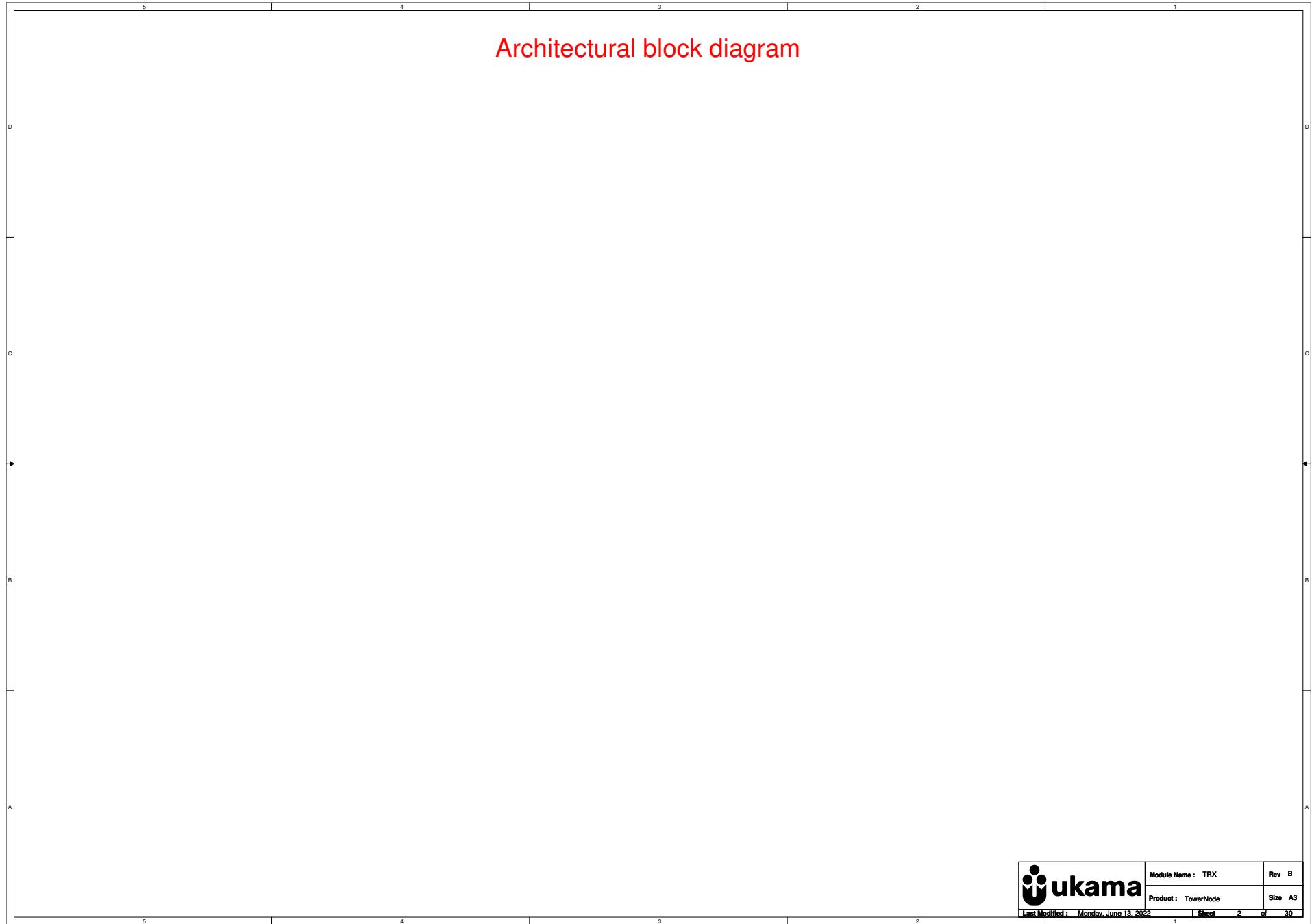
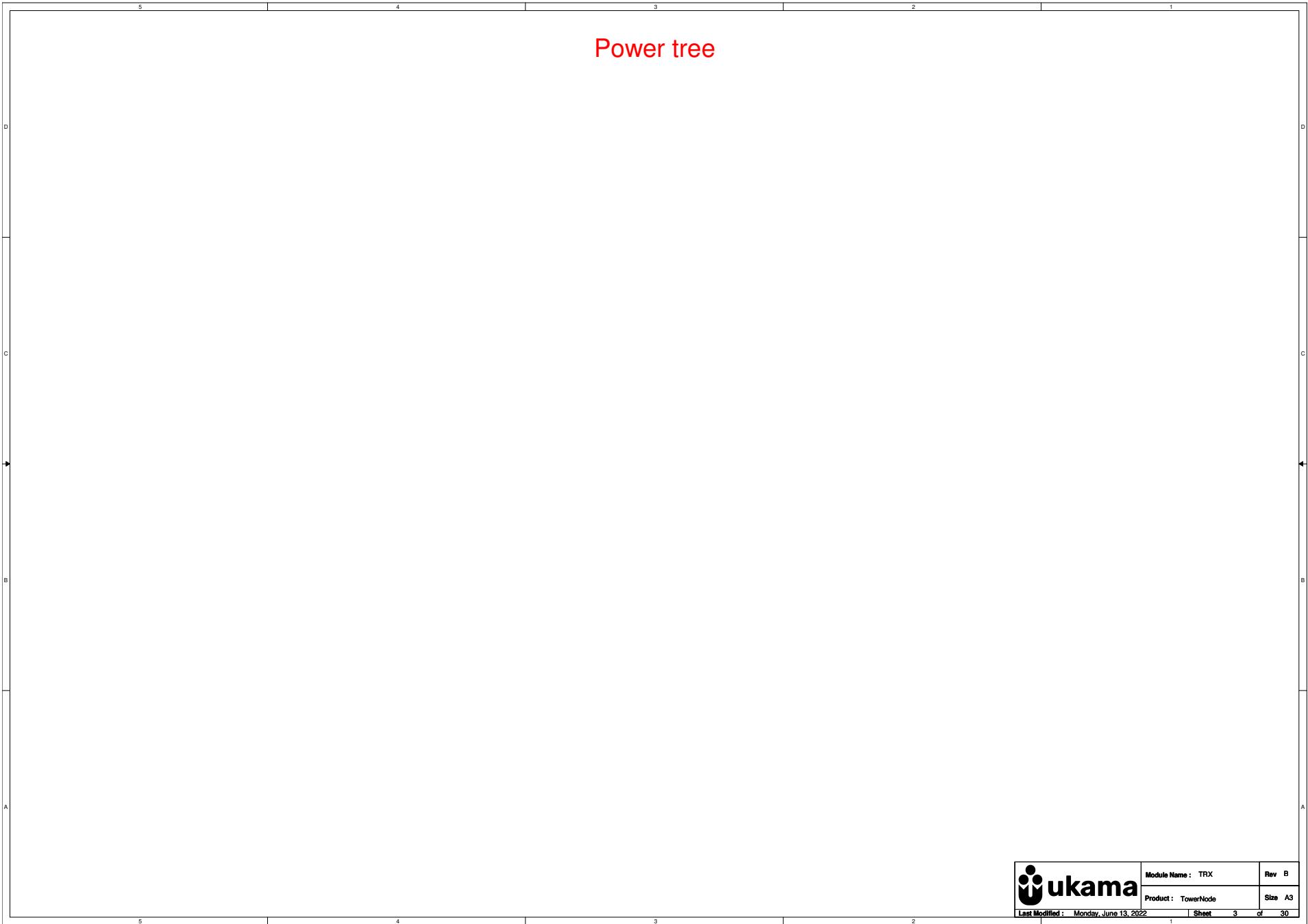


