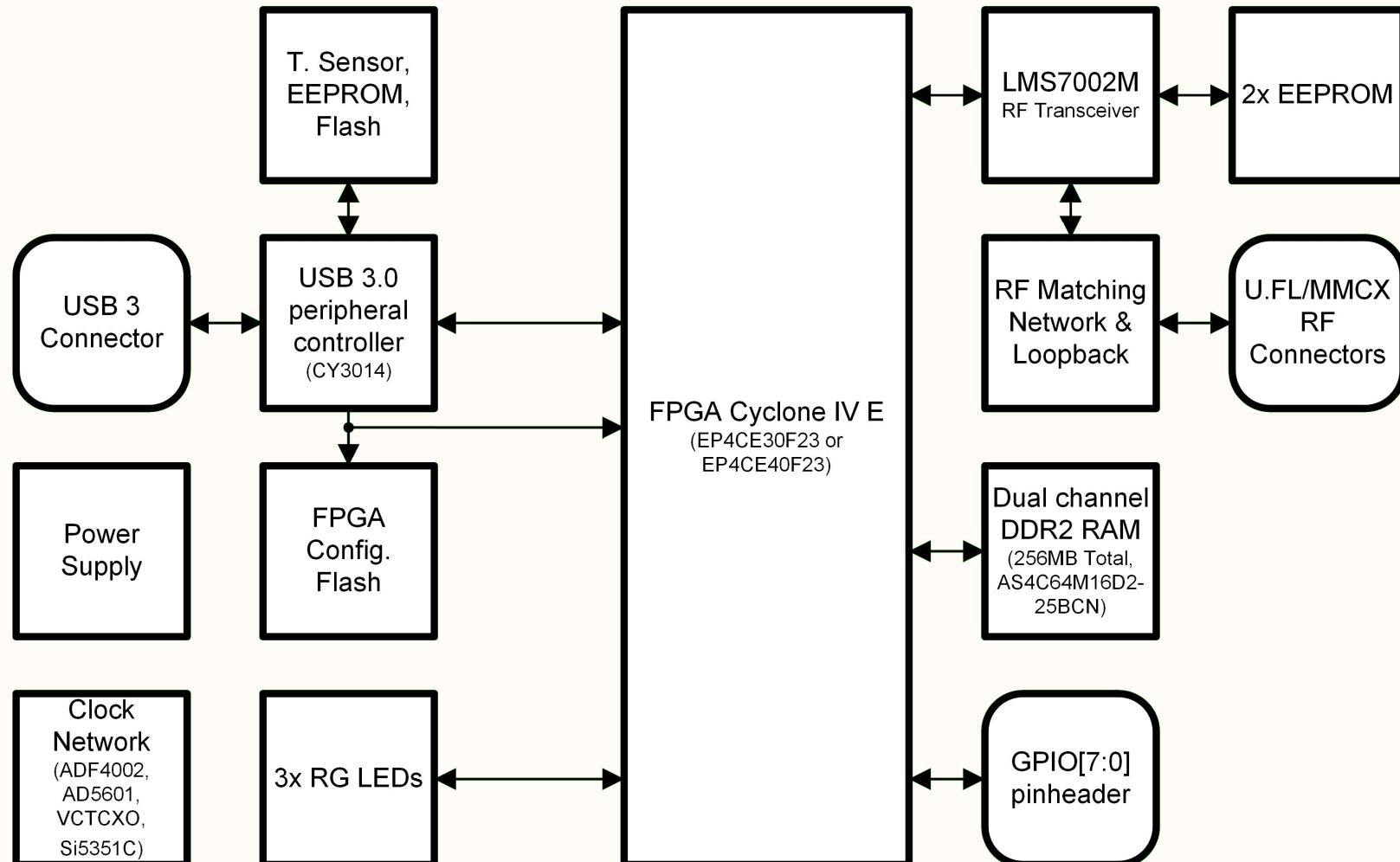


Block diagram



Project name: **LimeSDR-USB_Iv4.PrjPcb**

Title: **Block diagram**

Size: **A4** Revision: **v1.4**

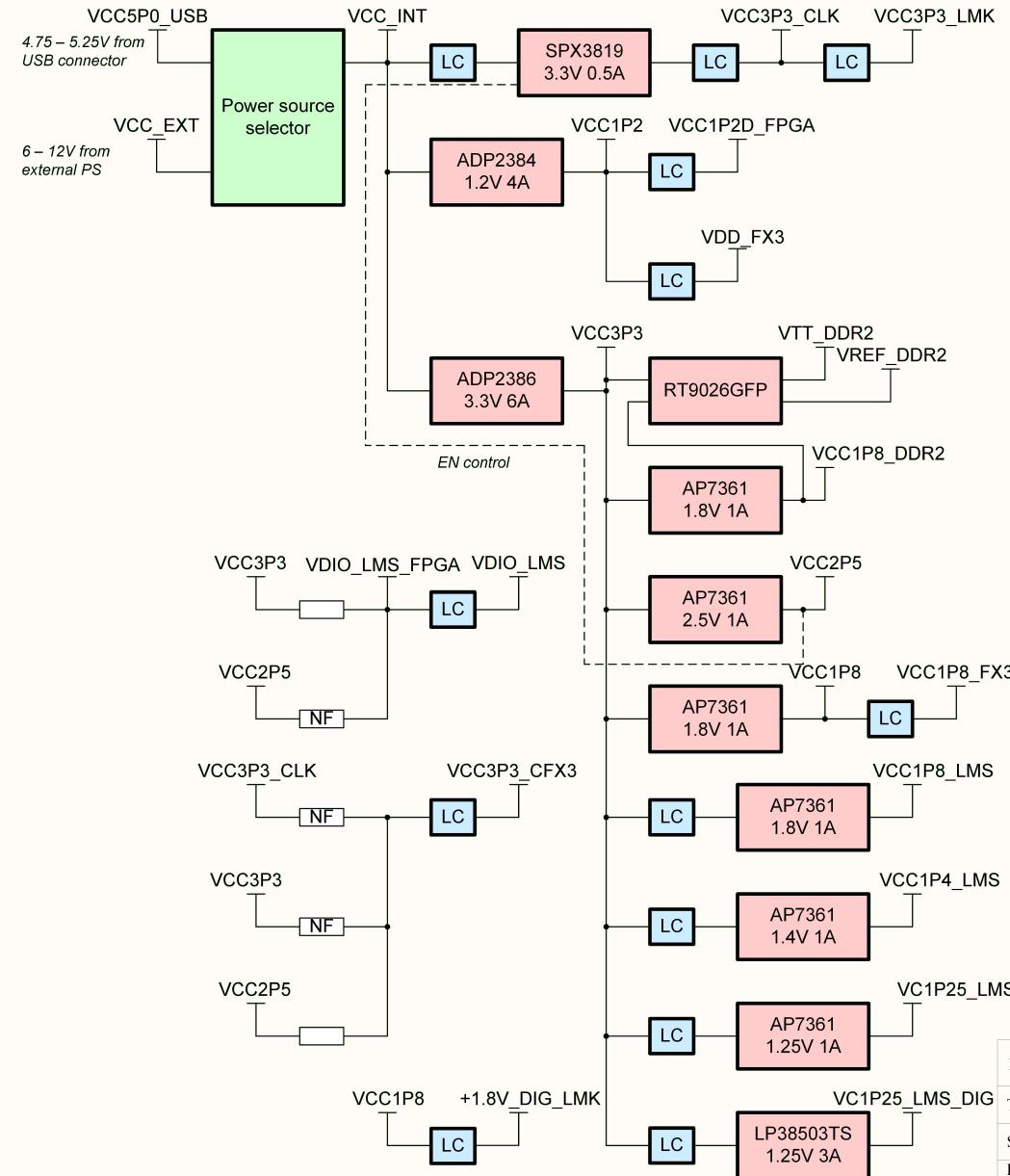
Date: **2016-10-31** Time: **09:40:31** Sheet **1** of **15**

File: **01_BlockDiagram.SchDoc**

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Surrey
United Kingdom



Power diagram



Project name: **LimeSDR-USB_Inv4.PrbPcb**

Title: **Power diagram**

Size: **A4** Revision: **v1.4**

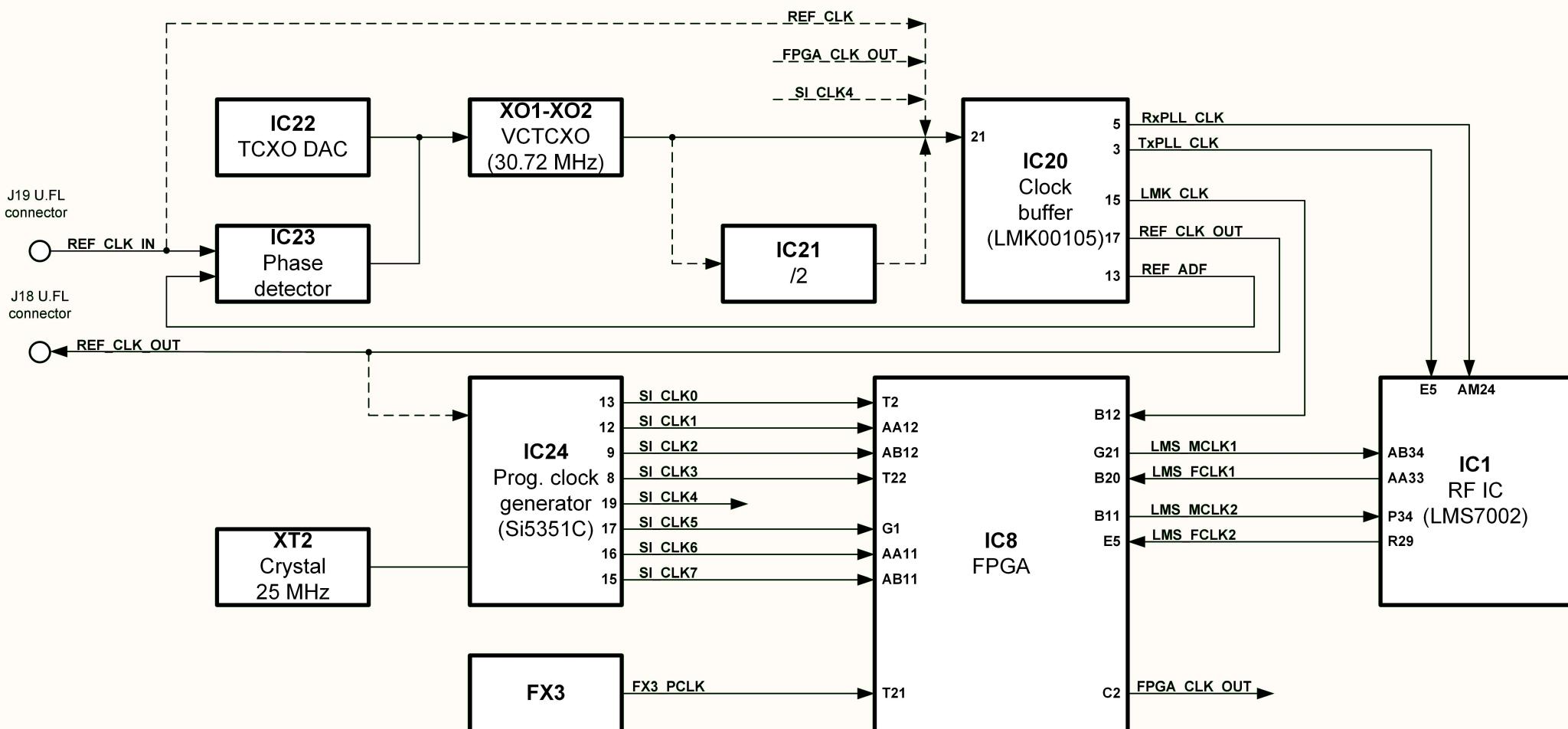
Date: **2016-10-31** Time: **09:40:35** Sheet **2** of **15**

