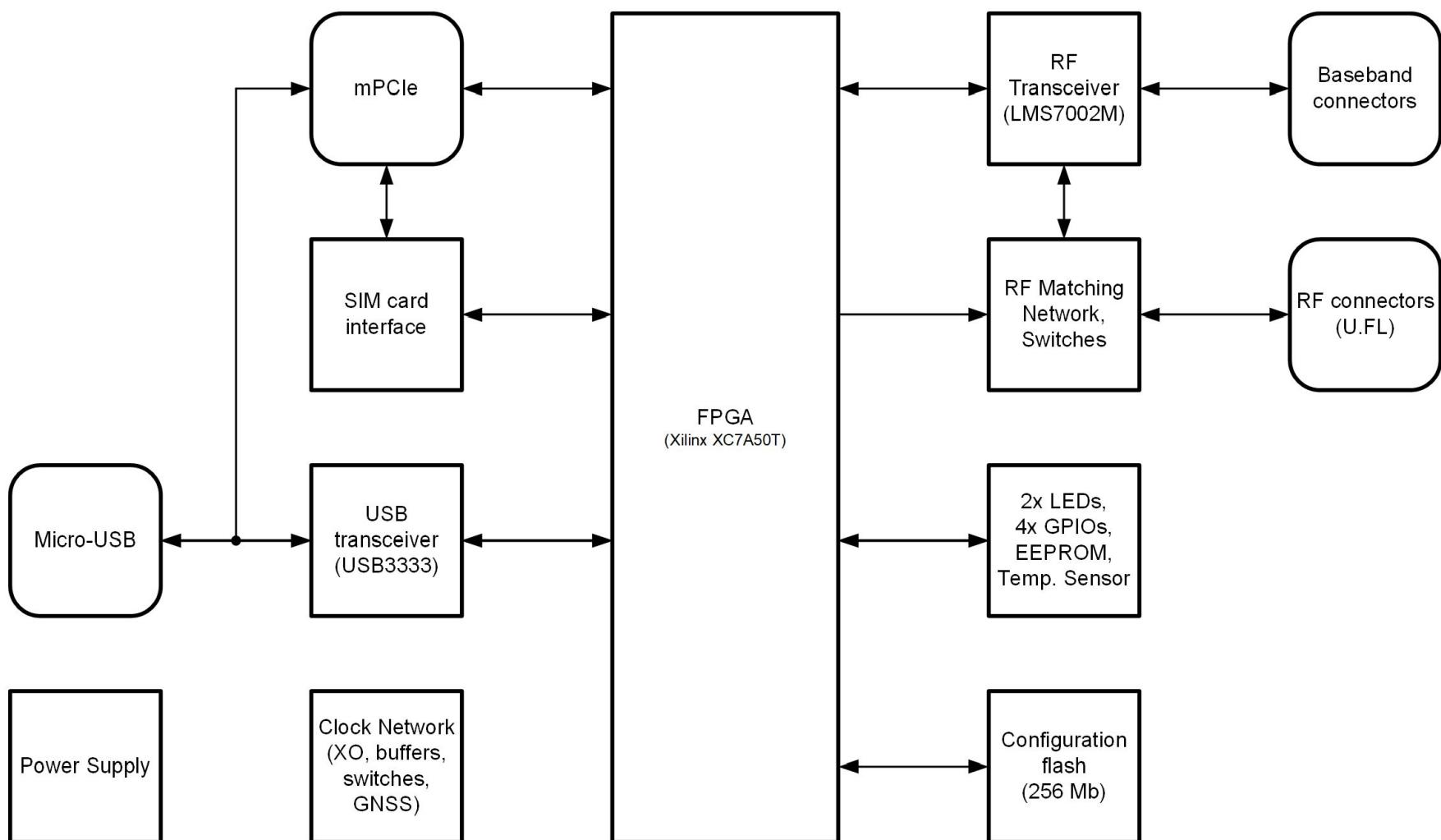


Block diagram



Project name: **LimeSDR-XTRX_Inv1.PjPcb**

Title: **Block diagram**

Size: **A4** Revision: **v1.1**

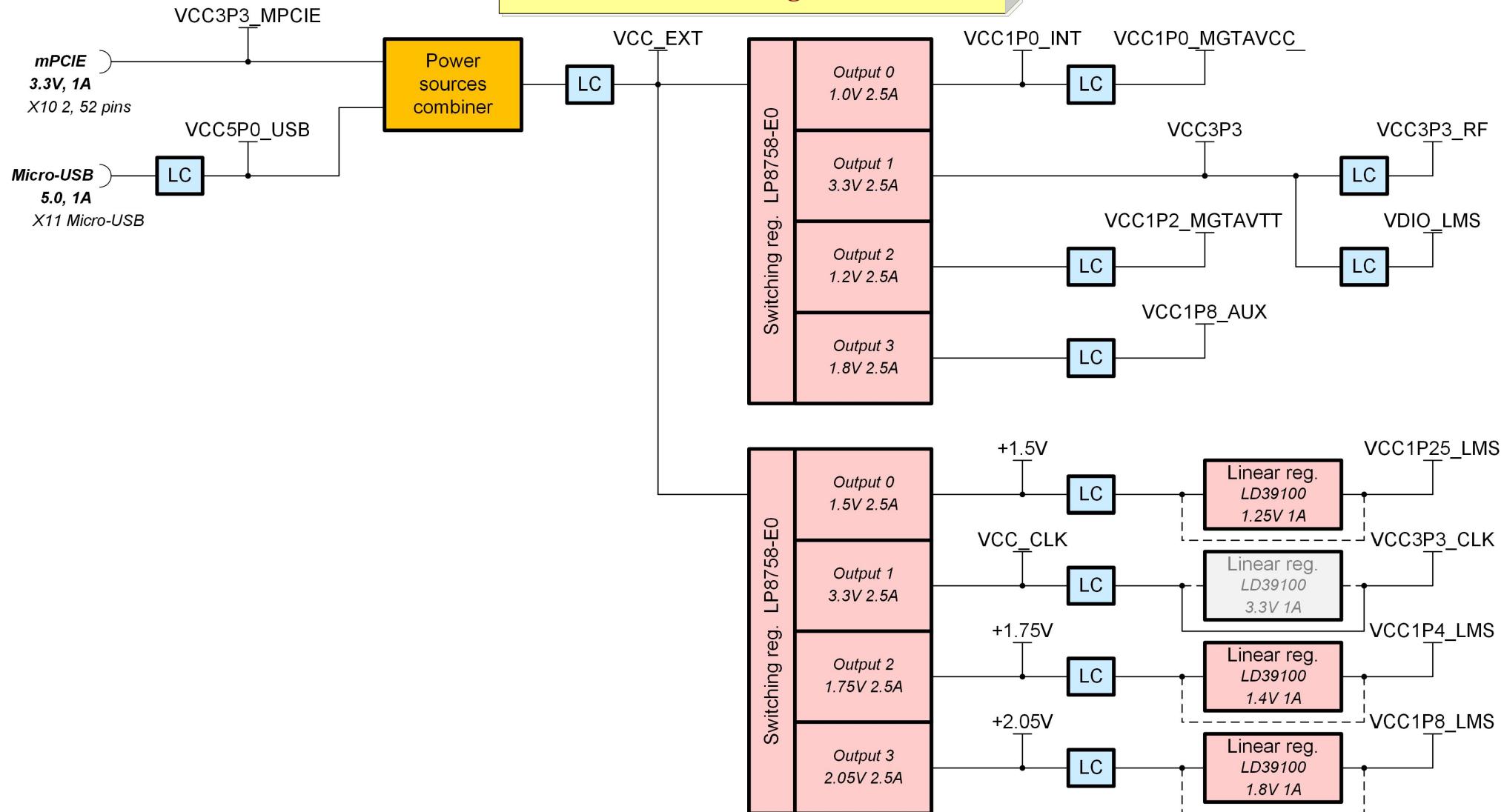
Date: **2023-09-04** Time: **14:36:59** Sheet **1** of **10**