Product name: TowerNode  
Module name: TRX

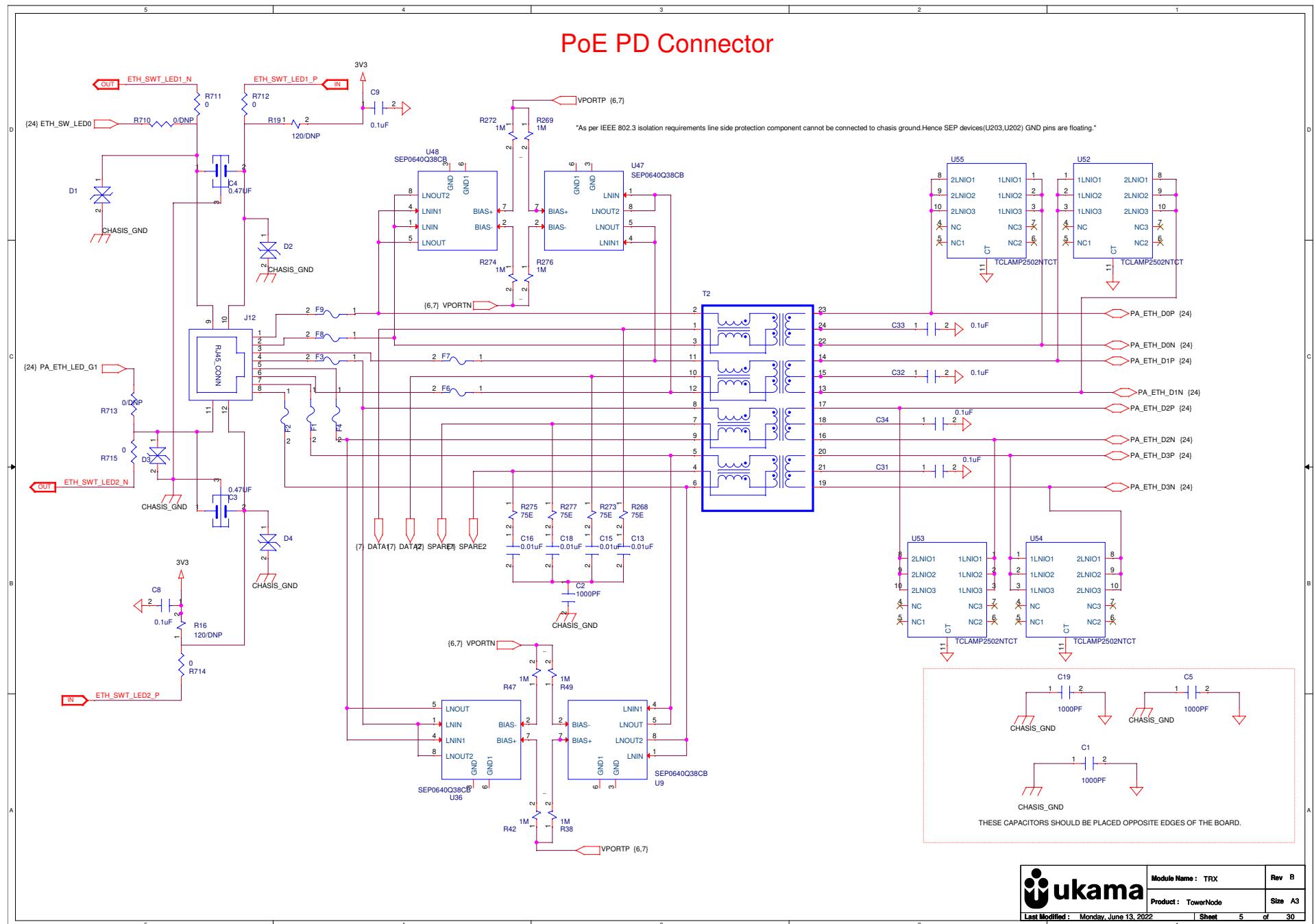
PAGE	DESCRIPTION
1	Table of Contents
2	Architectural Block Diagram
3	Power tree
4	Reset tree
5	PoE PD Connector
6	PoE_Bridge
7	PD+Power supply
8	Input power protection
9	System Power supplies
10	SoC Power Enable & Clock
11	SoC POWER
12	Reset
13	SoC Config & JTAG
14	SoC Boot, GPIO, UART & Flash
15	SoC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



