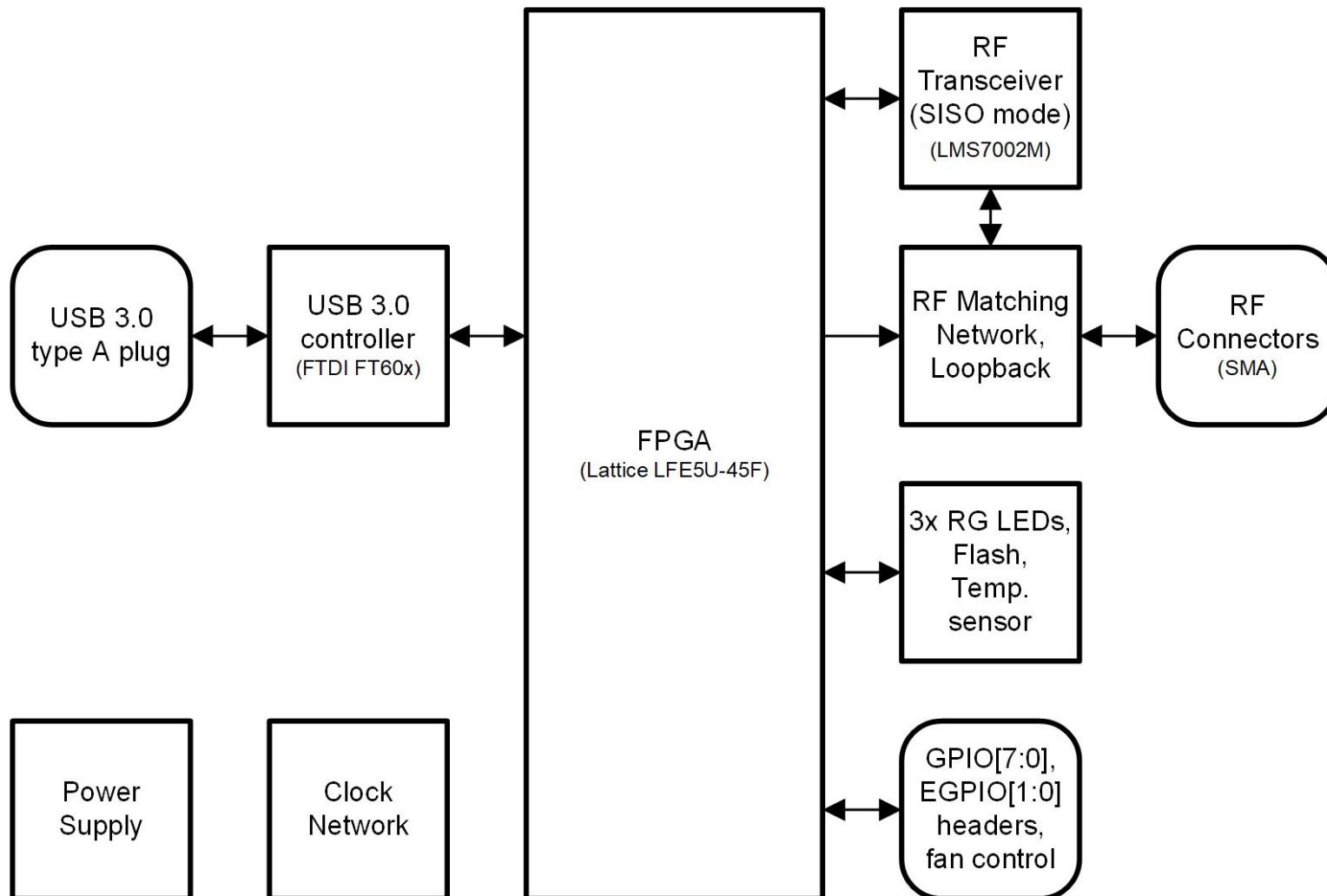


Block diagram



Project name: **LimeSDR-Mini_2v3.PrbPcb**

Title: **Block diagram**

Size: **A4** Revision: **v2.3**

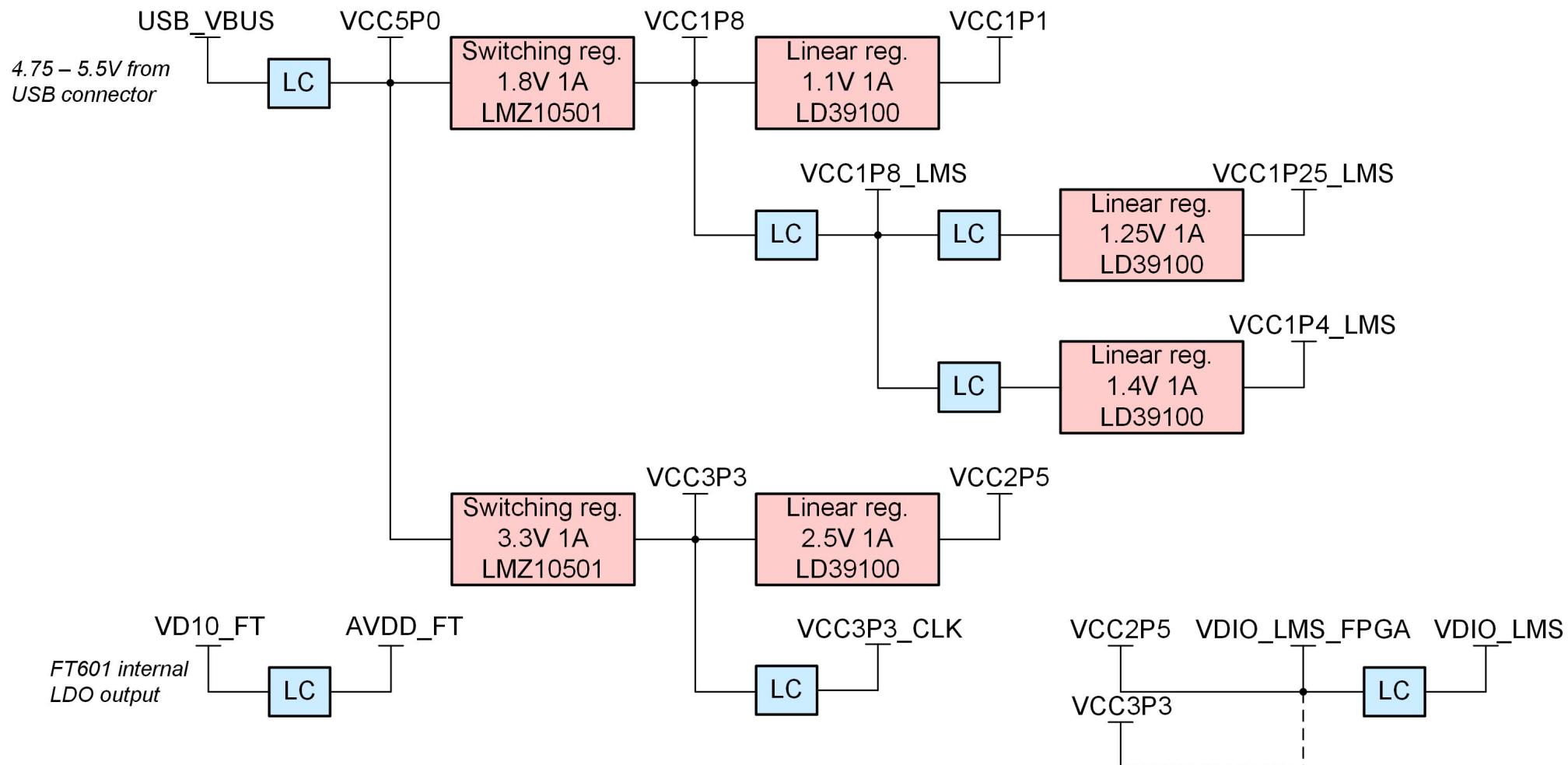
Date: **2023-01-18** Time: **12:54:25** Sheet **1** of **10**

File: **01_Block_Diagram.SchDoc**

