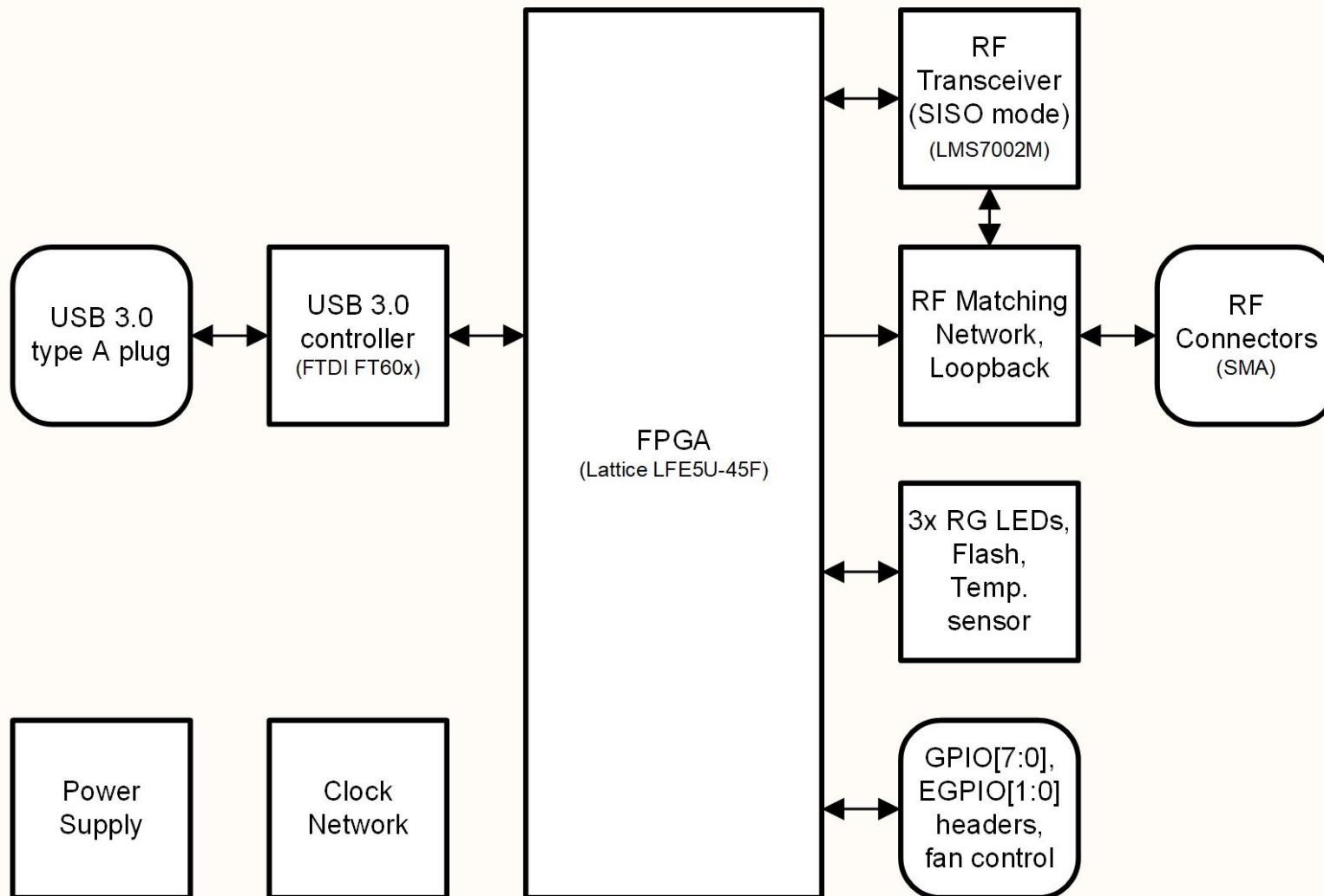


Block diagram



Project name: **LimeSDR-Mini_2v1.PrbPcb**

Title: **Block diagram**

Size: **A4** Revision: **v2.1**

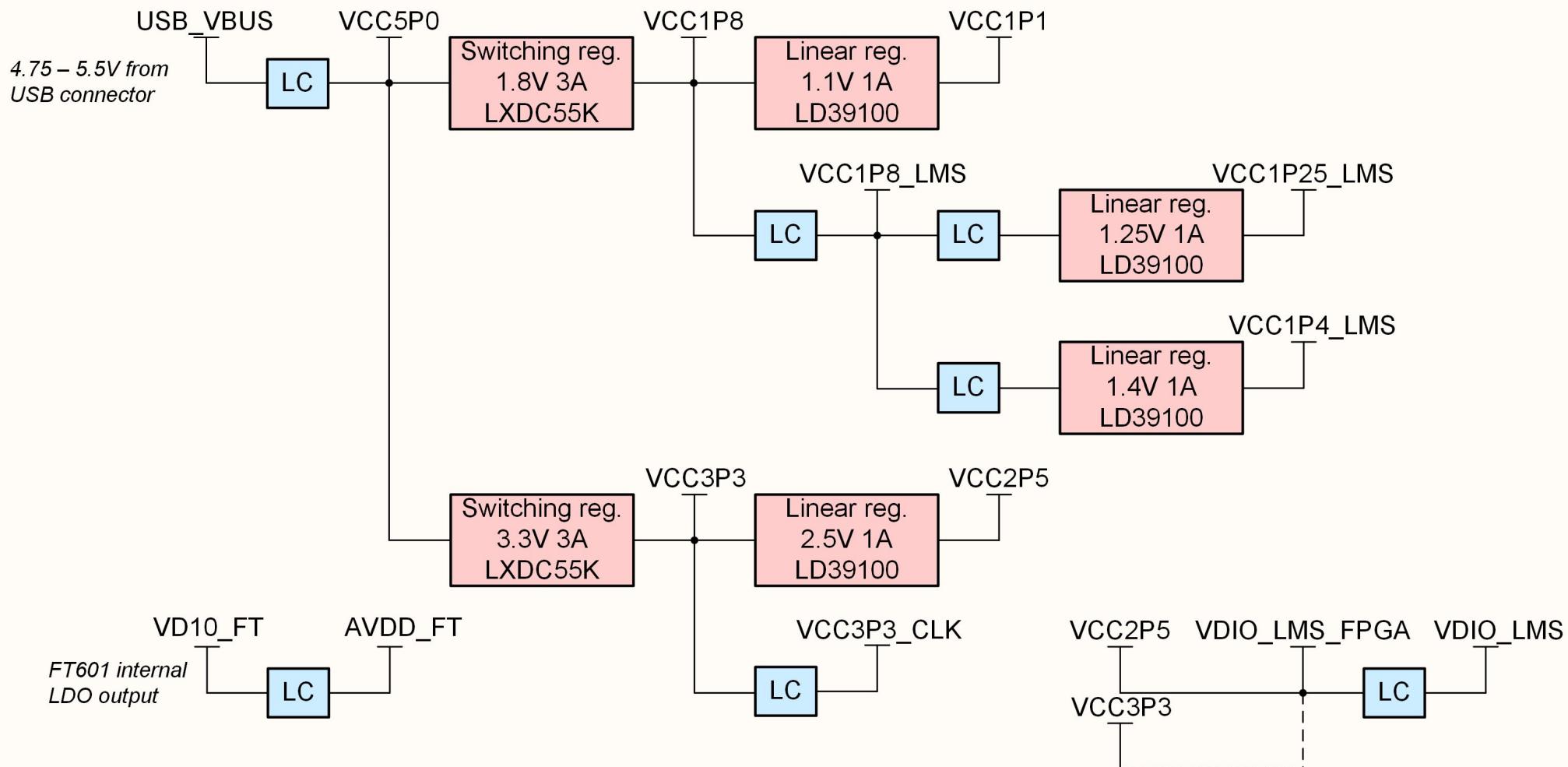
Date: **2022-06-03** Time: **13:43:08** Sheet **1** of **10**

File: **01_Block_Diagram.SchDoc**

