

A

A

B

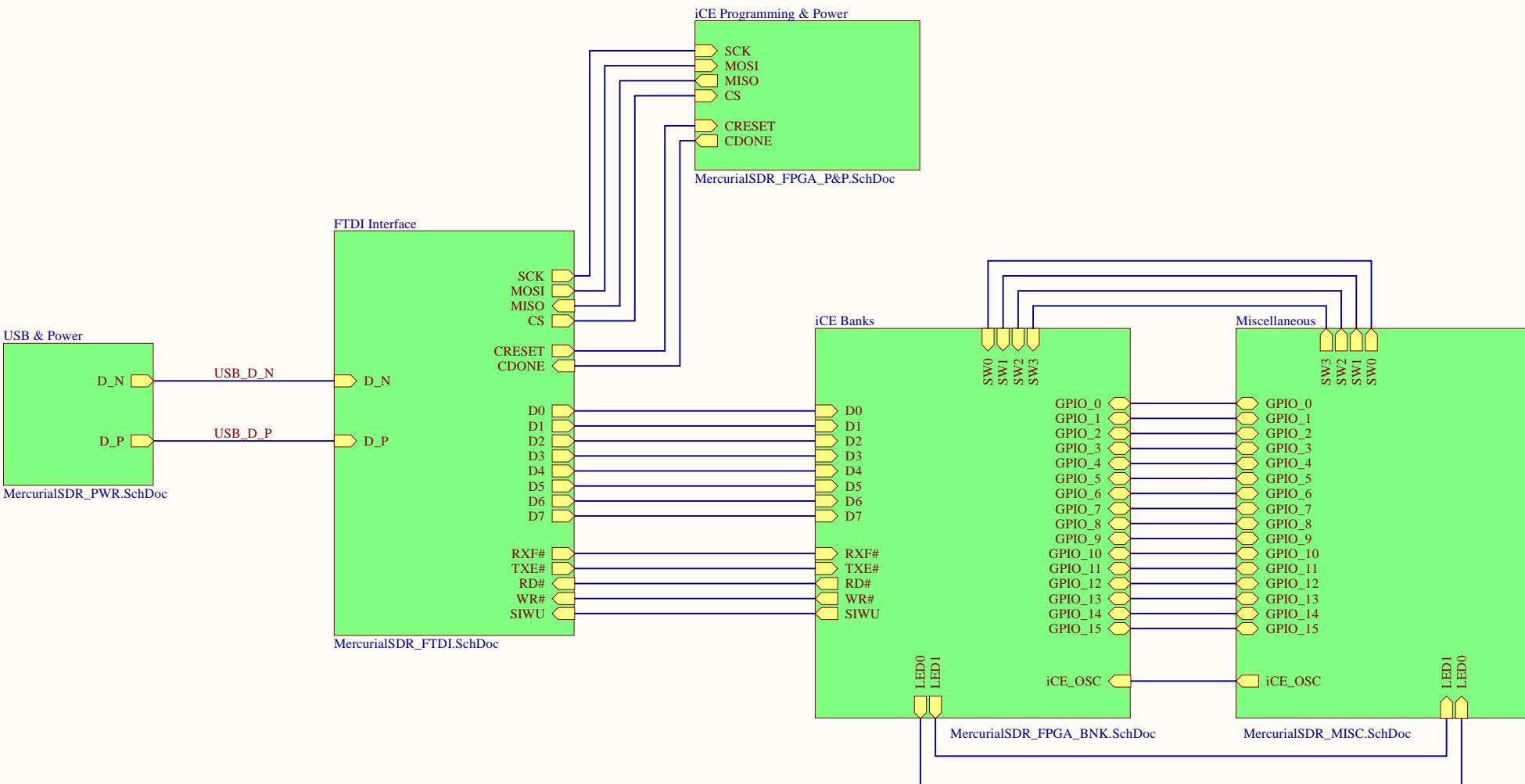
B

C

C

D

D

Title: *p2020 v1*

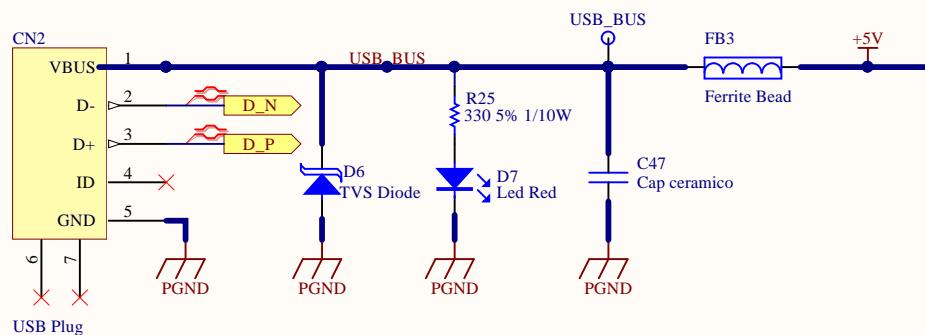
Author: RF-Lab

Size: A4 Sheet 1 of 6 Revision: Rev1.0

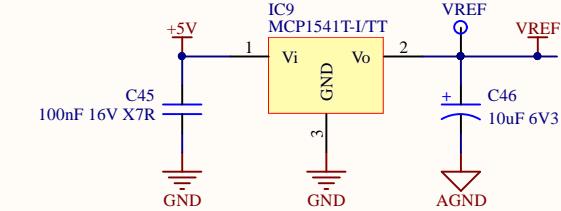
File: MercurialSDR\_BLK.SchDoc Date: 20/8/2020