File: **01_Block_Diagram.SchDoc**

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Surrey Tech Centre
Guildford GU2 7YG
Surrey
United Kingdom



Power diagram



Project name: **LimeSDR-XTRX_Inv1.PjPcb**

Title: **Power diagram**

Size: **A4** Revision: **v1.1**

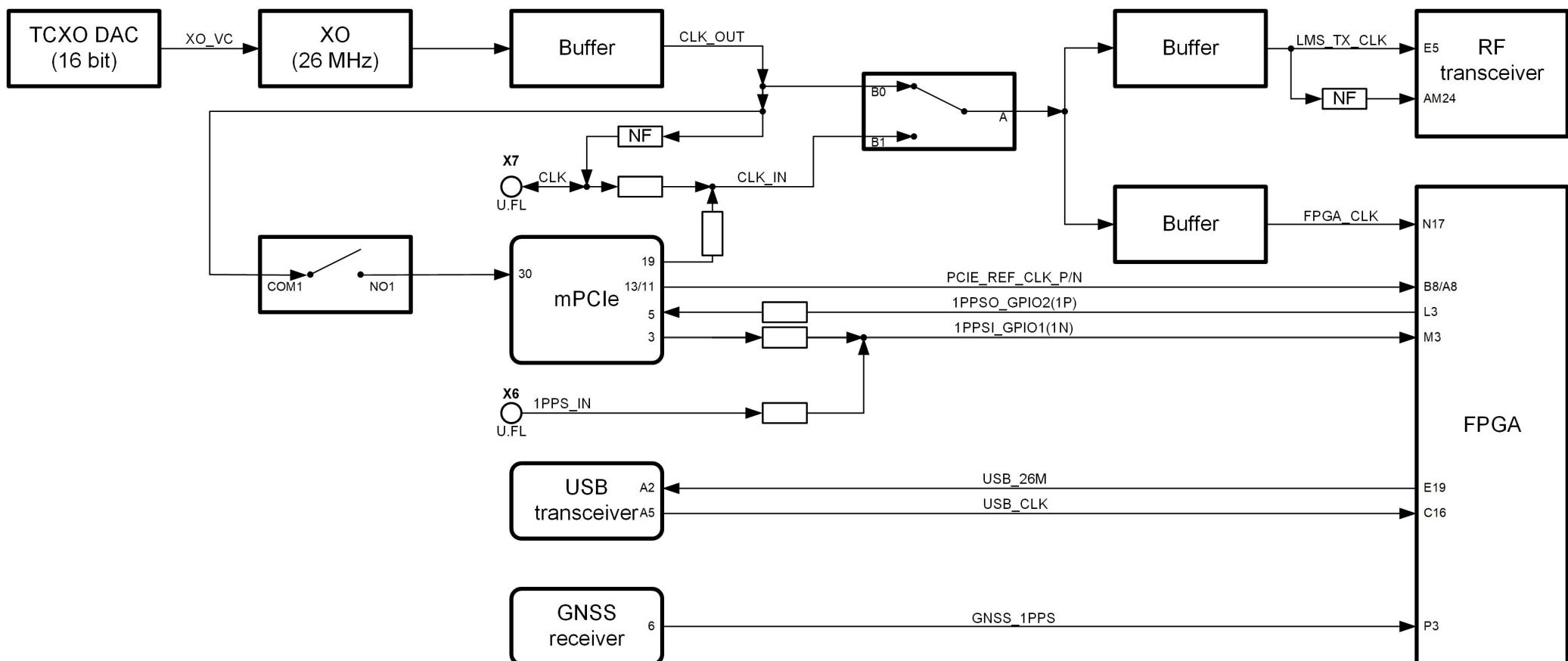
Date: 2023-09-04 Time: 14:37:02 Sheet 2 of 10

File: 02_Power_Diagram.SchDoc

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Surrey
United Kingdom



Clock diagram



Project name: **LimeSDR-XTRX_Iv1.PrjPcb**

Title: **Clock diagram**

Size: **A4** Revision: **v1.1**

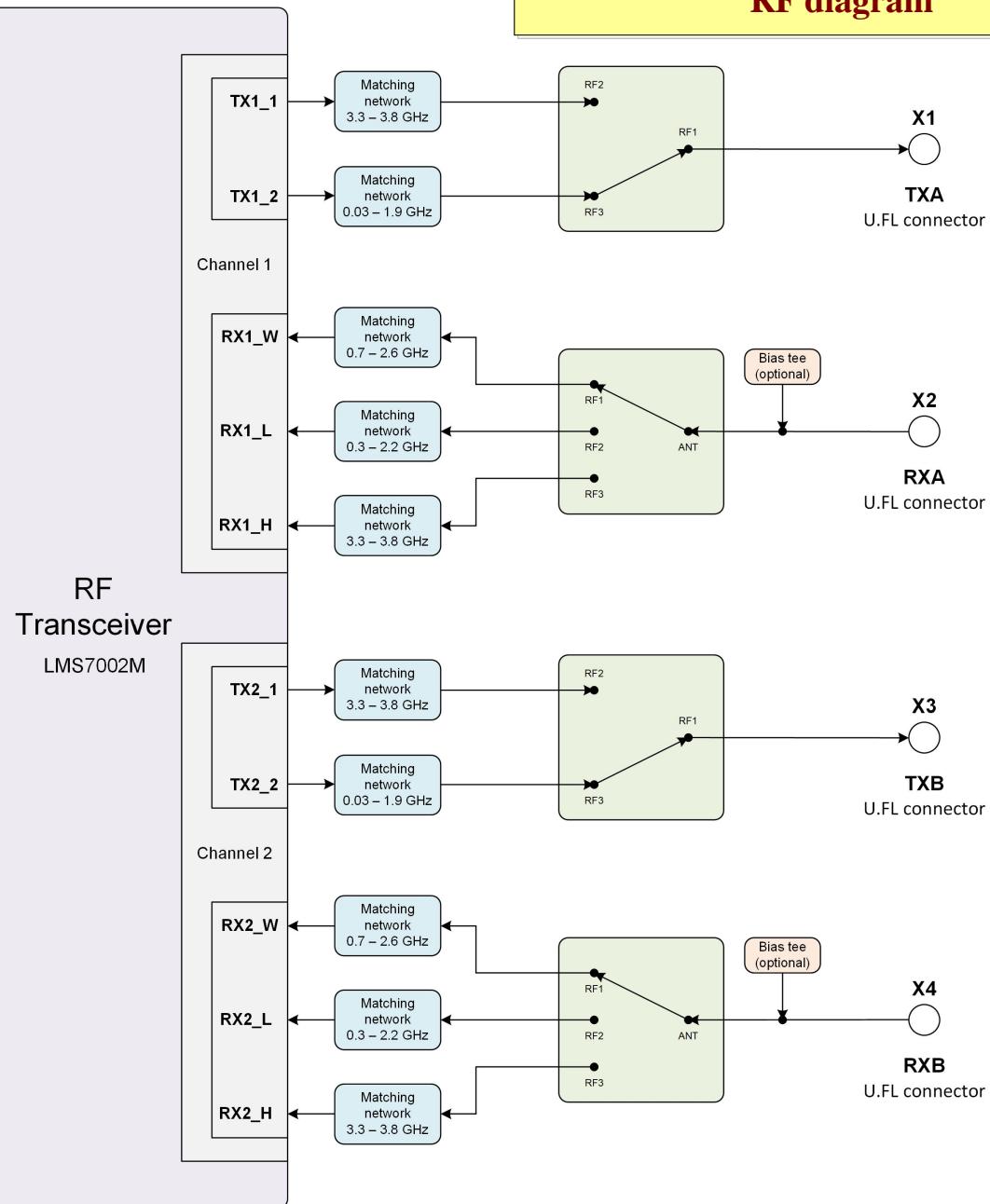
Date: 2023-09-04 Time: 14:37:06 Sheet 3 of 10