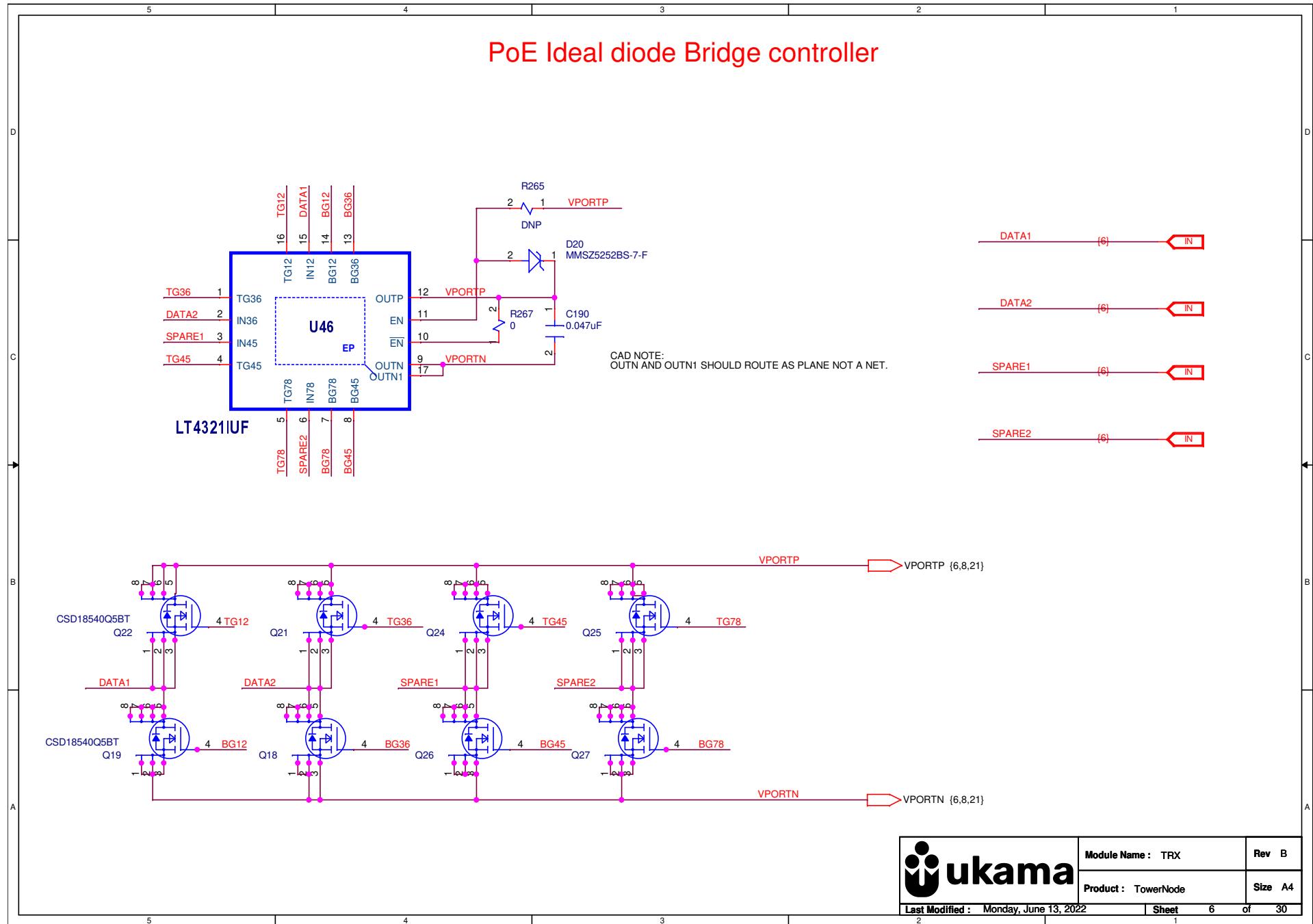




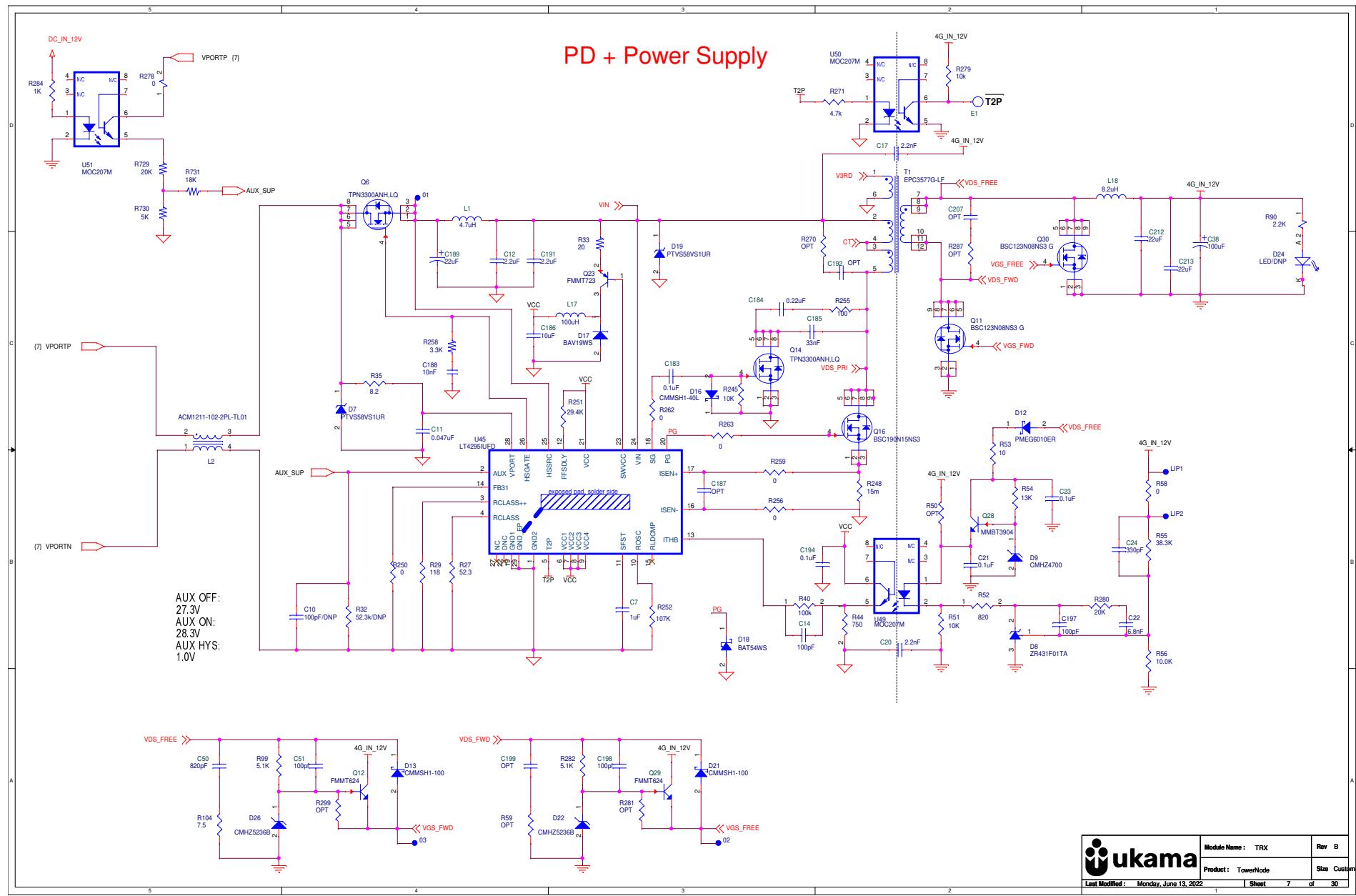
# PoE PD Connector



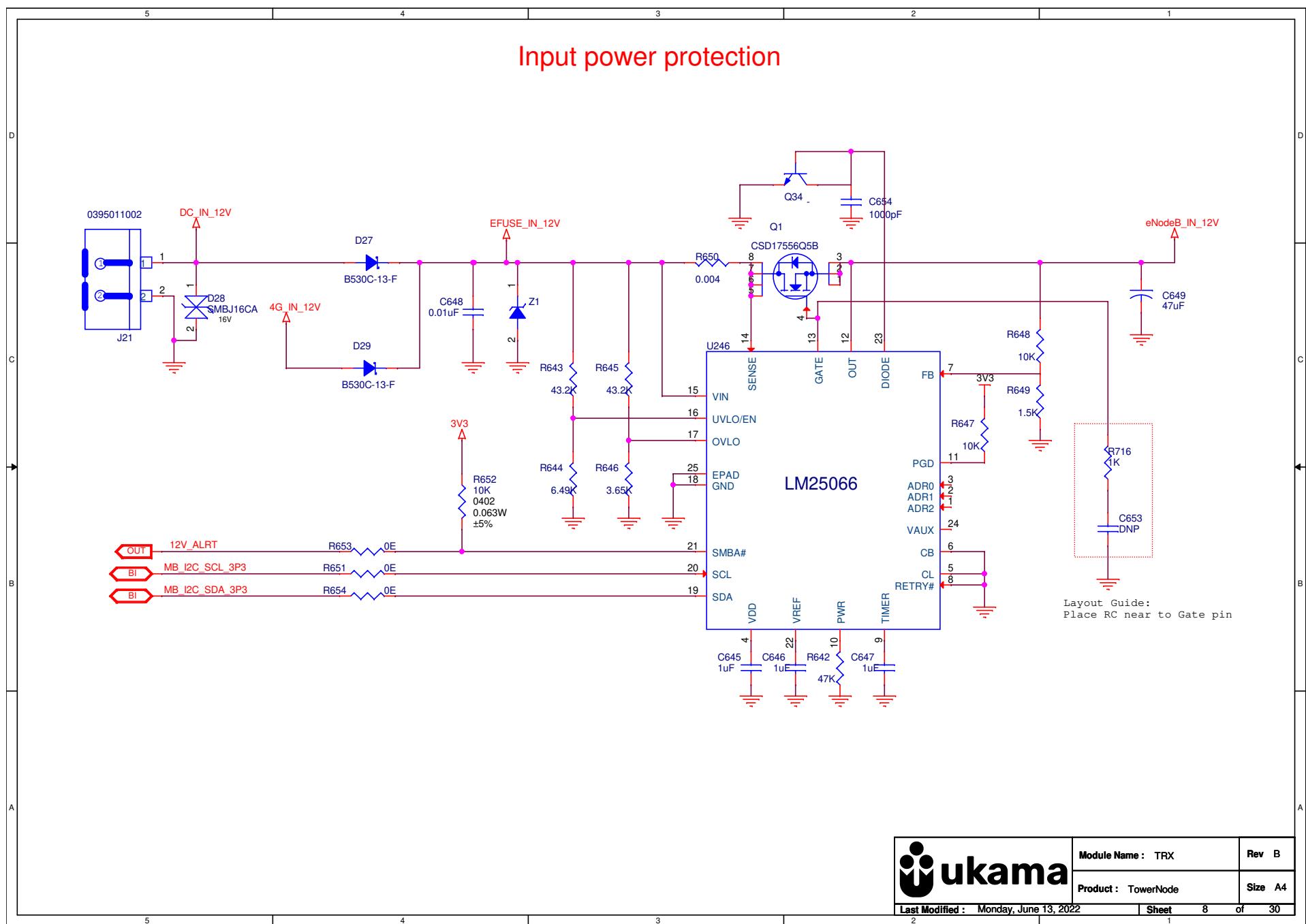
# PoE Ideal diode Bridge controller



## PD + Power Supply



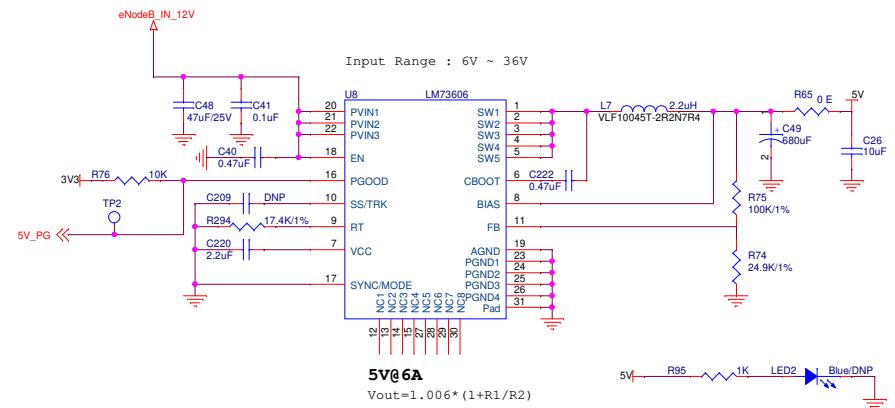
## Input power protection



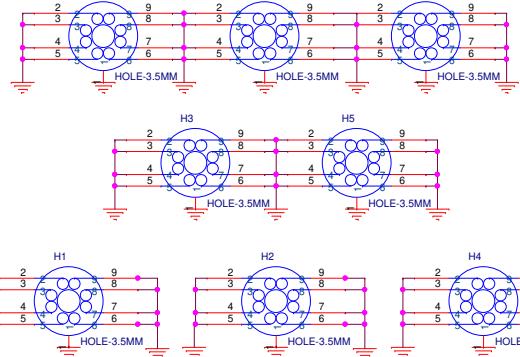
	Module Name : TRX	Rev B
	Product : TowerNode	Size A4
Last Modified : Monday, June 13, 2022	Sheet 8	of 30