# Power Stage

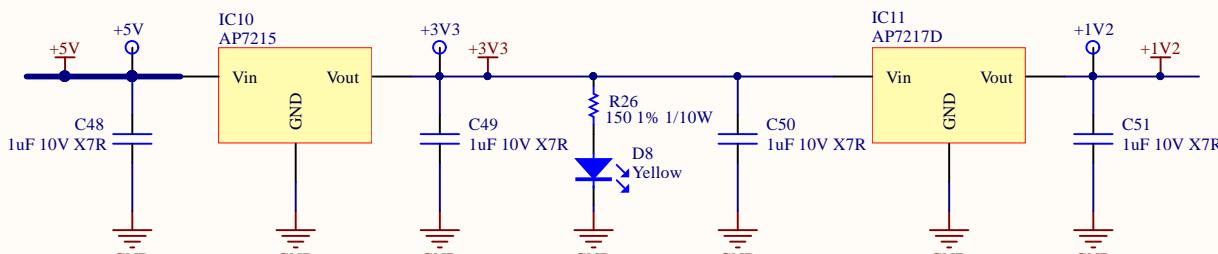
## USB to +3V3 and +1V2



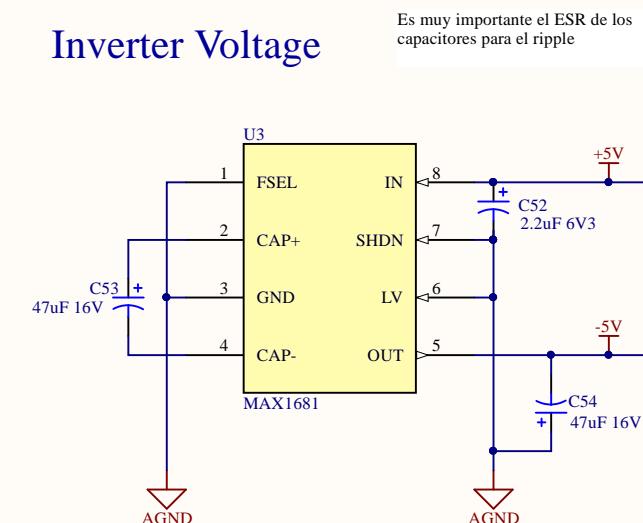
## Reference Voltage



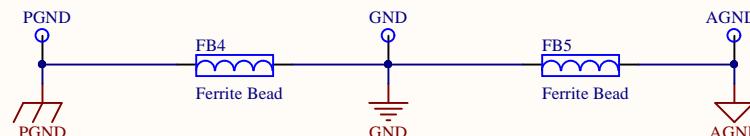
This is a precision voltage reference for DAC (IC1).  
Them must be close.