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Power diagram



Project name: **LimeSDR-Mini_2v3.Pcb**

Title: **Power diagram**

Size: **A4** Revision: **v2.3**

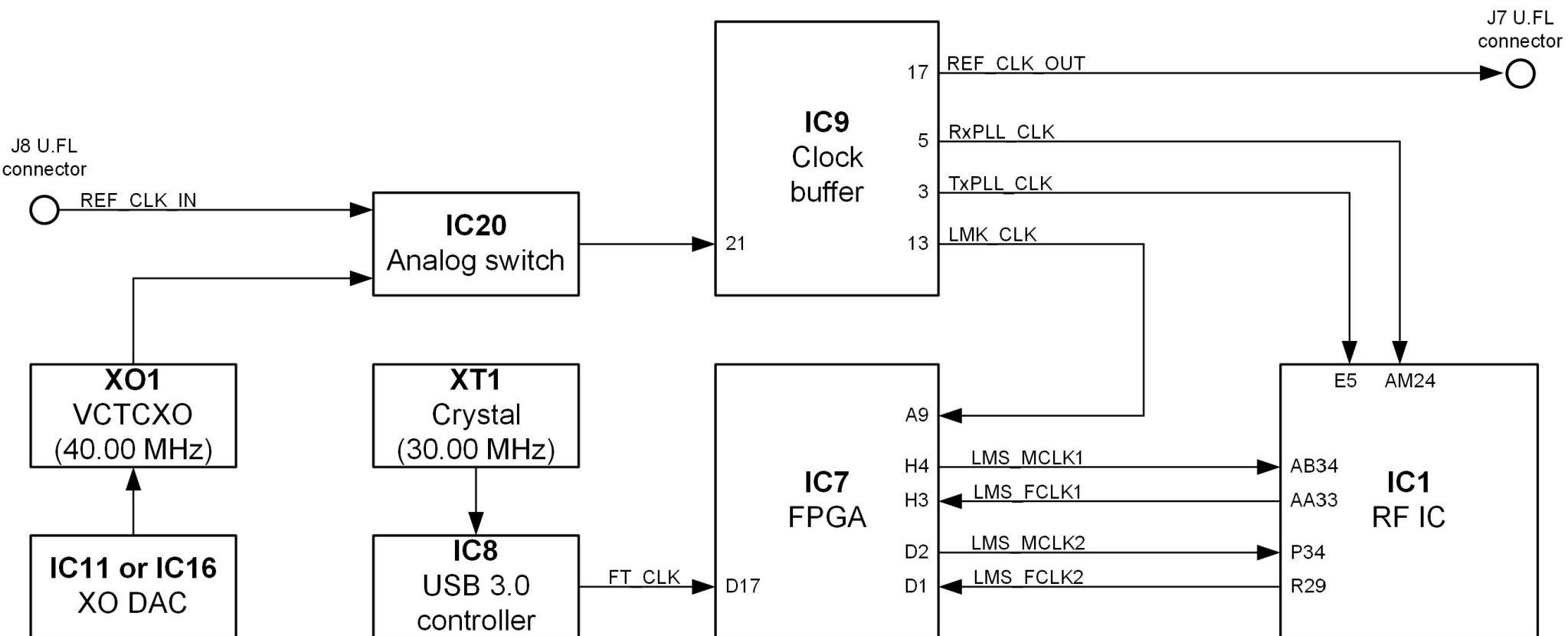
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File: **02_Power_Diagram.SchDoc**