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Power diagram



Project name: **LimeSDR-Mini_2v1.PrbPcb**

Title: **Power diagram**

Size: **A4** Revision: **v2.1**

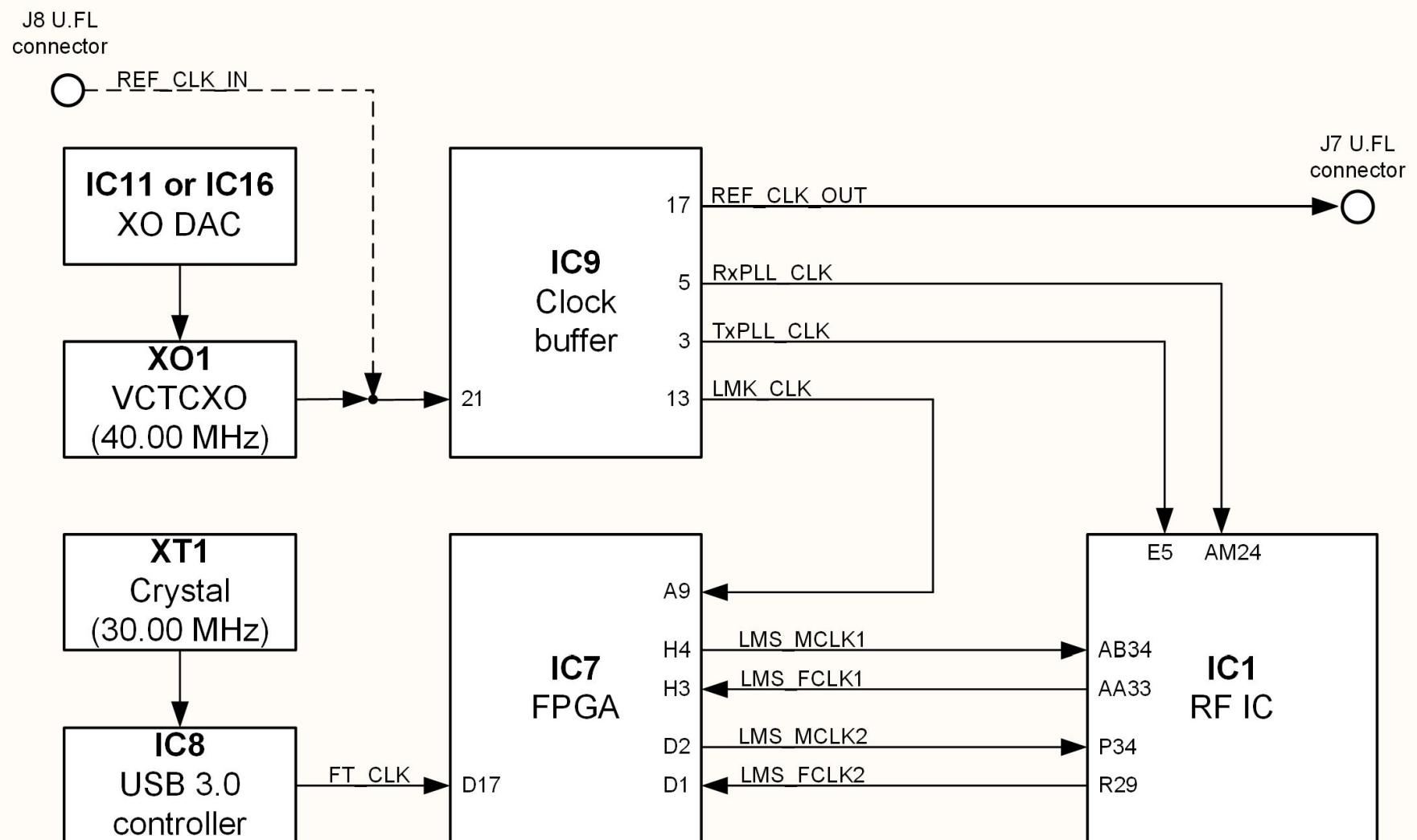
Date: **2022-06-03** Time: **13:43:09** Sheet **2** of **10**