## Inverter Voltage



## Ground Connections



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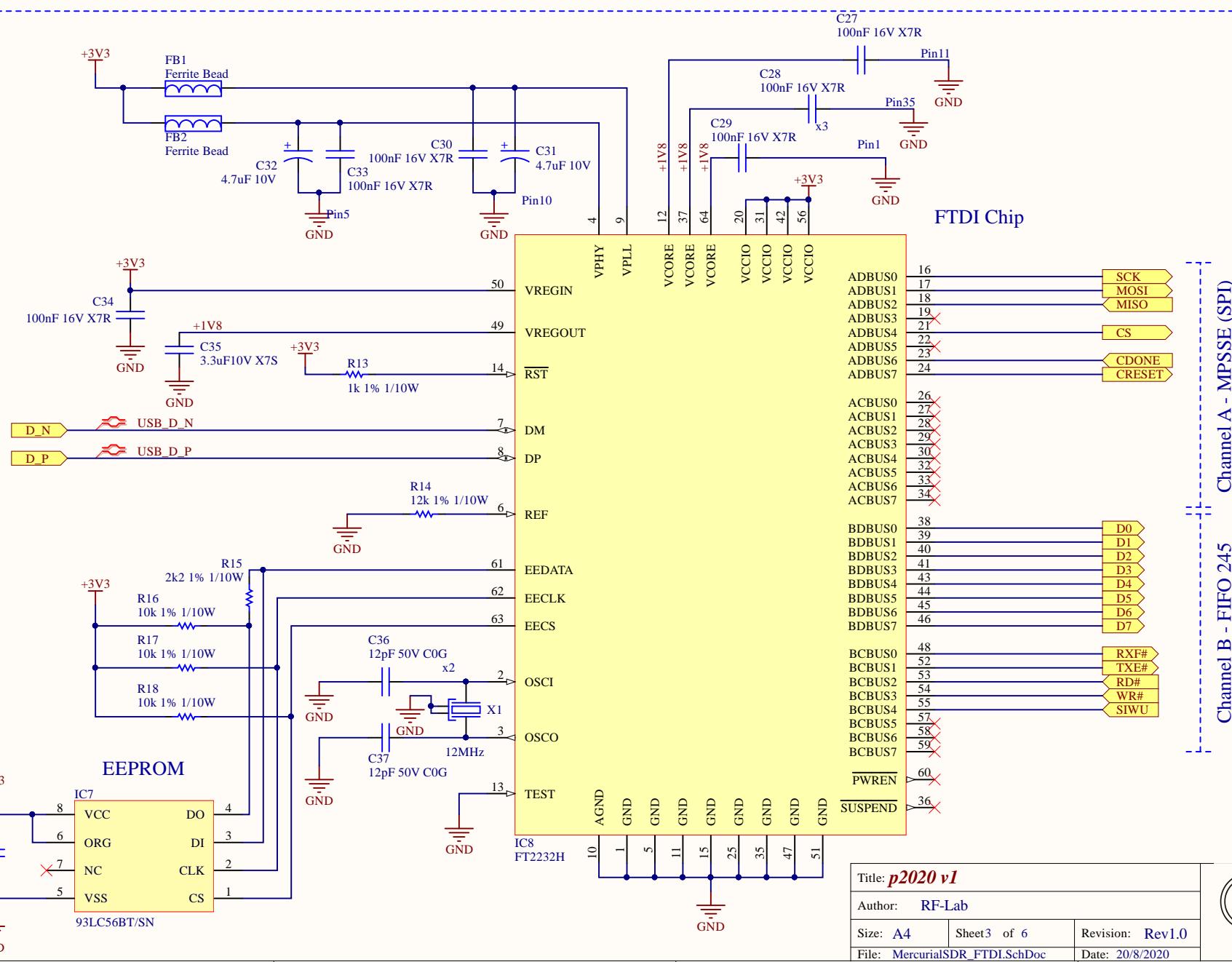
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File: **MercurialSDR\_PWR.SchDoc**

