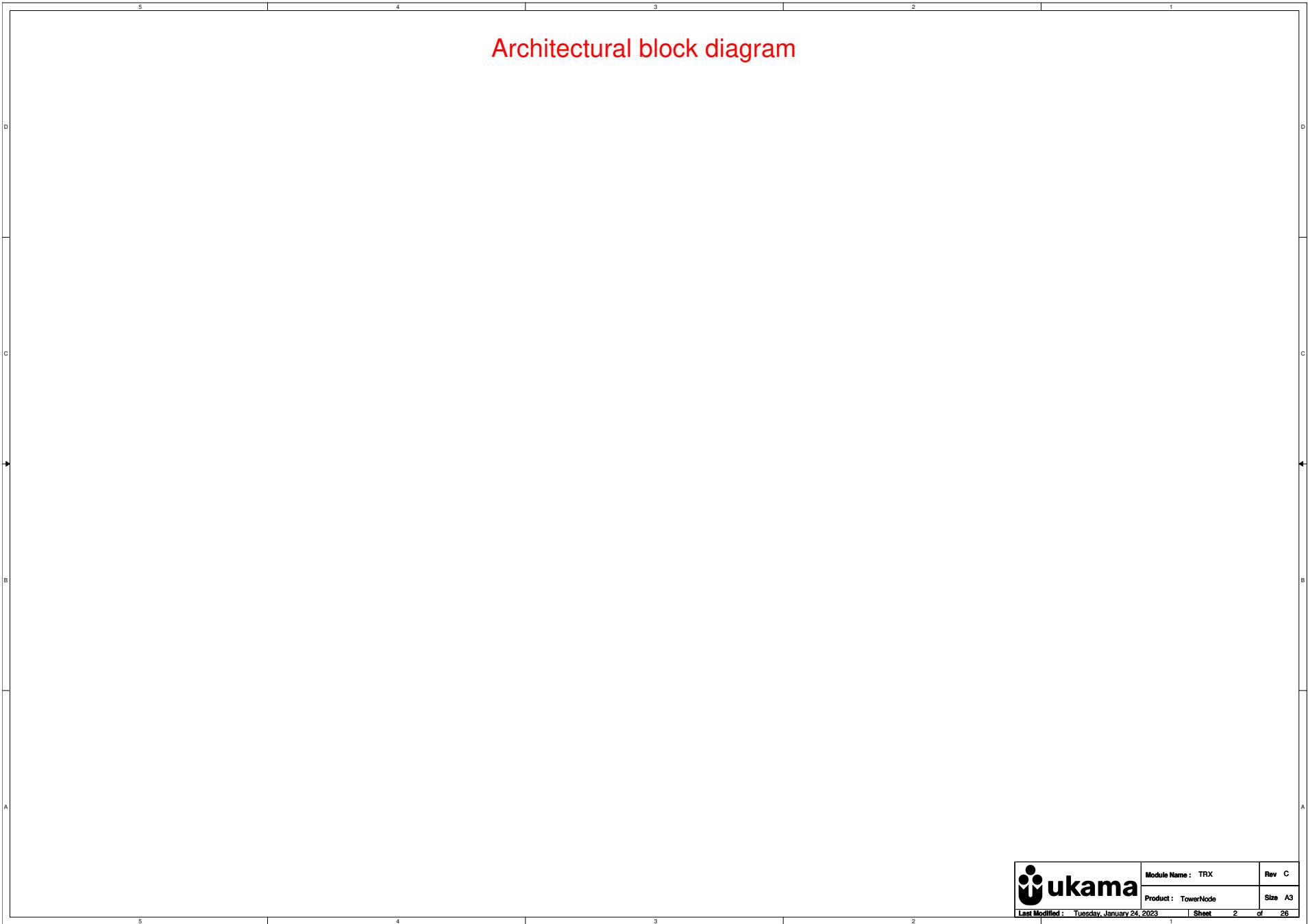
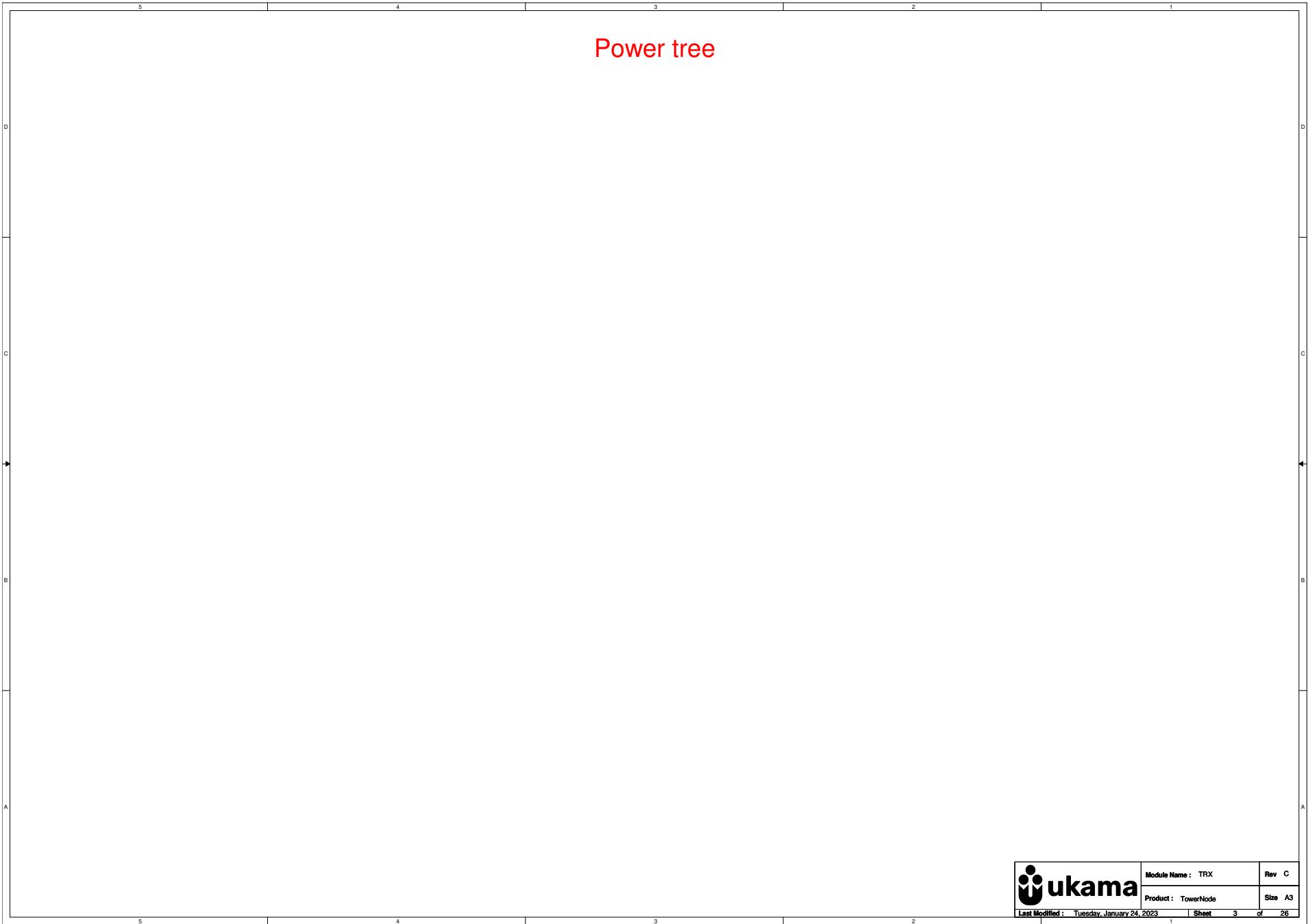
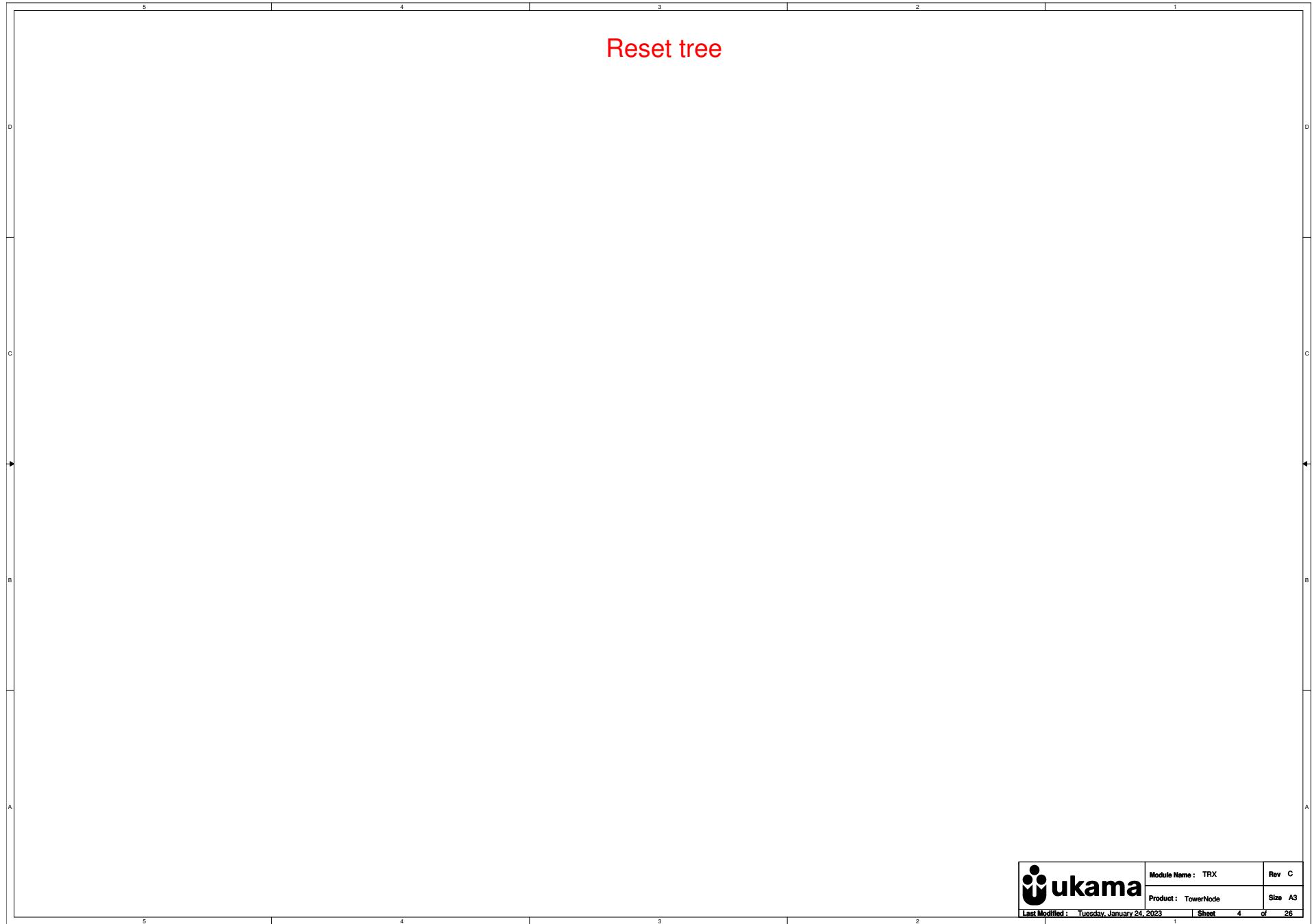