File: **02_PowerDiagram.SchDoc**

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Clock diagram



Project name: **LimeSDR-USB_1v4.PrjPcb**

Title: *Clock diagram*

Size: A4

Date: 2016-10-31 Time: 09:40:43 Sheet 3 of 15

File: 03_ClockDiagram.SchDoc

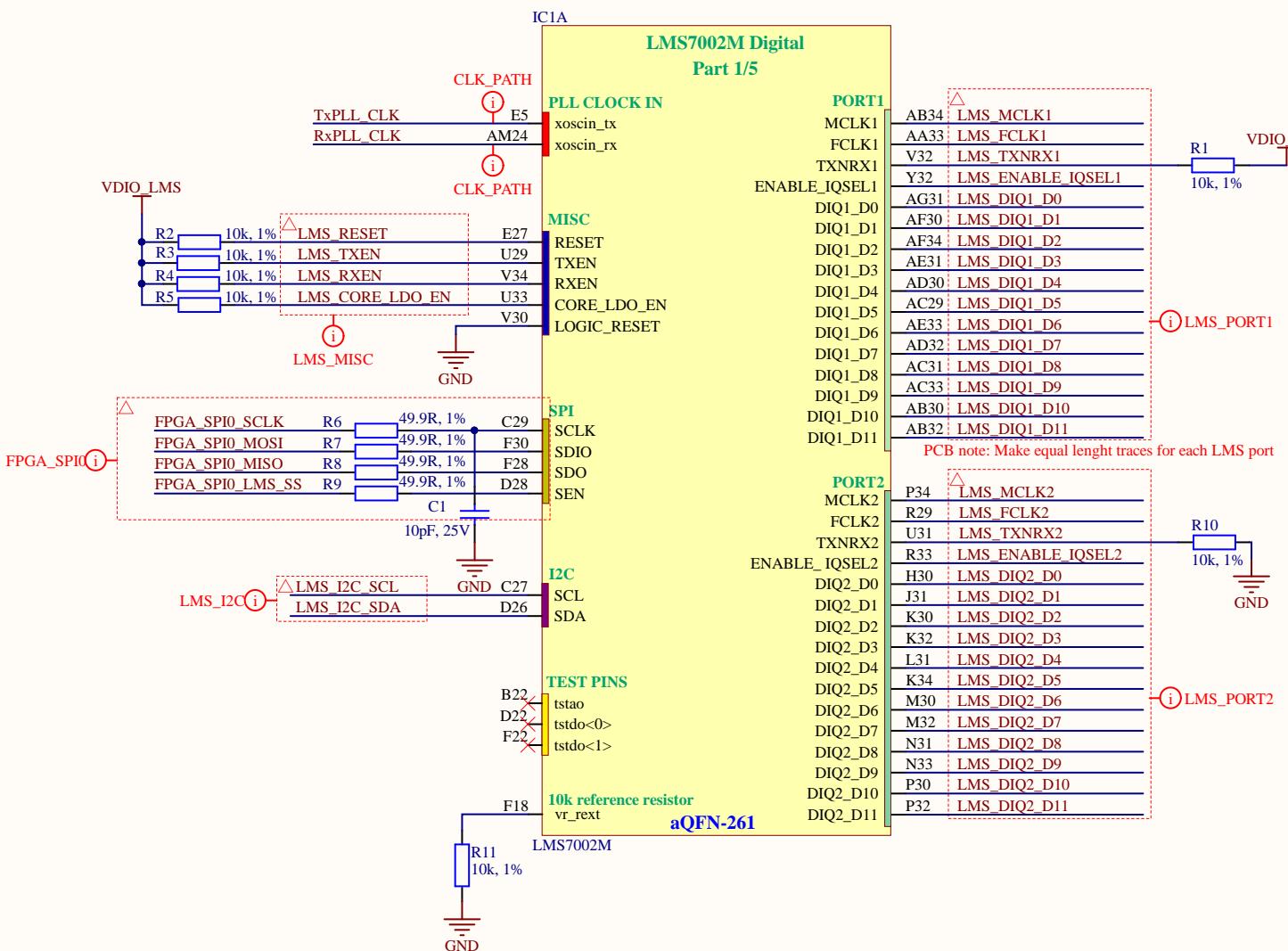
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United Kingdom*



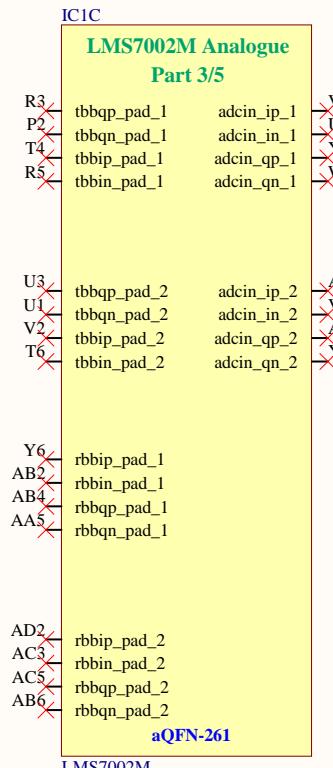
NF elements on sheet: -
Number of NF elements on sheet: 0

LMS7002M misc

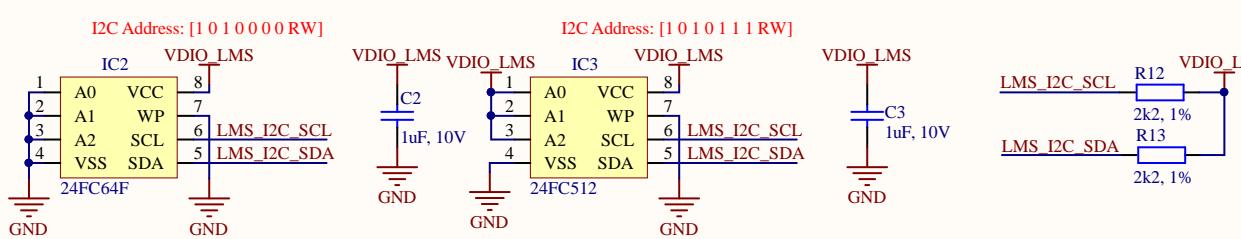
Digital interfaces



Baseband external IO



LMS EEPROMs



Project name: LimeSDR-USB_1v4.PnjPcb

Title: LMS7002M misc

Size: A3 Revision: v1.4

Date: 2016-10-31 Time: 09:40:50 | Sheet 4 of 15

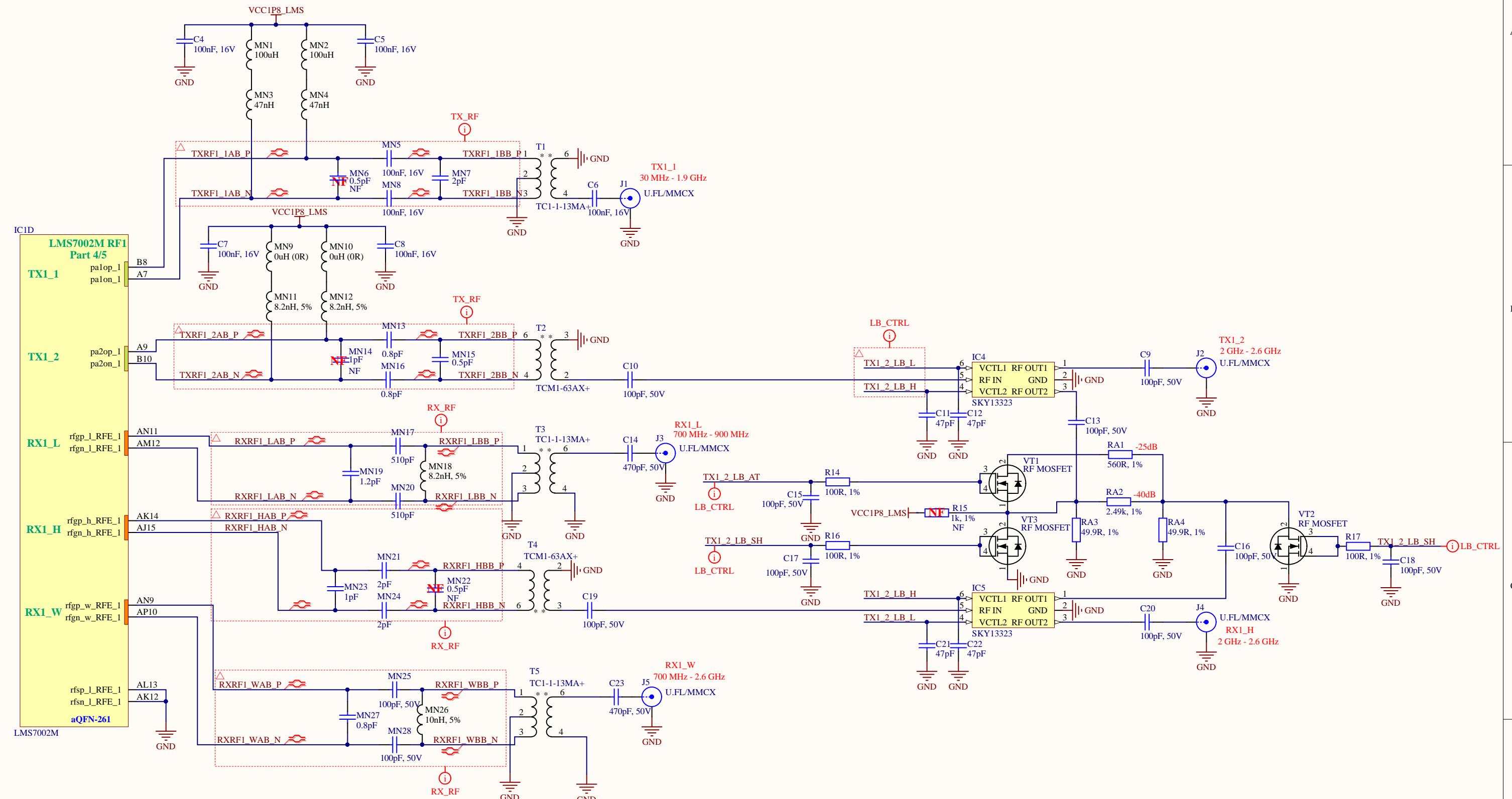
File: 04_LMS7002M_Misc.SchDoc

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NF elements on sheet: MN6, MN14, MN22, R15
Number of NF elements on sheet: 4