# System power supplies

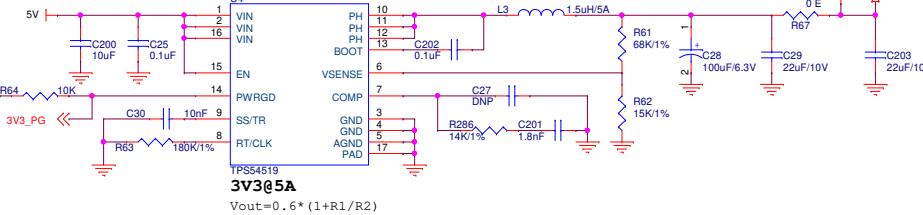
## 5V Buck converter



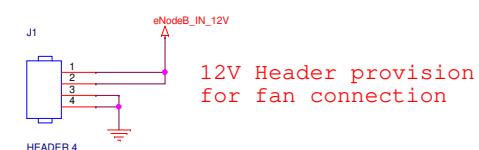
## Mounting holes



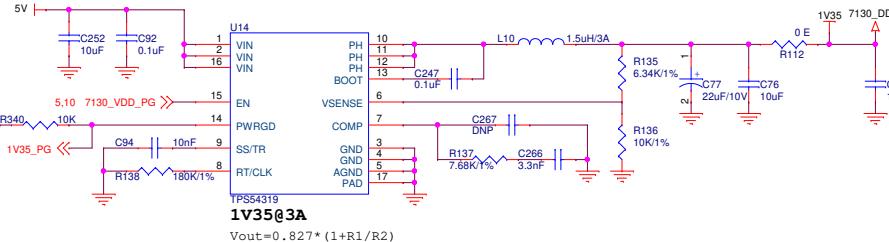
## 3.3V Buck converter



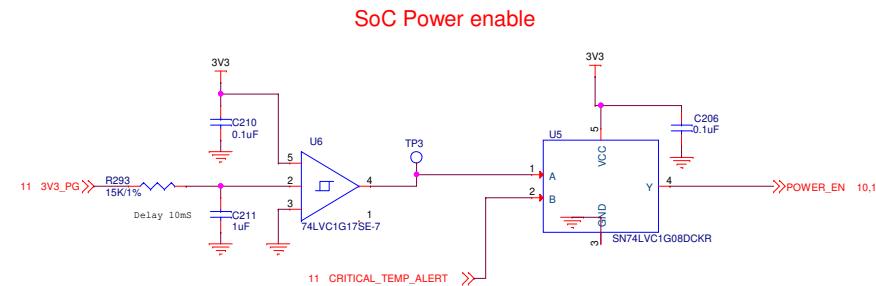
## Fan connector



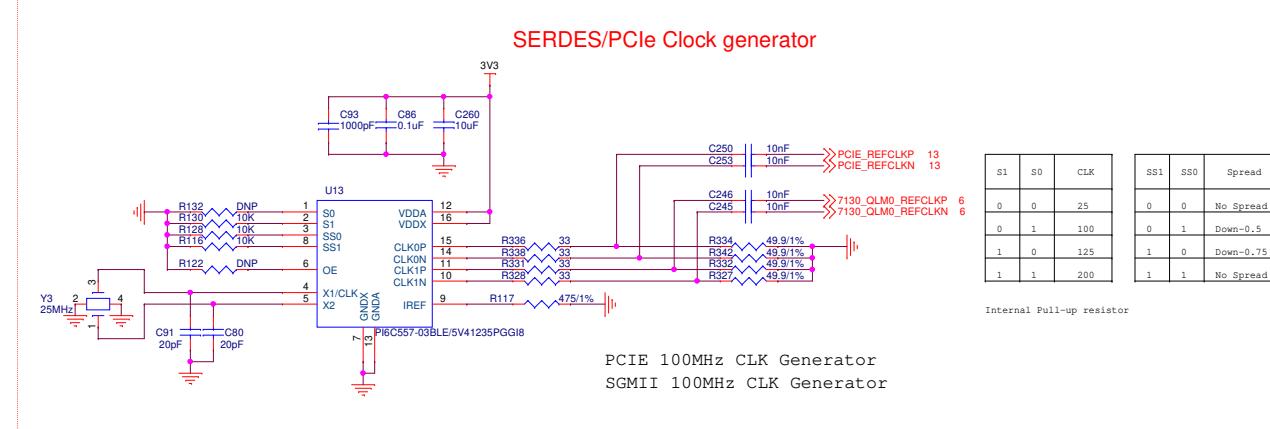
## 1.35V Buck converter



# SoC Power enable & Clock

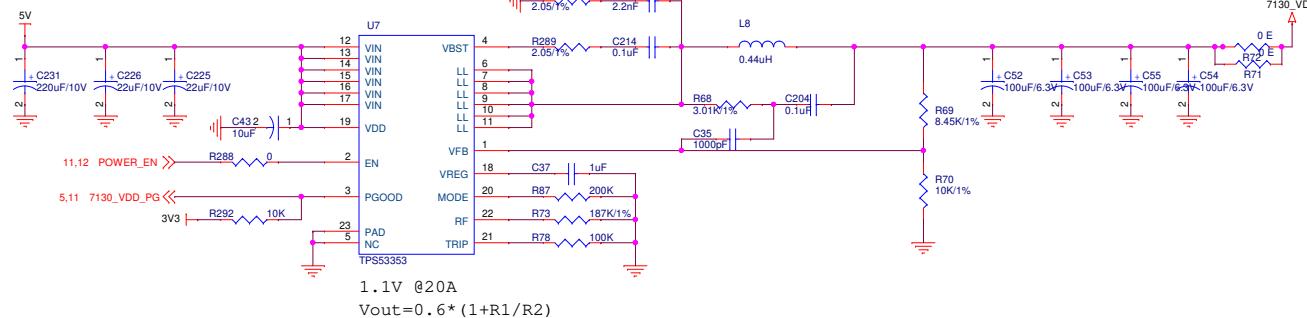