File: 03_Clock_Diagram.SchDoc

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Guildford GU2 7YG
Surrey
United Kingdom



RF diagram



Project name: **LimeSDR-XTRX_Iv1.PnjPcb**

Title: **RF diagram**

Size: **A4** Revision: **v1.1**

Date: **2023-09-04** Time: **14:37:10** Sheet **4** of **10**

File: **04_RF_Diagram.SchDoc**

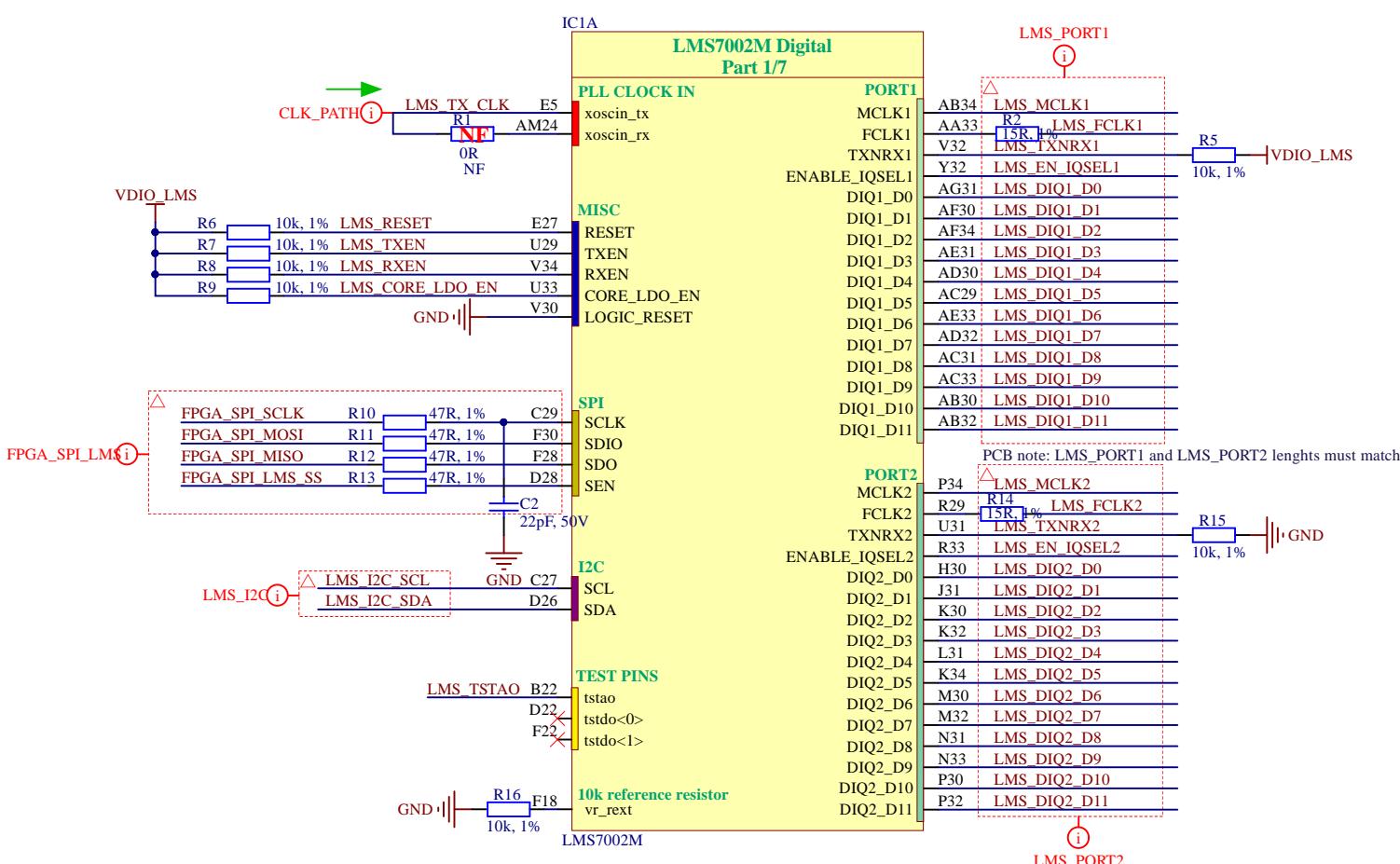
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Guildford GU2 7YG
Surrey
United Kingdom



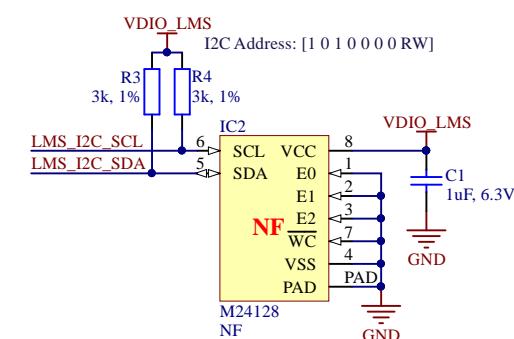
NF elements on sheet: R1, IC2
Number of NF elements on sheet: 2