LMS7002M RF1 circuits



Project name: LimeSDR-USB_1v4.PrjPcb

Title: LMS7002M RF

Size: A3 Revision: v1.4

Date: 2016-10-31 Time: 09:40:53 Sheet 5 of 15

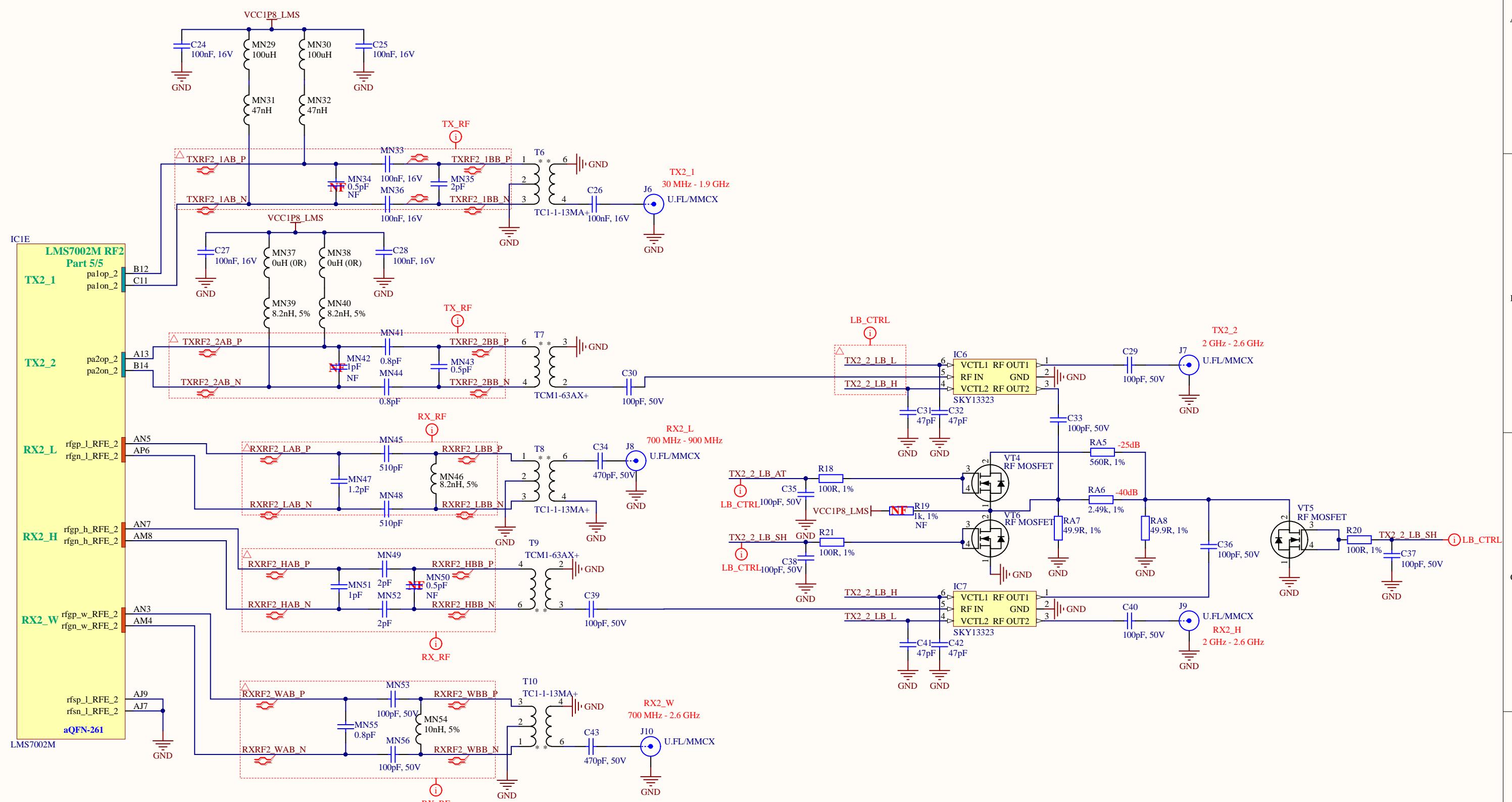
File: 05_LMS7002M_RF1.SchDoc

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NF elements on sheet: MN34, MN42, MN50, R19
 Number of NF elements on sheet: 4

LMS7002M RF2 circuits



Project name: LimeSDR-USB_1v4.PrjPcb

Title: LMS7002M RF

Size: A3 Revision: v1.4

Date: 2016-10-31 Time: 09:40:55 Sheet 6 of 15

File: 06_LMS7002M_RF2.SchDoc

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LMS7002M power supply circuit