File: **02_Power_Diagram.SchDoc**

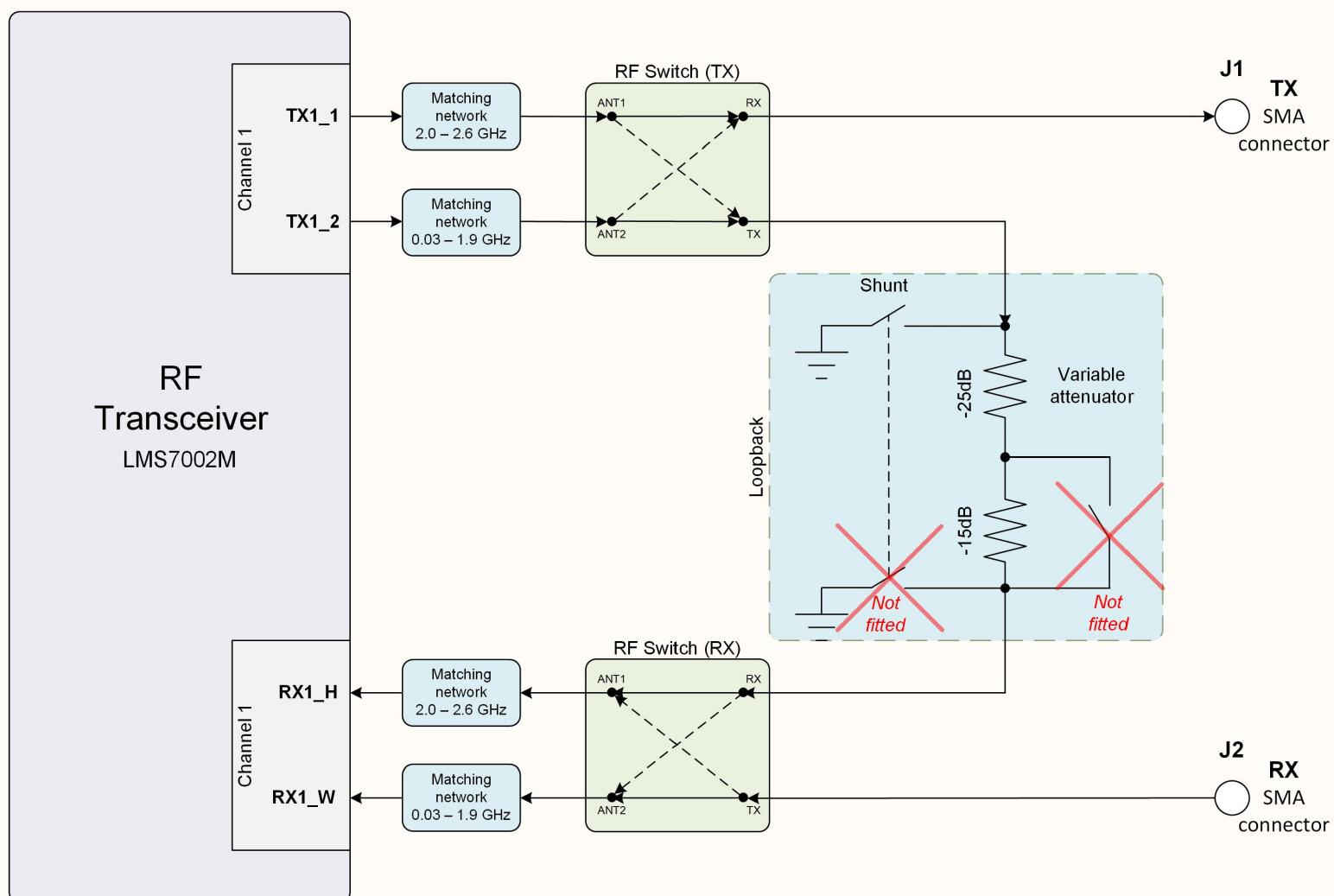
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Guildford GU2 7YG
Surrey
United Kingdom