## SERDES/PCIe Clock generator

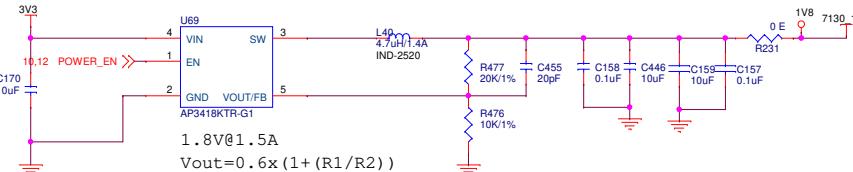


# SoC Power

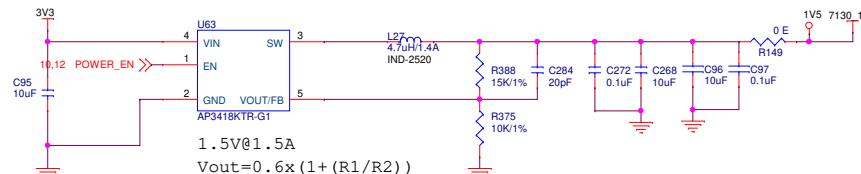
## 1V1 Buck converter



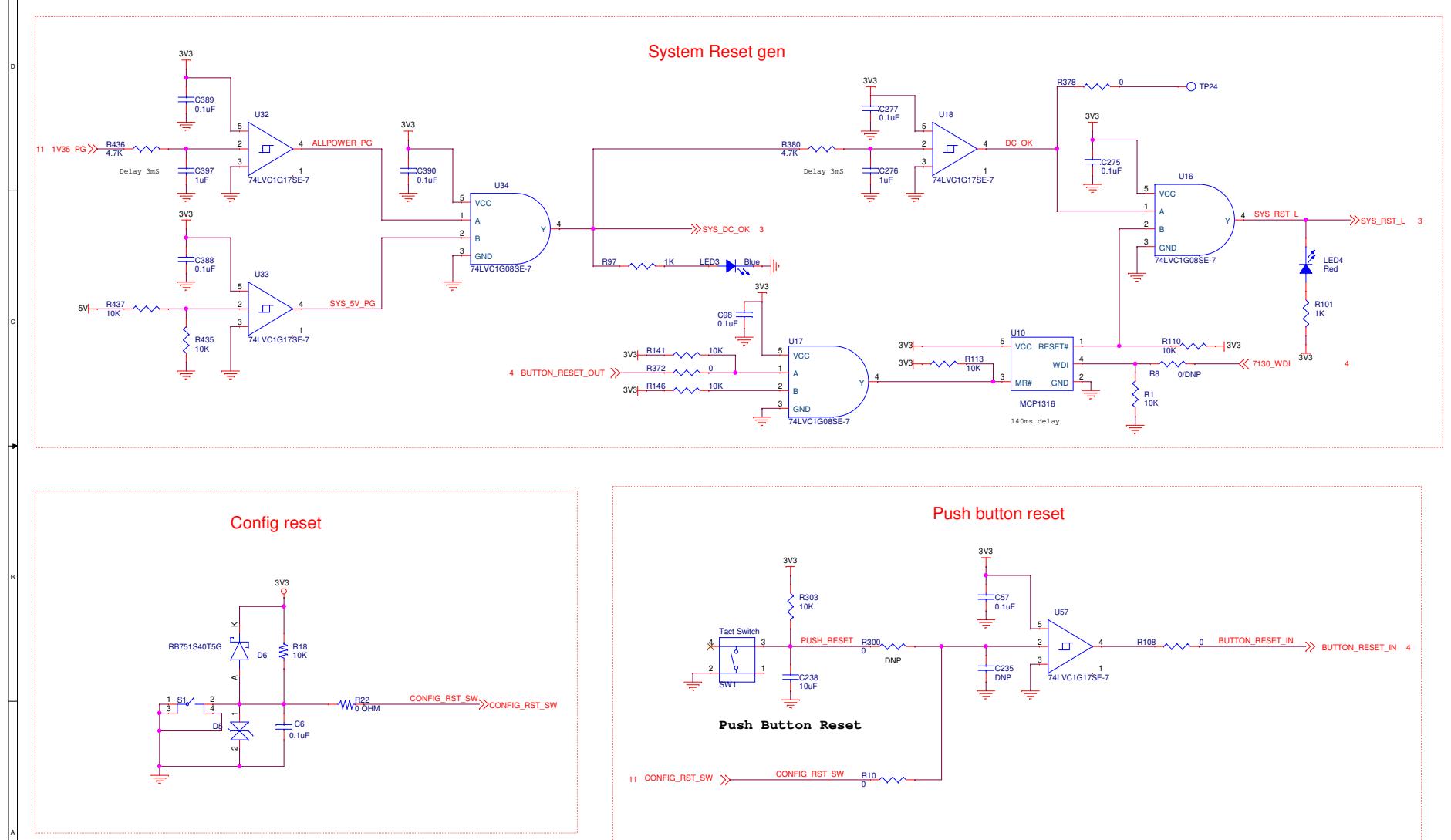
## 1V8 Buck converter



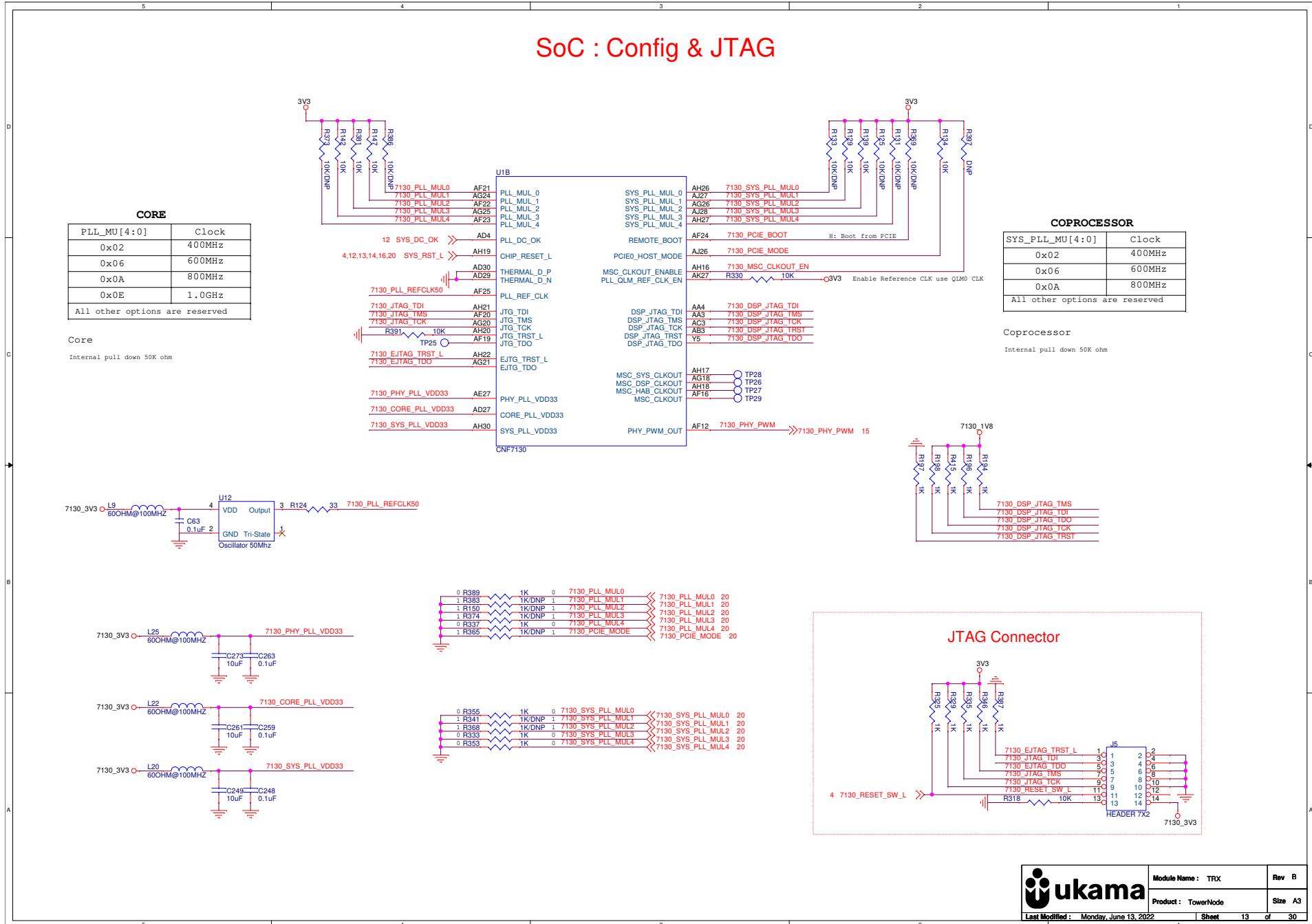
## 1V5 Buck converter



# Reset



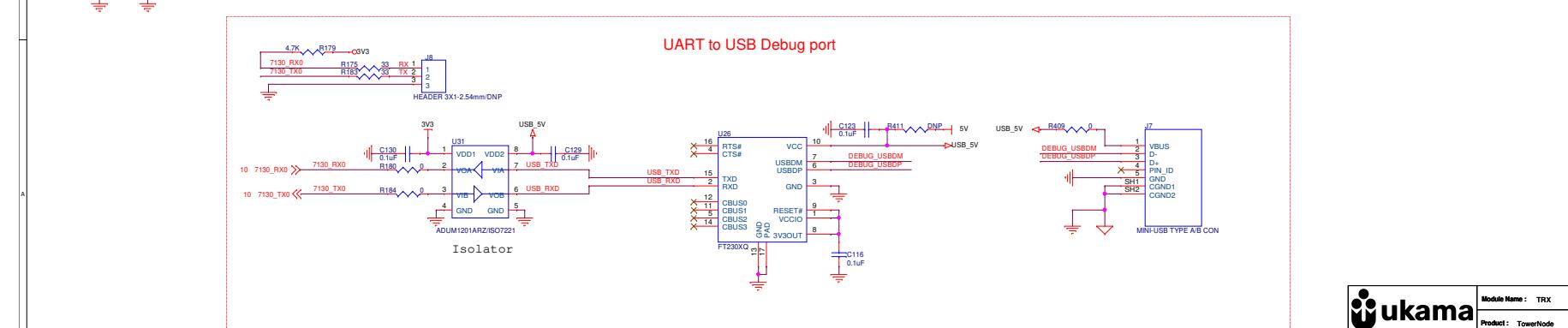
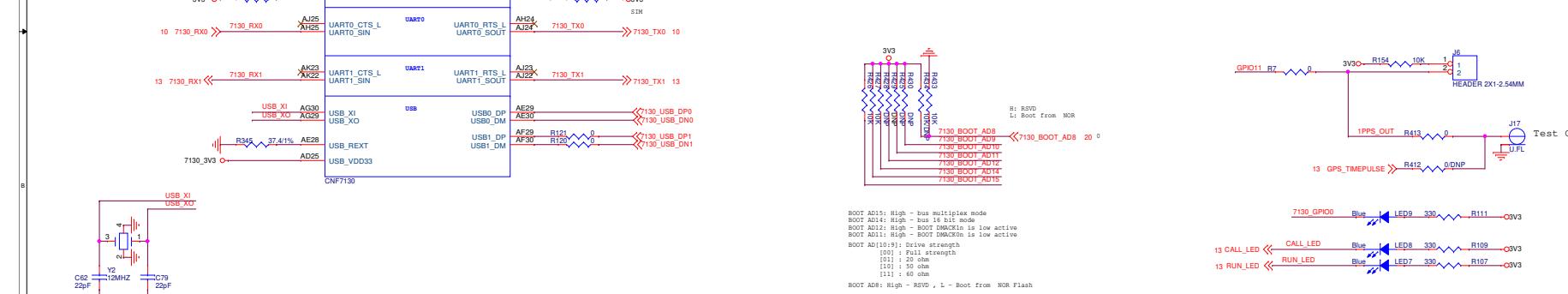
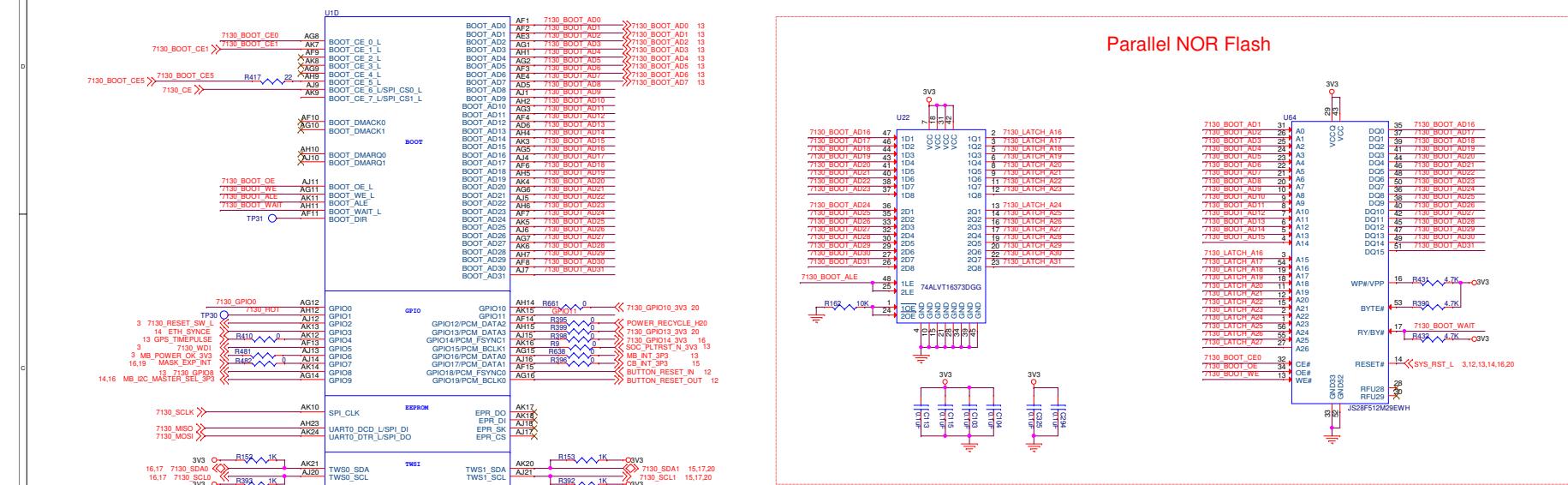
# SoC : Config & JTAG