NF elements on sheet: FR18, FR25
Number of NF elements on sheet: 2

A

B

C

D

E

F

G

H

A

B

C

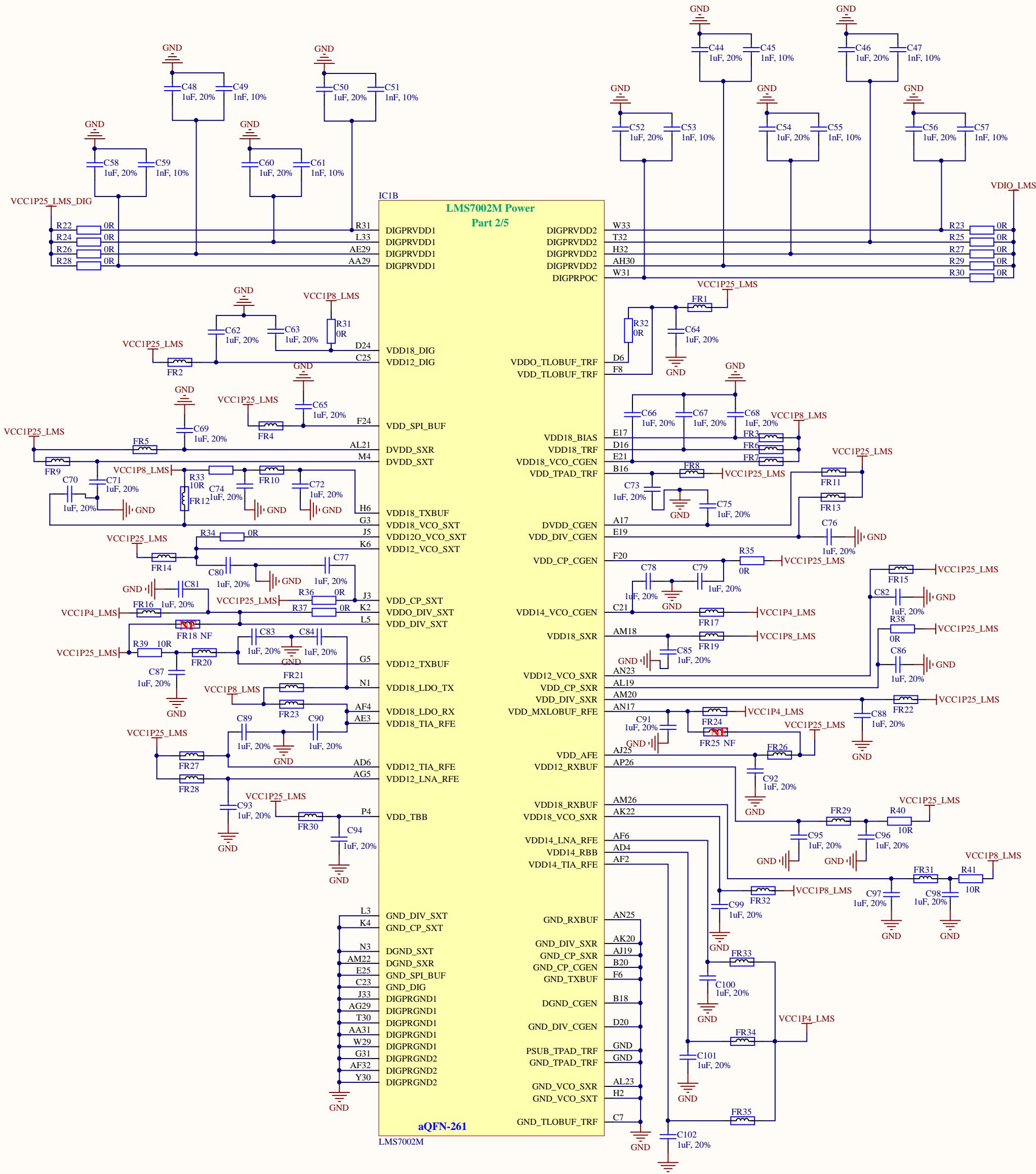
D

E

F

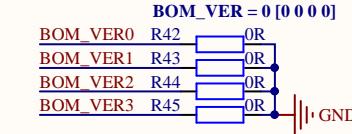
G

H



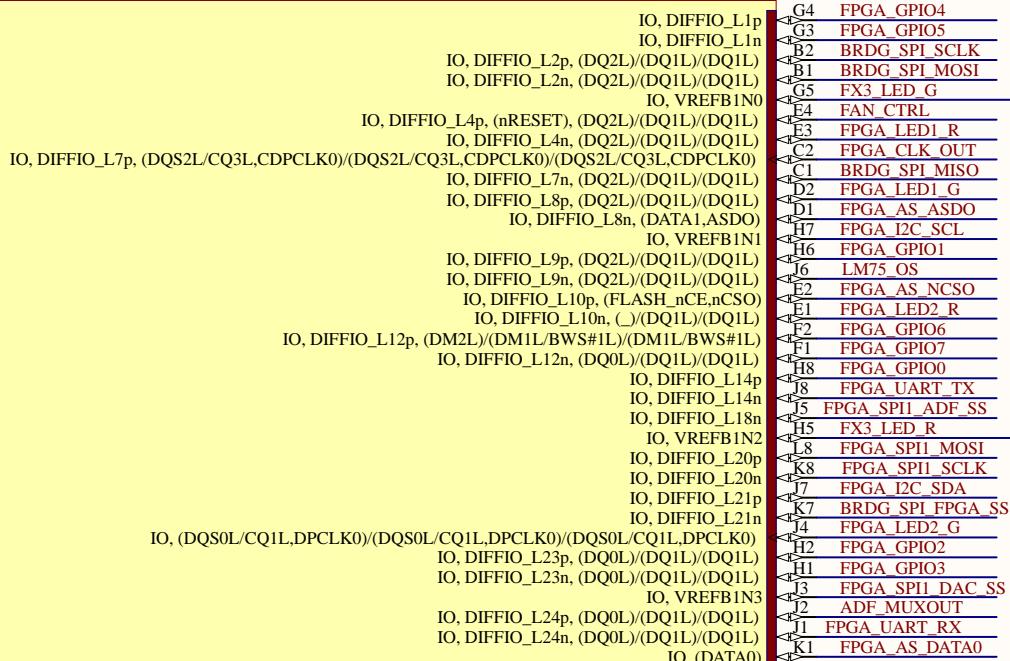
FPGA banks 1, 2, 3, 4

NF elements on sheet: -
Number of NF elements on sheet: 0



A

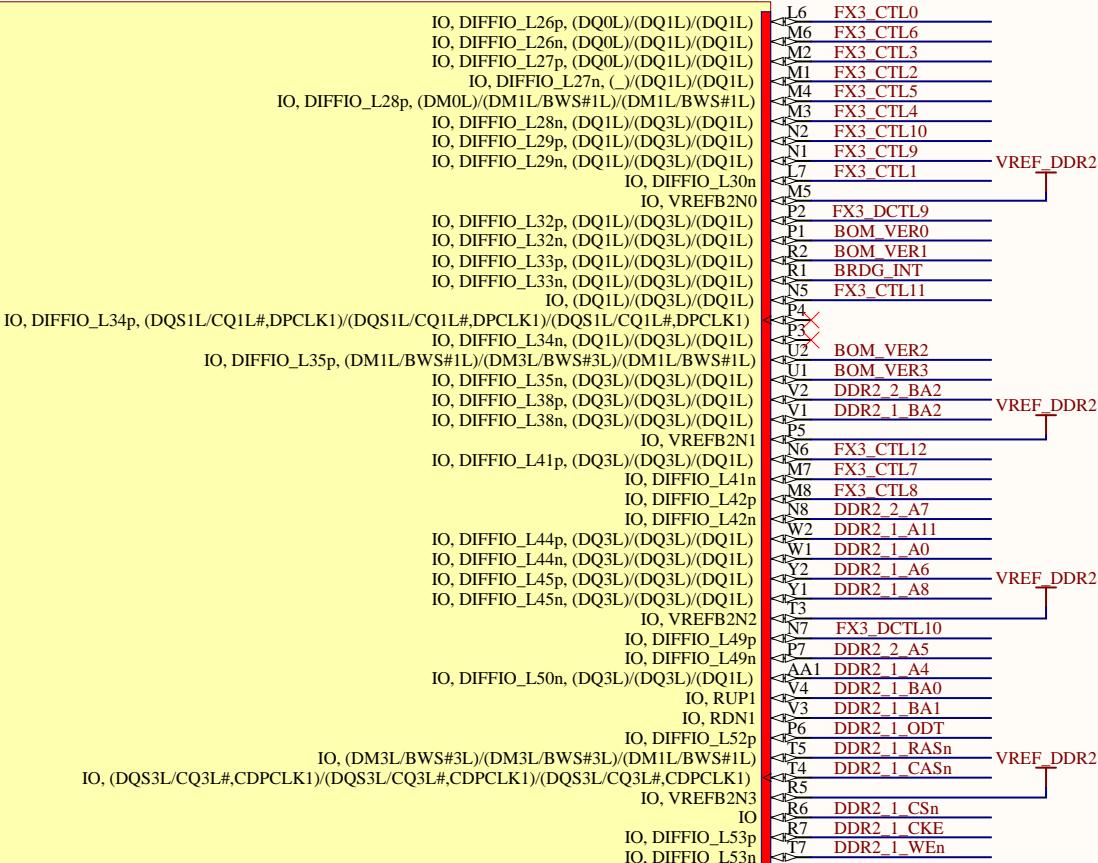
BANK 1
VCC3P3



EP4CE40F23C8N

B

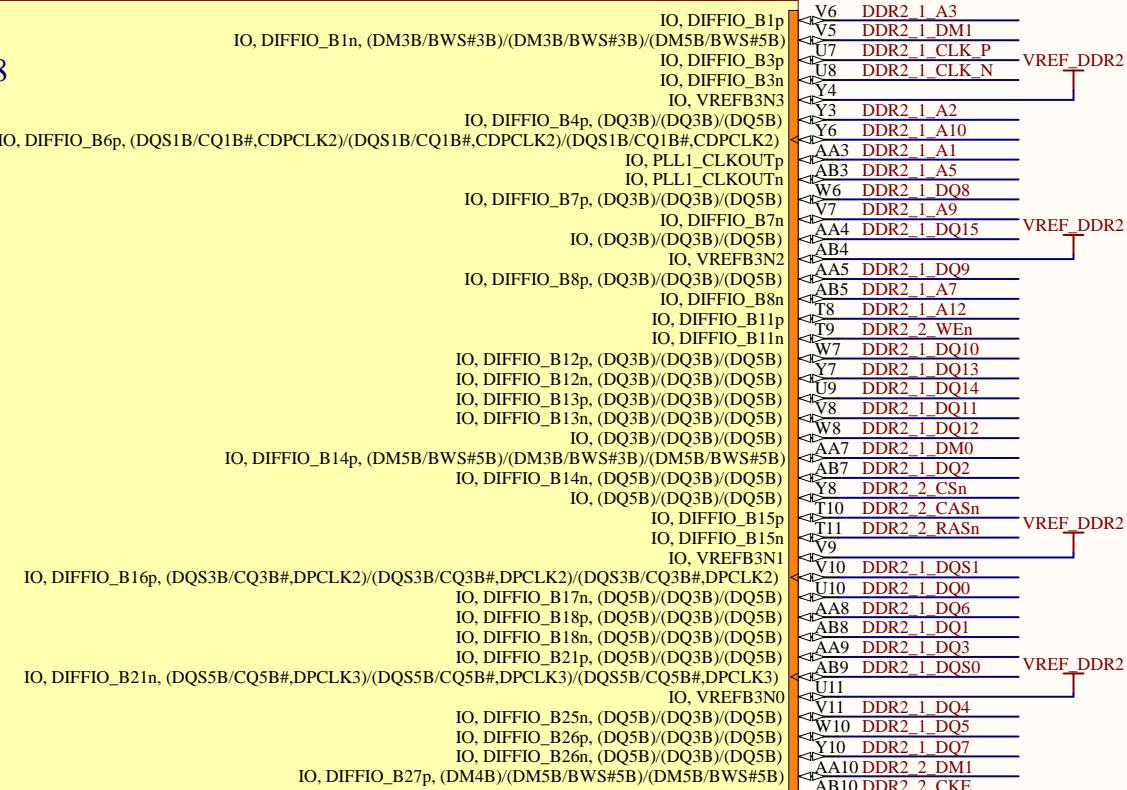
BANK 2
VCC1P8



EP4CE40F23C8N

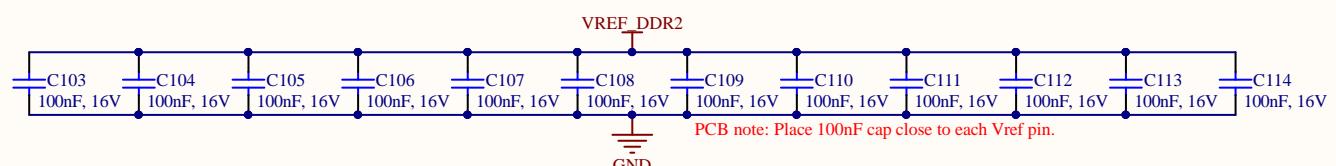
C

BANK 3
VCC1P8



EP4CE40F23C8N

D



Project name: LimeSDR-USB_1v4.Prb

Title: FPGA banks 1, 2, 3, 4