Clock diagram

Project name: *LimeSDR-Mini_2v1.PrbPcb*Title: *Clock diagram*Size: *A4* Revision: *v2.1*Date: *2022-06-03* Time: *13:43:11* Sheet *3* of *10*File: *03_Clock_Diagram.SchDoc*
 Lime Microsystems
 Surrey Tech Centre
 Guildford GU2 7YG
 Surrey
 United Kingdom


RF diagram



Project name: *LimeSDR-Mini_2v1.PnjPcb*

Title: **RF diagram**

Size: **A4** Revision: **v2.1**

Date: **2022-06-03** Time: **13:43:13** Sheet **4** of **10**

File: **04_RF_Diagram.SchDoc**

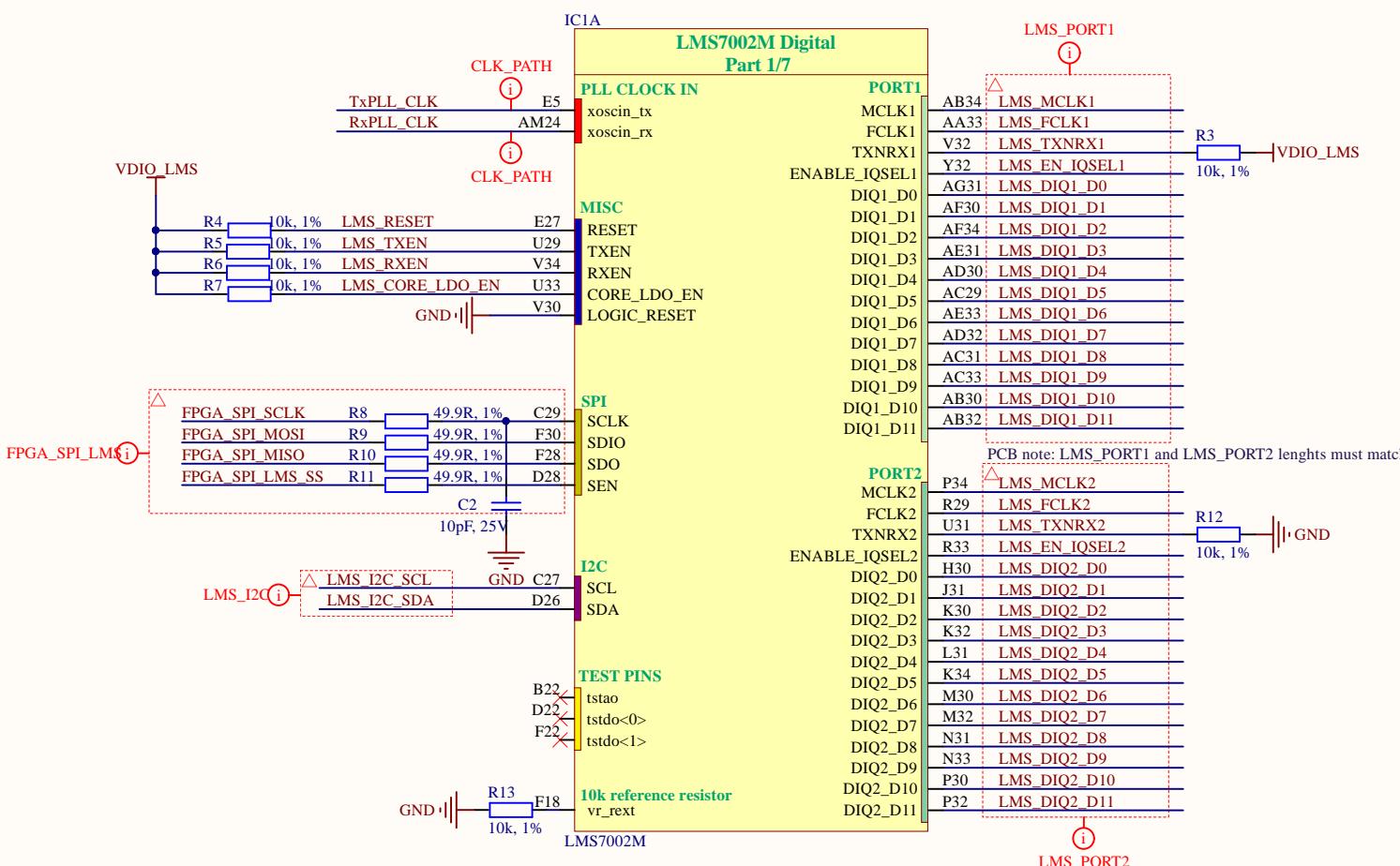
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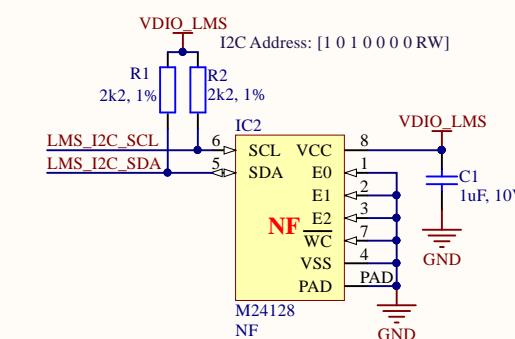
NF elements on sheet: IC2, MECH1-MECH5, MECH11-MECH15, MEHC16-MECH21, FAN1
Number of NF elements on sheet: 18

