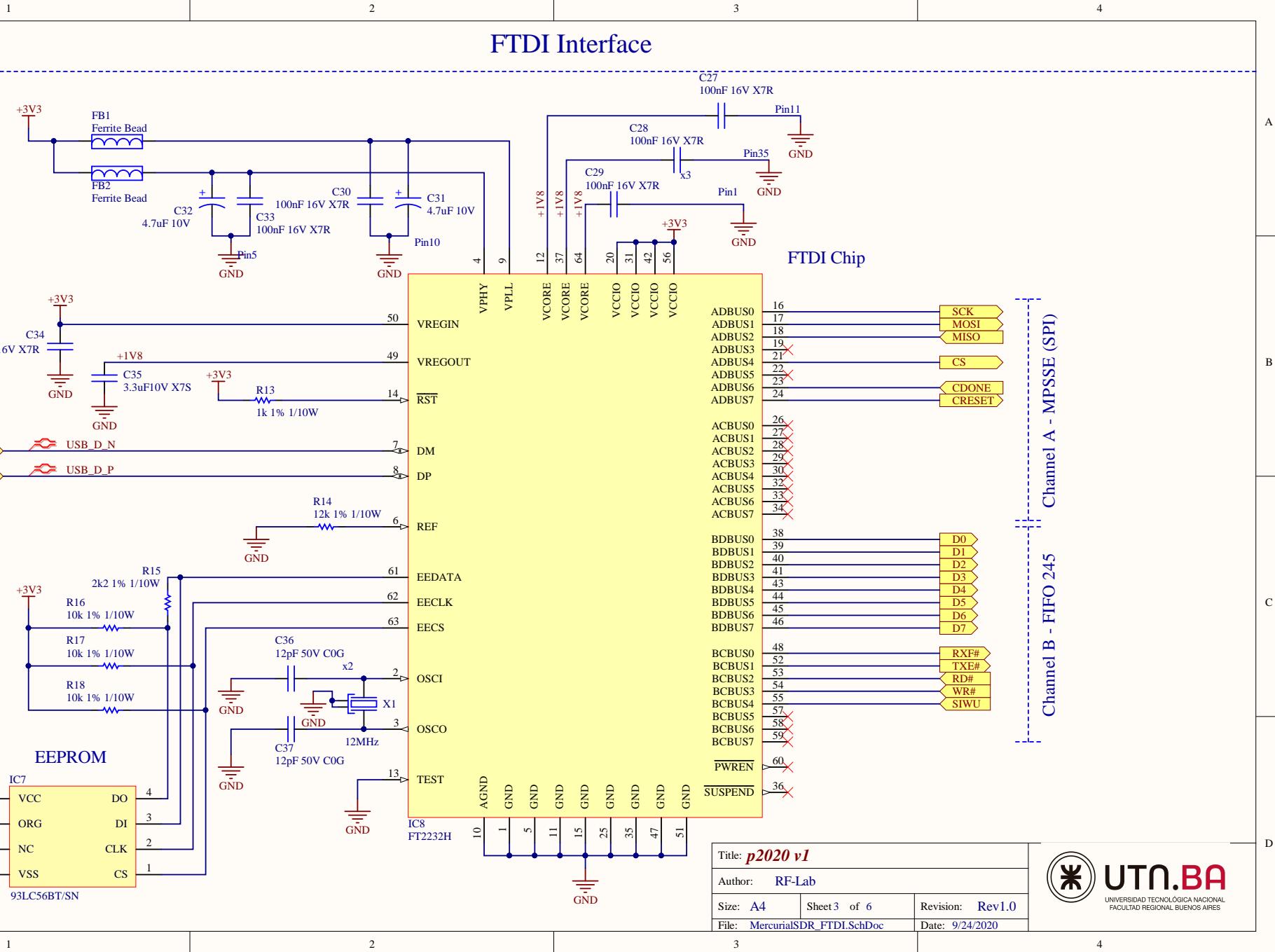
Size: A4

Sheet 2 of 6

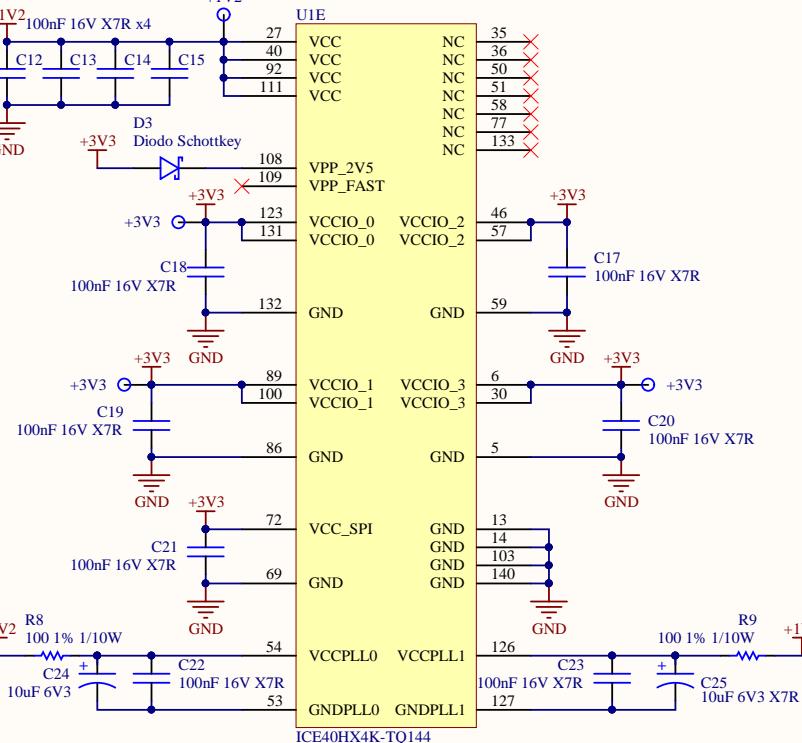
Revision: Rev1.0

File: MercurialSDR\_PWR.SchDoc

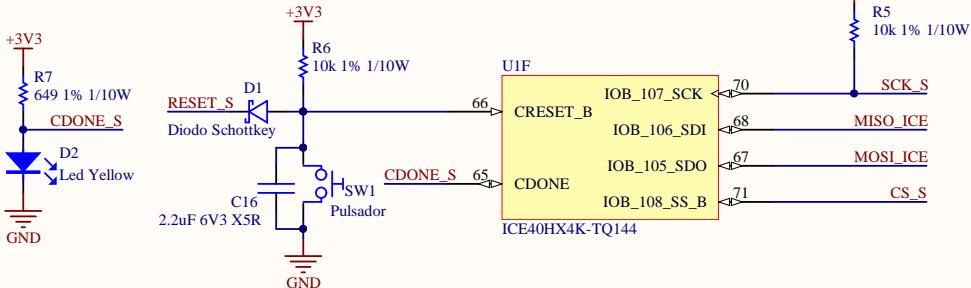
Date: 9/24/2020



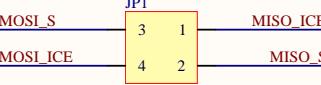
# ICE Programming & Power



## ICE SPI Programming Pins



## ICE/Flash programming selection



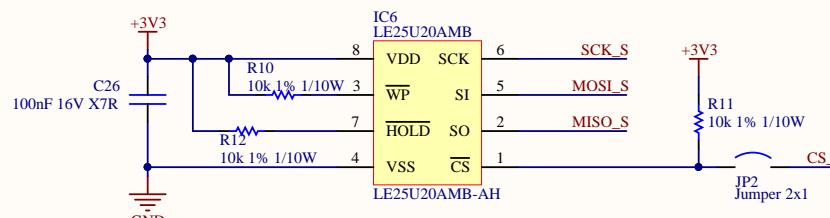
For programming ICE: shunt 1-3 & 2-4

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

FTDI Ports

The diagram shows the pinout for the SPI interface. It consists of six horizontal lines, each with a blue label on the left and a yellow arrowhead on the right pointing towards the top. The labels from left to right are: SCK\_S, MOSI\_S, MISO\_S, CS\_S, CDONE\_S, and RESET\_S.

## Flash Memory



Remove JP2 only for  