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Size: A3 Revision: v1.4

Date: 2016-10-31 Time: 09:41:01 Sheet 8 of 15

File: 08_FPGA_banks_1_2_3_4.SchDoc

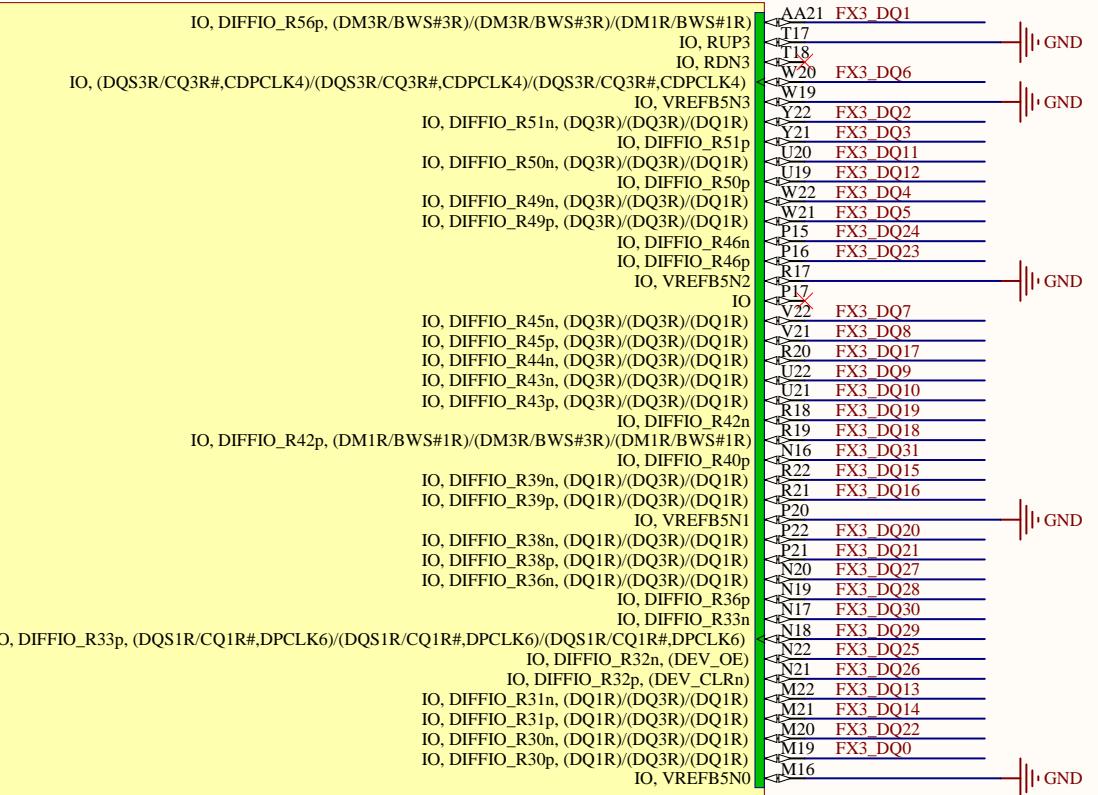


NF elements on sheet: R49
Number of NF elements on sheet: 1

FPGA banks 5, 6, 7, 8

IC8E

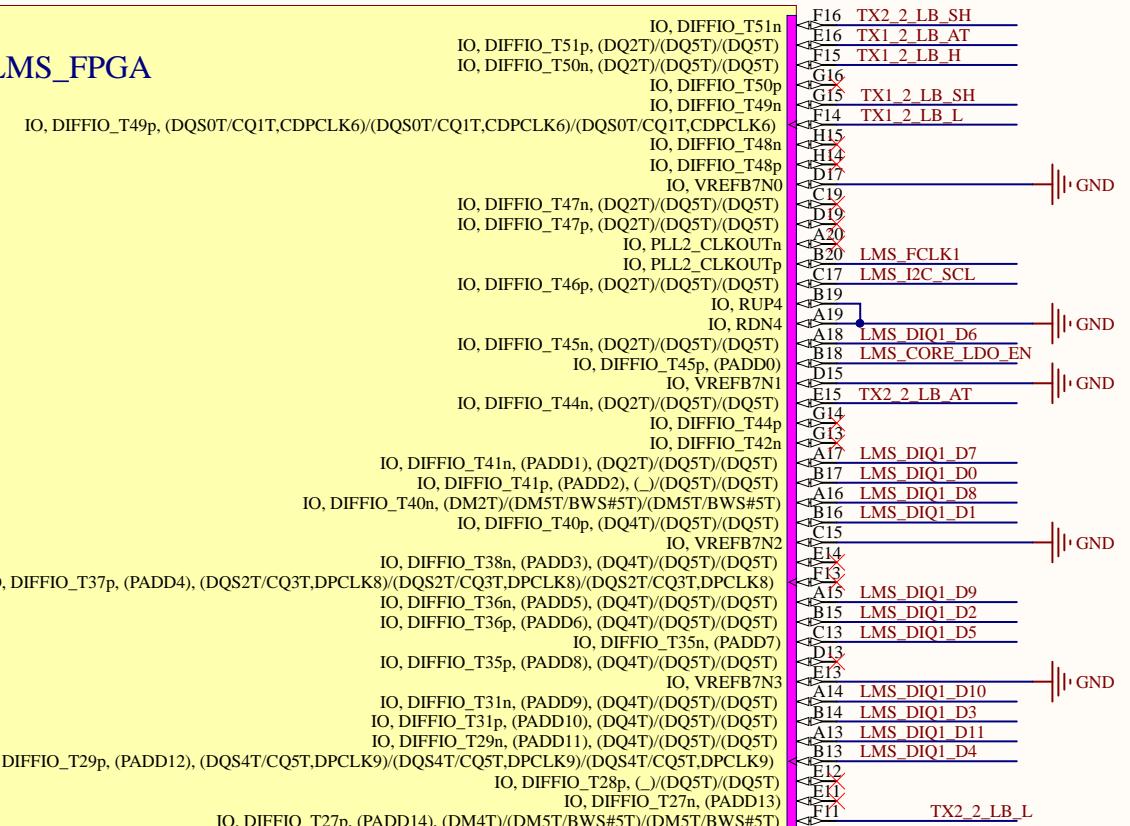
BANK 5
VCC1P8



EP4CE40F23C8N

IC8G

BANK 7
VDIO_LMS_FPGA



EP4CE40F23C8N

1

2

3

4

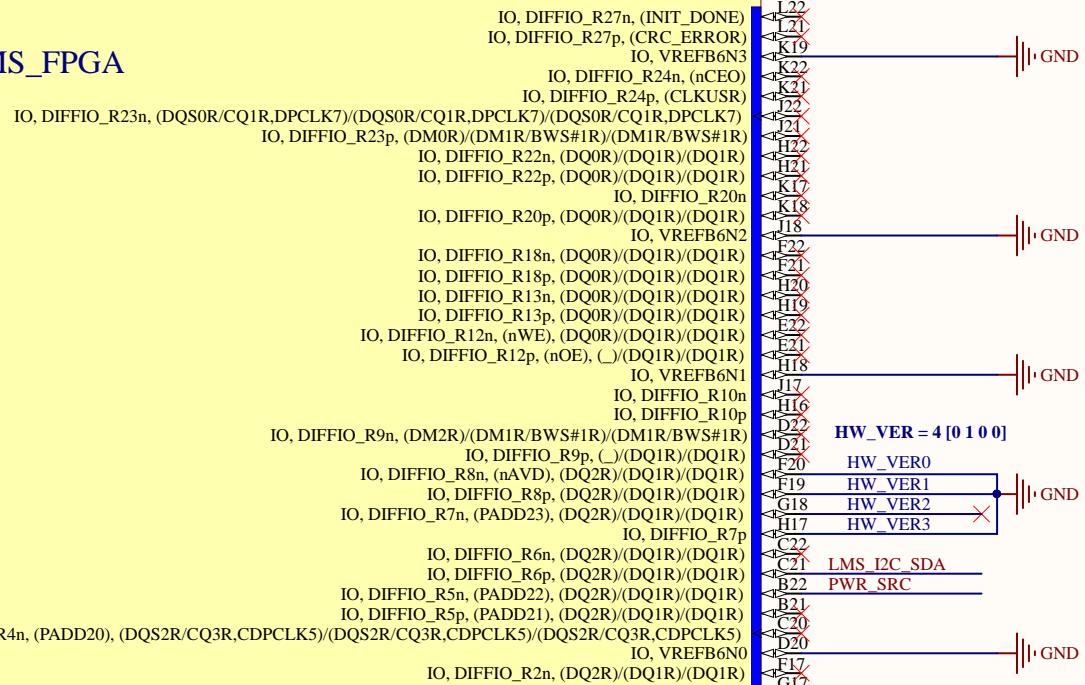
5

6

7

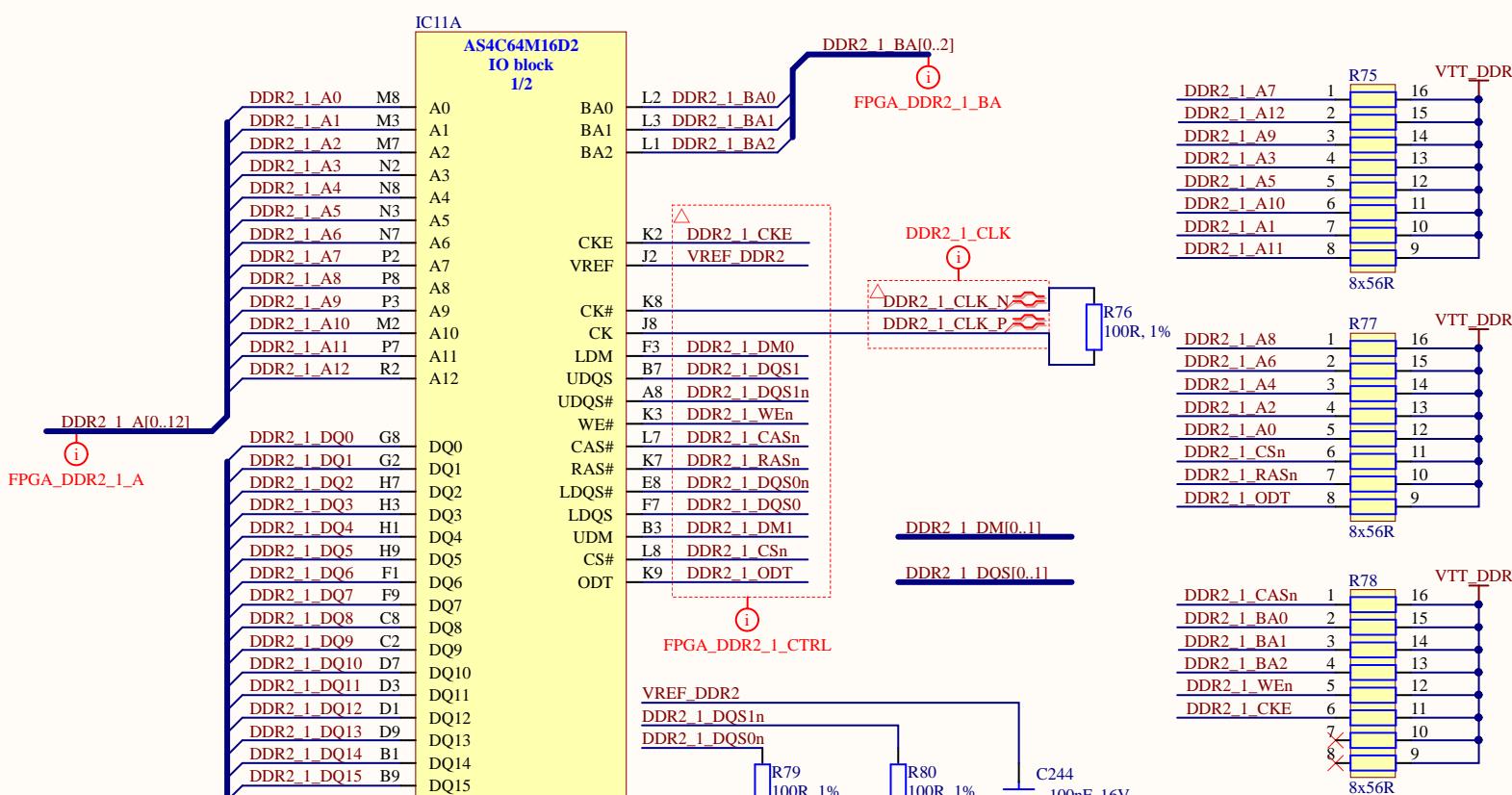
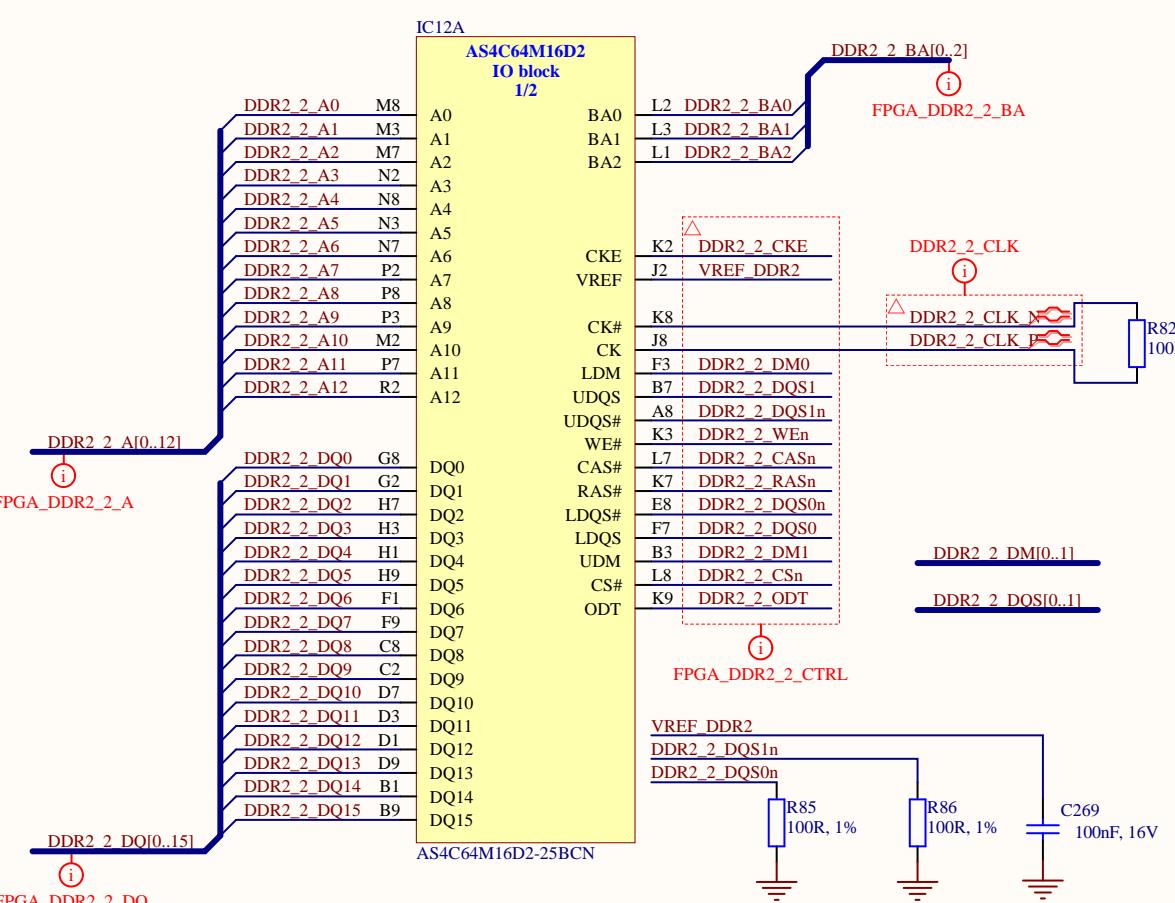
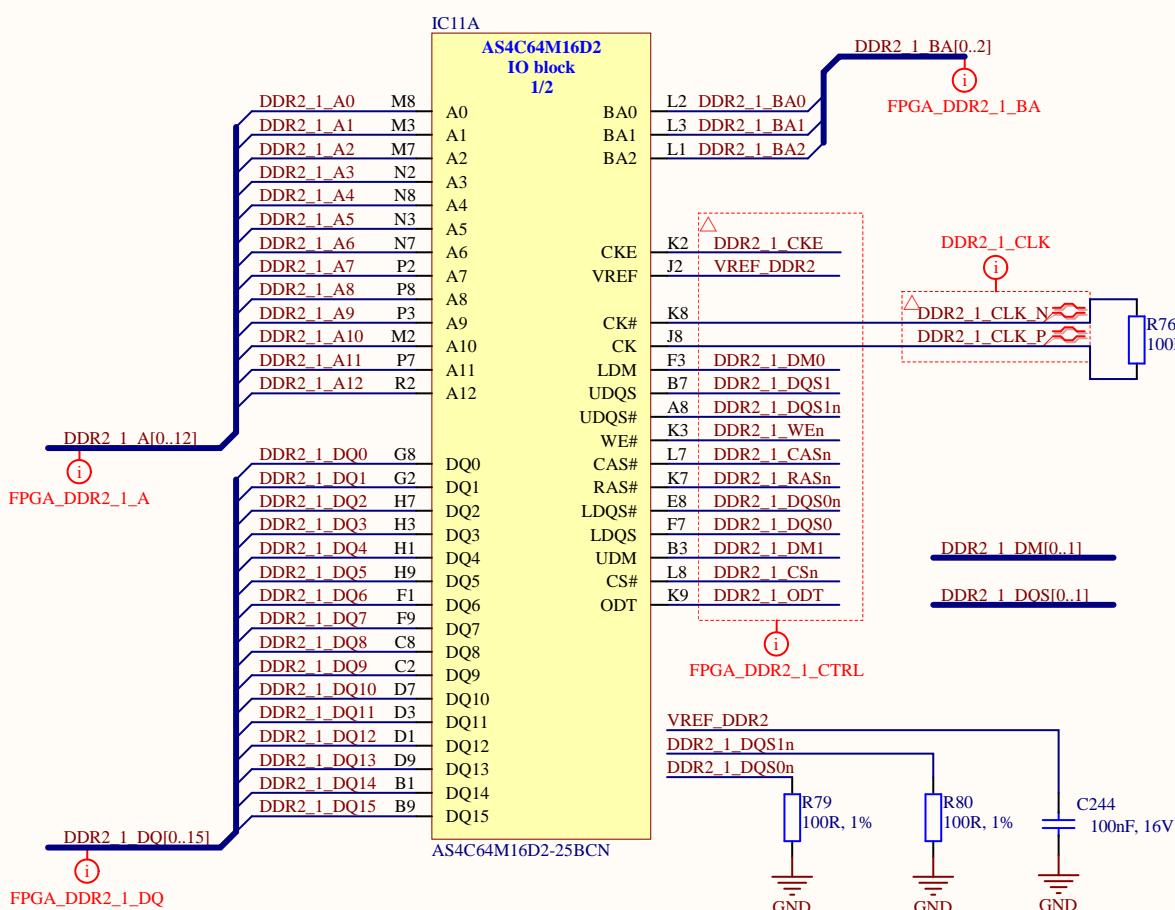
8