Product name: TowerNode  
Module name: TRX

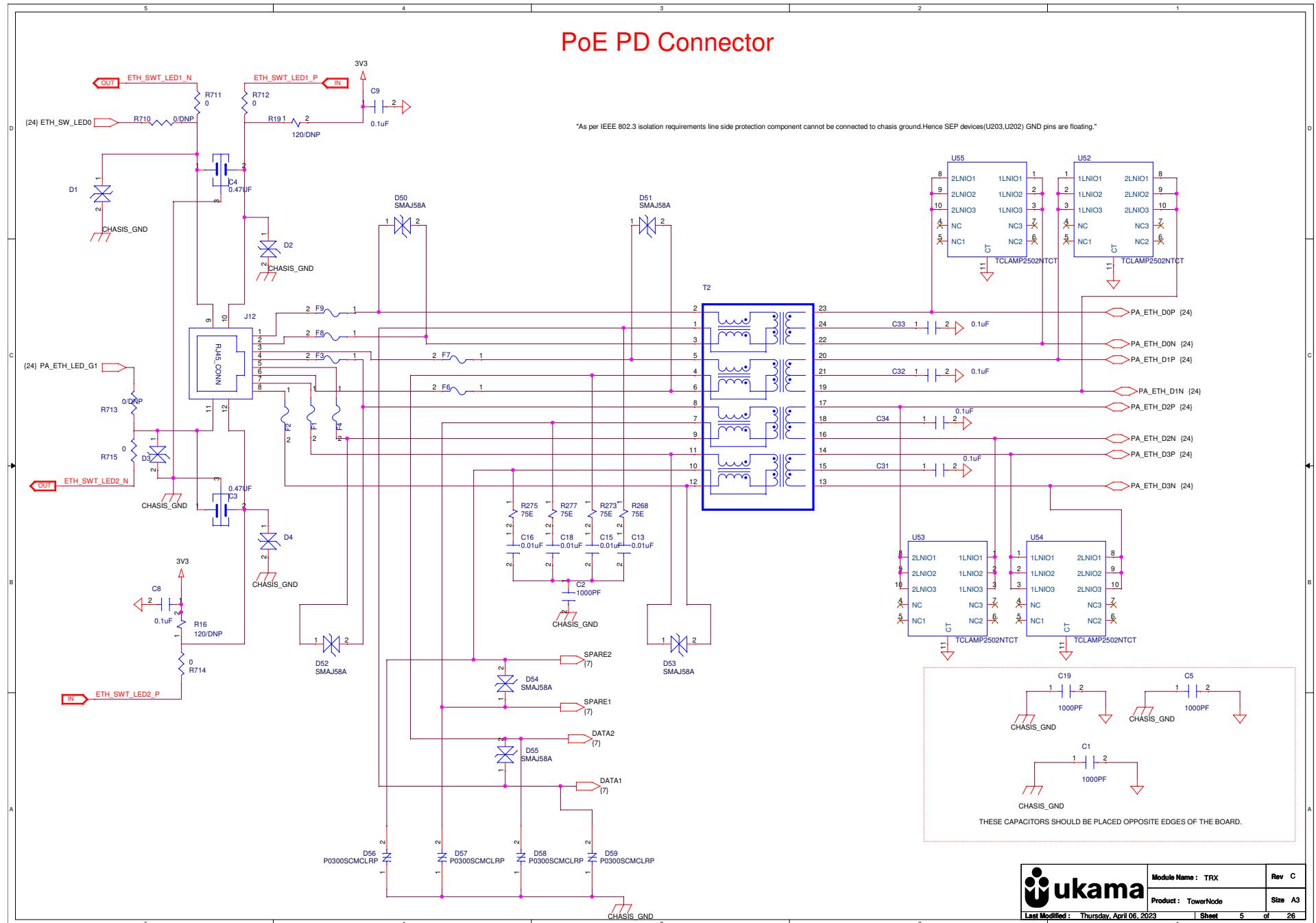
PAGE	DESCRIPTION
1	Table of Contents
2	Architectural Block Diagram
3	Power tree
4	Reset tree
5	PoE PD Connector
6	PoE_Bridge
7	PD+Power supply
8	Input power protection
9	System Power supplies
10	SoC Power Enable & Clock
11	SoC POWER
12	Reset
13	SoC Config & JTAG
14	SoC Boot, GPIO, UART & Flash
15	SoC DDR
16	SoC SERDES & RF Interface
17	SoC Decoupling
18	Ethernet Switch
19	Ethernet Switch Power Supplies
20	Temperature Sensor & EEPROMS



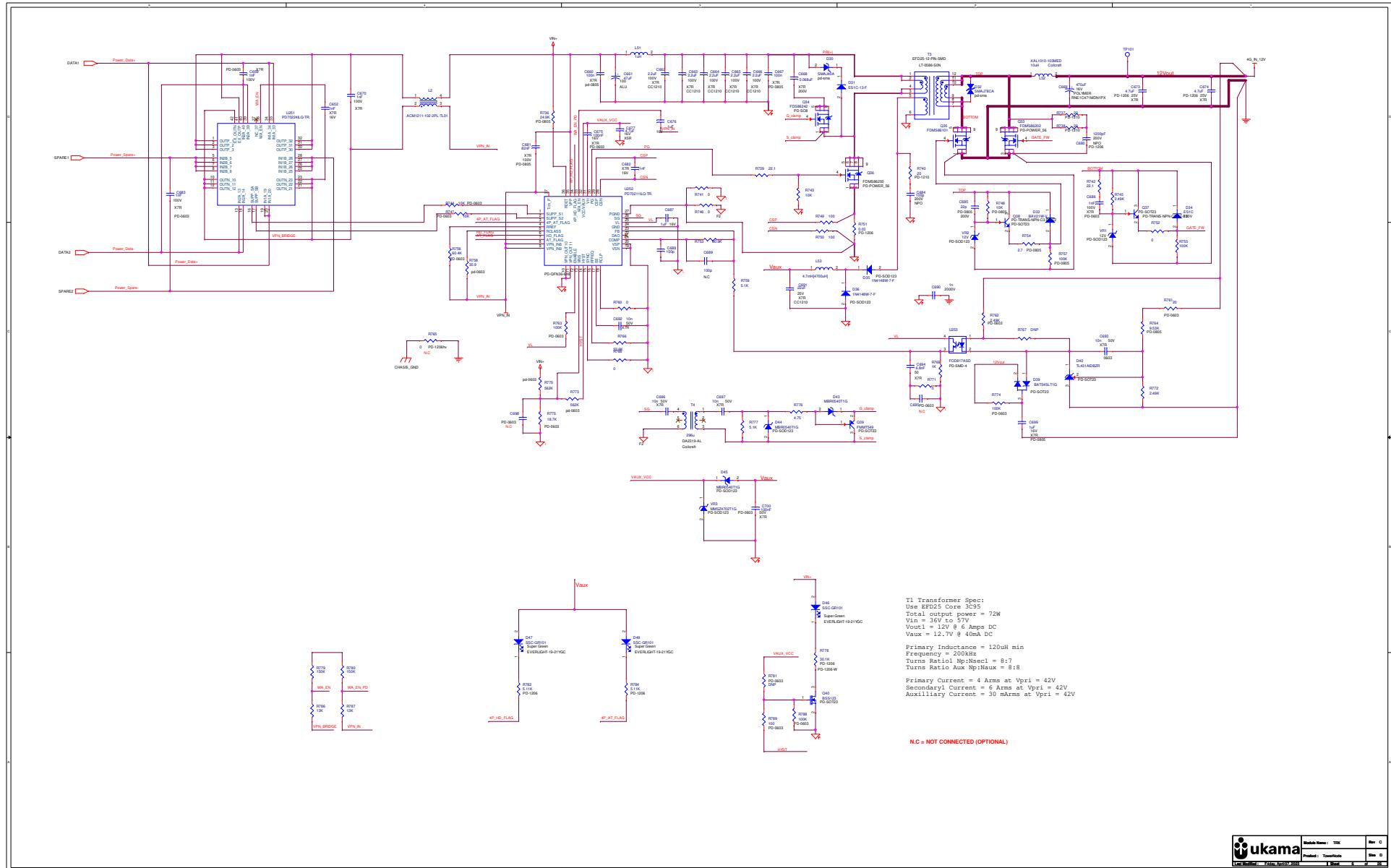




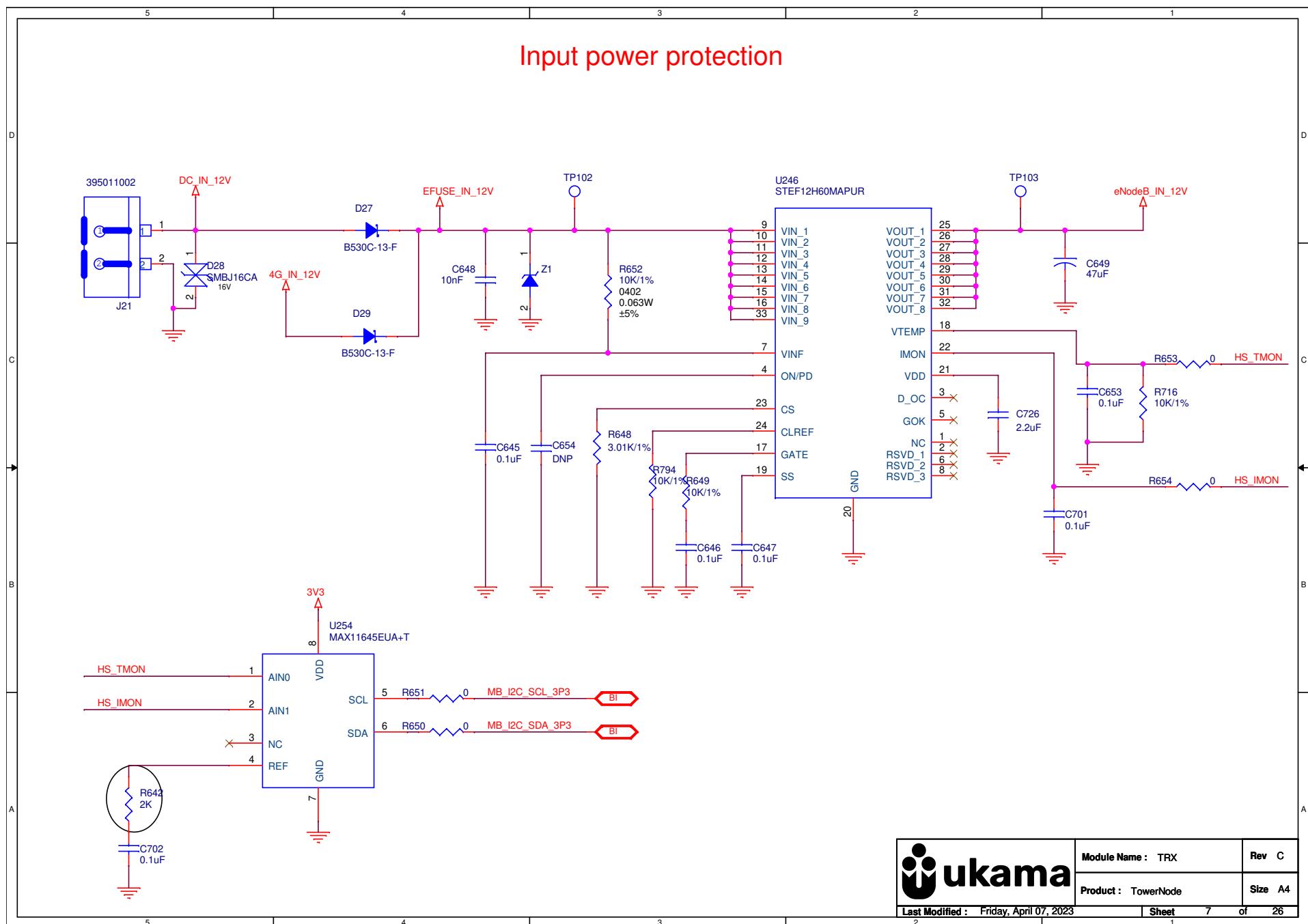
# PoE PD Connector



ukama	Module Name : TRX	Rev C
Last Modified :	Product : TowerNode	Size A3
Thursday, April 06, 2023		Sheet 5 of 26