programming ICE

Shunt JP2 for Flash  
programming or normal  
operation

Title: **p2020 v1**  
Author: RF-Lab  
Size: A4 Sheet 4 of 6 Revision: Rev1.0  
File: MercurialSDR FPGA P&P.SchDoc Date: 9/24/2020



## FPGA Banks

PIN93y94 son GlobalPins, pero se pueden usar como GPIOs

### BANK 1

IOR_109	
IOR_110	
IOR_111	
IOR_112	
IOR_113	
IOR_114	
IOR_115	
IOR_116	
IOR_117	
IOR_118	
IOR_119	
IOR_120	
IOR_121	
IOR_122	
IOR_123	
IOR_124	
IOR_125	
IOR_126	
IOR_127	
IOR_128	
IOR_129	
IOR_130	
IOR_131	
IOR_132	
IOR_133	
IOR_134	
IOR_135	
IOR_136	
IOR_137	
IOR_138	
IOR_139	
IOR_140	GBIN3
IOR_141	GBIN2
IOR_142	
IOR_143	
IOR_144	
IOR_145	
IOR_146	
IOR_147	
IOR_148	
IOR_149	
IOR_150	
IOR_151	
IOR_152	
IOR_153	
IOR_154	
IOR_155	
IOR_156	
IOR_157	
IOR_158	
IOR_159	
IOR_160	
IOR_161	
IOR_162	
IOR_163	
IOR_164	
IOR_165	
IOR_166	
IOR_167	