LMS7002M misc

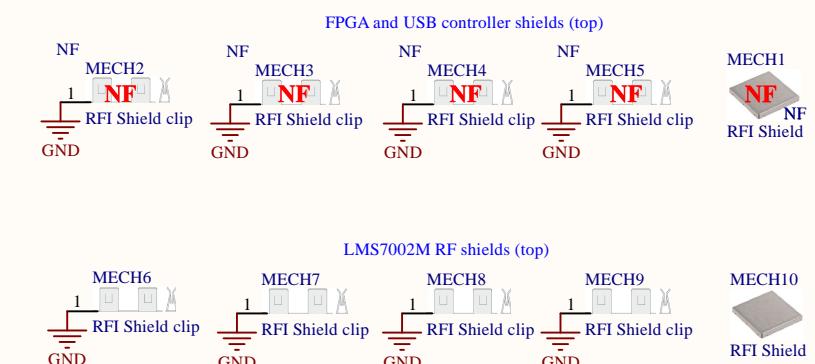
LMS7002M digital circuit



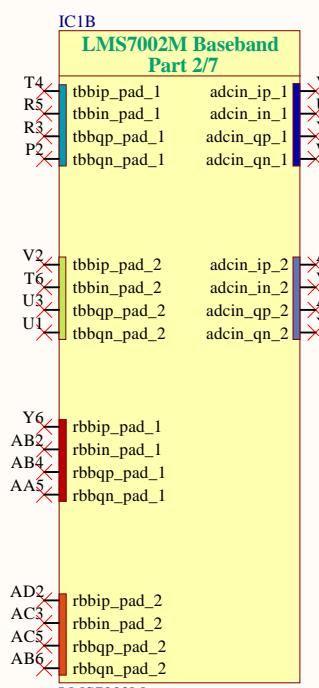
LMS EEPROM



Mechanical components



Baseband external IO



Project name: **LimeSDR-Mini_2v1.PjrPcb**

Title: **LMS7002M misc**

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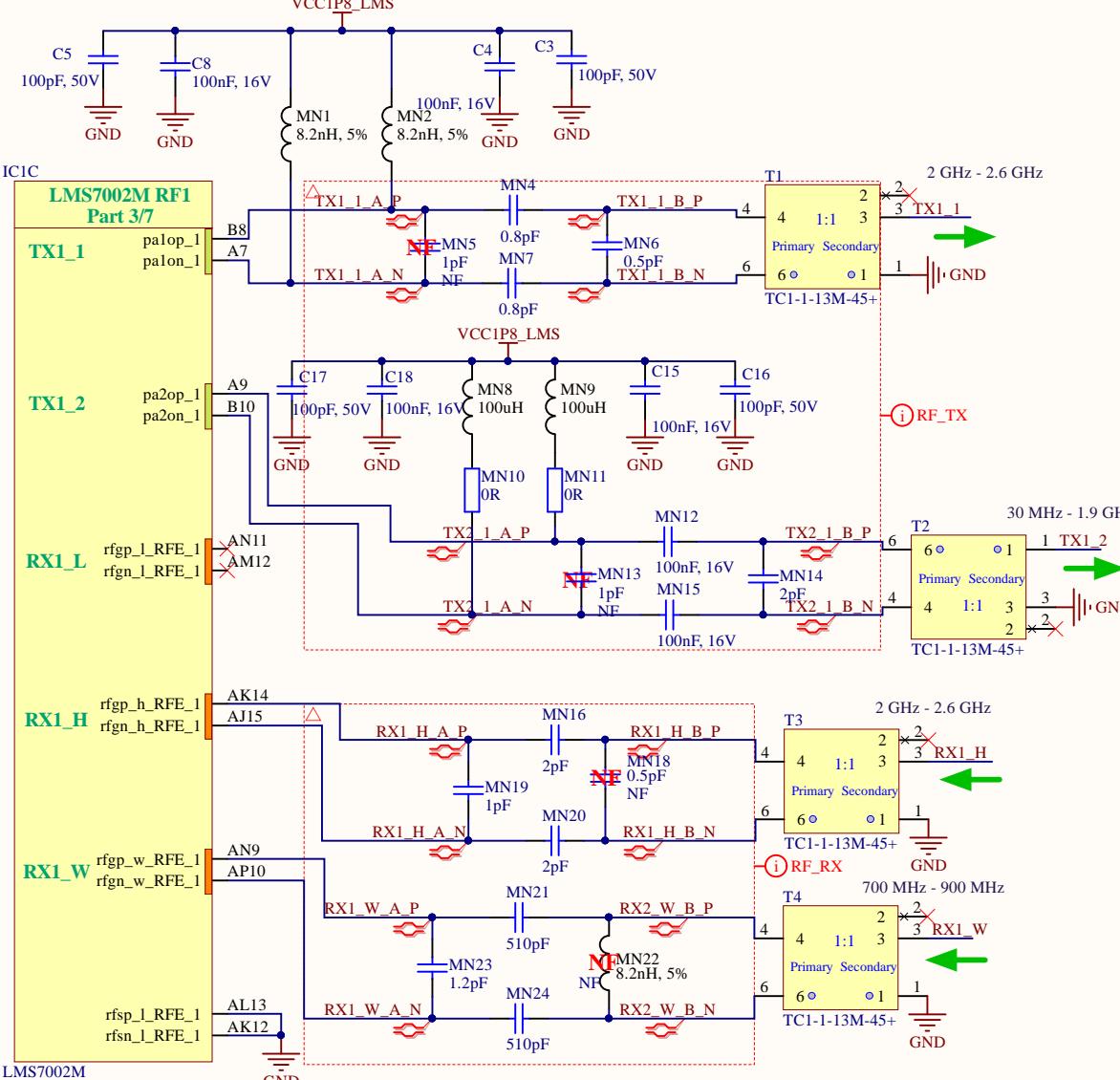
Size: **A3** Revision: **v2.1**