Date: **20/8/2020**

# FTDI Interface



Title: **p2020 v1**

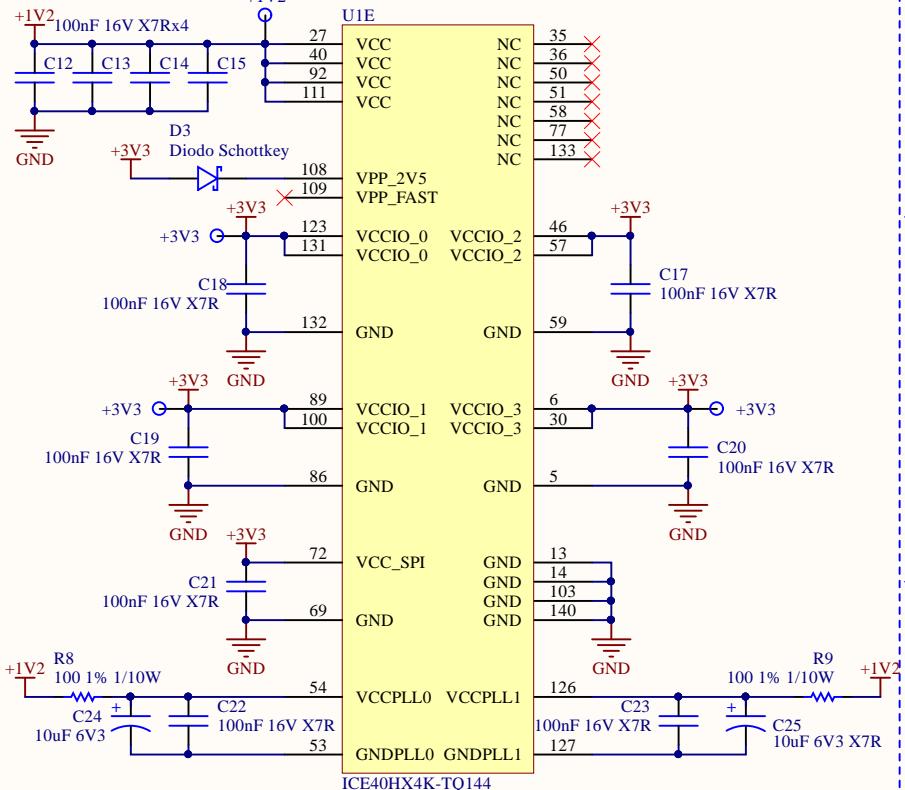
Author: RF-Lab

Size: A4 Sheet 3 of 6 Revision: Rev1.0

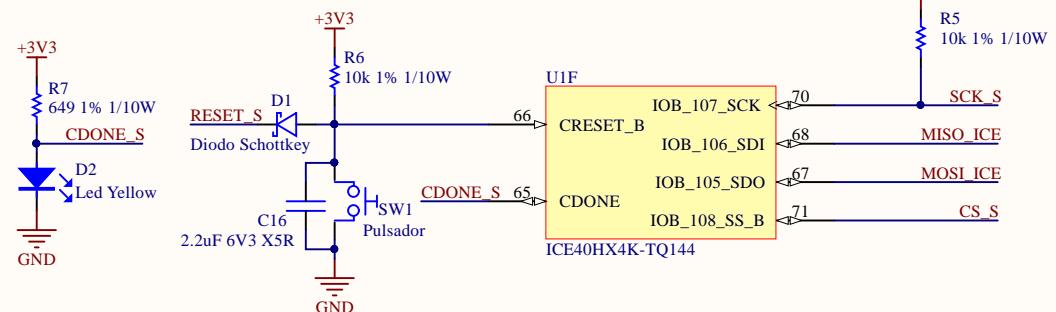
Date: 20/8/2020 File: MercurialSDR\_FTDI.SchDoc