iCE40HX4K-TQ144

### BANK 3

IOL_2A	
IOL_2B	
IOL_3A	
IOL_3B	
IOL_4A	
IOL_4B	
IOL_5A	
IOL_5B	
IOL_6A	
IOL_6B	
IOL_7A	
IOL_7B	
IOL_8A	
IOL_8B	
IOL_9A	
IOL_9B	
IOL_10A	
IOL_10B	
IOL_11A	
IOL_11B	
IOL_12A	
IOL_12B	
IOL_13A	
IOL_13B	
IOL_14A	GBIN7
IOL_14B	GBIN6
IOL_15A	
IOL_15B	
IOL_16A	
IOL_16B	
IOL_17A	
IOL_17B	
IOL_18A	
IOL_18B	
IOL_19A	
IOL_19B	
IOL_20A	
IOL_20B	
IOL_21A	
IOL_21B	
IOL_22A	
IOL_22B	
IOL_23A	
IOL_23B	
IOL_24A	
IOL_24B	
IOL_25A	
IOL_25B	
IOL_26A	
IOL_26B	
IOL_27A	
IOL_27B	
IOL_28A	
IOL_28B	
IOL_29A	
IOL_29B	
IOL_30A	
IOL_30B	
IOL_31A	
IOL_31B	
IOL_32A	
IOL_32B	
IOL_33A	
IOL_33B	
IOL_34A	
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ICE40HX4K-TQ144

1

2

3

4

A

A

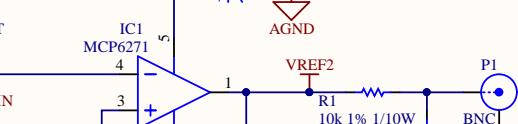
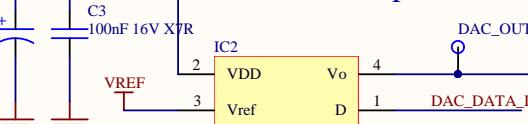
C

C

D

D

## PAM Output



AGNDA

AGNDB

IOUT\_B

AGNDB

IOUT\_A

AGNDA

RFB\_A

VREF\_B

RFB\_B

VREF\_A

RFB\_A

VREF\_B

RFB\_B

VREF\_A

RFB\_A

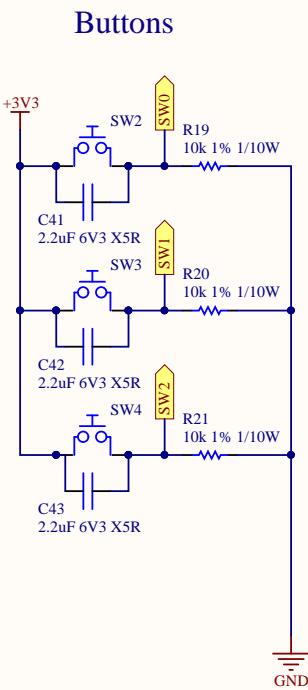
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RFB\_B

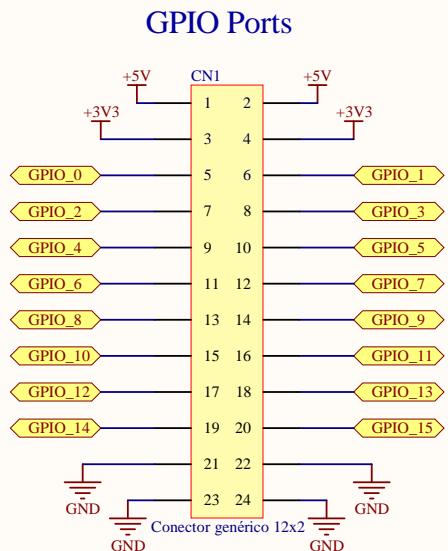
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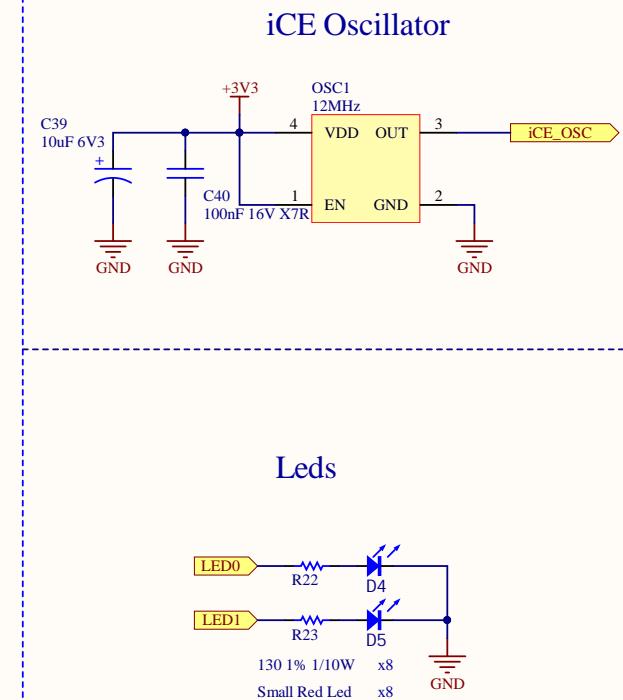
A



B



C



D

Title: *p2020 v1*

Author: RF-Lab

Size: A4 | Sheet 6 of 6 | Revision: Rev1.0

File: MercurialSDR\_MISC.SchDoc | Date: 9/24/2020