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Clock diagram



Project name: *LimeSDR-Mini_2v3.PnjPcb*

Title: *Clock diagram*

Size: *A4* Revision: *v2.3*

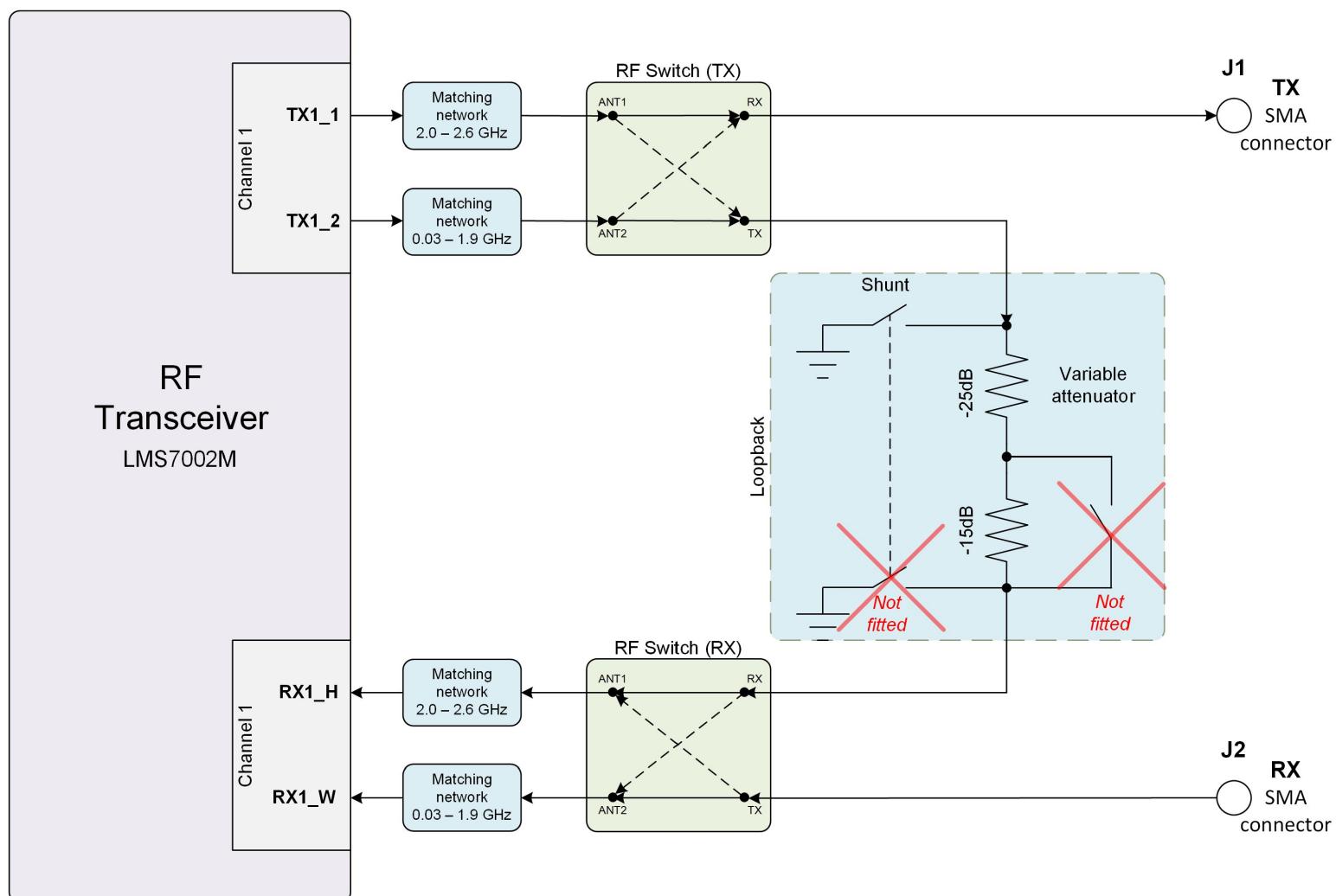
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File: *03_Clock_Diagram.SchDoc*