Date: **2022-06-03** Time: **13:43:16** Sheet**5** of **10**

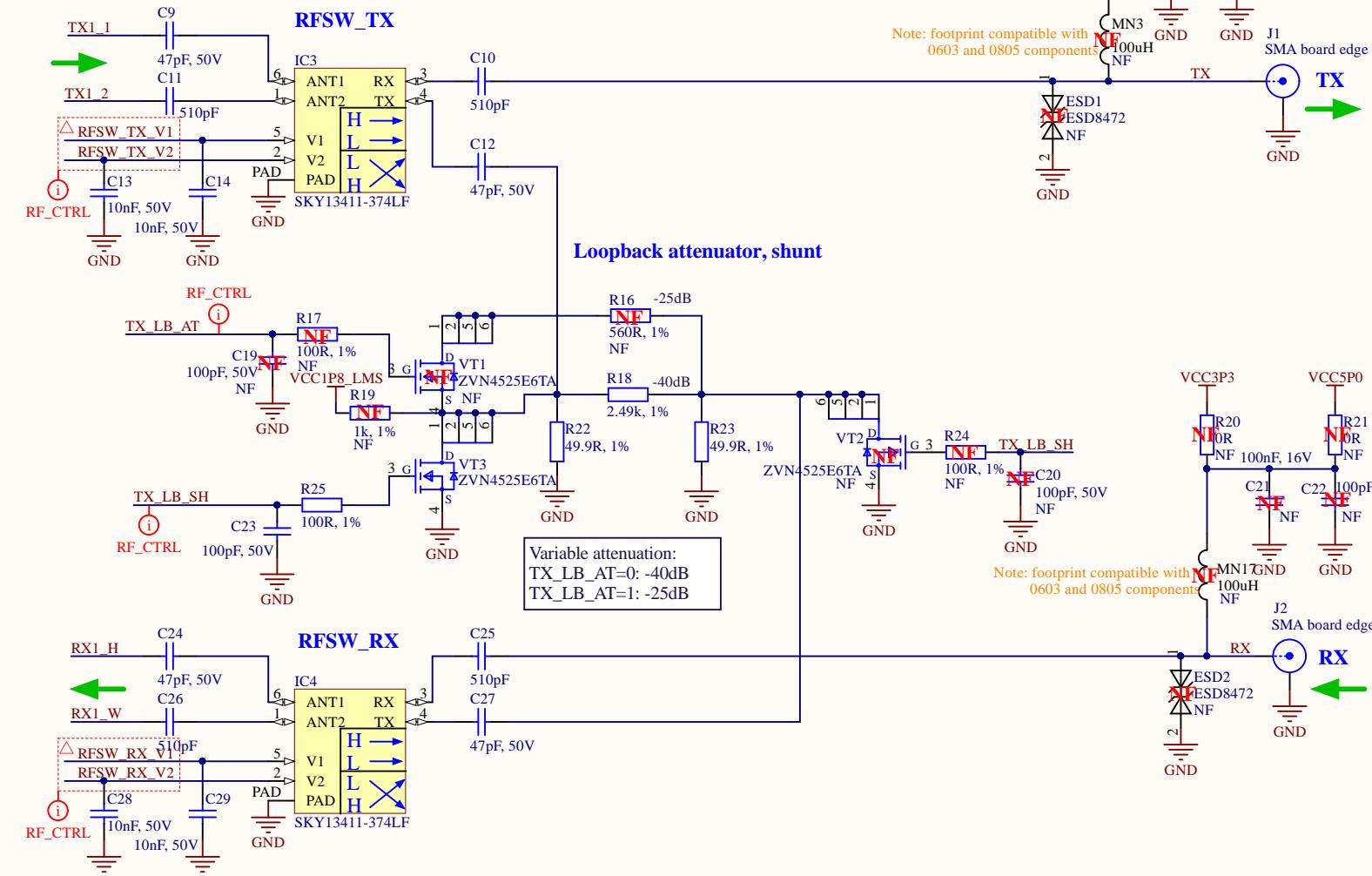
File: **05_LMS7002M_Misc.SchDoc**

LMS7002M RF circuits

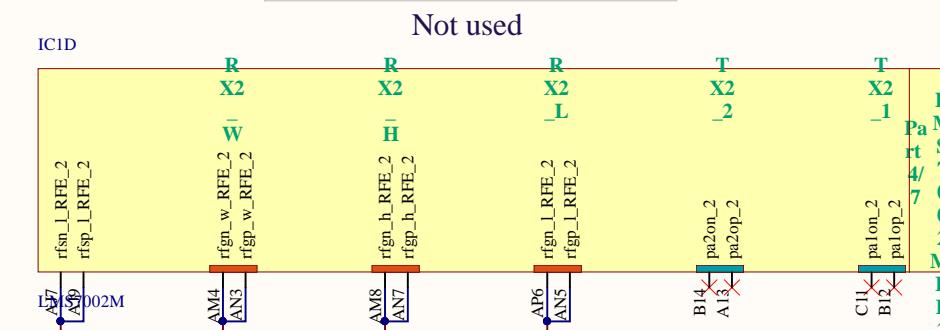
LMS RF Channel 1



RF control



LMS RF Channel 2



RF truth table

RFSW_TX	RFSW_RX	J1 (TX)	J2 (RX)	Loopback
H	L	H	L	TX1_1 → RX1_H
L	H	H	L	TX1_2 → RX1_W
H	L	L	H	TX1_1 → RX1_W
L	H	L	H	TX1_2 → RX1_H