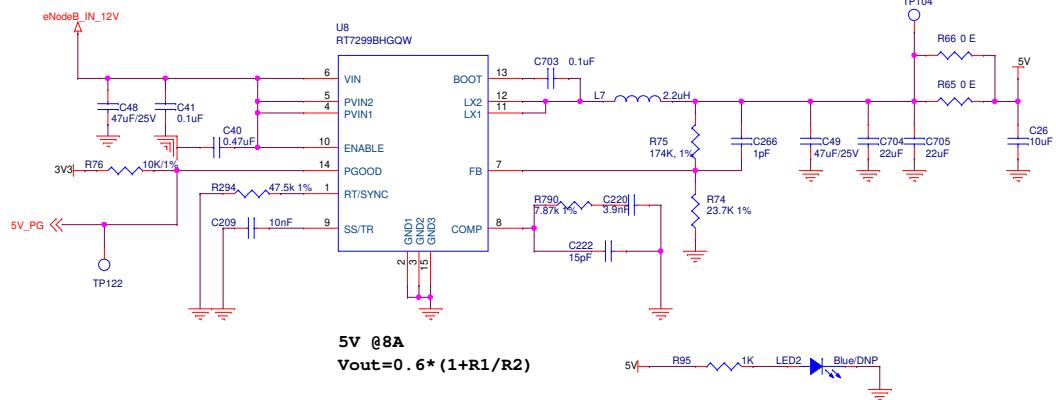
## Input power protection



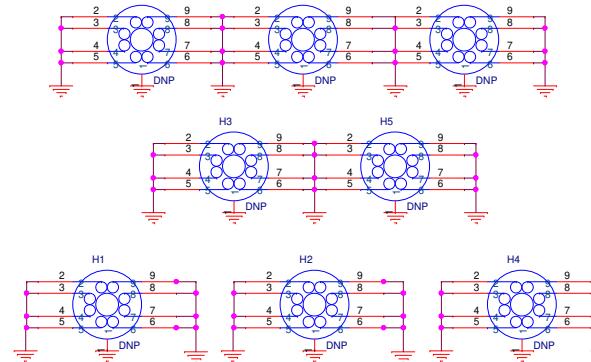
	Module Name : TRX	Rev C
	Product : TowerNode	Size A4
Last Modified : Friday, April 07, 2023	Sheet 1	of 26

# System power supplies

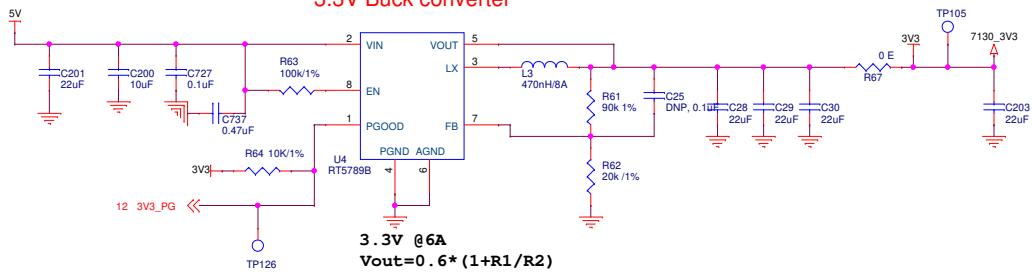
## 5V Buck converter



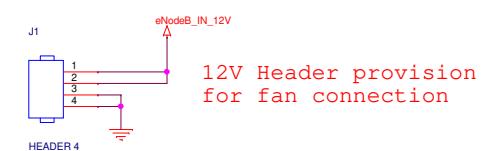
## Mounting holes



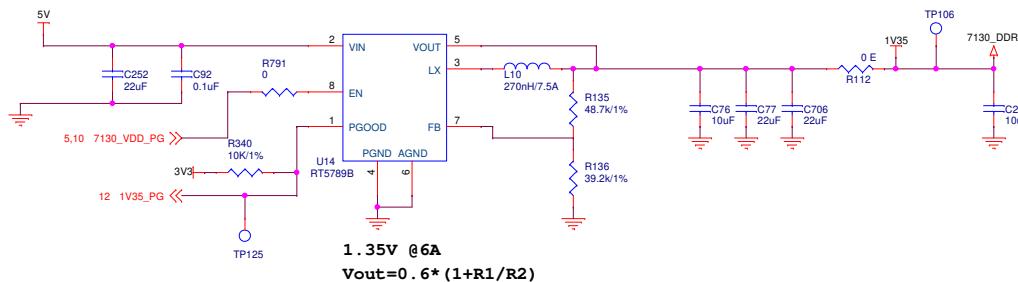
## 3.3V Buck converter



## Fan connector

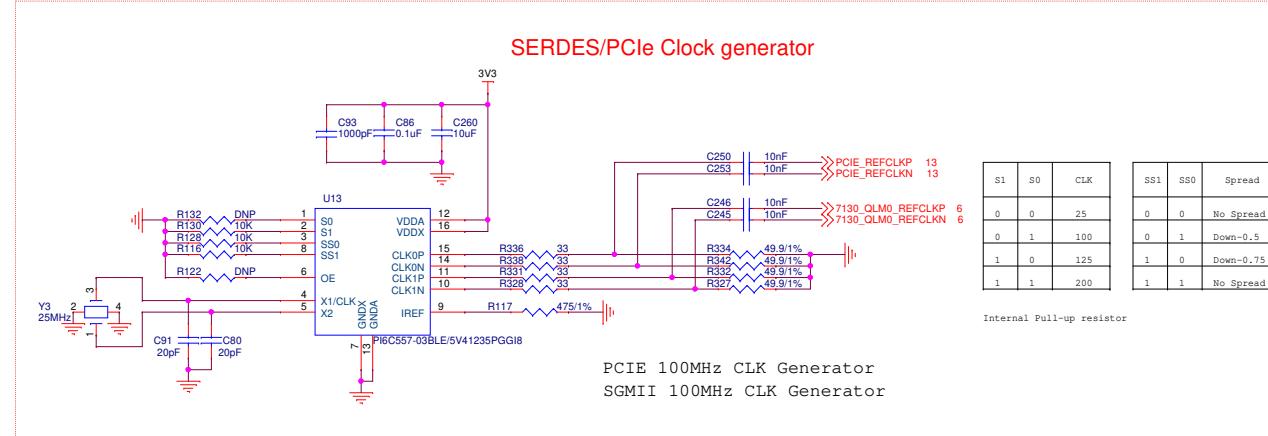
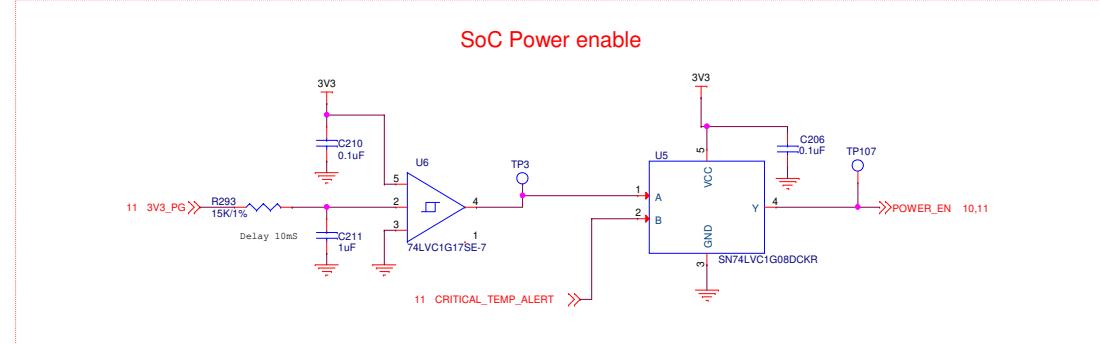


## 1.35V Buck converter

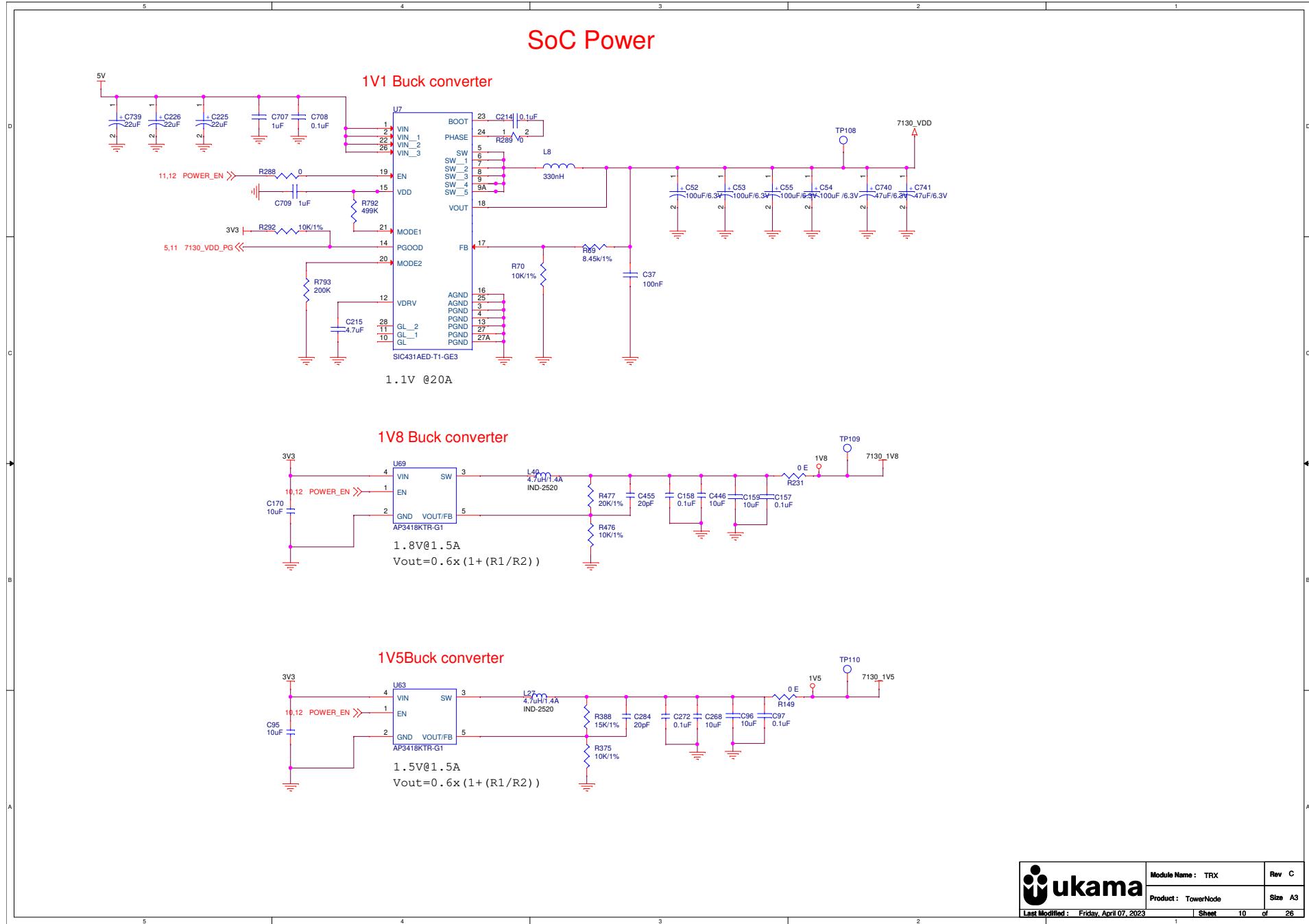


ukama	Module Name : TRX	Rev C
	Product : TowerNode	Size A3
Last Modified : Friday, April 07, 2023	Sheet 8	of 26