BANK 6
VDIO_LMS_FPGA



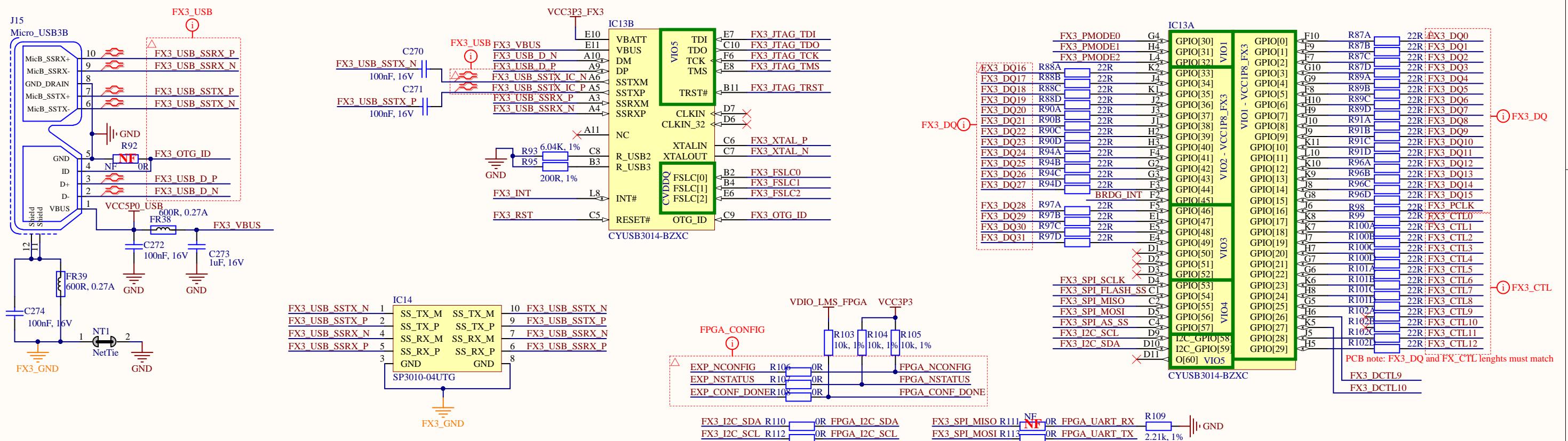
NF elements on sheet: -
Number of NF elements on sheet: 0

DDR2_1 (BOT L)

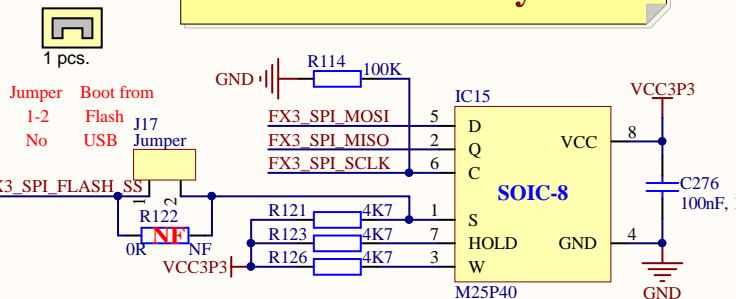


NF elements on sheet: R92, R111, R116, R119, R120, R122, R124, IC19
Number of NF elements on sheet: 8

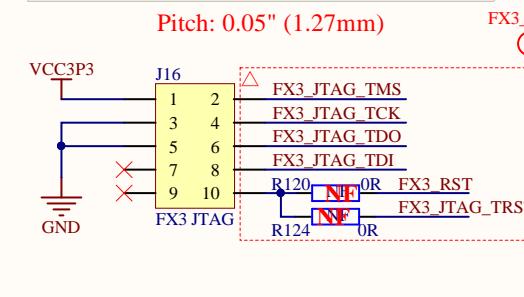
FX3 (USB3) core



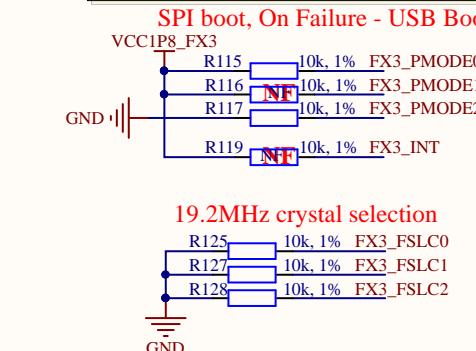
FX3 memory



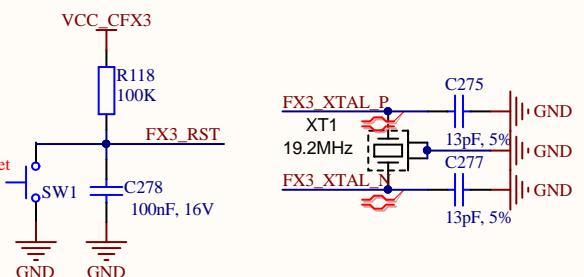
FX3 JTAG (10 pin)