RFSW (SKY13411) truth table

V1	V2	ANT1 (pin 6) → TX (pin 4)	ANT1 (pin 6) → RX (pin 3)	ANT2 (pin 1) → TX (pin 4)	ANT2 (pin 1) → RX (pin 3)
H	L	ISOLATION	ON	ON	ISOLATION
L	H	ON	ISOLATION	ISOLATION	ON

Project name: LimeSDR-Mini_2v1.PnjPcb

Title: LMS7002M RF

Size: A3 Revision: v2.1

Date: 2022-06-03 Time: 13:43:19 Sheet 6 of 10

File: 06_LMS7002M_RF.SchDoc

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LMS7002M power supply circuit

NF elements on sheet: R26, C71, C84
Number of NF elements on sheet: 3

IC1F

LMS7002M Power Part 6/7

1.25V Digital

DIGPRVDD1
DIGPRVDD1
DIGPRVDD1
DIGPRVDD1

1.25V Analog

VDD12_TXBUF
VDD12O_VCO_SXT
VDD12_VCO_SXT

VDD_CP_SXT
VDD_TBB

VDD12_TIA_RFE

VDD12_LNA_RFE

VDD_CP_SXR

VDD_DIV_SXR

VDD12_VCO_SXR

VDD12_RXBUF

VDD_AFE

VDD_CP_CGEN

VDD_DIV_CGEN

VDD_TPAD_TRF

VDD_TLOBUF_TRF

VDDO_TLOBUF_TRF

1.25V-1.4V Analog

VDD_DIV_SXT

VDDO_DIV_SXT

VDD_MXLOBUF_RFE

1.4V Analog

VDD14_RBB

VDD14_TIA_RFE

VDD14_LNA_RFE

VDD14_VCO_CGEN

LMS7002M

IC1E

LMS7002M Power Part 5/7

1.8V Digital

VDD18_DIG