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RF diagram



Project name: **LimeSDR-Mini_2v3.PnjPcb**

Title: **RF diagram**

Size: **A4** Revision: **v2.3**

Date: **2023-01-18** Time: **12:54:25** Sheet **4** of **10**

File: **04_RF_Diagram.SchDoc**

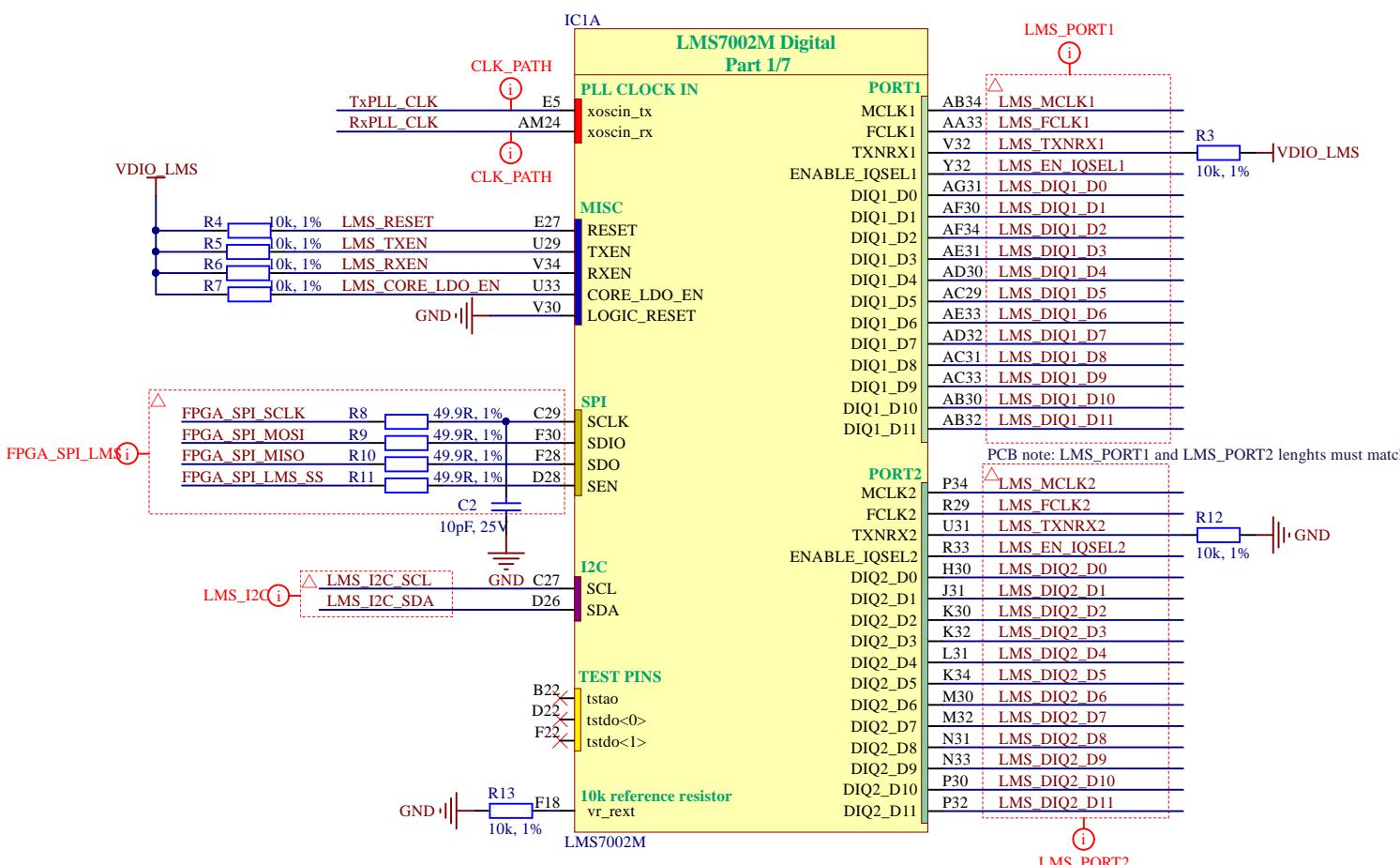
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United Kingdom



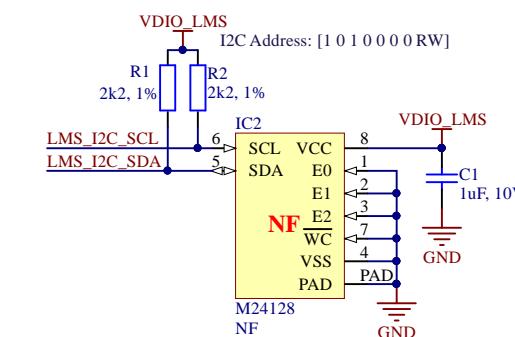
NF elements on sheet: IC2, MECH1-MECH5, MECH11-MECH15, MEHC16-MECH21, FAN1
Number of NF elements on sheet: 18