LMS7002M misc

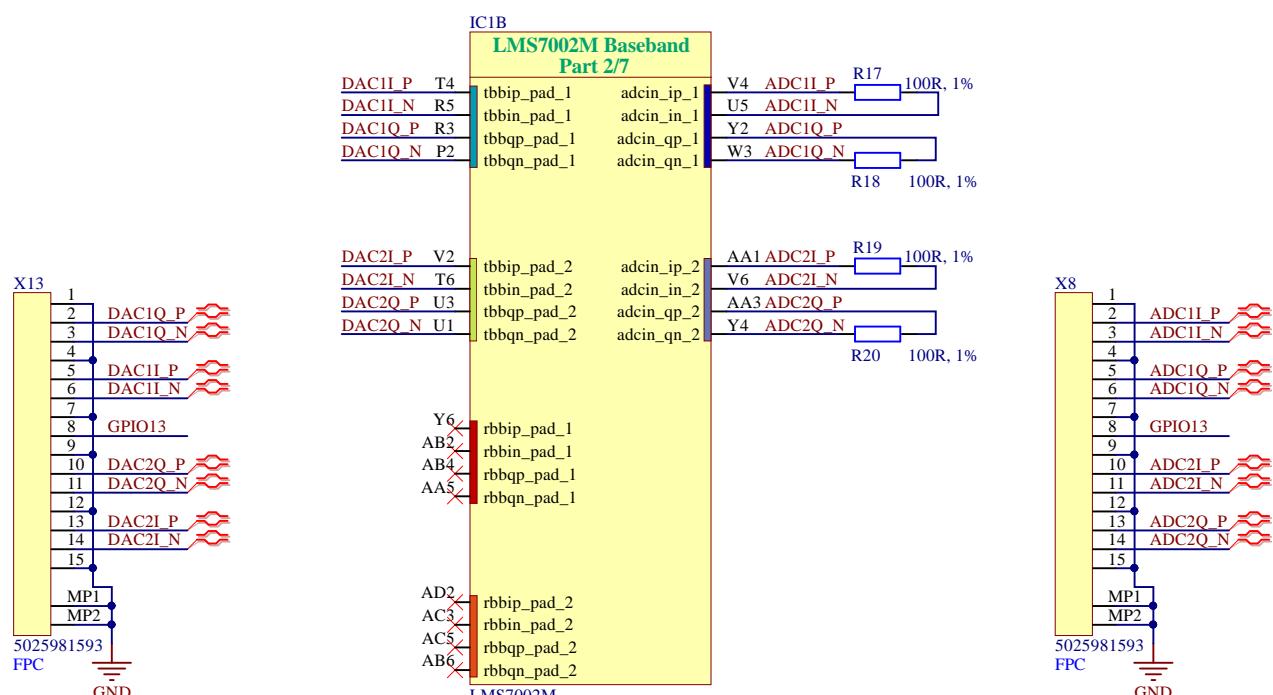
LMS7002M digital circuit



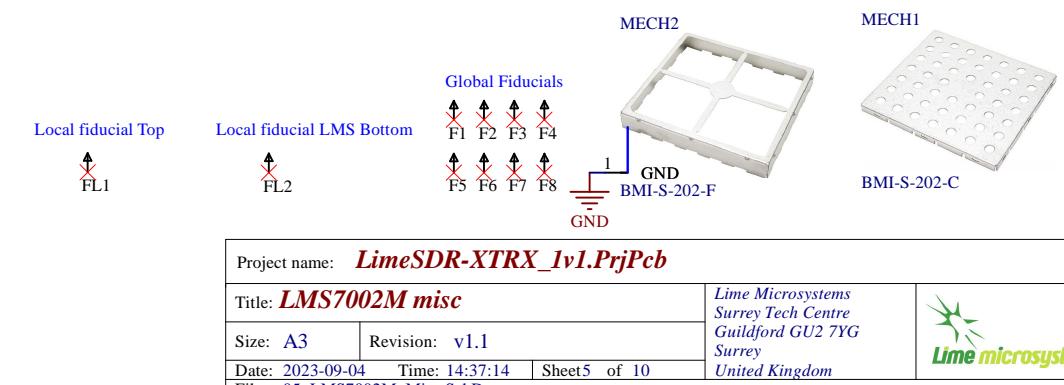
LMS EEPROM



Baseband external IO



Mechanical components

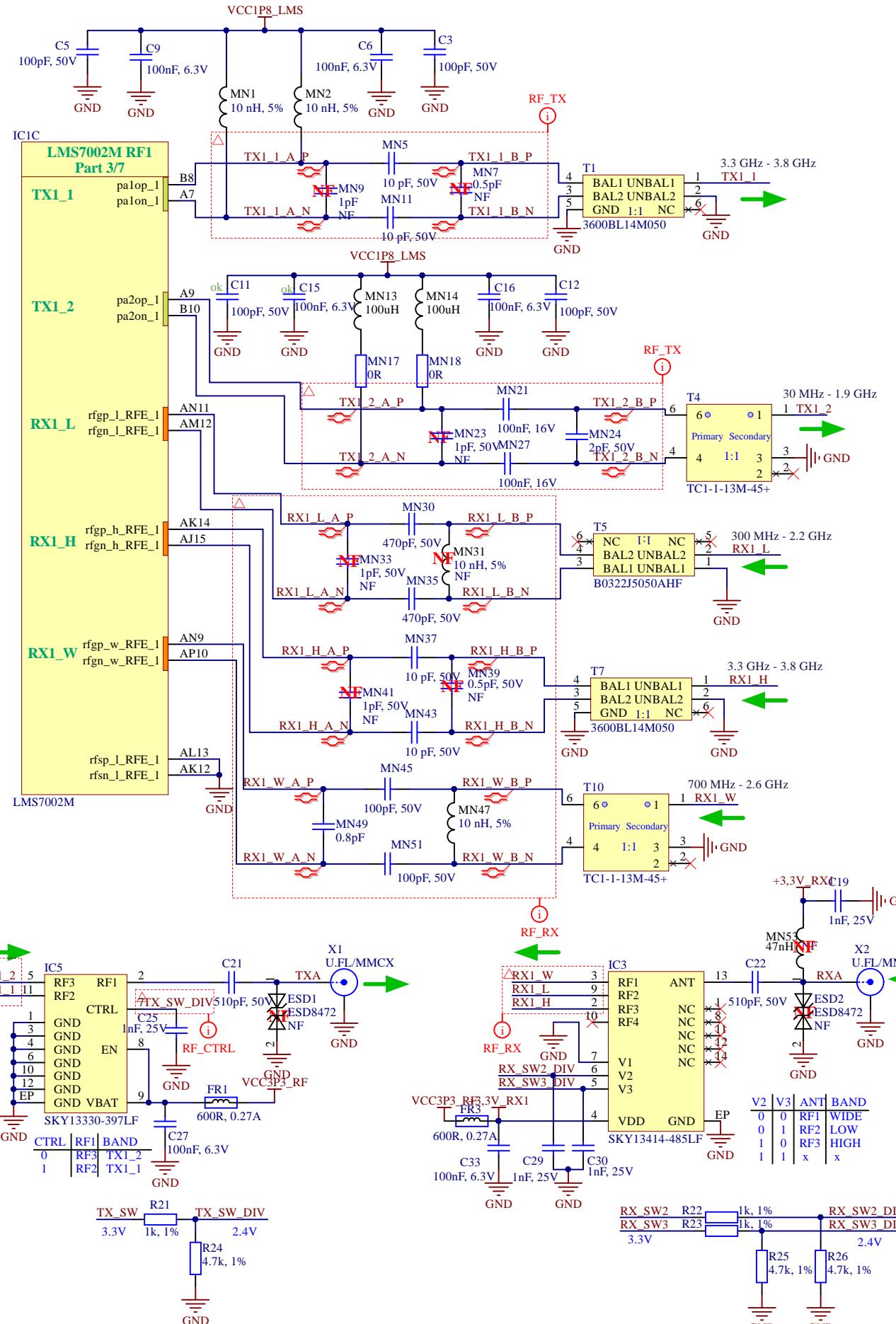


NF elements on sheet: MN7, MN8, MN9, MN10, MN23, MN25, MN31, MN32, MN33, MN34, MN39, MN40, MN41, MN42, MN53, MN54, ESD1, ESD2, ESD3, ESD4