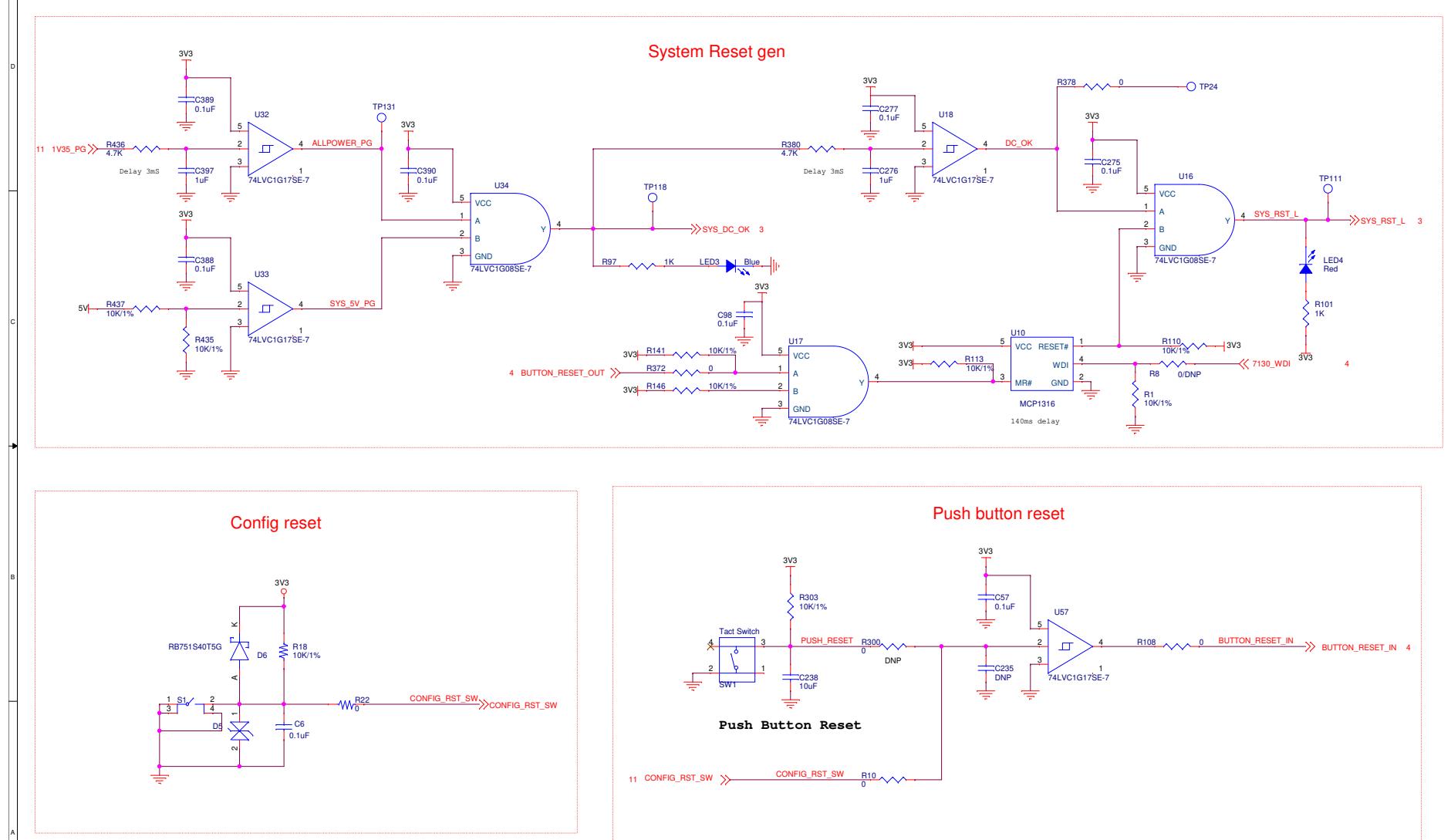
# SoC Power enable & Clock



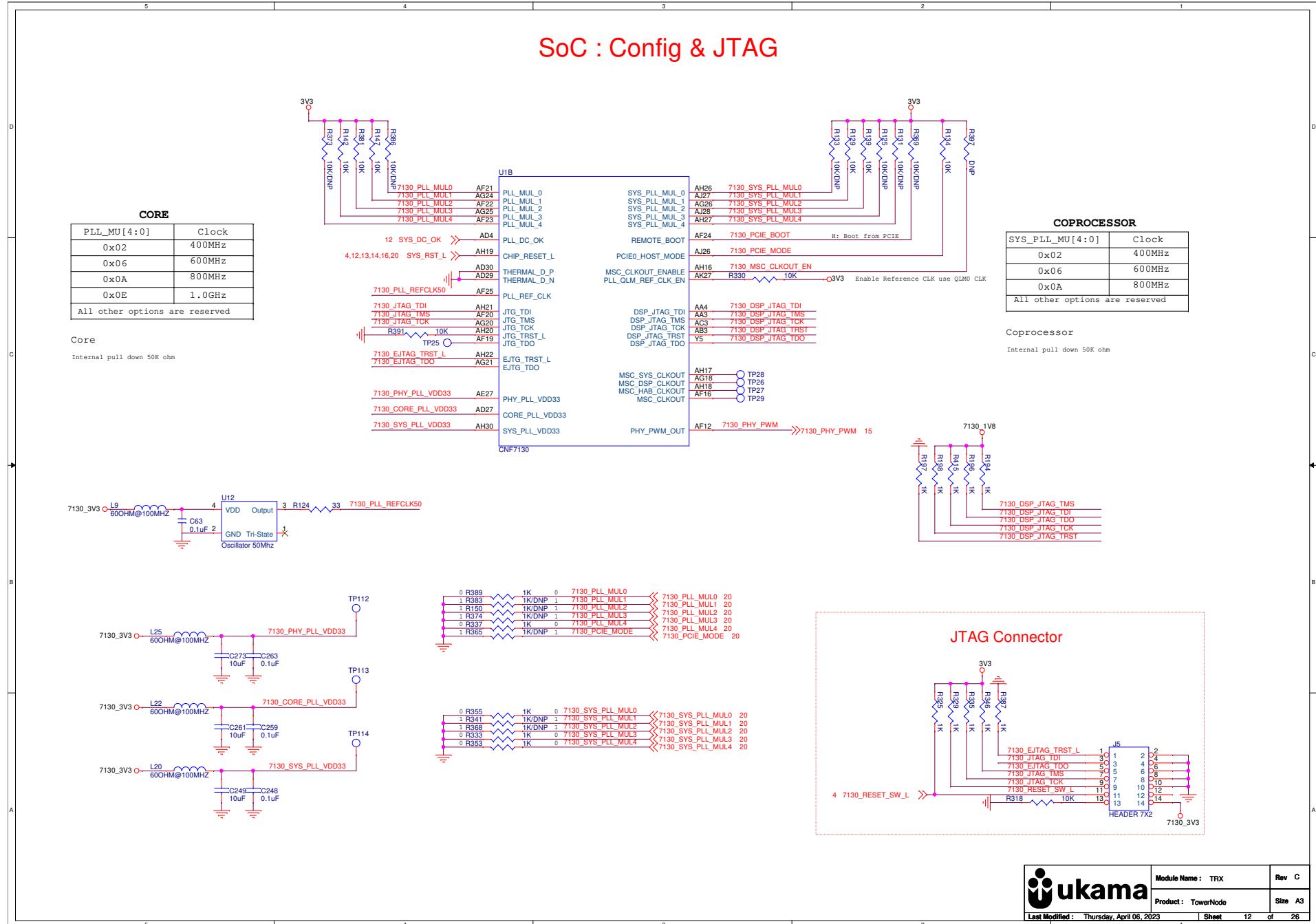
# SoC Power



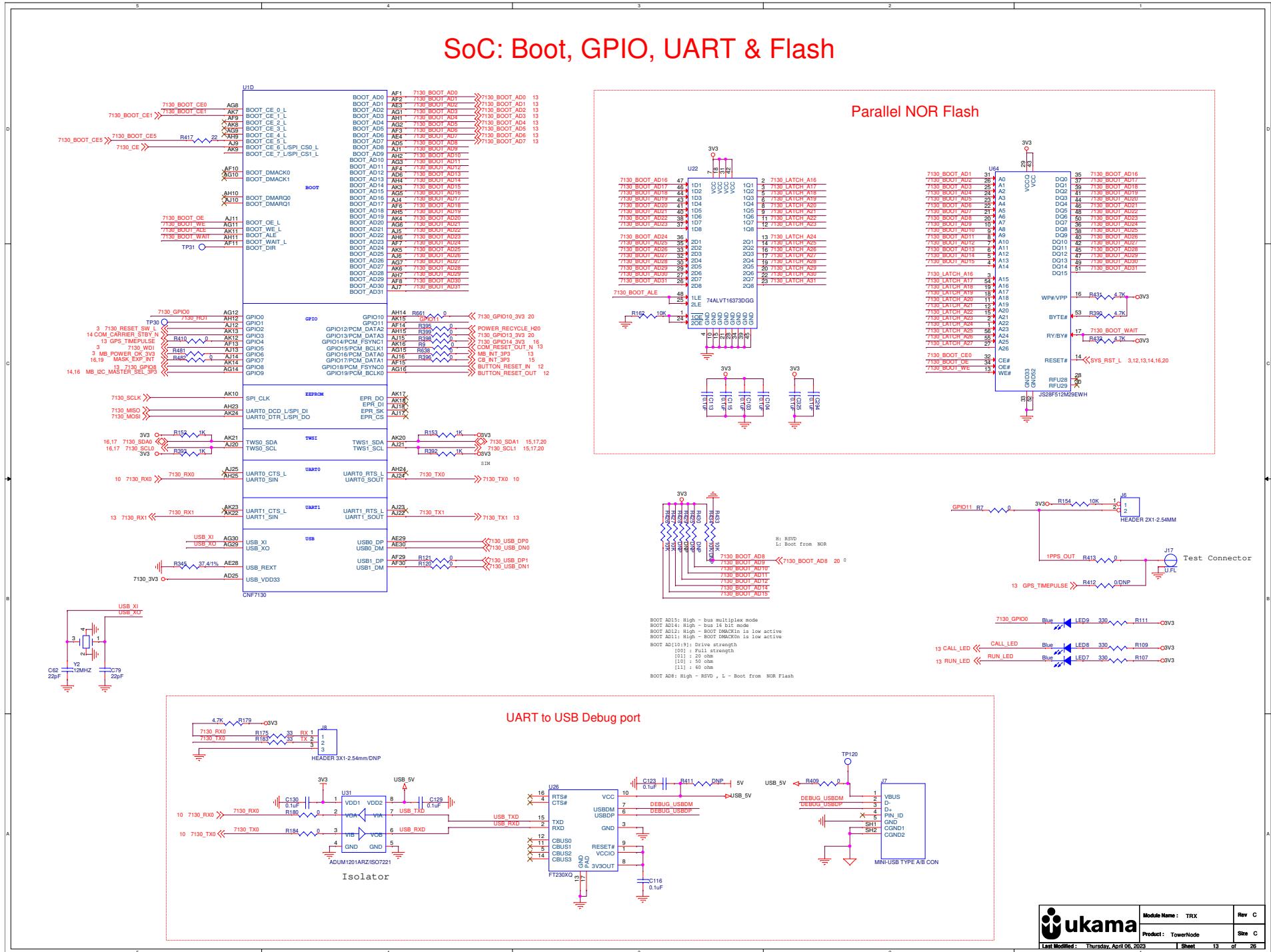
# Reset



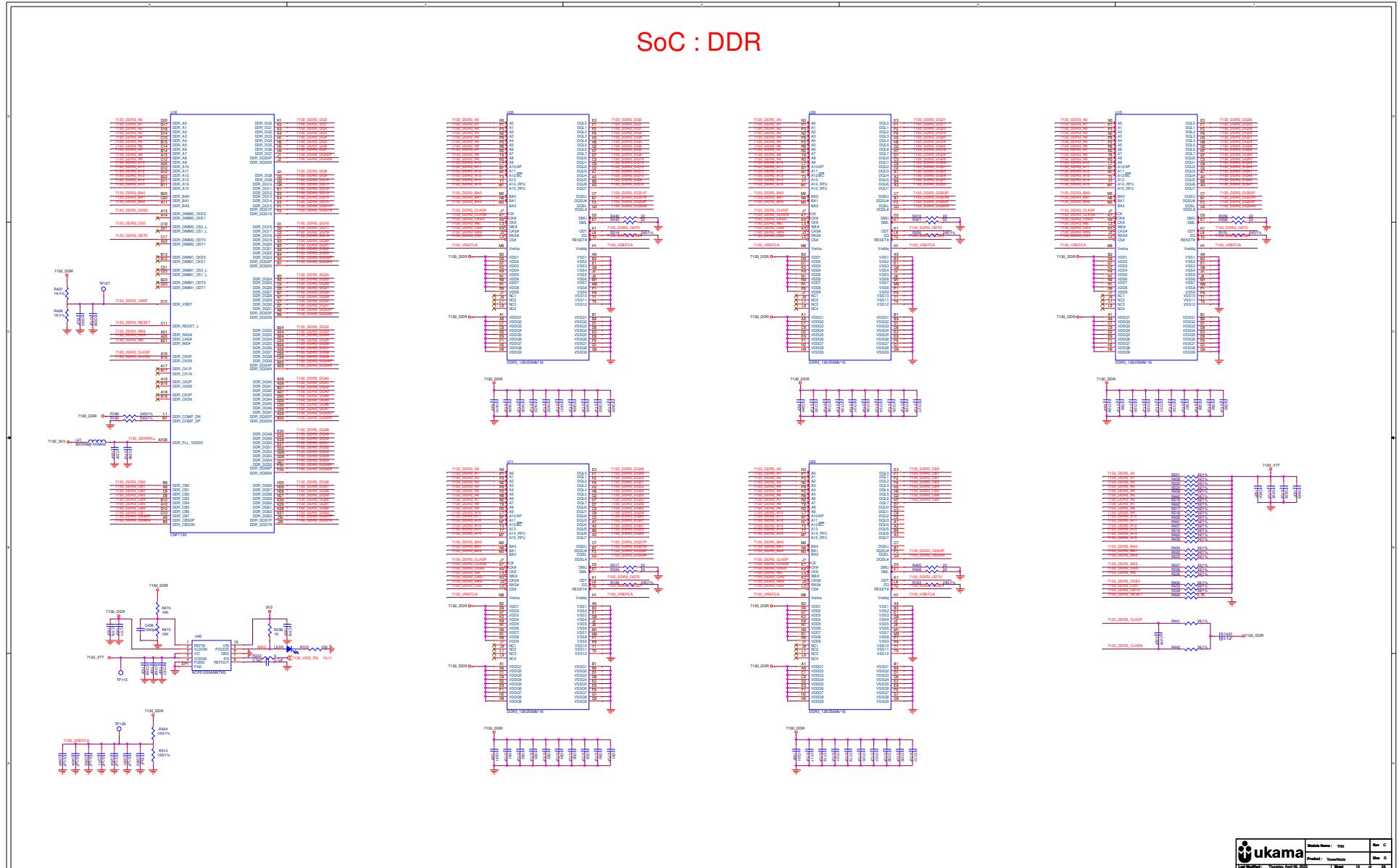
# SoC : Config & JTAG



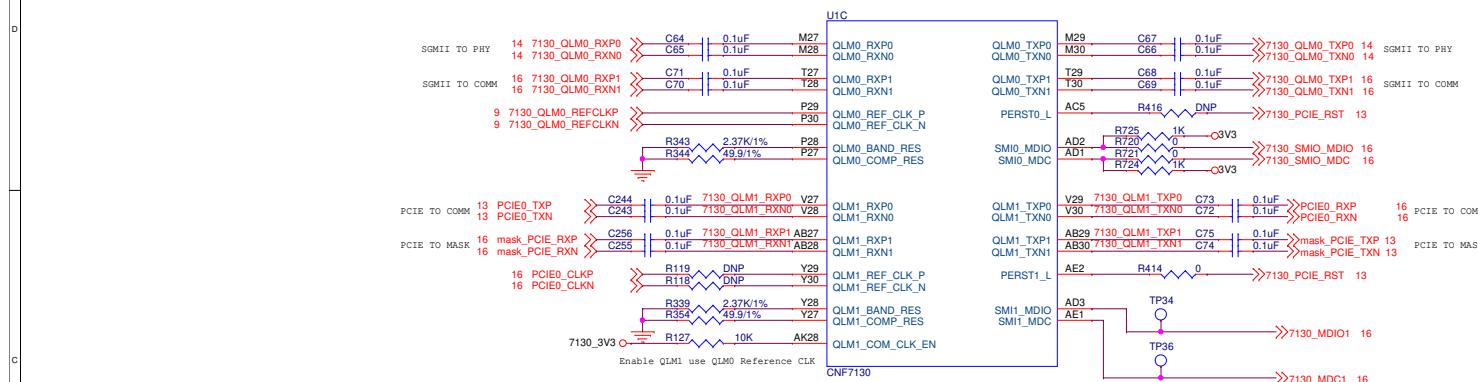