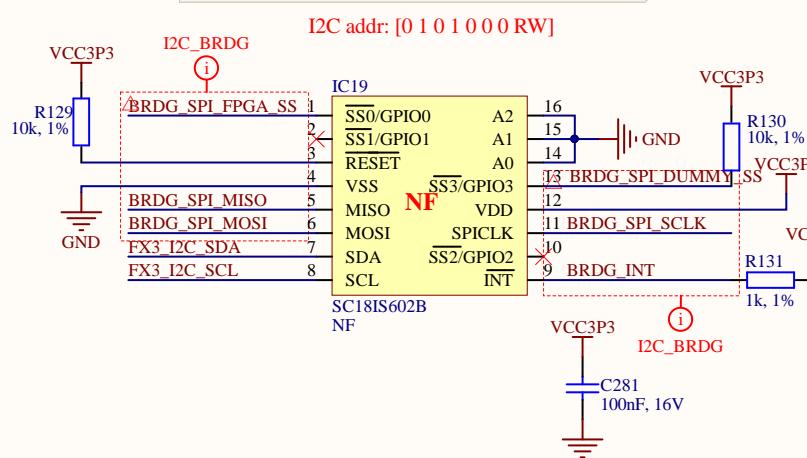
FX3 Config



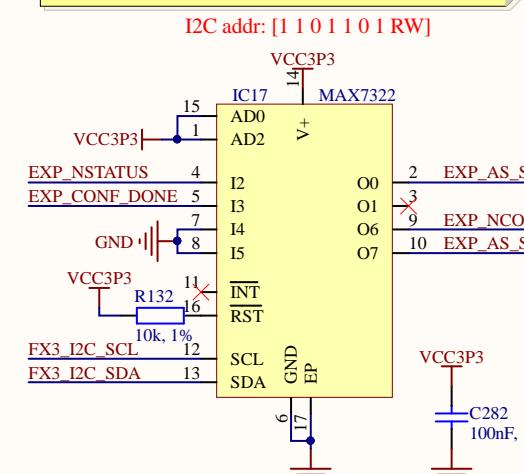
FX3 Misc



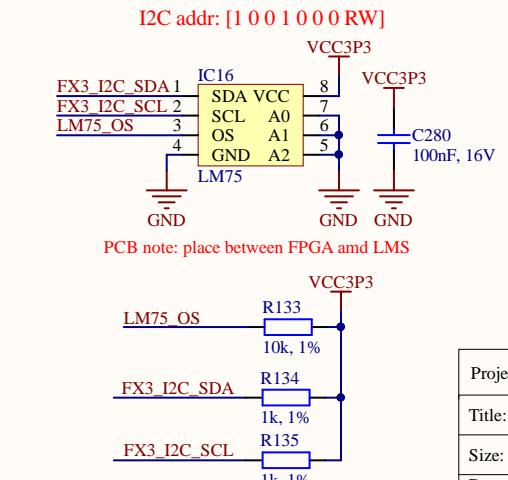
I2C SPI Bridge



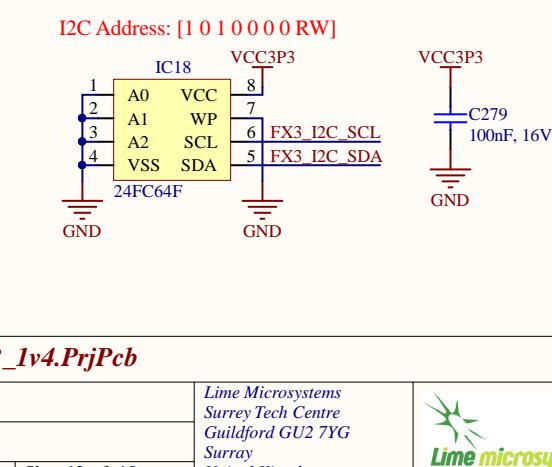
I2C Port Expander



I2C Temperature sensor



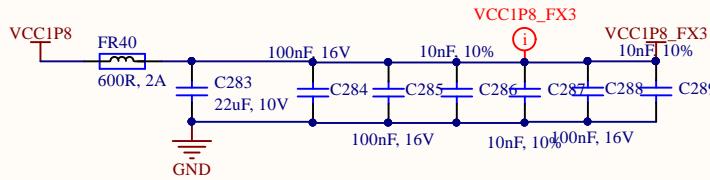
I2C EEPROM



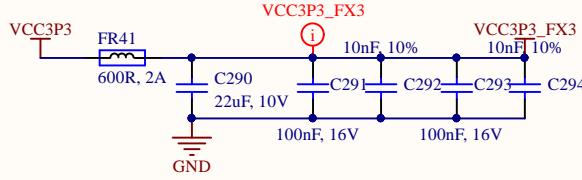
NF elements on sheet: FR42, FR43
Number of NF elements on sheet: 2

USB3 power

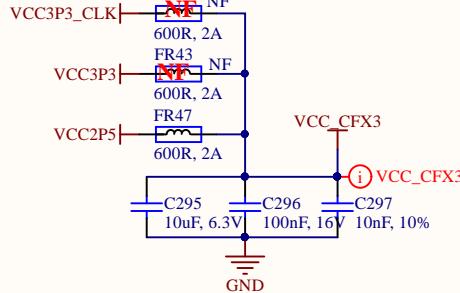
A



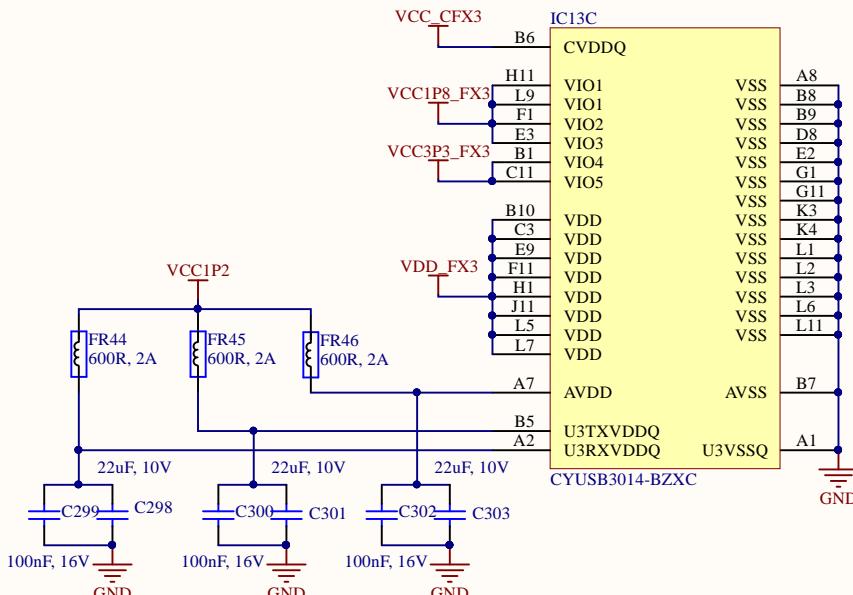
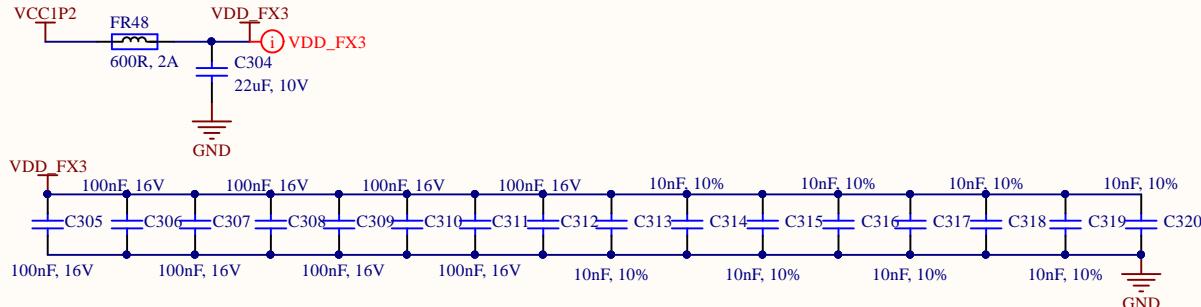
B



C



D



Project name: **LimeSDR-USB_Iv4.PrbPcb**

Title: **USB3.0 power**

Size: **A4** Revision: **v1.4**

Date: **2016-10-31** Time: **09:41:15** Sheet **13 of 15**

File: **13_USB3_0_power.SchDoc**

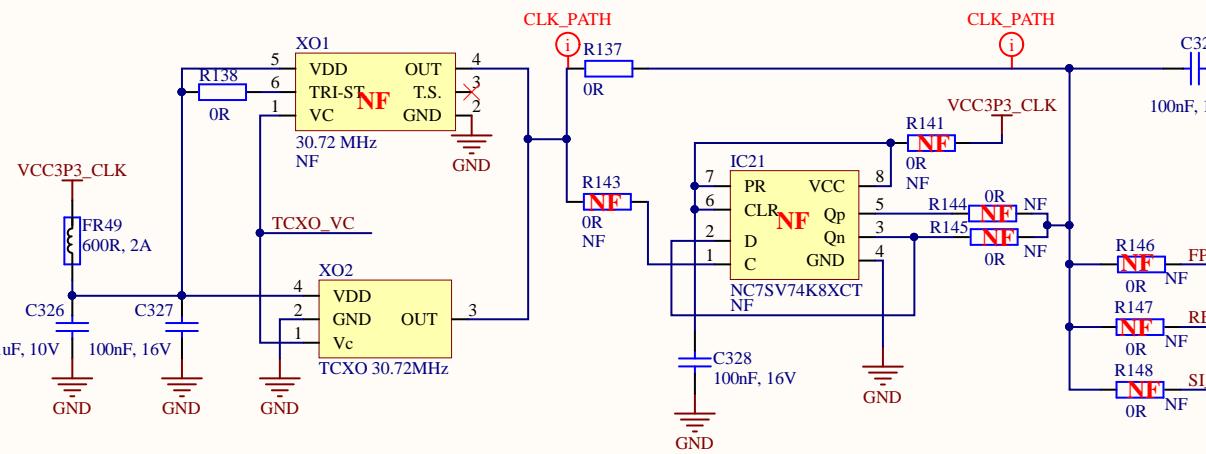
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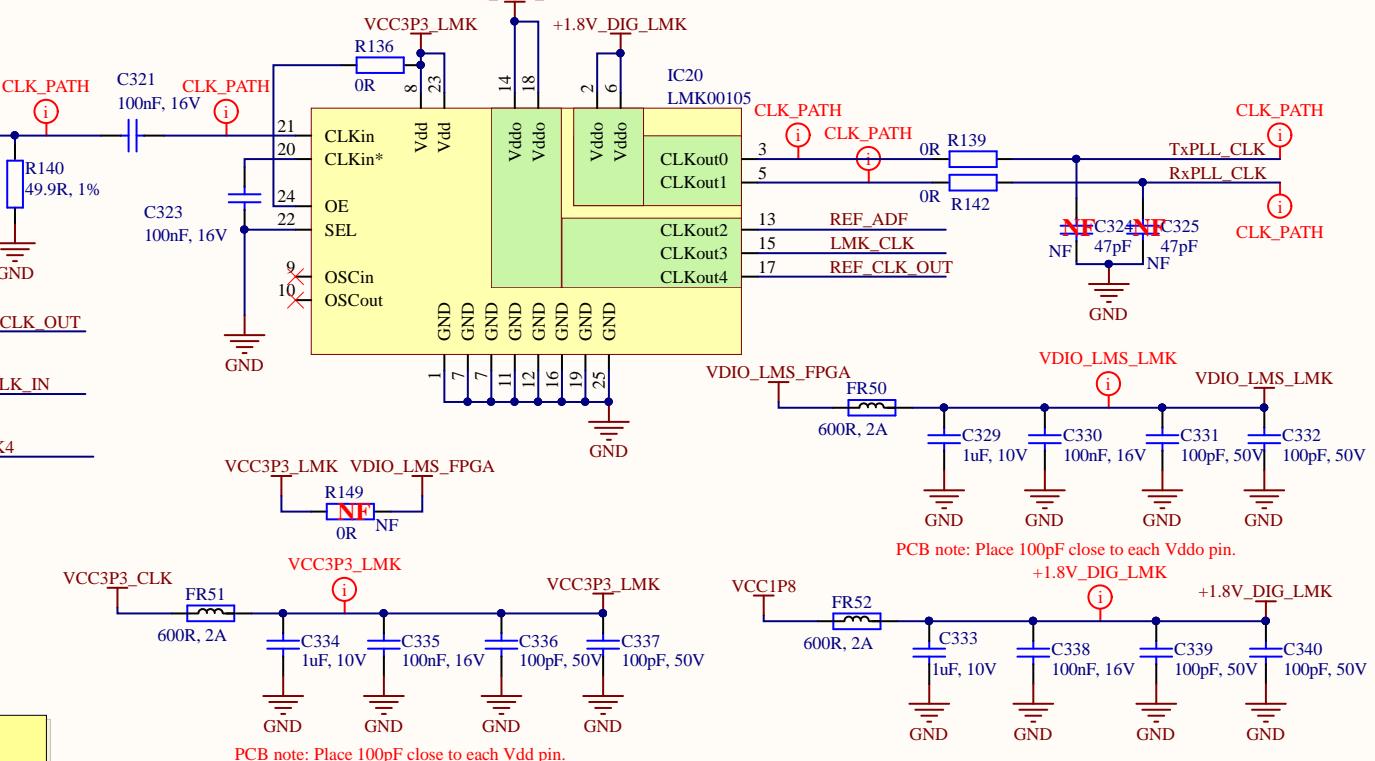
NF elements on sheet: XO1, R141, R143, R144, R145, R146, R147, R148, R149, R151, R155, C324, C325, C341, IC21
Number of NF elements on sheet: 15