LMS7002M misc

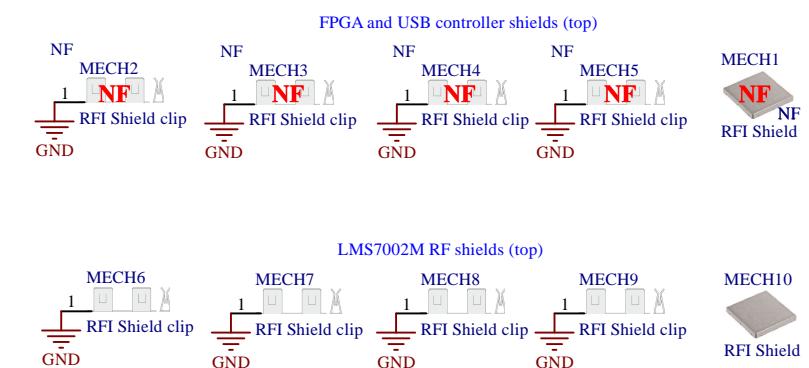
LMS7002M digital circuit



LMS EEPROM



Mechanical components



Project name: LimeSDR-Mini_2v3.PnjPcb

Title: LMS7002M misc

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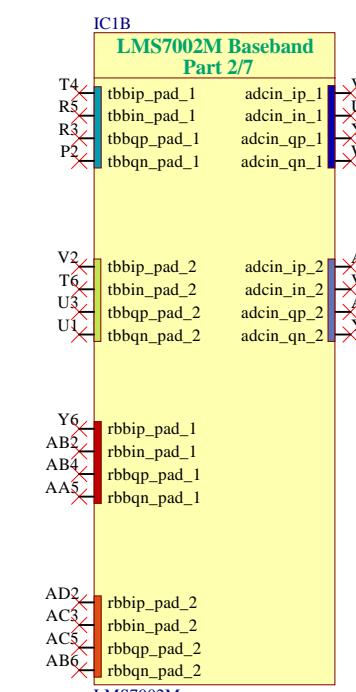