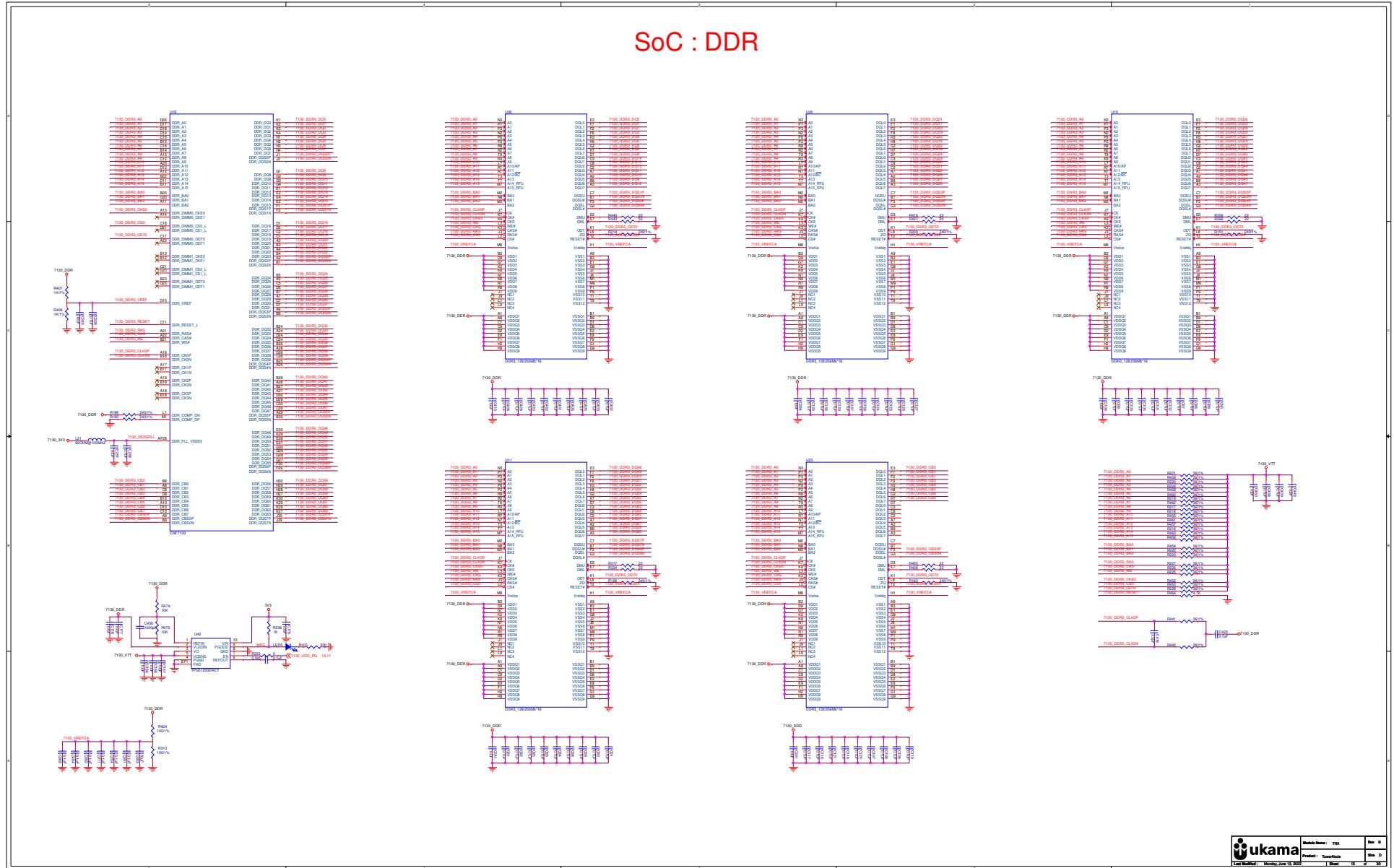
<b>ukama</b>	Module Name : TRX	Rev B
Last Modified : Monday, June 13, 2022	Product : TowerNode	Size A3
Sheet 13 of 30		