Clock circuits

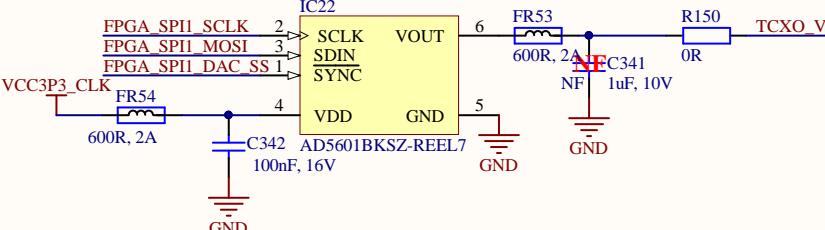
(VC)TCXO



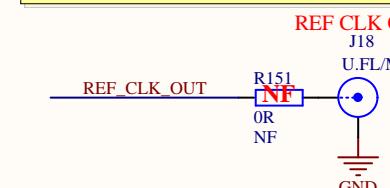
Clock buffer



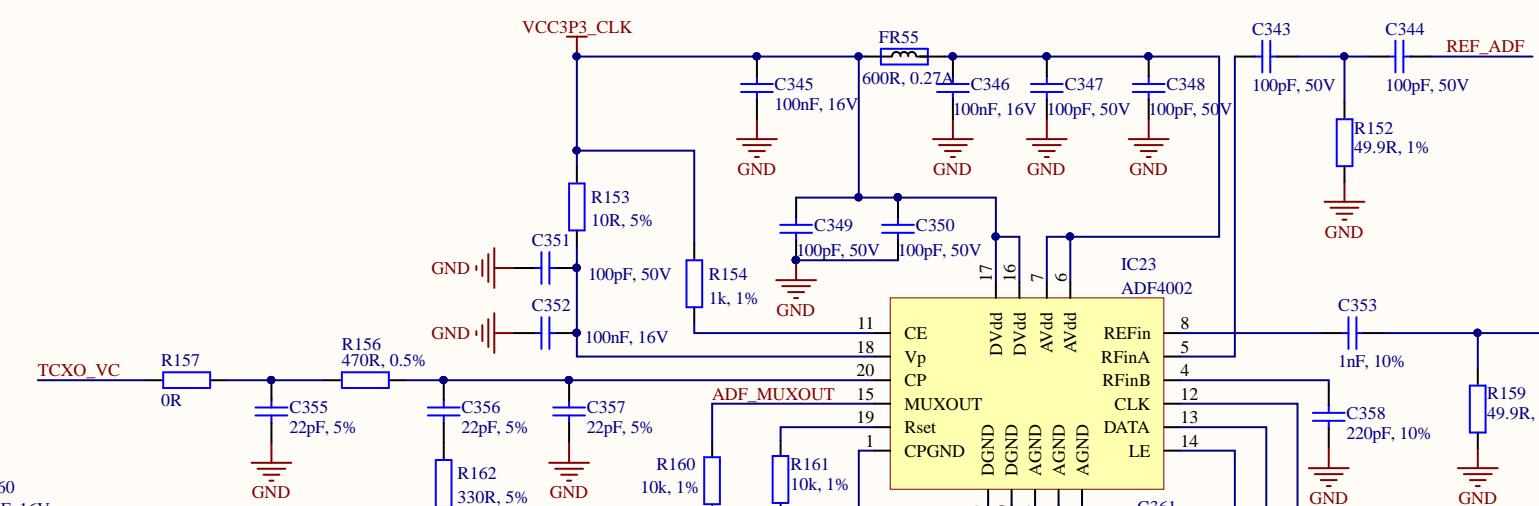
TCXO DAC



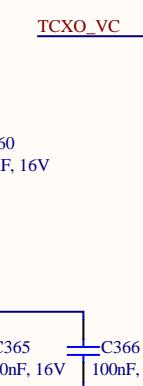
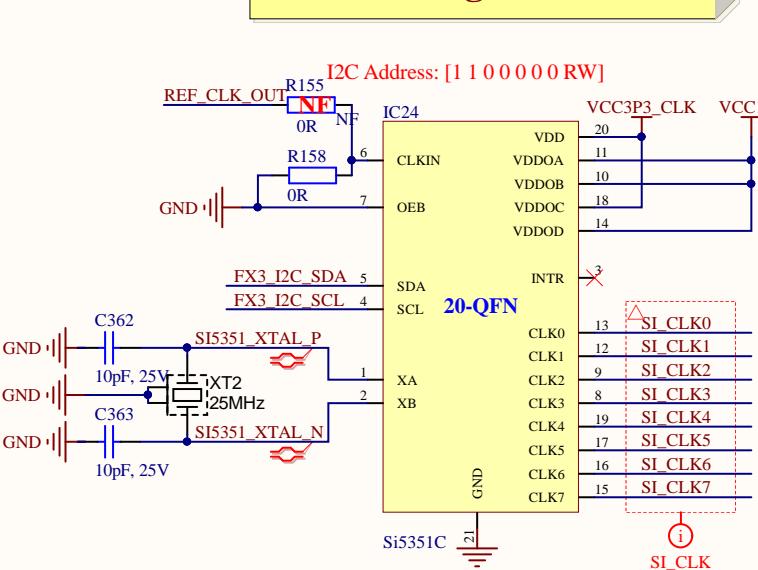
REF CLK OUT



Phase detector



Clock generator



Project name: LimeSDR-USB_1v4.PnjPcb

Title: Clocks

Size: A3

Revision: v1.4

Date: 2016-10-31

Time: 09:41:18

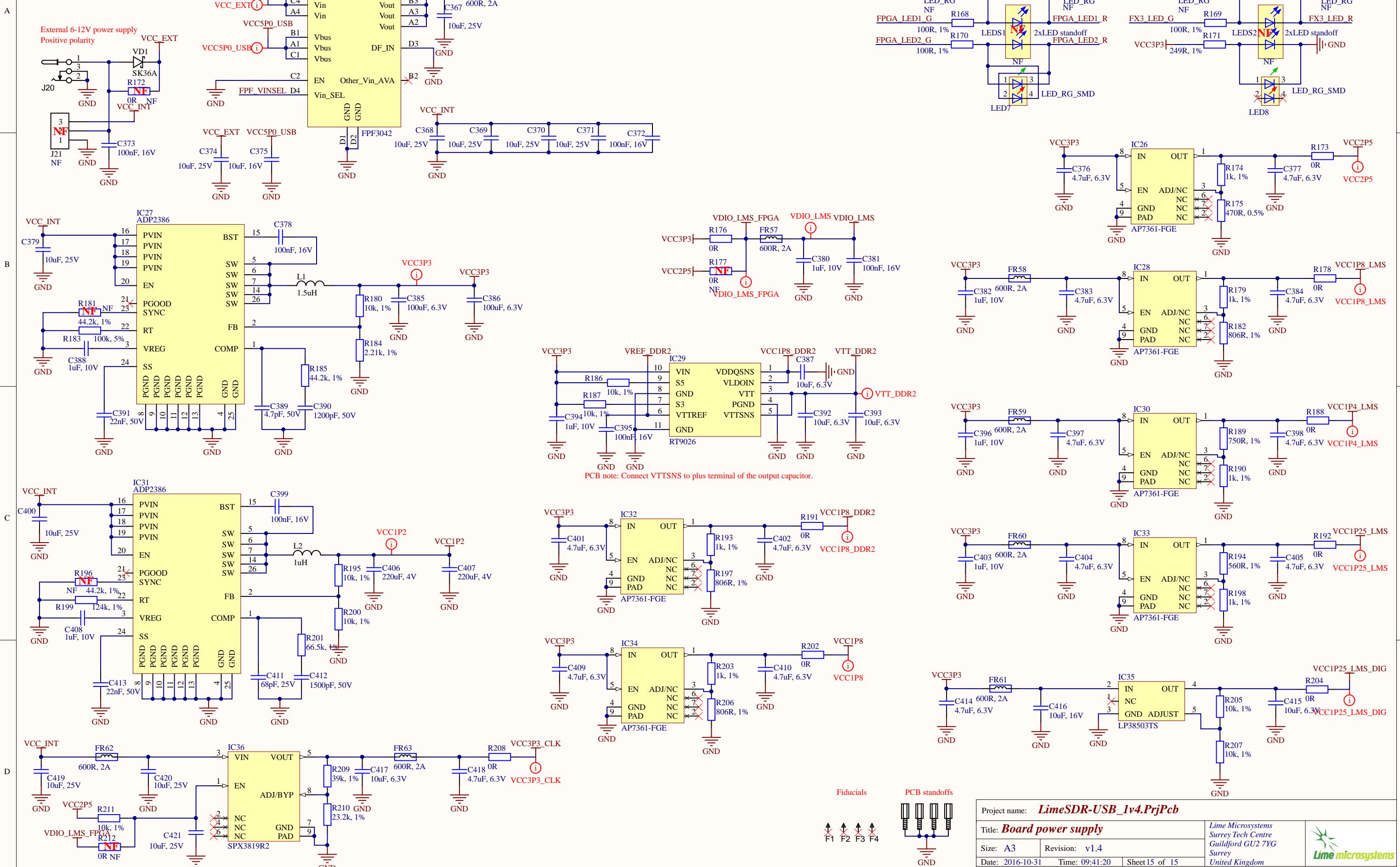
Sheet 14 of 15

File: 14_Clocks.SchDoc



NF elements on sheet: R166, R167, R172, R177, R181, R196, R212, J21, LED3, LED4, LED5, LED6, LEDS1, LEDS2
Number of NF elements on sheet: 14
Total number of NF elements on all sheets: 60

Board power circuits



Project name: **LimeSDR-USB_1v4.PrjPcb**

Title: **Board power supply**

Size: **A3** Revision: **v1.4**

Date: **2016-10-31** Time: **09:41:20**

Sheet **15** of **15**

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