Size: A3 Revision: v2.3

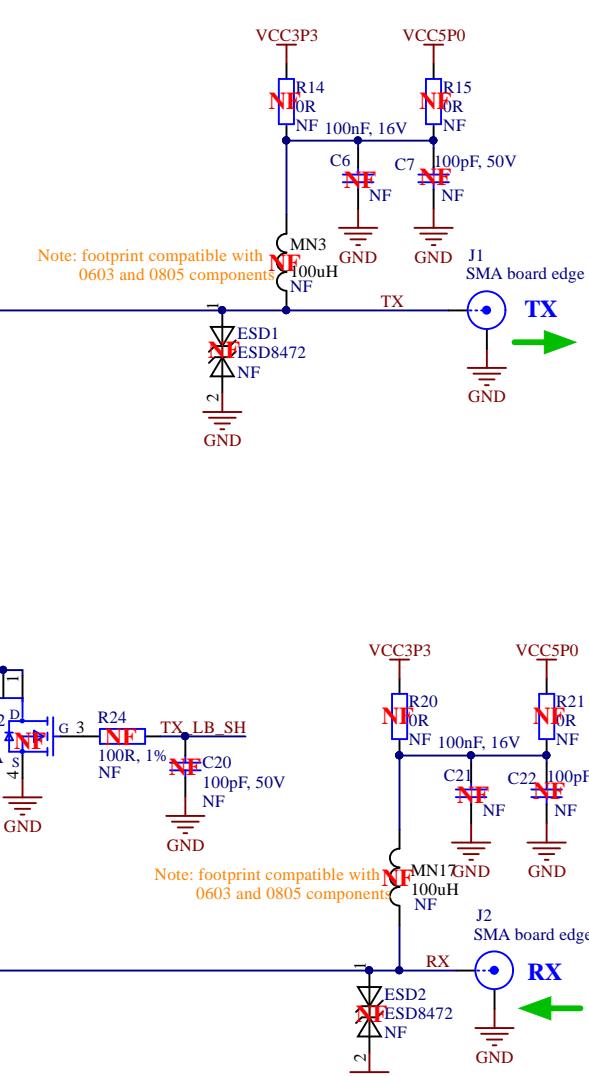
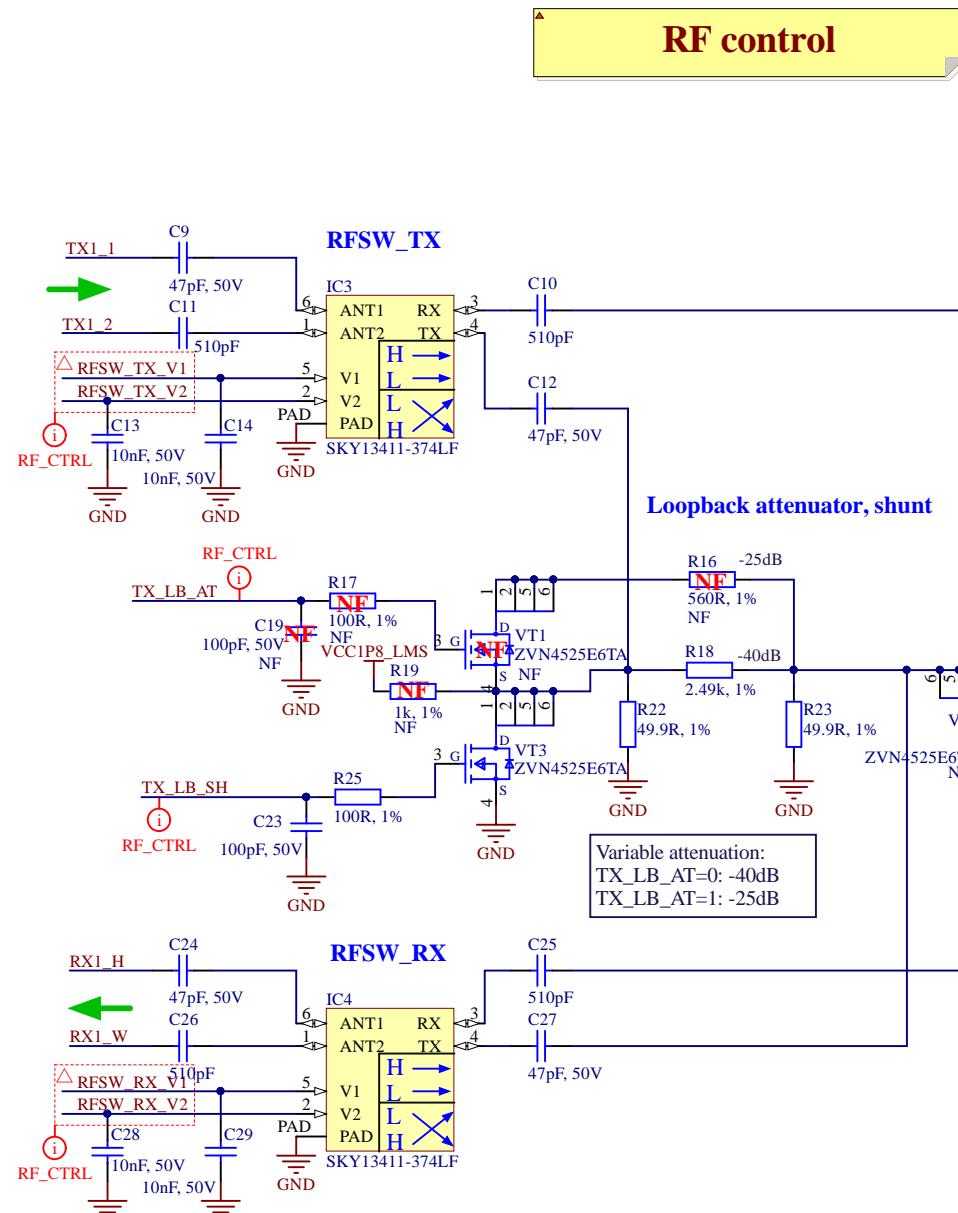
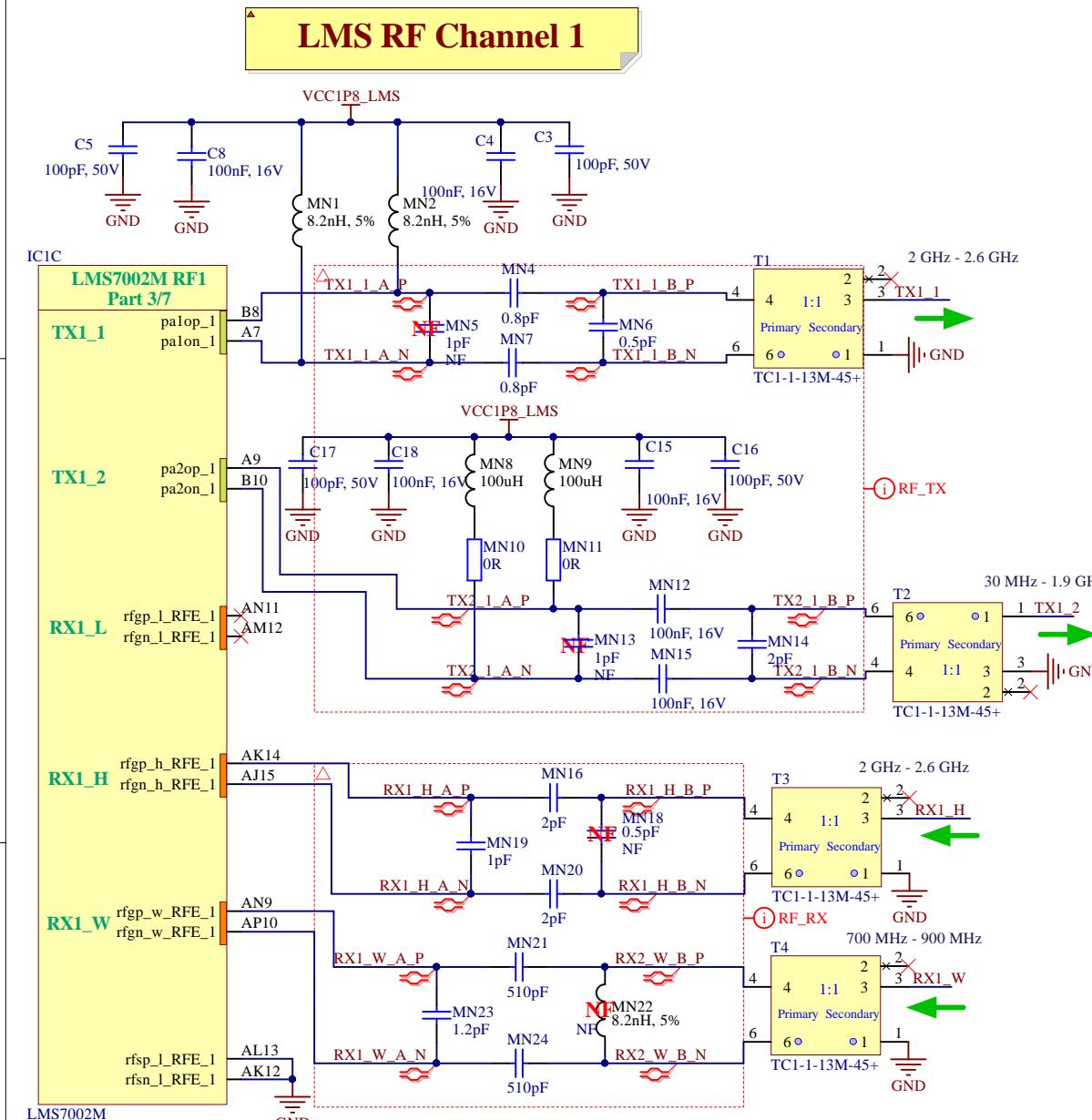
Date: 2023-01-18 Time: 12:54:26 Sheet 5 of 10