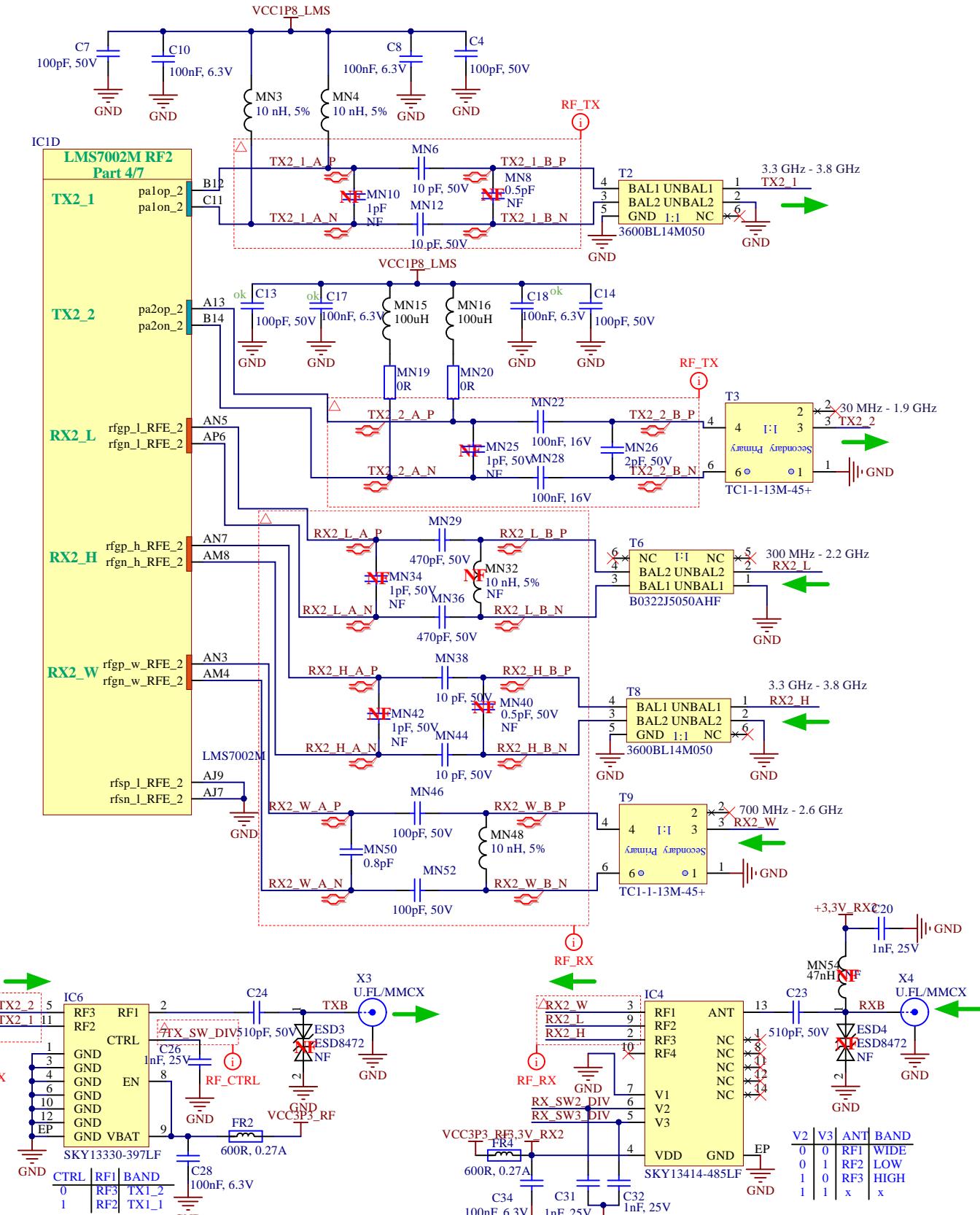
Number of NF elements on sheet: 20

LMS7002M RF circuits

LMS RF Channel 1



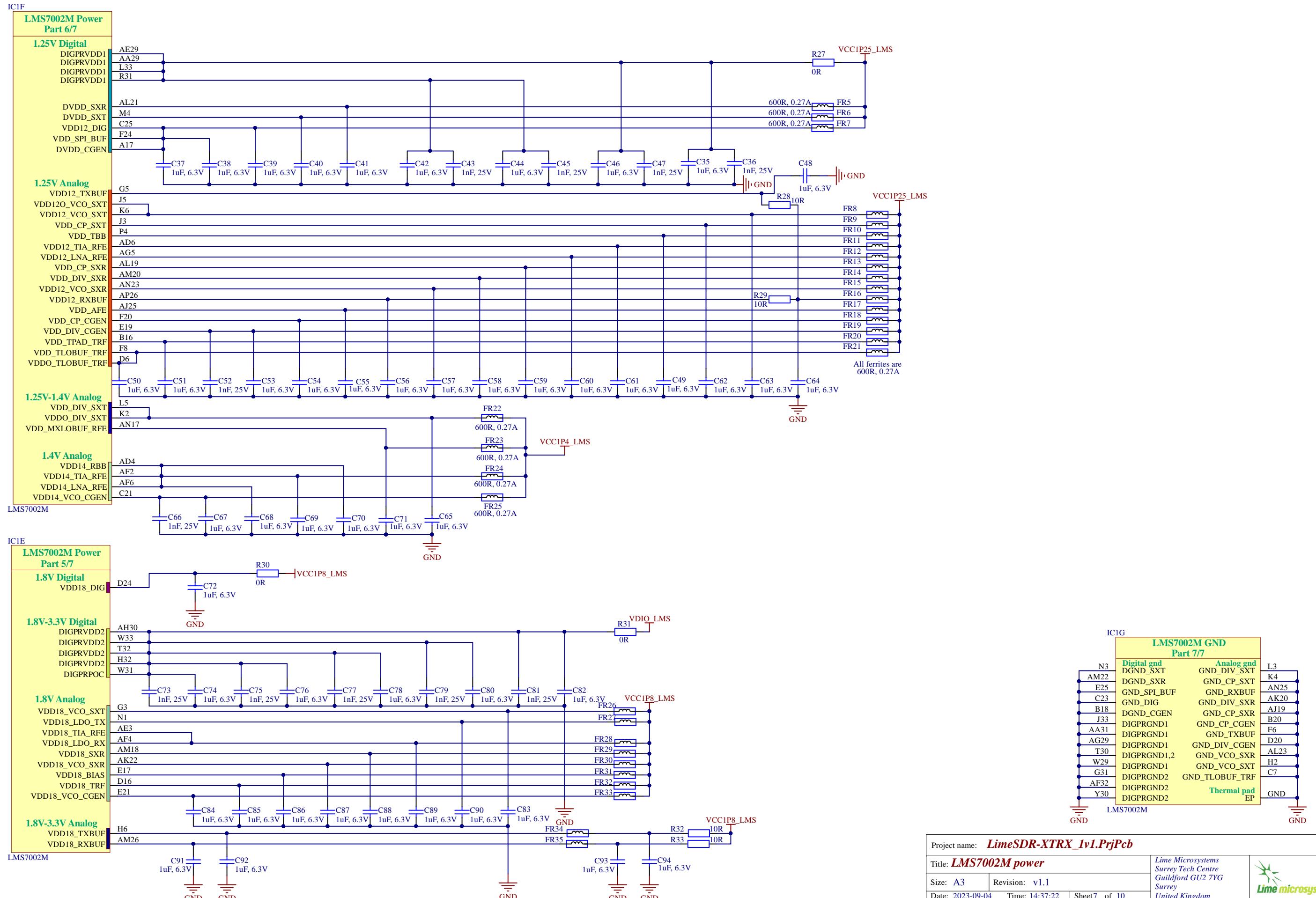
LMS RF Channel 2



Project name: LimeSDR-XTRX_1v1.PrjPcb			
Title: LMS7002M RF		<i>Lime Microsystems Surrey Tech Centre Guildford GU2 7YG Surrey United Kingdom</i>	 Lime microsystems
Size: A3	Revision: v1.1		
Date: 2023-09-04	Time: 14:37:19	Sheet 6 of 10	
File: 06_LMS7002M_RF.SchDoc			