# SoC: Boot, GPIO, UART & Flash

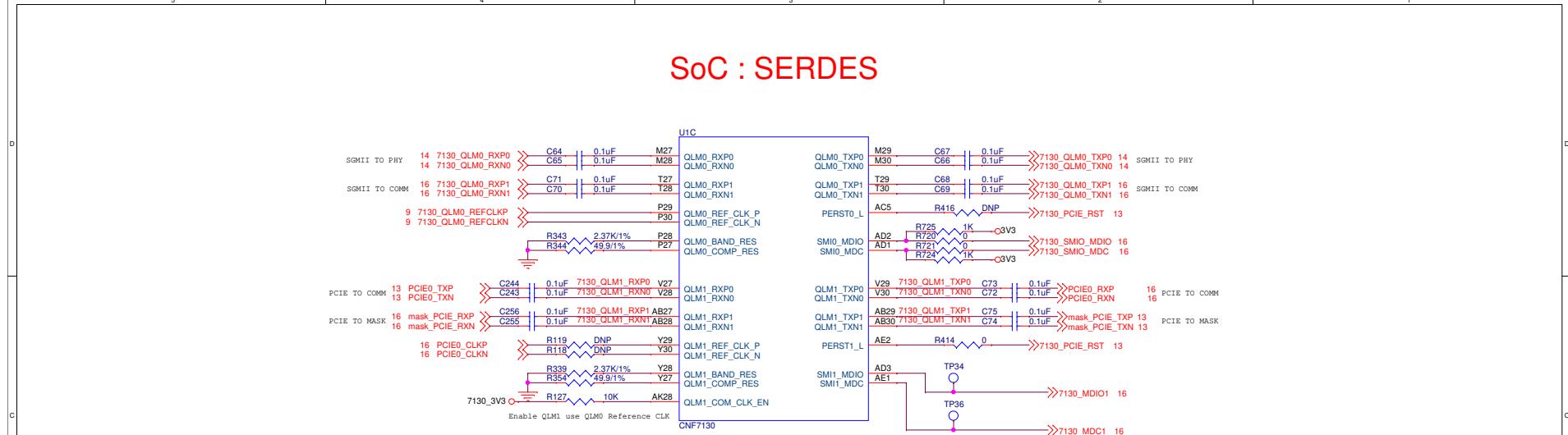
## Parallel NOR Flash



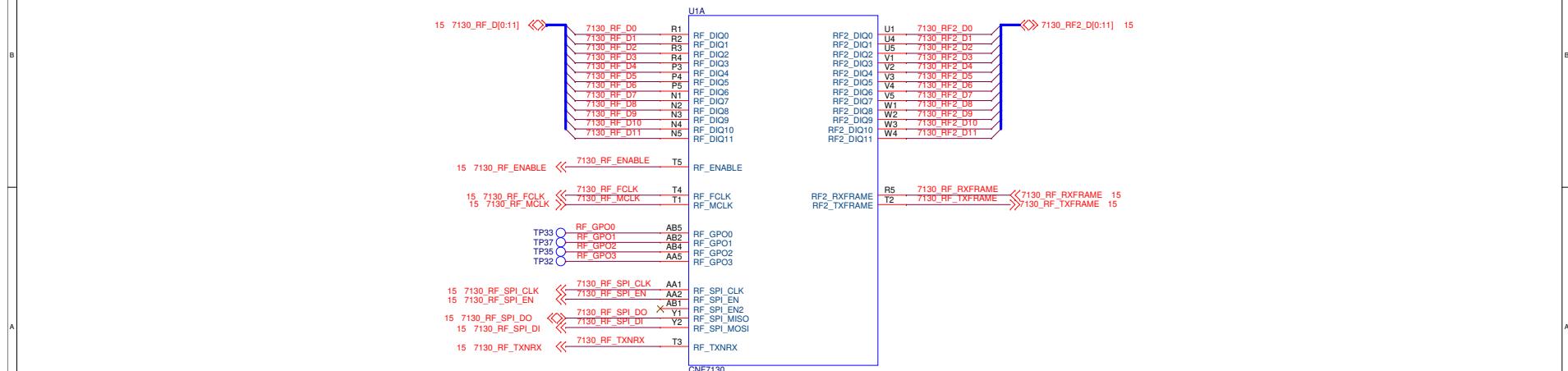
SoC : DDR



## SoC : SERDES

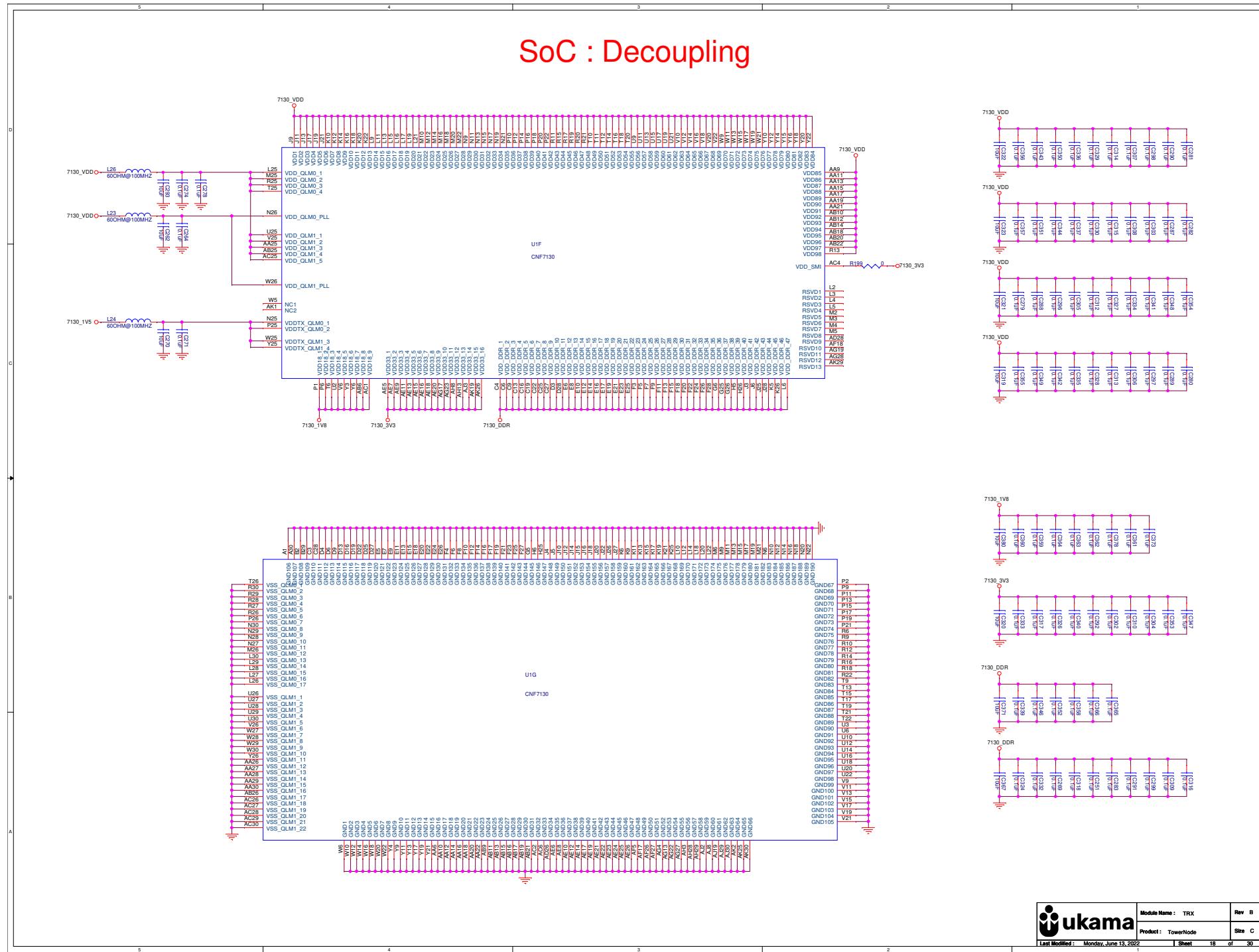


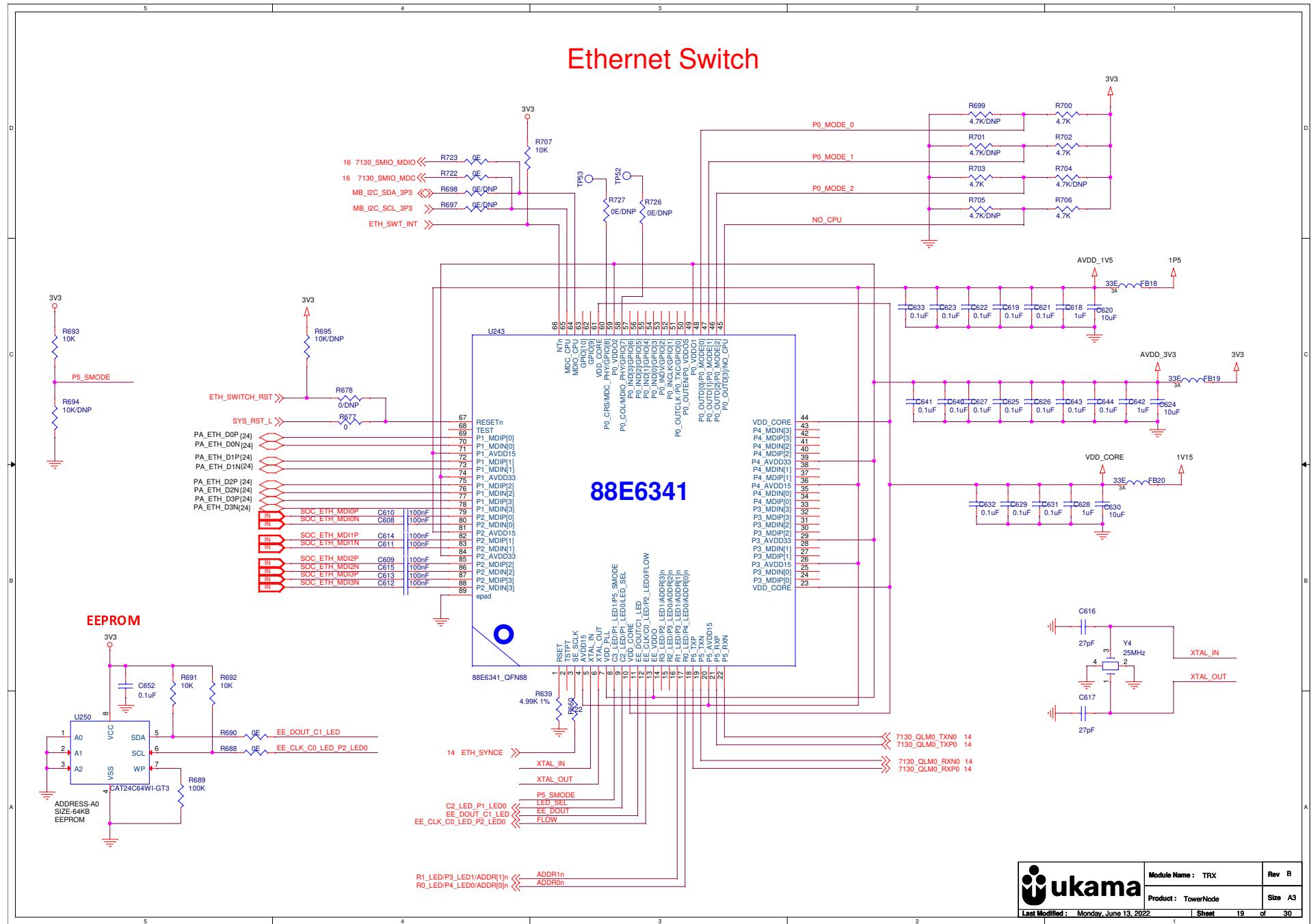
## SoC : RF Interface



<b>ukama</b>	Module Name : TRX	Rev B
Last Modified : Monday, June 13, 2022	Product : TowerNode	Size A3
1	Sheet 16 of 30	