# ICE Programming & Power

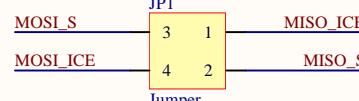
## iCE Power



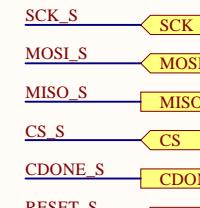
## ICE SPI Programming Pins



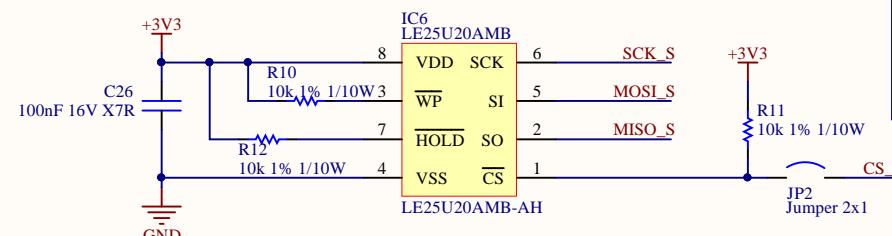
## ICE/Flash programming selection



## FTDI Ports



## Flash Memory



Title: **p2020 v1**

Author: RF-Lab

Size: A4 Sheet 4 of 6 Revision: Rev 1.0

Date: 20/8/2020 File: MercurialSDR\_FPGA\_P&P.SchDoc

# FPGA Banks

PIN93y94 son GlobalPins, pero se pueden usar como GPIOs

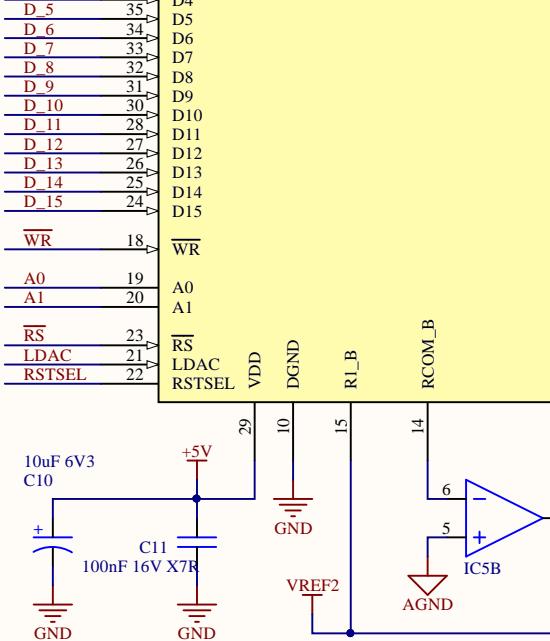
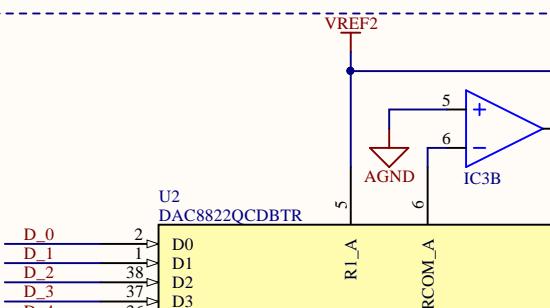
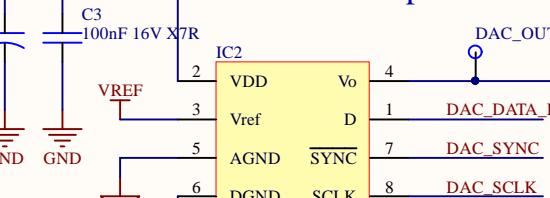
BANK 1	
IOR_109	73
IOR_110	74
IOR_111	75
IOR_112	76
IOR_113	77
IOR_114	78
IOR_115	79
IOR_116	80
IOR_117	81
IOR_118	82
IOR_119	83
IOR_120	84
IOR_121	85
IOR_122	87
IOR_123	88
IOR_124	89
IOR_125	90
IOR_126	91
IOR_127	92
IOR_128	93
IOR_129	94
IOR_130	95
IOR_131	96
IOR_132	97
IOR_133	98
IOR_134	99
IOR_135	101
IOR_136	102
IOR_137	104
IOR_138	105
IOR_139	106
IOR_140	107
iCE40HX4K-TQ144	

BANK 1	
IOR_109	73
IOR_110	74
IOR_111	75
IOR_112	76
IOR_113	77
IOR_114	78
IOR_115	79
IOR_116	80
IOR_117	81
IOR_118	82
IOR_119	83
IOR_120	84
IOR_121	85
IOR_122	87
IOR_123	88
IOR_124	89
IOR_125	90
IOR_126	91
IOR_127	92
IOR_128	93
IOR_129	94
IOR_130	95
IOR_131	96
IOR_132	97
IOR_133	98
IOR_134	99
IOR_135	101
IOR_136	102
IOR_137	104
IOR_138	105
IOR_139	106
IOR_140	107
iCE40HX4K-TQ144	

BANK 3	
IOL_2A	2
IOL_2B	3
IOL_3A	4
IOL_3B	5
IOL_4A	8
IOL_4B	9
IOL_5A	10
IOL_5B	11
IOL_8A	12
IOL_8B	15
IOL_10A	16
IOL_10B	17
IOL_12A	18
IOL_12B	19
IOL_13A	20
IOL_13B	21
IOL_14A	22
IOL_17A	23
IOL_17B	24
IOL_18A	25
IOL_18B	26
IOL_23A	28
IOL_23B	29
IOL_24A	31
IOL_24B	32
IOL_25A	33
IOL_25B	34
iCE_OSC	
GPIO_0	0
GPIO_1	1
GPIO_2	2
GPIO_3	3
GPIO_4	4
GPIO_5	5
GPIO_6	6
GPIO_7	7
GPIO_8	8
GPIO_9	9
WR	18
A0	19
A1	20
RS	23
LDAC	21
RSTSEL	22
iCE40HX4K-TQ144	