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

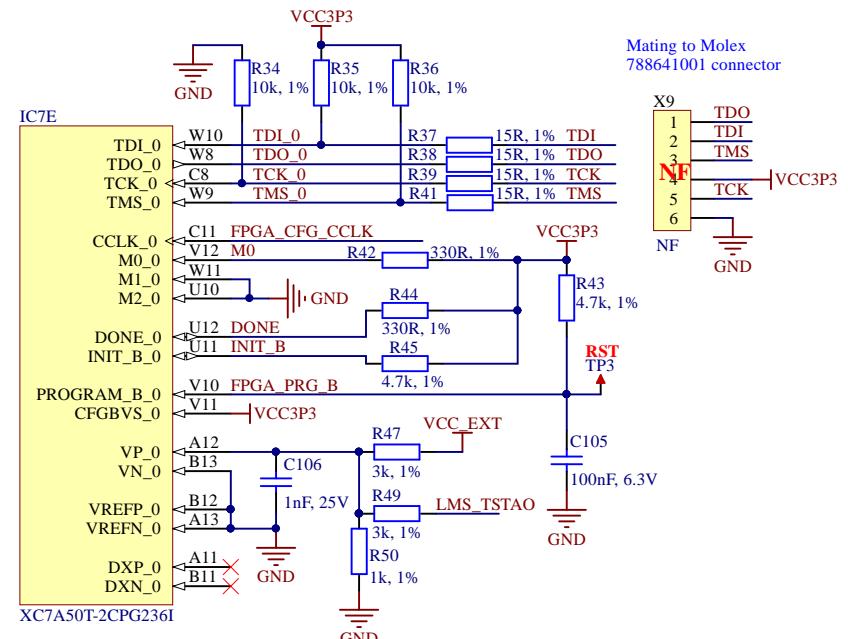
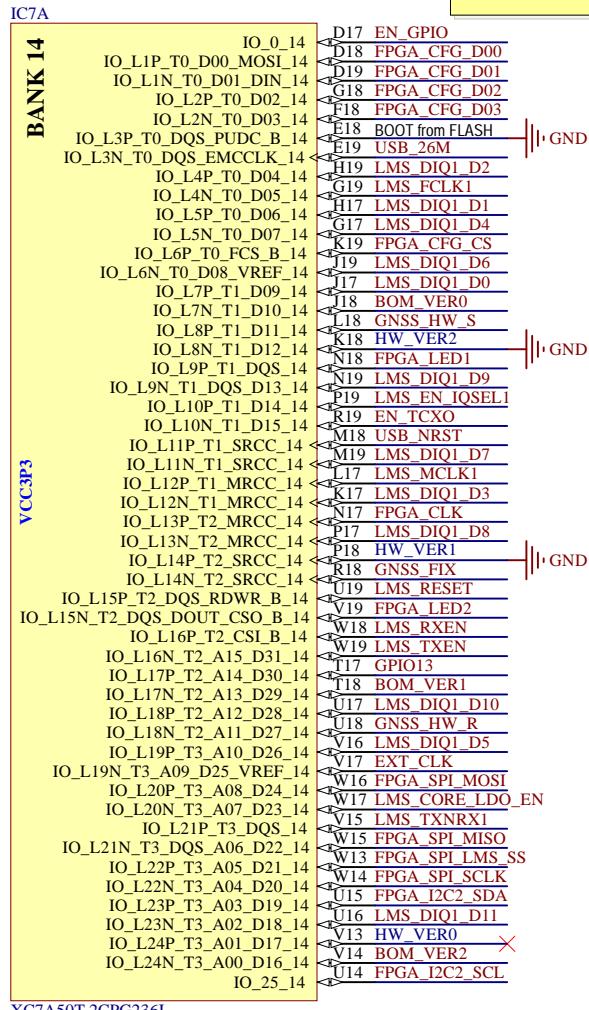
LMS7002M power supply circuit



NF elements on sheet: X9,
Number of NF elements on sheet: 1

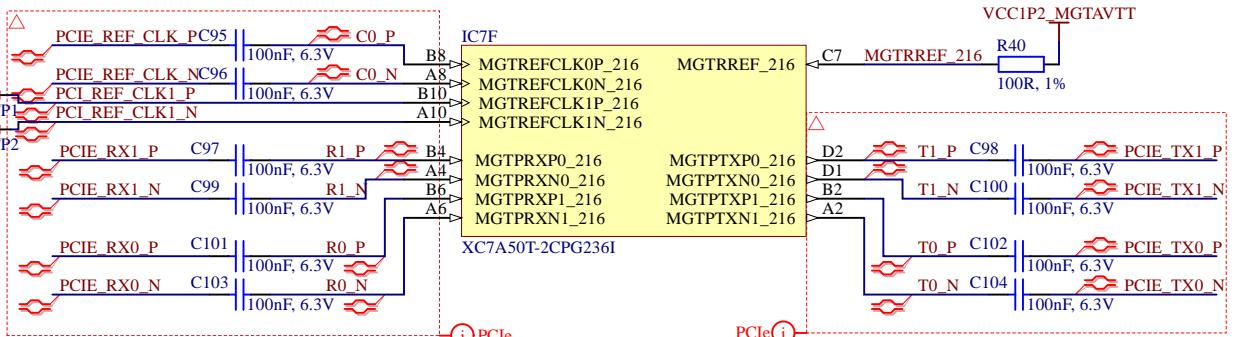
FPGA

FPGA Banks

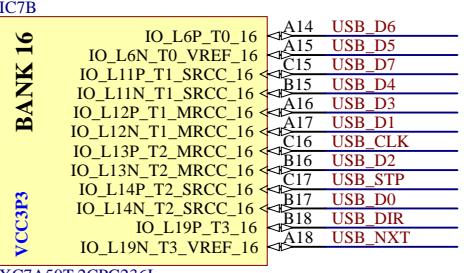
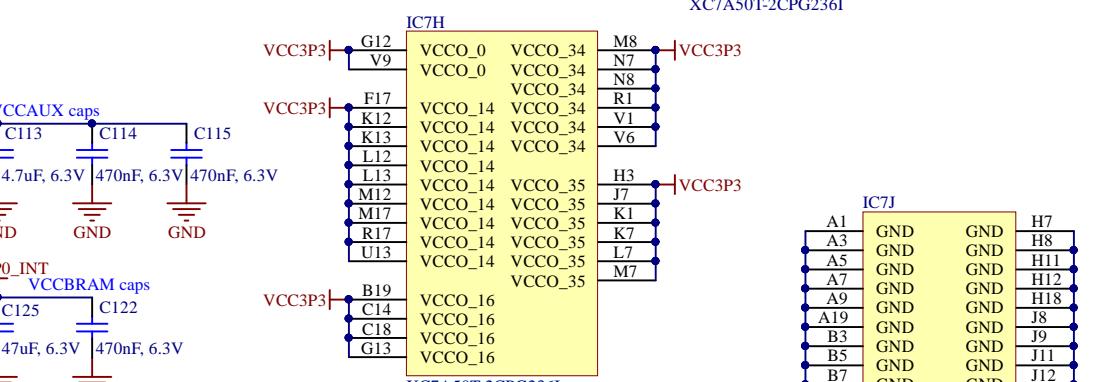
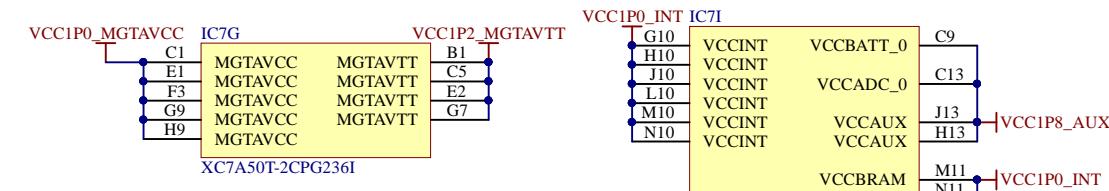


MGT transceivers

According to "Mini PCI Express Card Electromechanical Specification Revision 1.0" 37, 39, 41, 43, 45, 47, 49, 51 pins are reserved for future second PCI Express Lane. According to newer specifications, the second lane is not supported and 39, 41 pins are connected to +3.3Vaux. Since MGTPTX transceivers are not compatible with 3.3V voltage, but it is desired to have a second lane option, DC blocking capacitors are connected on all TX lines.