File: 05_LMS7002M_Misc.SchDoc

Baseband external IO

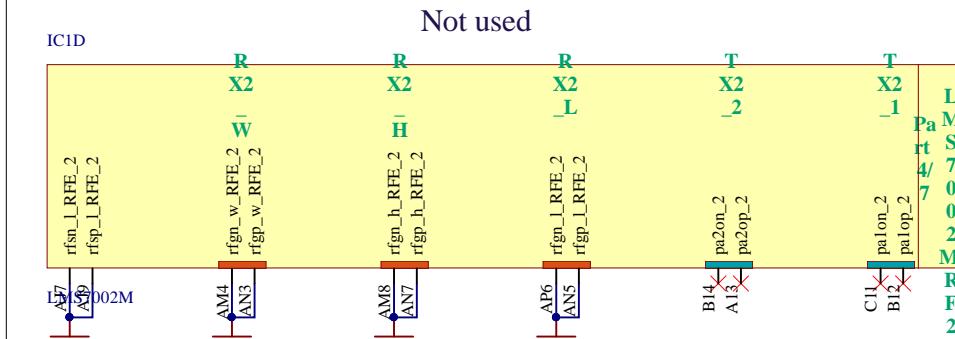


LMS7002M RF circuits



RF truth table		J1 (TX)		J2 (RX)		Loopback
RFSW_TX	RFSW_RX	V1	V2	(TX)	(RX)	
H	L	H	L	TX1_1	RX1_H	TX1_2 → RX1_W
L	H	H	L	TX1_2	RX1_H	TX1_1 → RX1_W
H	L	L	H	TX1_1	RX1_W	TX1_2 → RX1_H
L	H	L	H	TX1_2	RX1_W	TX1_1 → RX1_H

RFSW (SKY13411) truth table		ANT1 (pin 6) → TX (pin 4)	ANT1 (pin 6) → RX (pin 3)	ANT2 (pin 1) → TX (pin 4)	ANT2 (pin 1) → RX (pin 3)
V1	V2	ISOLATION	ON	ON	ISOLATION
H	L	ISOLATION	ON	ON	ISOLATION
L	H	ON	ISOLATION	ISOLATION	ON



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

DVDD_SXR
DVDD_SXT
VDD12_DIG
VDD_SPI_BUF
DVDD_CGEN

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

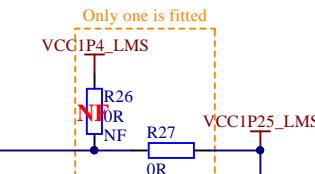
1.8V Analog

VDD18_VCO_SXT
VDD18_LDO_TX
VDD18_TIA_RFE
VDD18_LDO_RX
VDD18_SXR
VDD18_VCO_SXR
VDD18_BIAS
VDD18_TRF
VDD18_VCO_CGEN

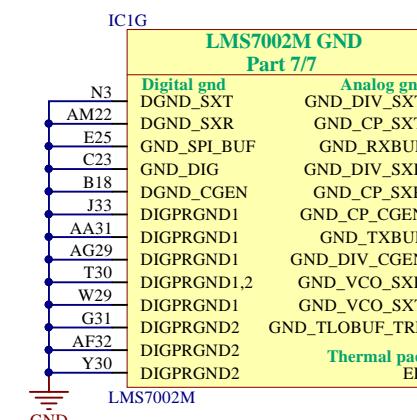
LMS7002M

1.8V-3.3V Analog

VDD18_TXBUF
VDD18_RXBUF



600R, 0.27A FR1
600R, 0.27A FR2
600R, 0.27A FR3
1uF, 6.3V C43
10R R28
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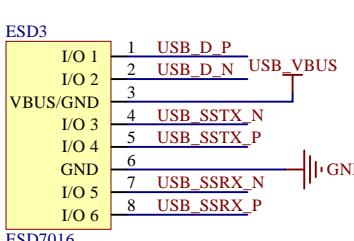
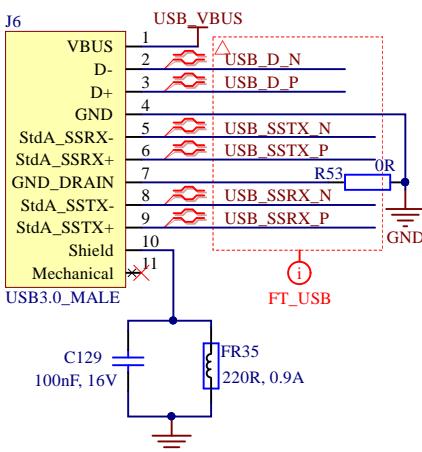
LMS7002M