## SoC: Boot, GPIO, UART & Flash



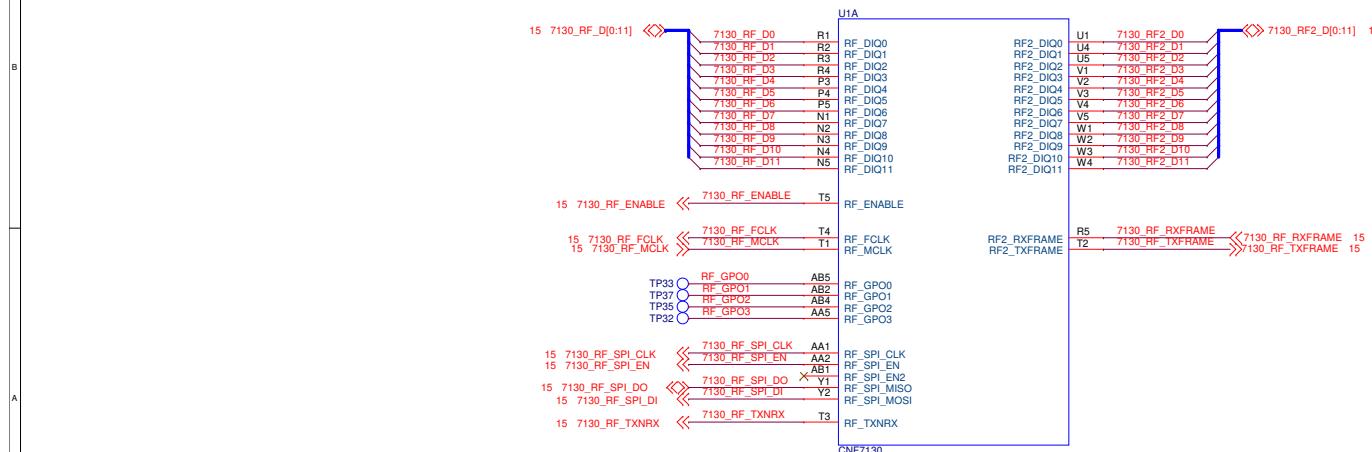
# SoC : DDR



## SoC : SERDES

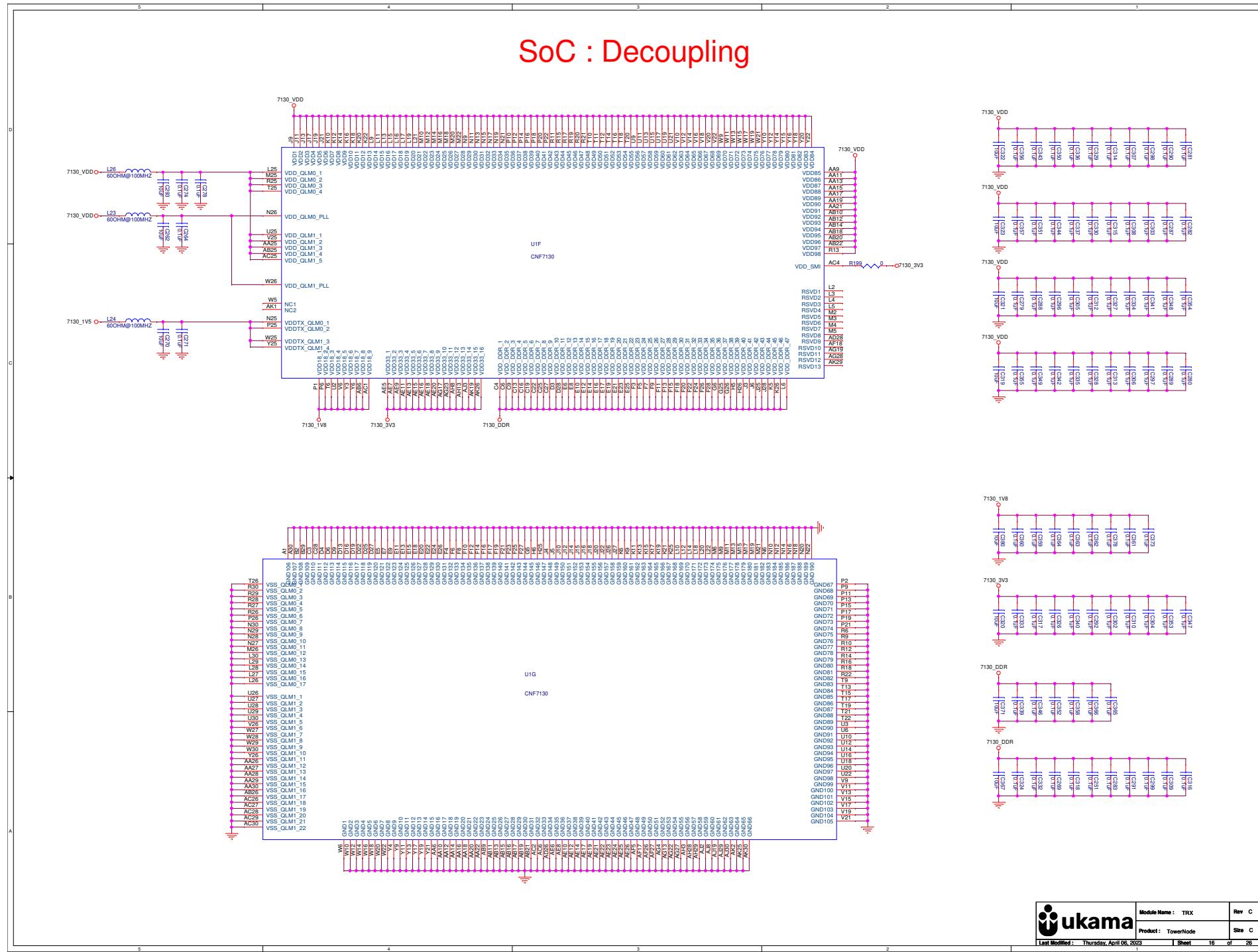


## SoC : RF Interface

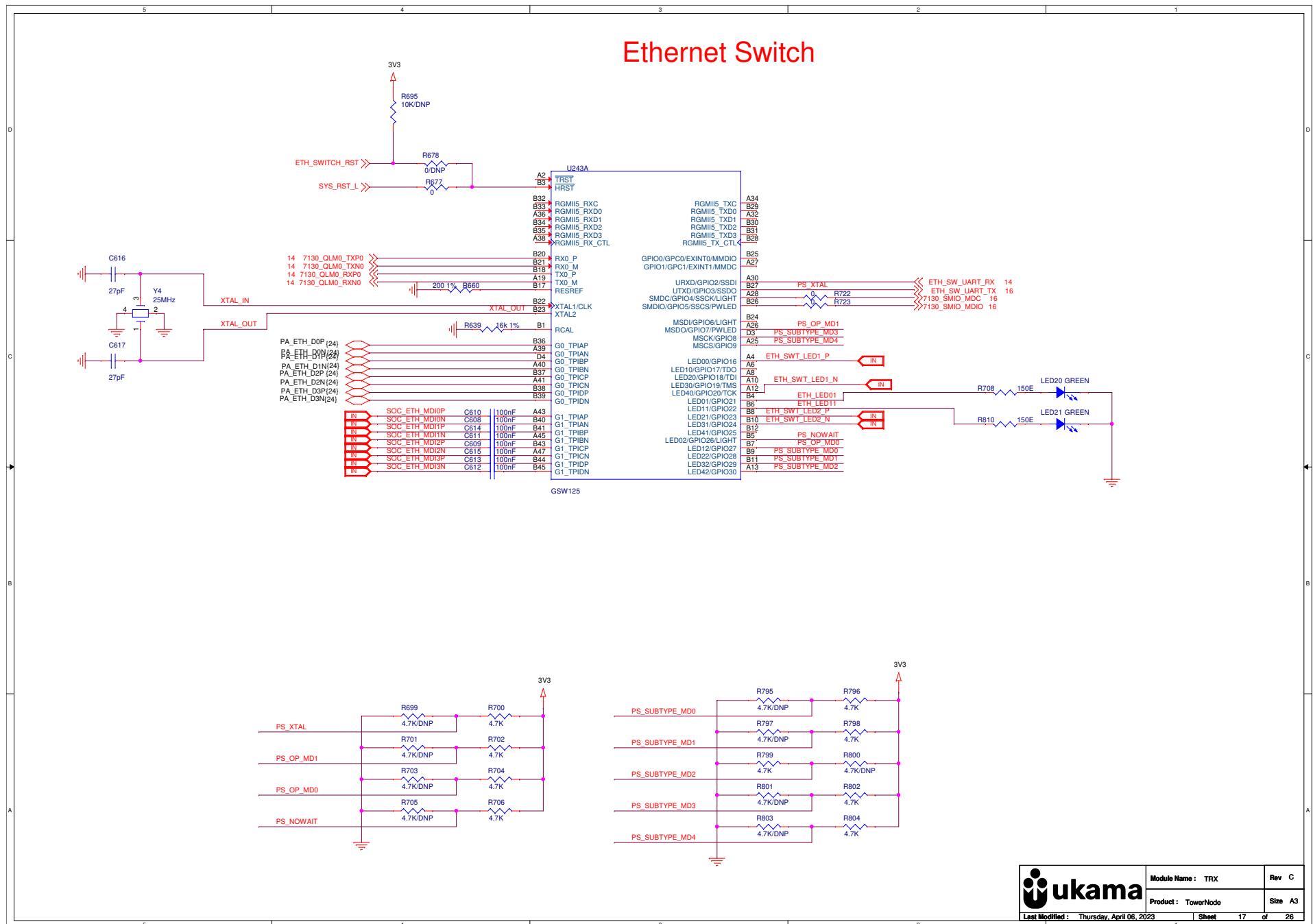


ukama	Module Name : TRX	Rev C
Last Modified :	Thursday, April 06, 2023	Sheet 15 of 26