Power and decoupling



XC7A50T-2CPG236I

IC7B

IC7C

IC7D

IC7E

IC7F

IC7G

IC7H

IC7I

IC7J

IC7K

IC7L

IC7M

IC7N

IC7O

IC7P

IC7Q

IC7R

IC7S

IC7T

IC7U

IC7V

IC7W

IC7X

IC7Y

IC7Z

IC7AA

IC7AB

IC7AC

IC7AD

IC7AE

IC7AF

IC7AG

IC7AH

IC7AI

IC7AJ

IC7AK

IC7AL

IC7AM

IC7AN

IC7AO

IC7AP

IC7AQ

IC7AR

IC7AS

IC7AT

IC7AU

IC7AV

IC7AW

IC7AX

IC7AY

IC7AZ

IC7BZ

IC7CZ

IC7DZ

IC7EZ

IC7FZ

IC7HZ

IC7IZ

IC7JZ

IC7KZ

IC7LZ

IC7MZ

IC7NZ

IC7QZ

IC7TZ

IC7UZ

IC7VZ

IC7WZ

IC7XZ

IC7YZ

IC7AZ

IC7BZ

IC7CZ

IC7DZ

IC7EZ

IC7HZ

IC7IZ

IC7JZ

IC7KZ

IC7LZ

IC7MZ

IC7NZ

IC7QZ

IC7TZ

IC7UZ

IC7VZ

IC7WZ

IC7XZ

IC7YZ

IC7AZ

IC7BZ

IC7CZ

IC7DZ

IC7EZ

IC7HZ

IC7IZ

IC7JZ

IC7KZ

IC7LZ

IC7MZ

IC7NZ

IC7QZ

IC7TZ

IC7UZ

IC7VZ

IC7WZ

IC7XZ

IC7YZ

IC7AZ

IC7BZ

IC7CZ

IC7DZ

IC7EZ

IC7HZ

IC7IZ

IC7JZ

IC7KZ

IC7LZ

IC7MZ

IC7NZ

IC7QZ

IC7TZ

IC7UZ

IC7VZ

IC7WZ

IC7XZ

IC7YZ

IC7AZ

IC7BZ

IC7CZ

IC7DZ

IC7EZ

IC7HZ

IC7IZ

IC7JZ

IC7KZ

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IC7WZ

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IC7YZ

IC7AZ

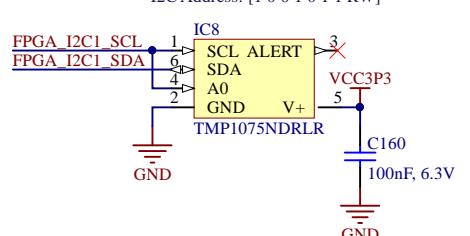
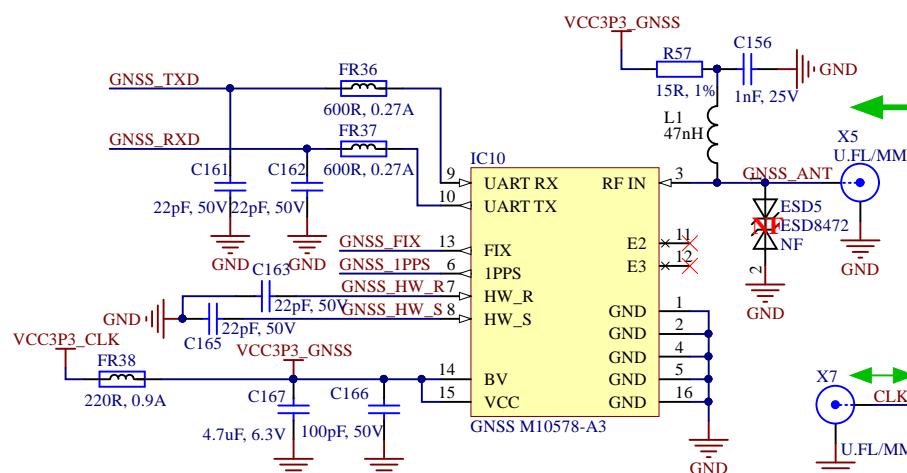
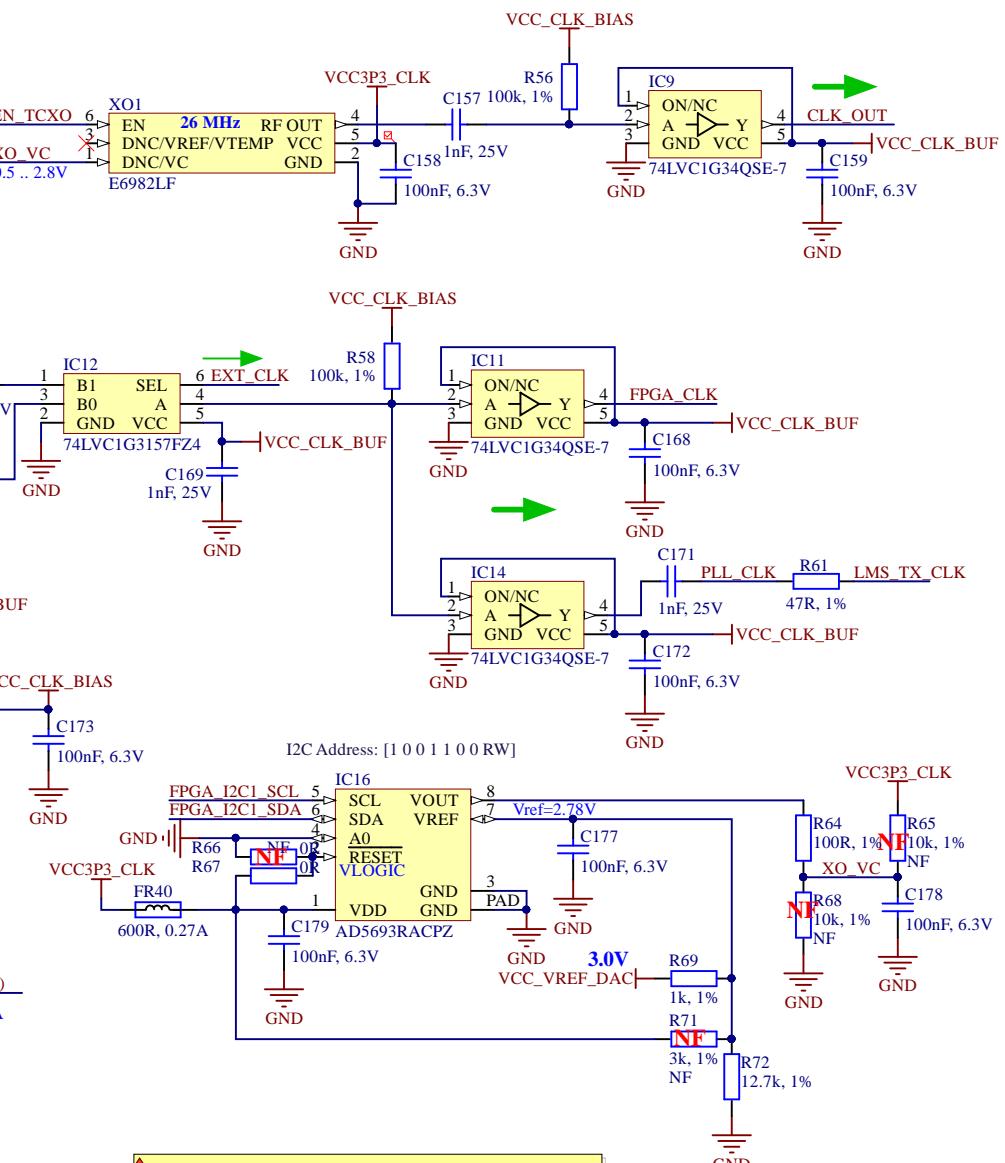
IC7BZ