GND

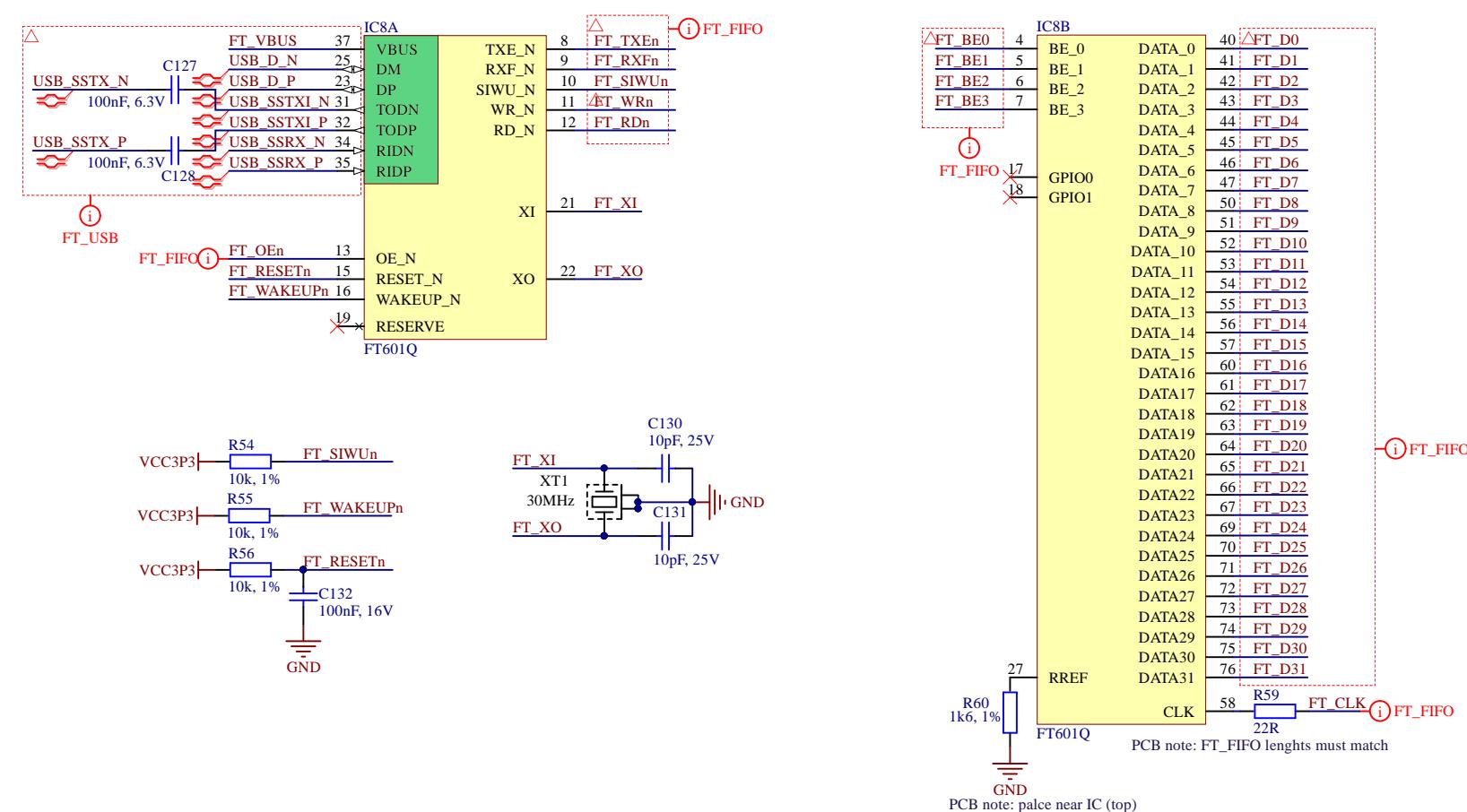
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Number of NF elements on sheet: 0

USB 3.0 to FIFO interface

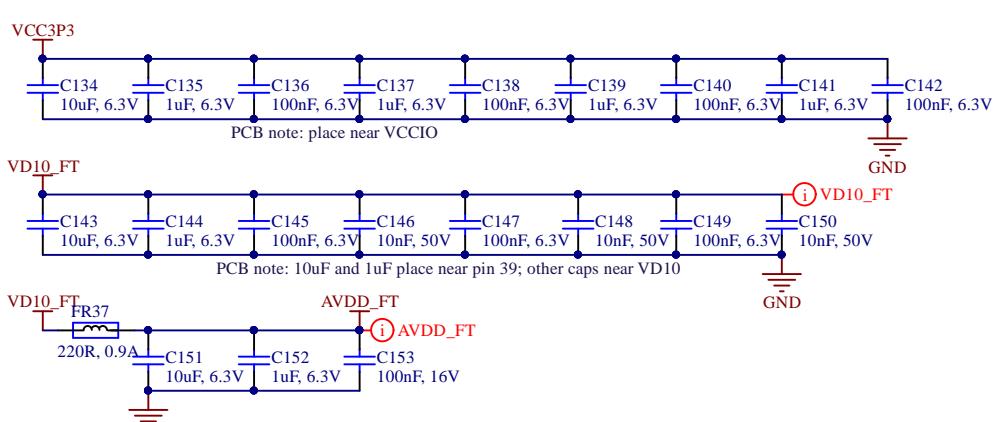
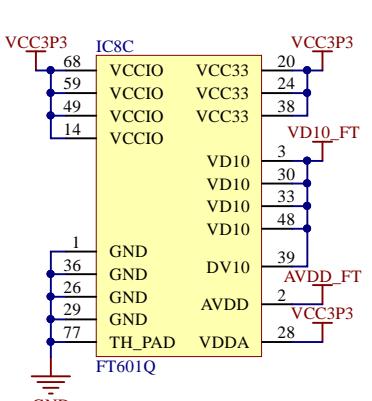
USB 3.0 type A plug and ESD



FTDI digital interface



FTDI Power



Project name: LimeSDR-Mini_2v3.PnjPcb

Title: USB3.0 device

Size: A3 Revision: v2.3

Date: 2023-01-18 Time: 12:54:27 Sheet 9 of 10

File: 09_USB3_0_FIFO.SchDoc

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