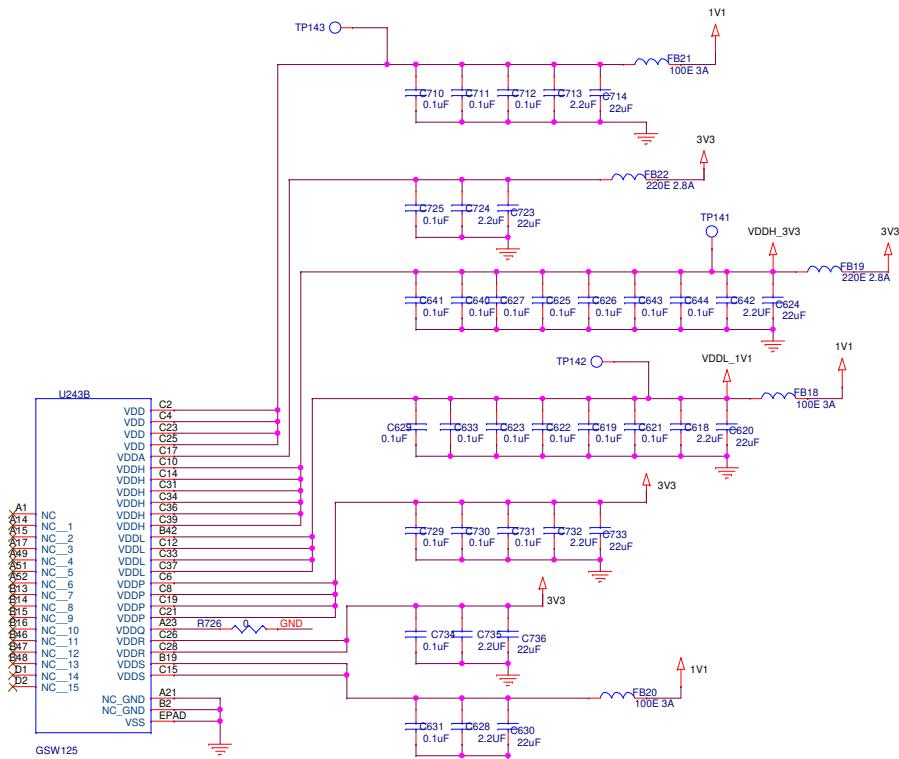
## SoC : Decoupling



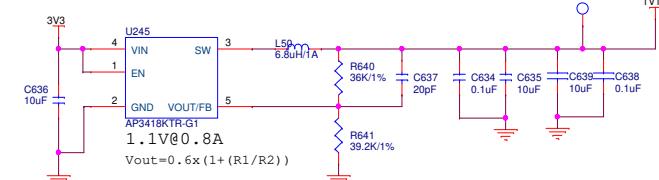
# Ethernet Switch



# Ethernet Switch Power supplies

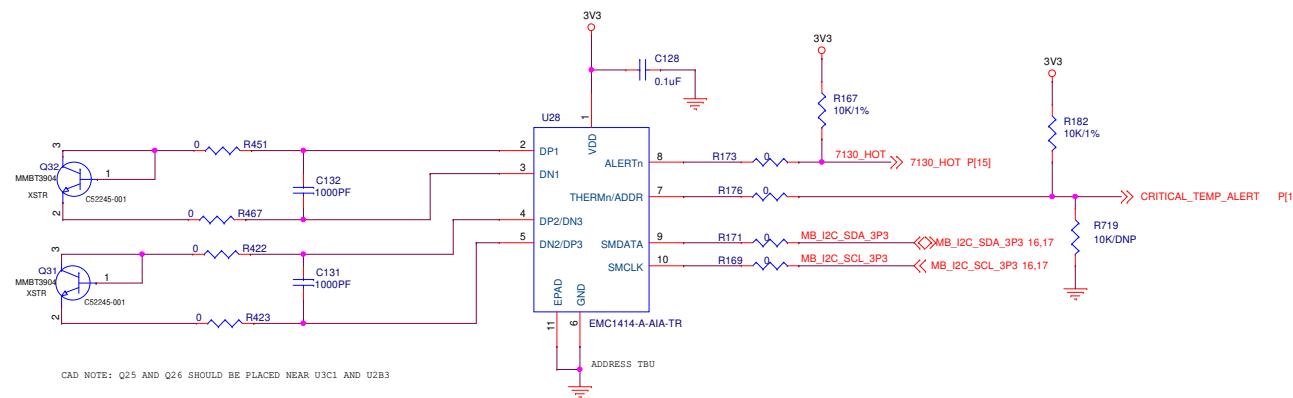


1V1 Buck converter

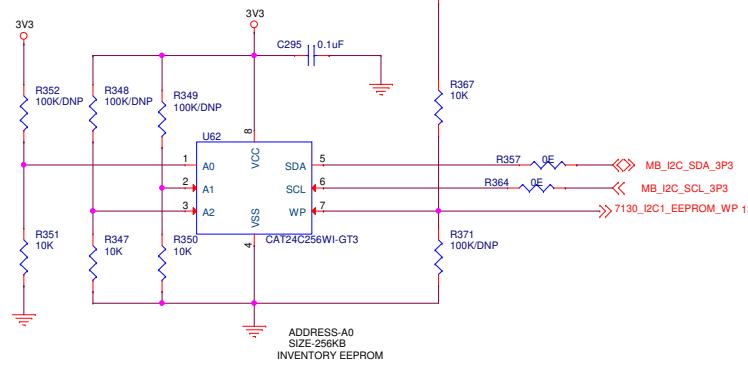


# Temperature Sensor & EEPROMs

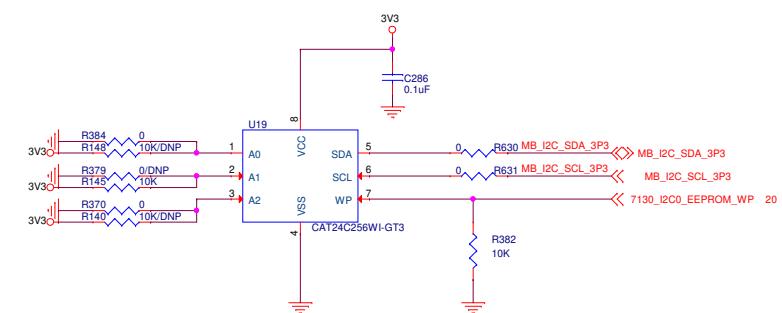
Temperature sensor

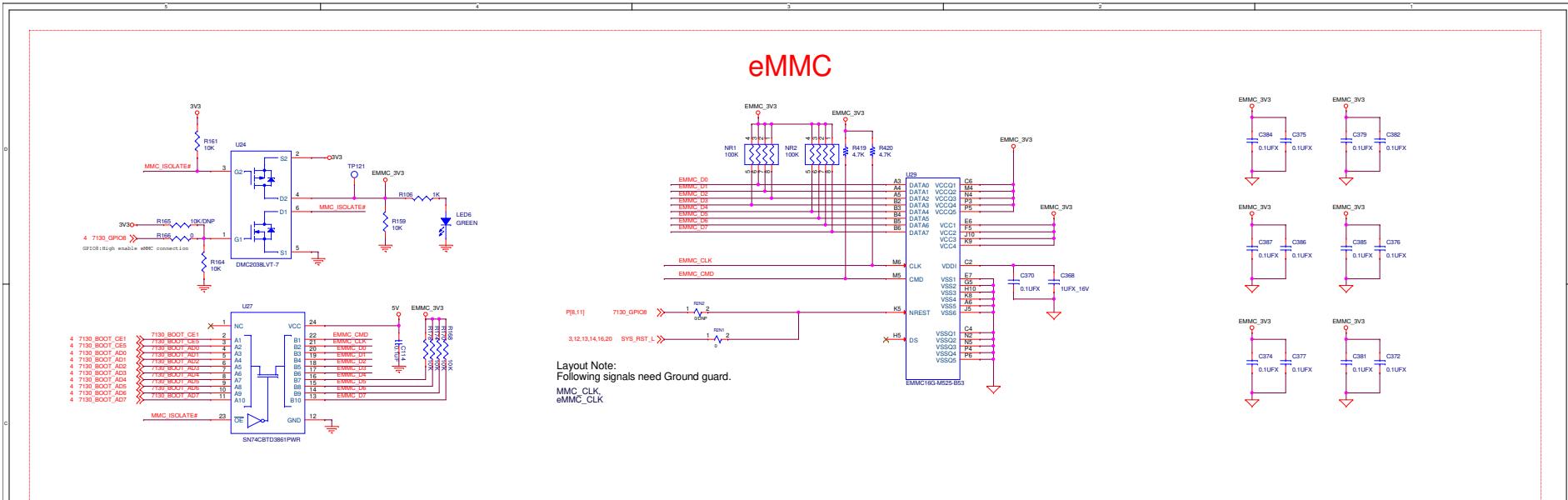


Inventory EEPROM