IC7CZ

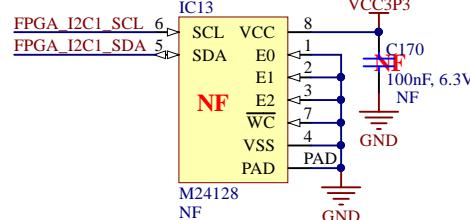
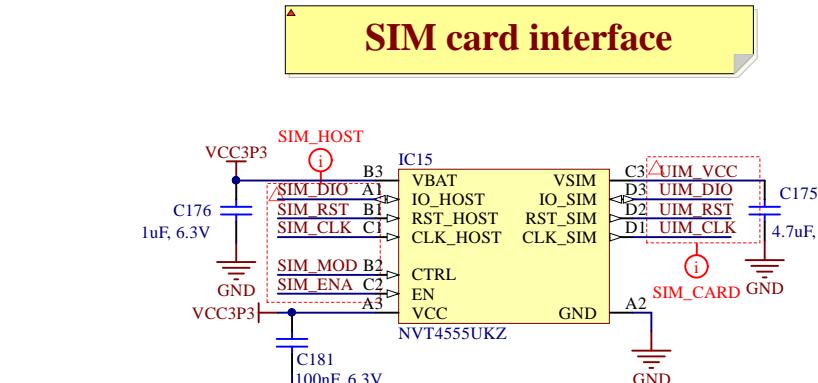
IC7DZ

Misc**I2C Temperature sensor**

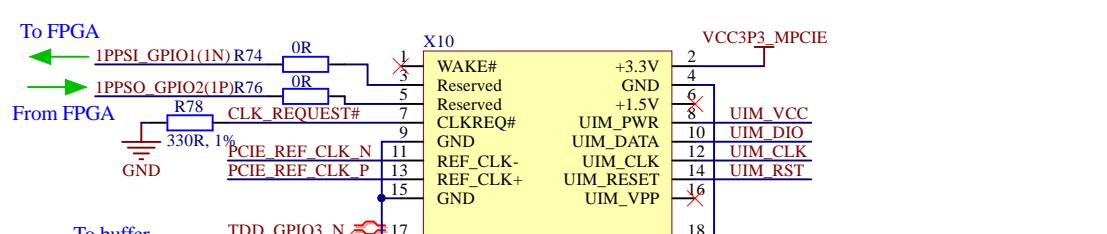
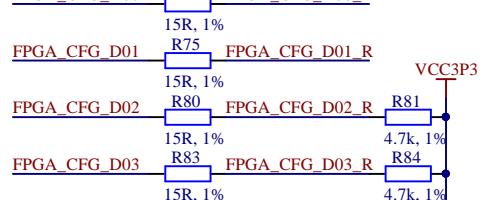
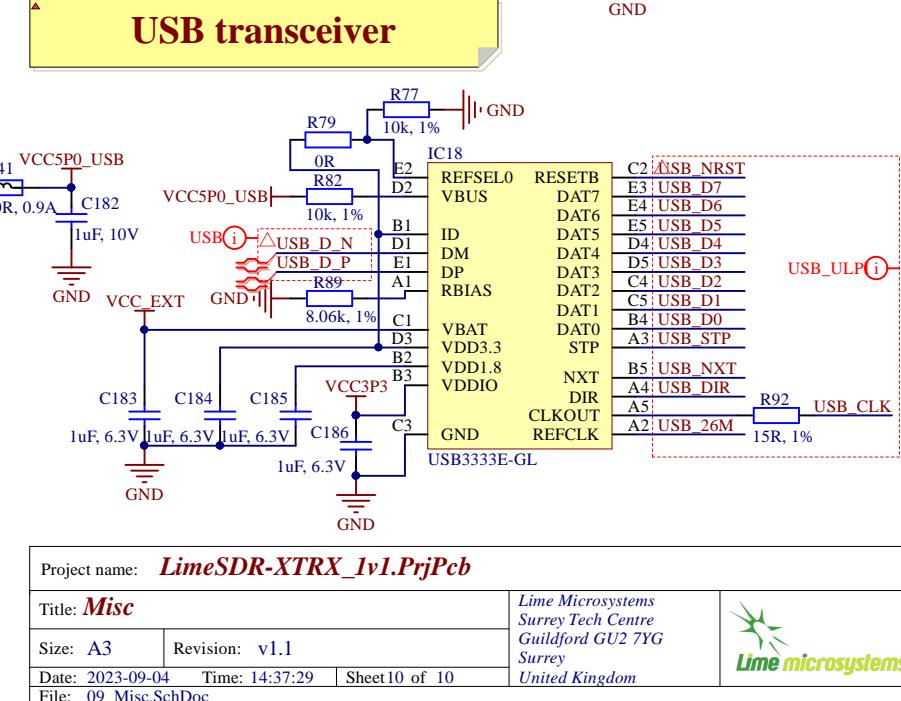
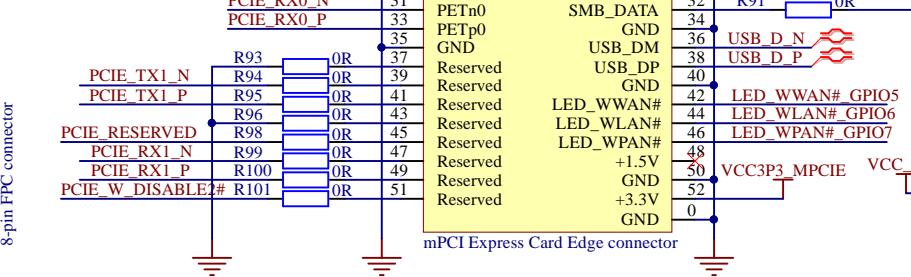
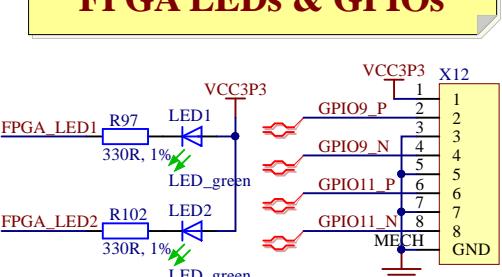
I2C Address: [1 0 0 1 0 1 1 RW]

**GNSS Receiver****Clock****I2C EEPROM**

I2C Address: [1 0 1 0 0 0 0 RW]

**SIM card interface****mPCIe**

To FPGA

**USB transceiver****FPGA LEDs & GPIOs**

Project name: LimeSDR-XTRX_1v1.PrcPcb

Title: Misc

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Surrey
United Kingdom

Size: A3

Revision: v1.1

Date: 2023-09-04

Time: 14:37:29

Sheet 10 of 10

File: 09_Misc.SchDoc

Board power circuits