BANK 3	
IOL_2A	2
IOL_2B	3
IOL_3A	4
IOL_3B	5
IOL_4A	8
IOL_4B	9
IOL_5A	10
IOL_5B	11
IOL_8A	12
IOL_8B	15
IOL_10A	16
IOL_10B	17
IOL_12A	18
IOL_12B	19
IOL_13A	20
IOL_13B	21
IOL_14A	22
IOL_17A	23
IOL_17B	24
IOL_18A	25
IOL_18B	26
IOL_23A	28
IOL_23B	29
IOL_24A	31
IOL_24B	32
IOL_25A	33
IOL_25B	34
iCE_OSC	
GPIO_0	0
GPIO_1	1
GPIO_2	2
GPIO_3	3
GPIO_4	4
GPIO_5	5
GPIO_6	6
GPIO_7	7
GPIO_8	8
GPIO_9	9
WR	18
A0	19
A1	20
RS	23
LDAC	21
RSTSEL	22
iCE40HX4K-TQ144	

## PAM Output



U1A	
D_0	110
D_1	112
D_2	113
D_3	114
D_4	115
D_5	116
D_6	117
D_7	118
D_8	119
D_9	120
D_10	121
D_11	122
D_12	124
D_13	125
D_14	128
D_15	129
RS	130
RSTSEL	134
LDAC	135
A1	136
A0	137
WR	138
iCE40HX4K-TQ144	

U1C	
SIWU	37
WR#	38
RD#	41
TXE#	42
RXF#	43
D7	44
D6	45
D5	48
D4	52
D3	56
D2	60
D1	61
D0	62
IOB_56	63
IOB_57	64
IOB_61	65
IOB_63	66
IOB_64	67
IOB_71	68
IOB_72	69
IOB_73	70
IOB_79	71
IOB_80	72
IOB_81_GBIN5	73
IOB_82_GBIN4	74
IOB_91	75
IOB_94	76
IOB_95	77
IOB_96	78
IOB_102	79
IOB_103_CBSEL0	80
IOB_104_CBSEL1	81
iCE40HX4K-TQ144	

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Author: RF-Lab

Size: A4

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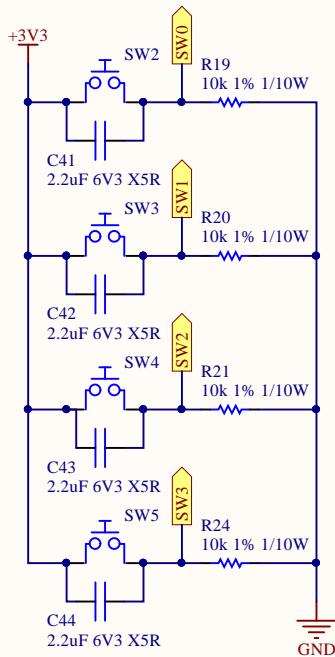
Revision: Rev1.0

Date: 20/8/2020

## Miscellaneous

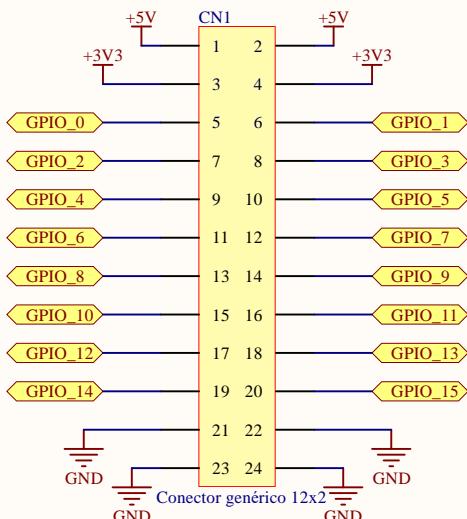
A

**Buttons**



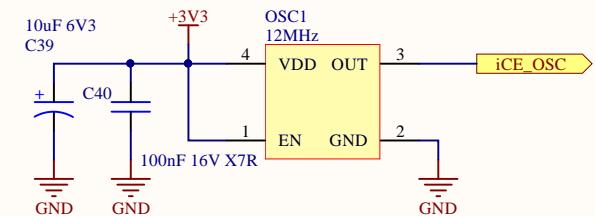
B

**GPIO Ports**



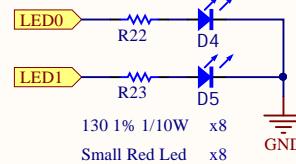
C

**iCE Oscillator**



D

**Leds**



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Author: **RF-Lab**

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

File: **MercurialSDR\_MISC.SchDoc**

Date: **20/8/2020**