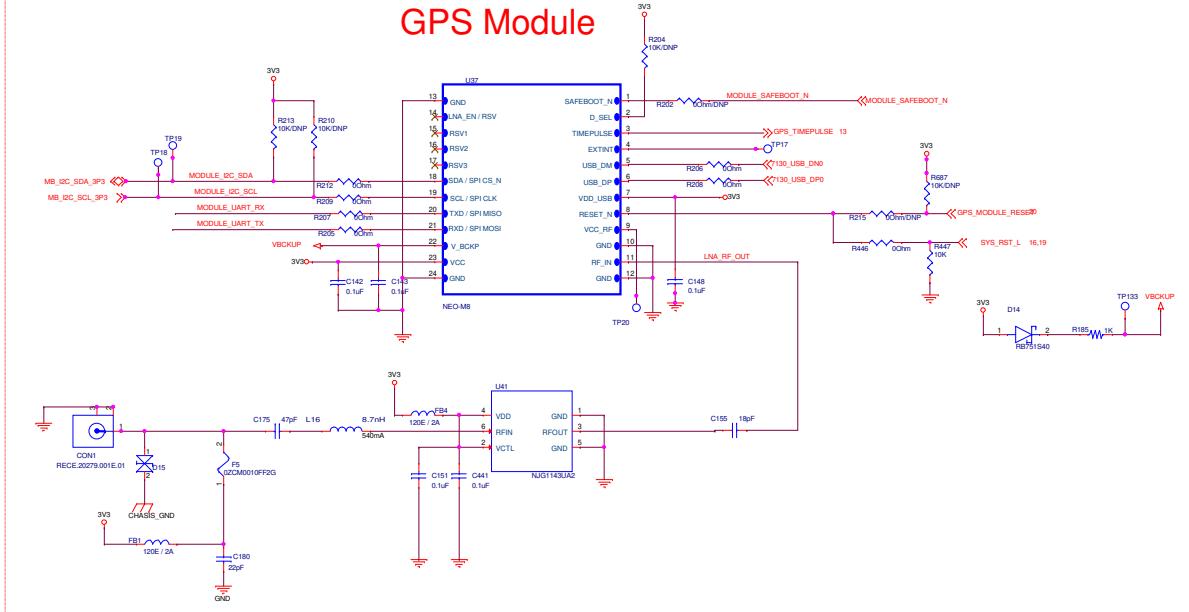
Config EEPROM



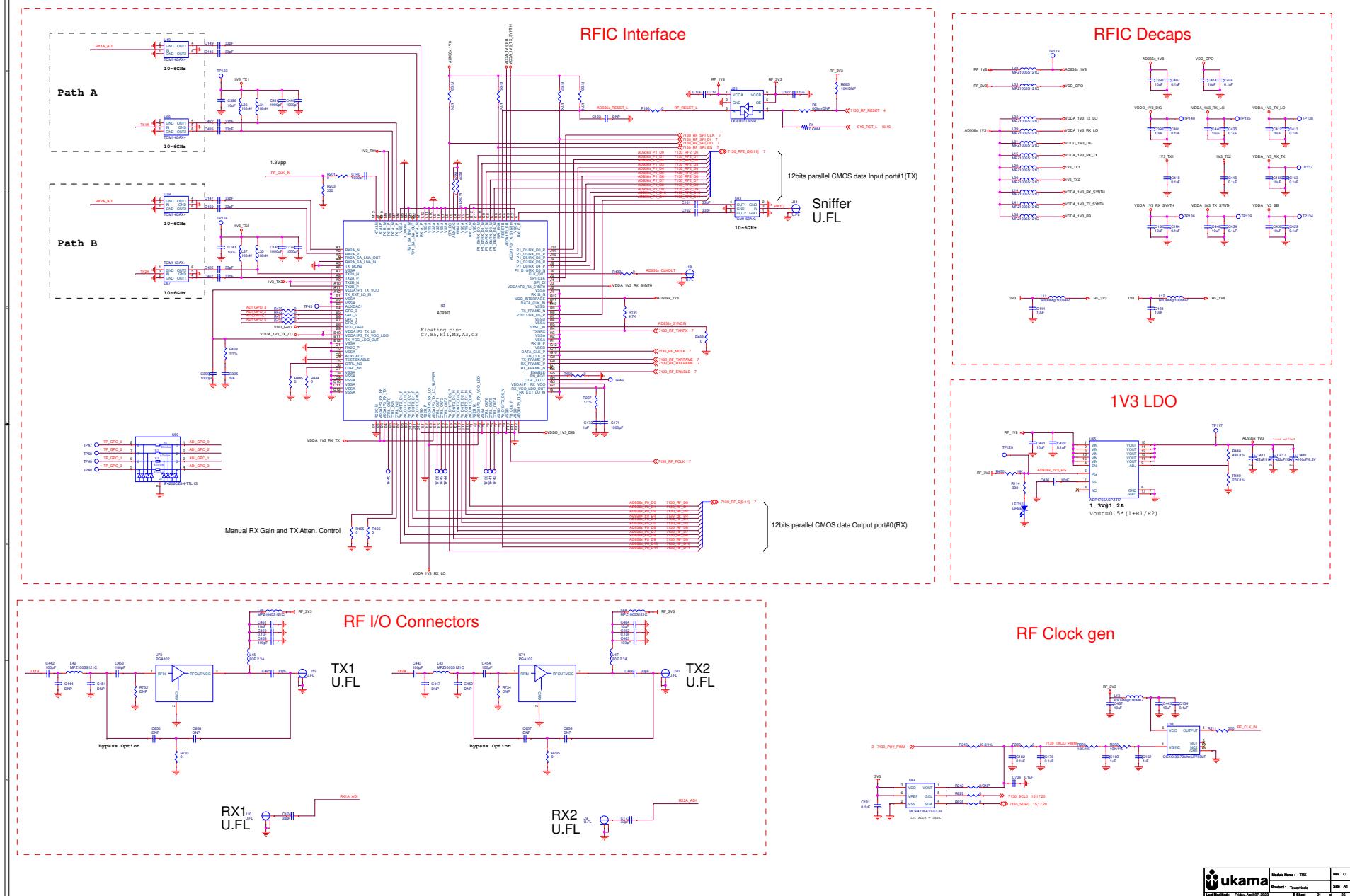


### UART MUX

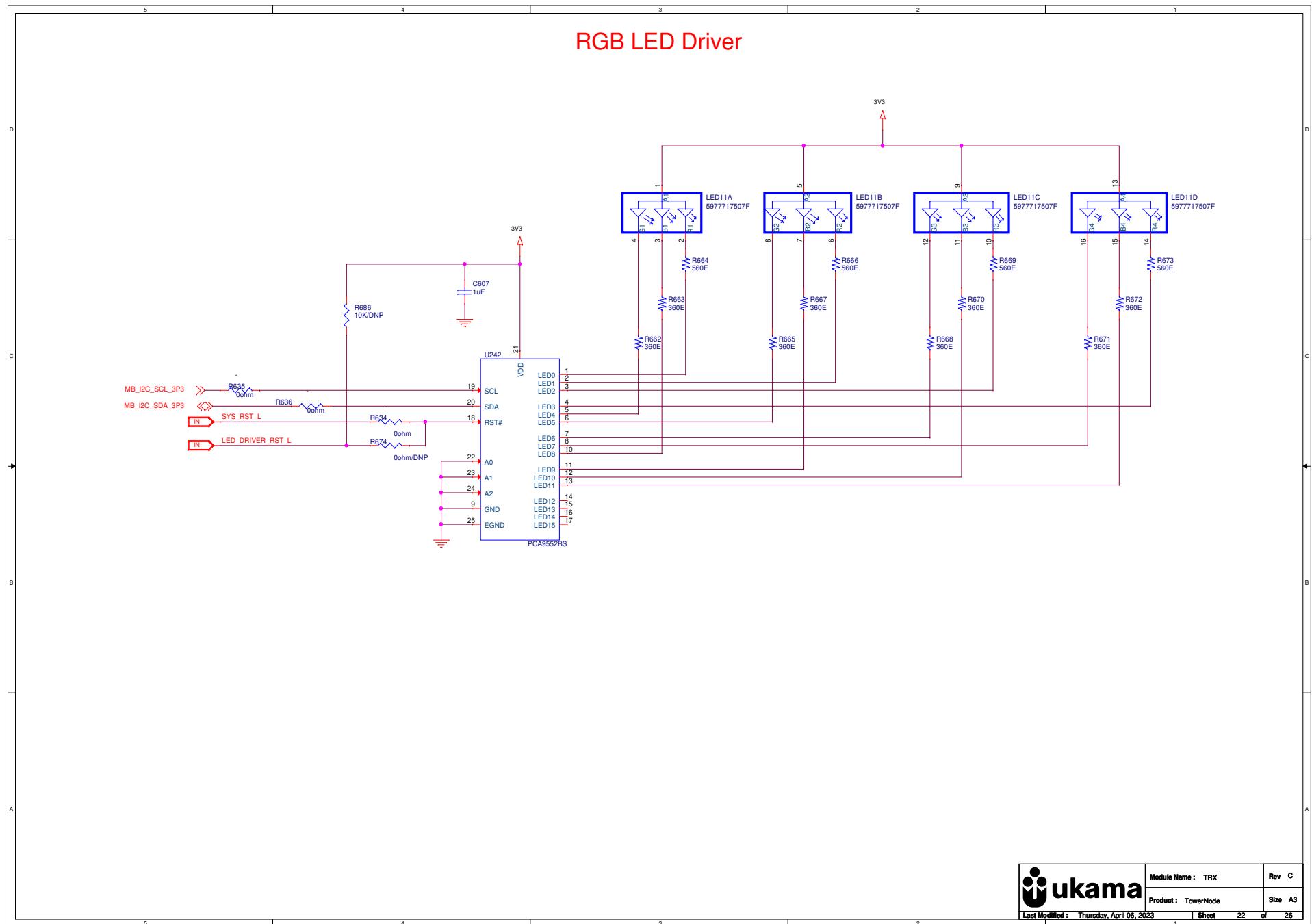
This diagram illustrates the UART MUX interface. It connects multiple UART modules (MODULE\_UART\_RX, MODULE\_UART\_TX, MODULE\_I2C\_SDA, MODULE\_I2C\_SCL) to a central point. The connections involve resistors (R806, R807, R808, R809) and capacitors (C153, C154) to manage signal levels and timing.