1.8V-3.3V Digital

DIGPRVDD2

DIGPRVDD2

DIGPRVDD2

DIGPRVDD2

DIGPRPOC

1.8V Analog

VDD18_VCO_SXT

VDD18_LDO_TX

VDD18_TIA_RFE

VDD18_LDO_RX

VDD18_SXR

VDD18_VCO_SXR

VDD18_BIAS

VDD18_TRF

VDD18_VCO_CGEN

1.8V-3.3V Analog

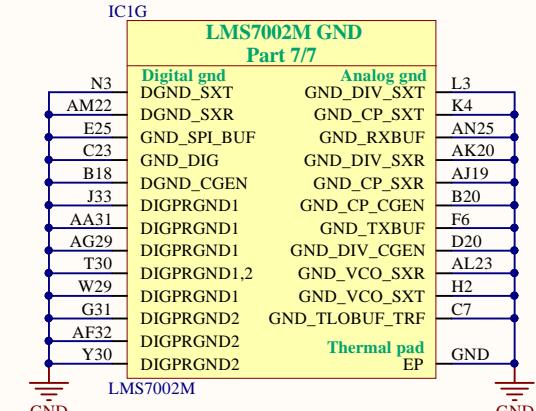
VDD18_TXBUF

VDD18_RXBUF

LMS7002M



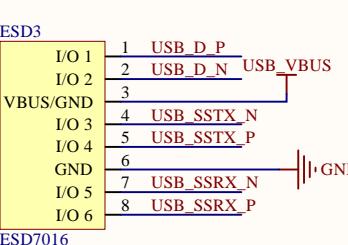
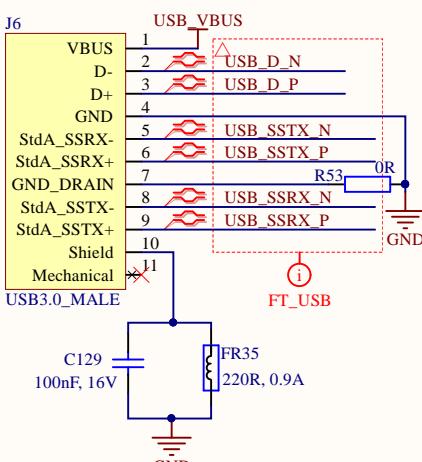
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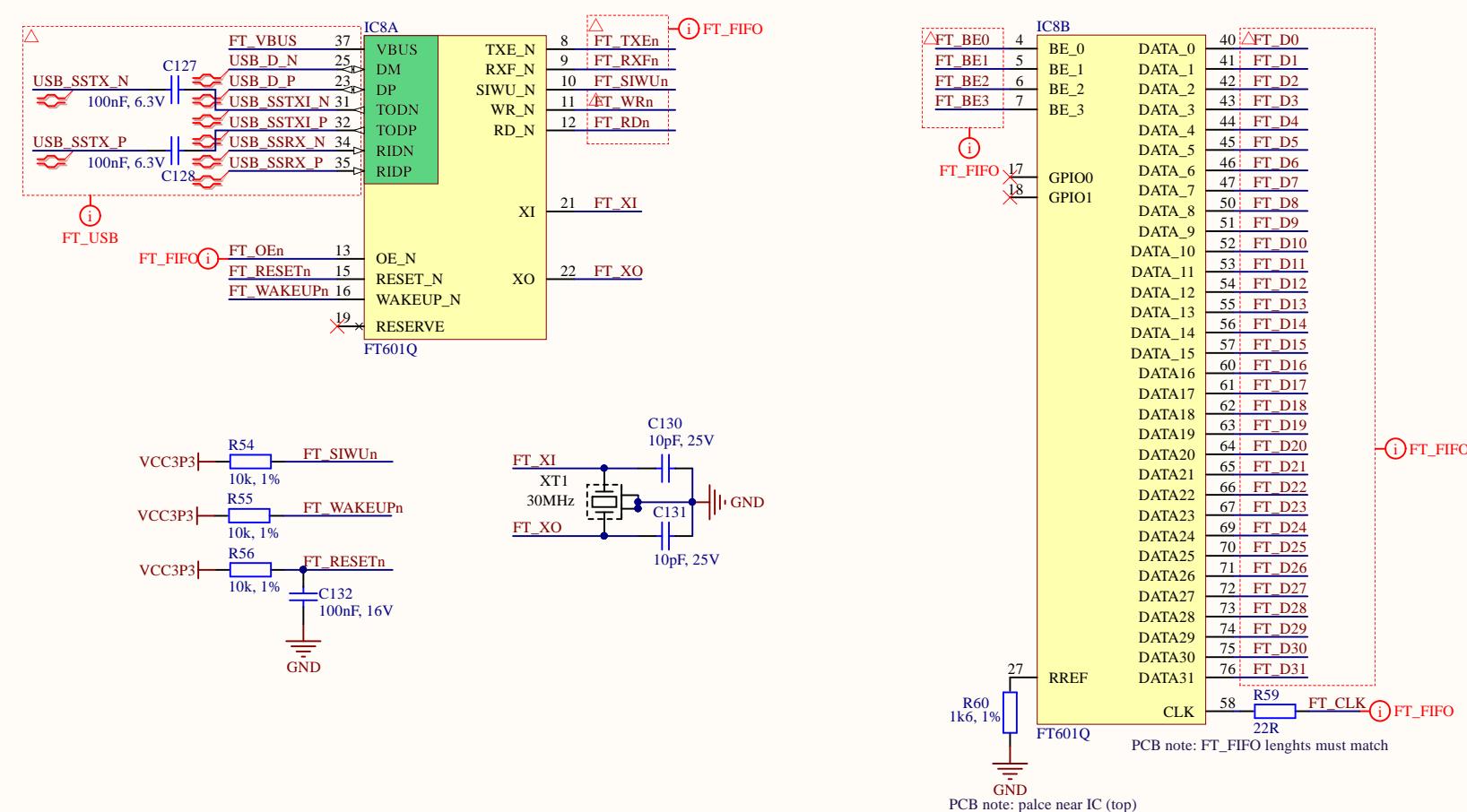
NF elements on sheet: -
Number of NF elements on sheet: 0

USB 3.0 to FIFO interface

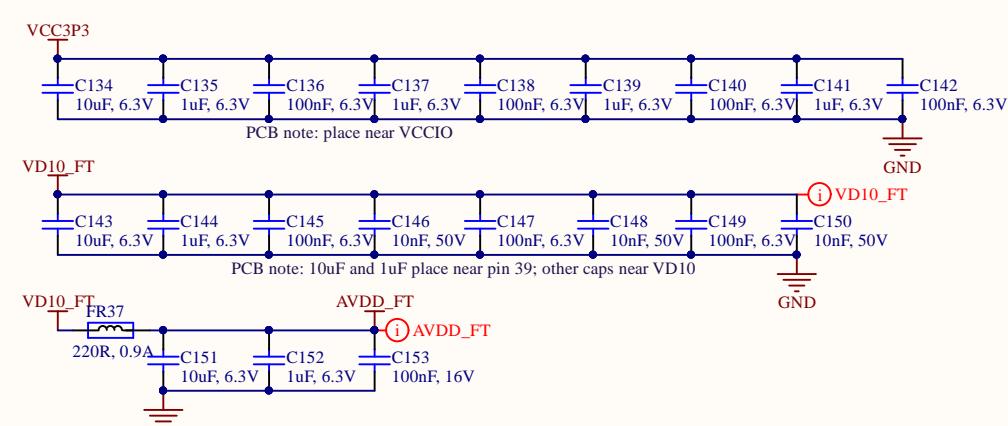
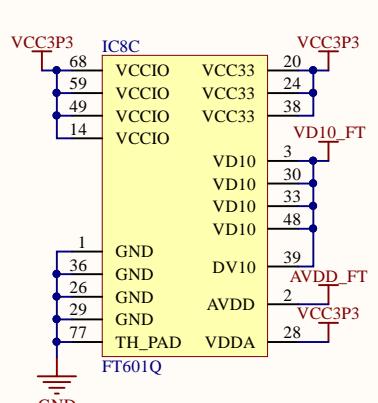
USB 3.0 type A plug and ESD



FTDI digital interface



FTDI Power



Schematic note: marked 10uF caps (C134, C143, C151) not crucial and can be removed to reduce BOM price

Project name: LimeSDR-Mini_2v1.PnjPcb

Title: USB3.0 device

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Size: A3 Revision: v2.1

Date: 2022-06-03 Time: 13:43:29 Sheet 9 of 10

File: 09_USB3_0_FIFO.SchDoc