# RFIC Interface & Power

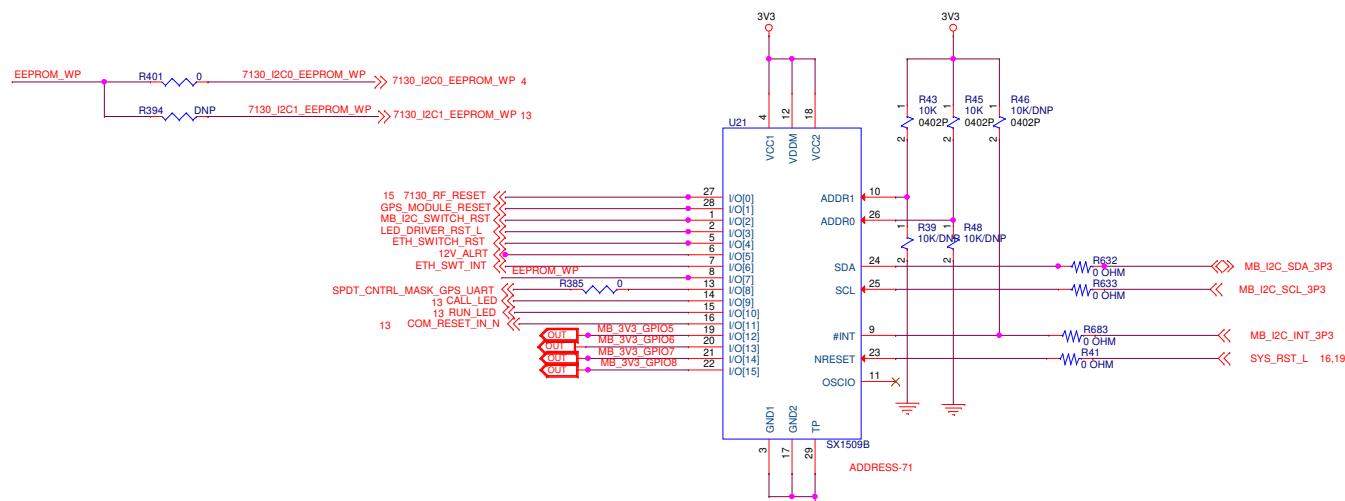


# RGB LED Driver

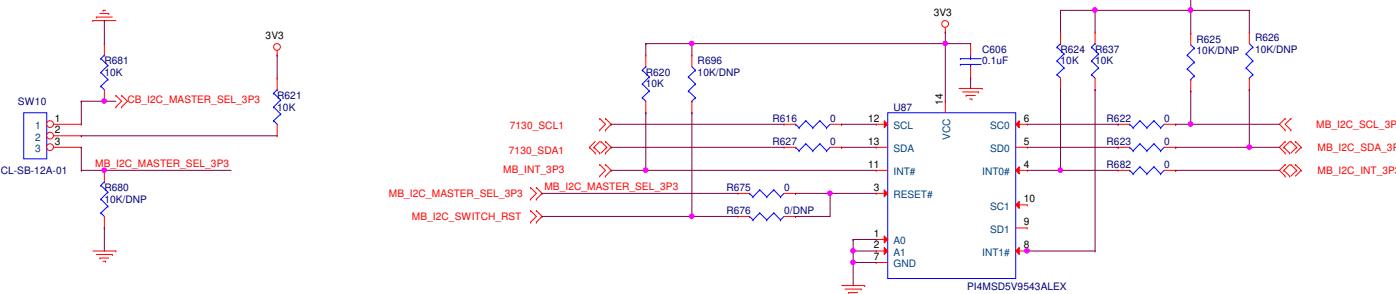


# I/O Expander & I2C Switch

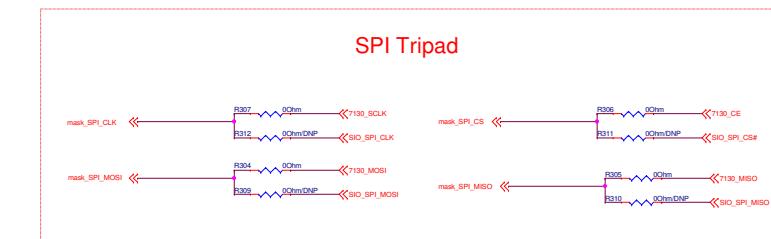
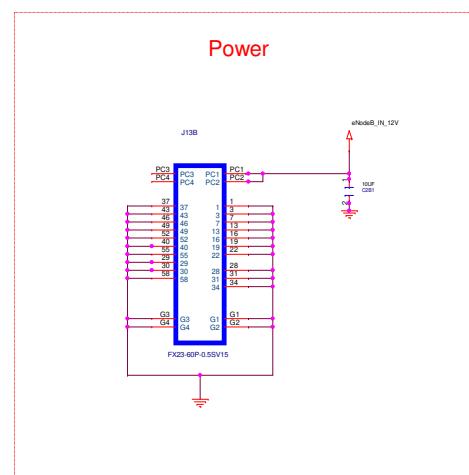
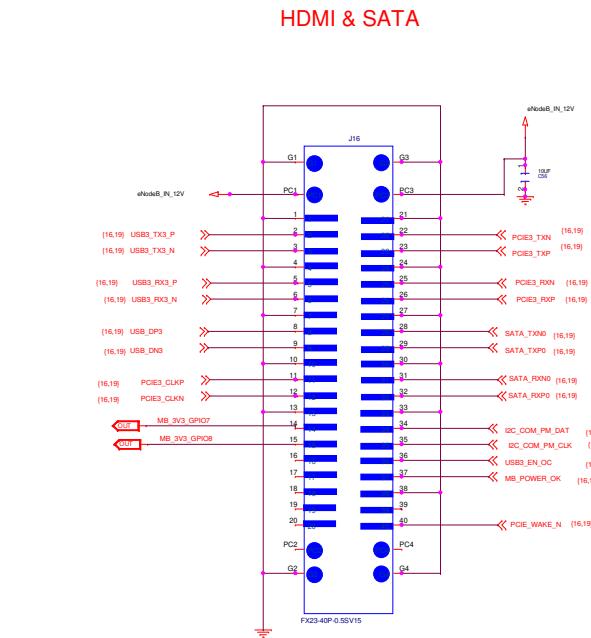
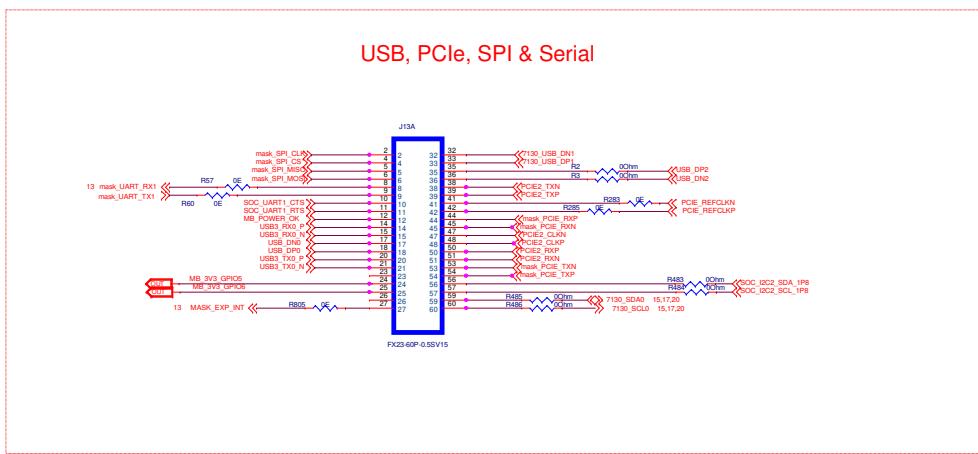
## I2C - GPIO Expander



## I2C Switch

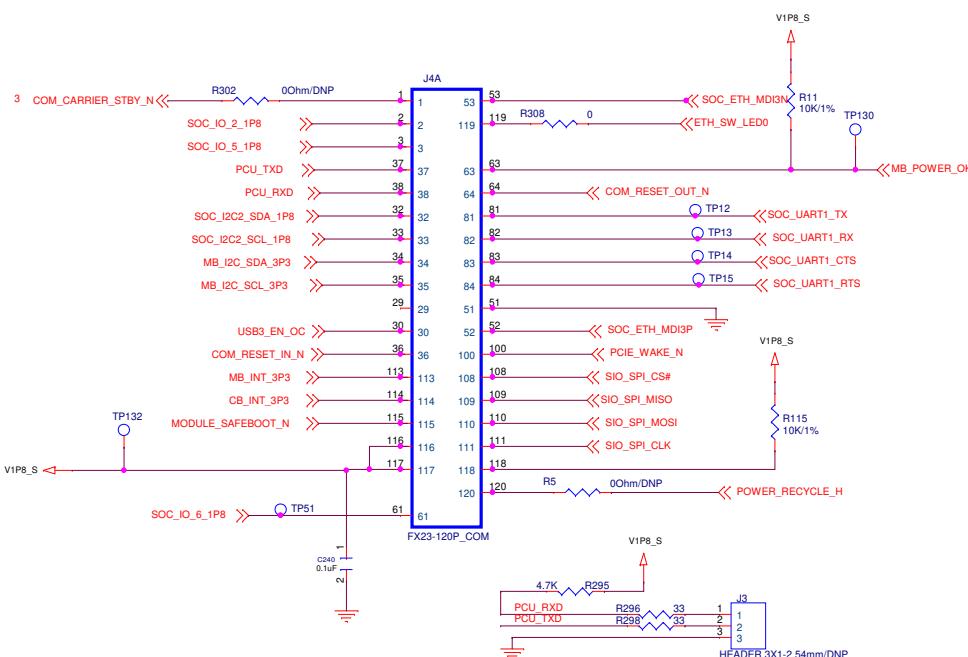


# Mask module connector

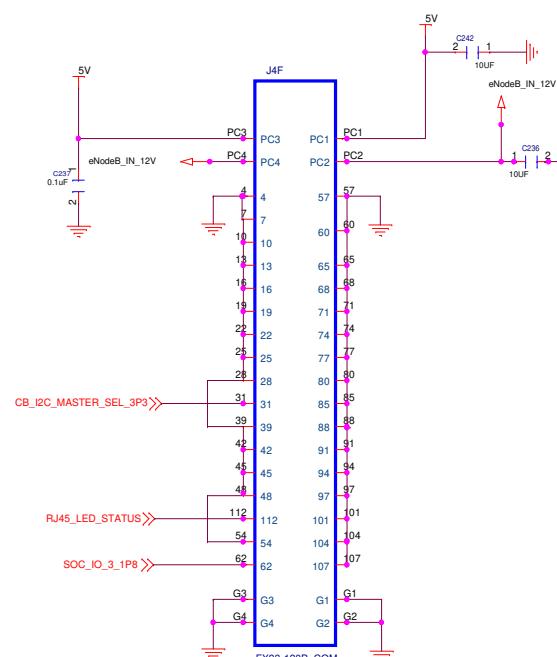


# Comm module connector -1

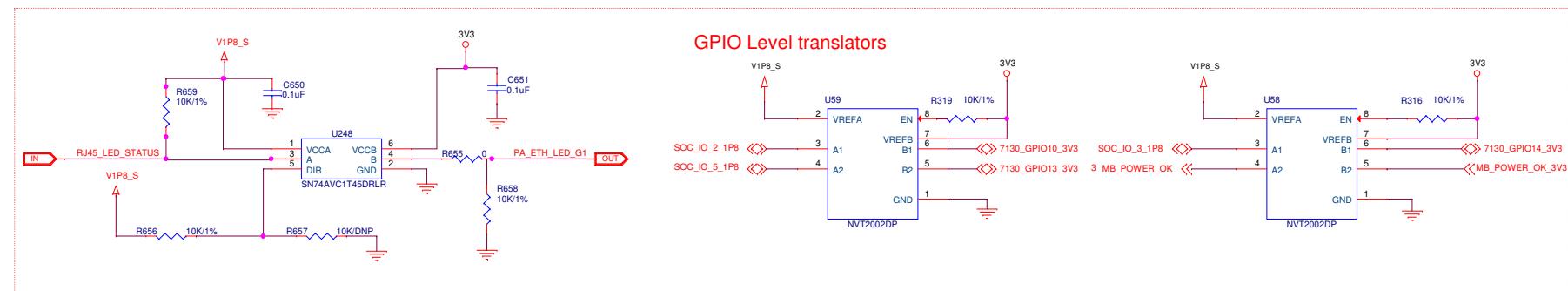
**GPIO, I2C, UART**

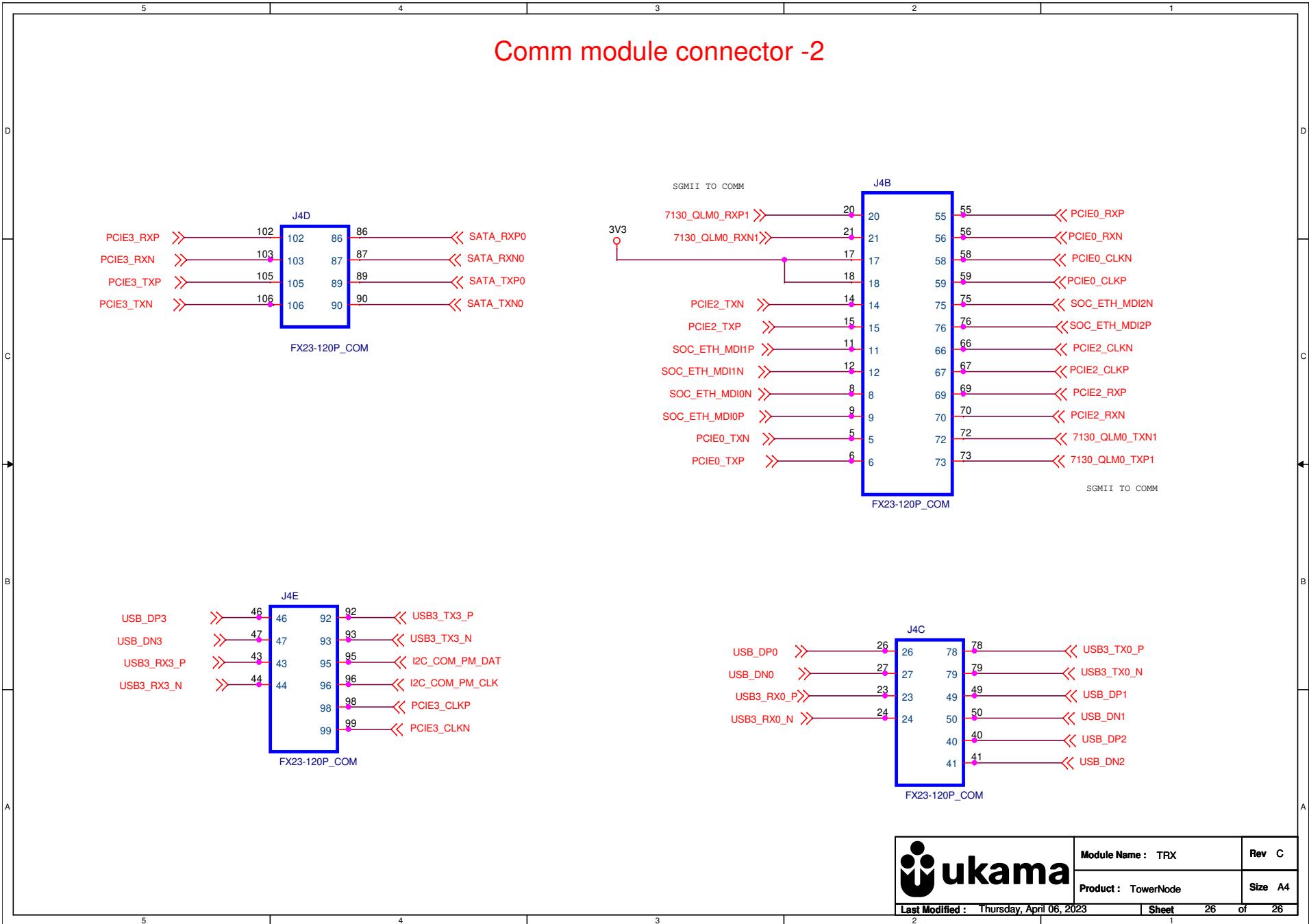


**Power & Ground**



**GPIO Level translators**





	Module Name : TRX	Rev C
	Product : TowerNode	Size A4
Last Modified : Thursday, April 06, 2023	Sheet 26	of 26