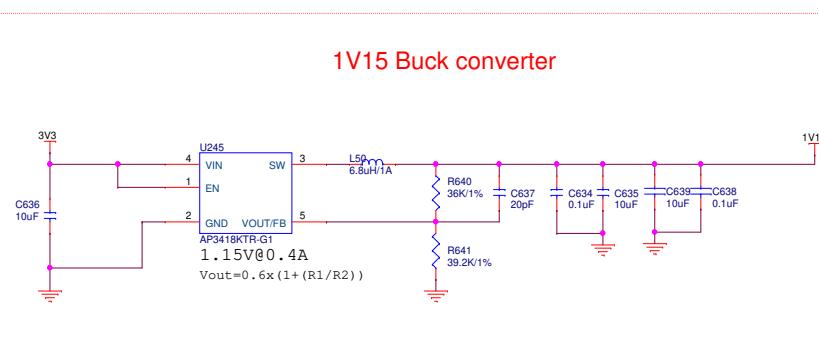
## SoC : Decoupling



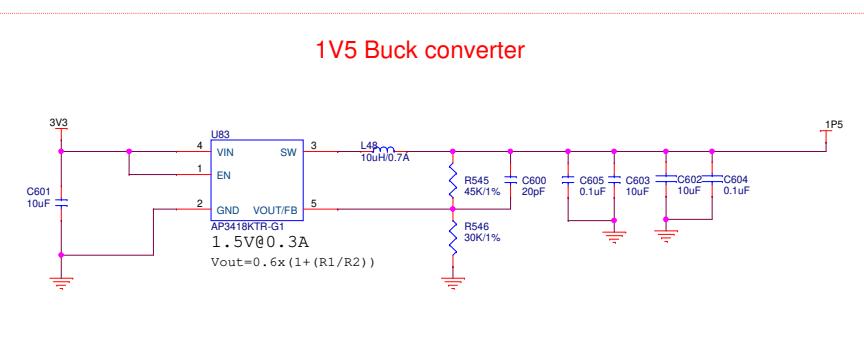


# Ethernet Switch Power supplies & LEDs

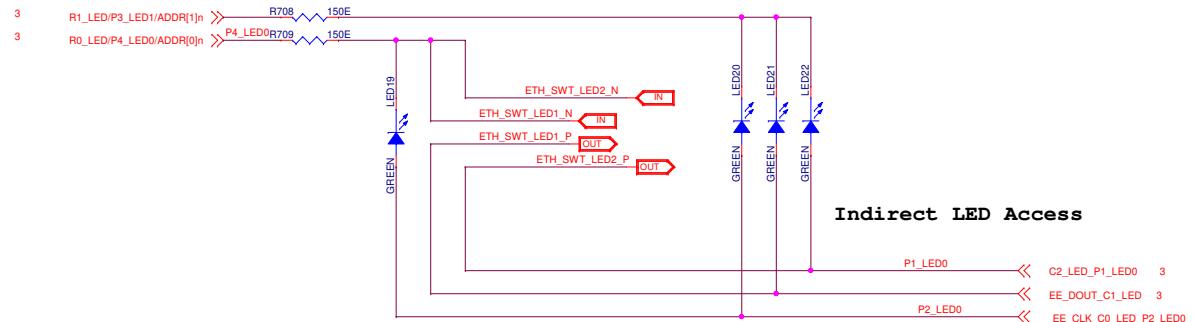
1V15 Buck converter



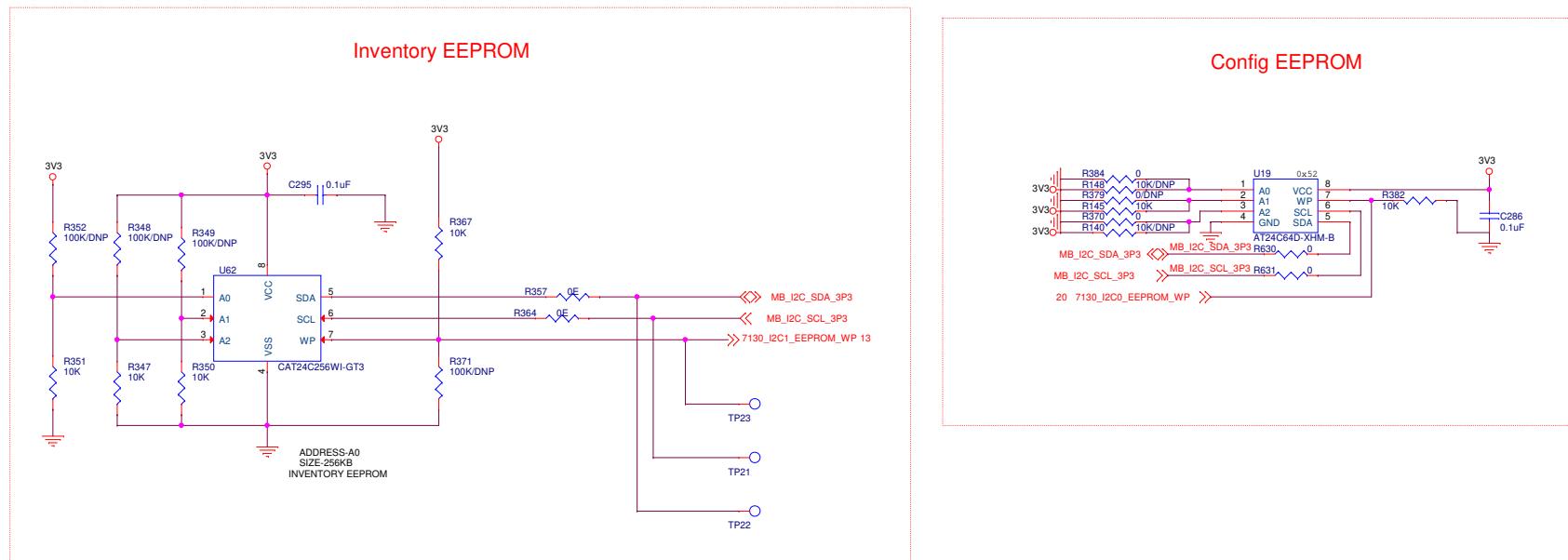
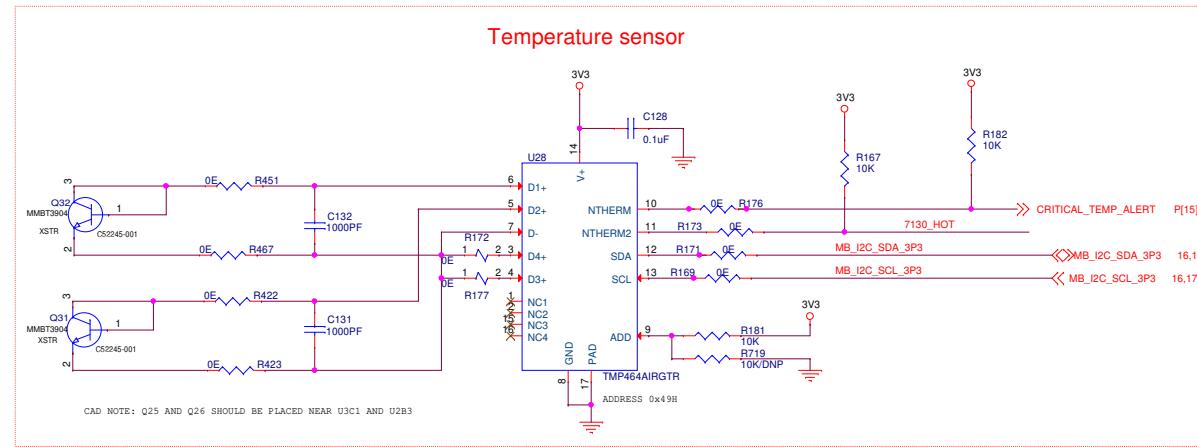
1V5 Buck converter

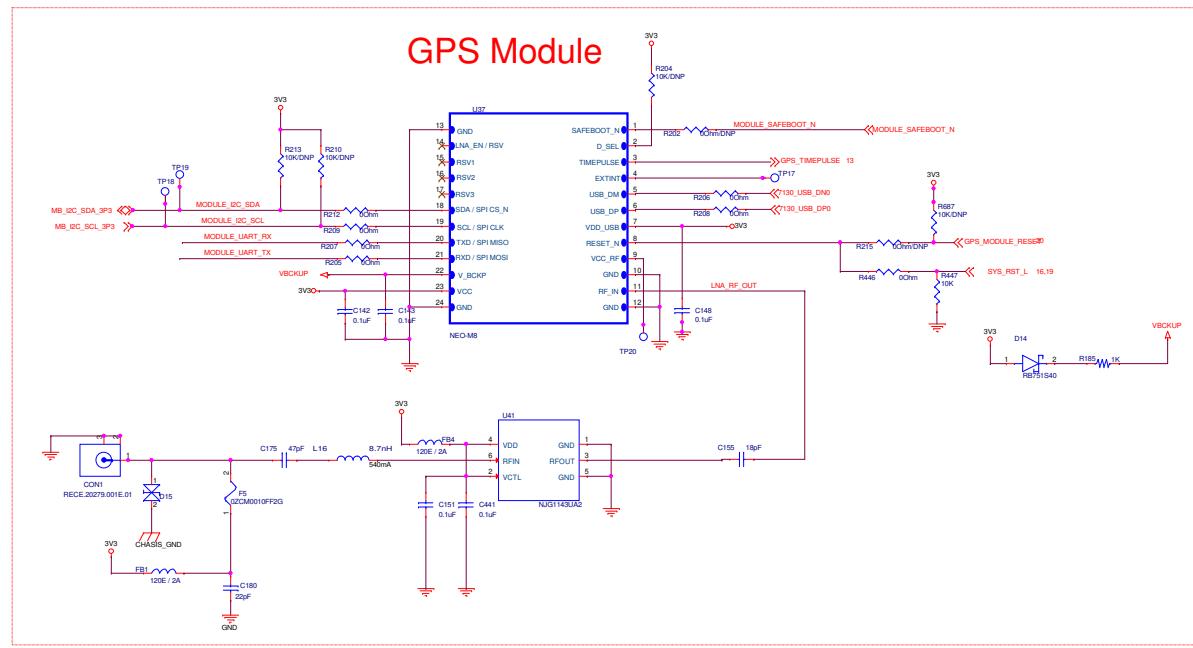
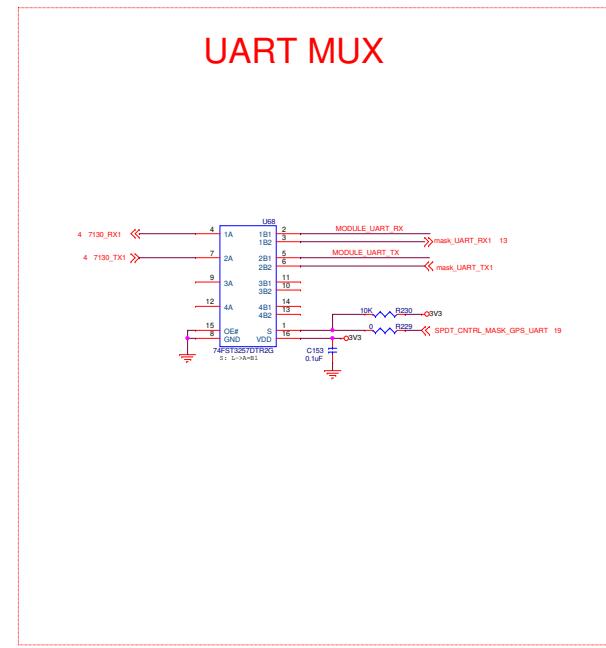
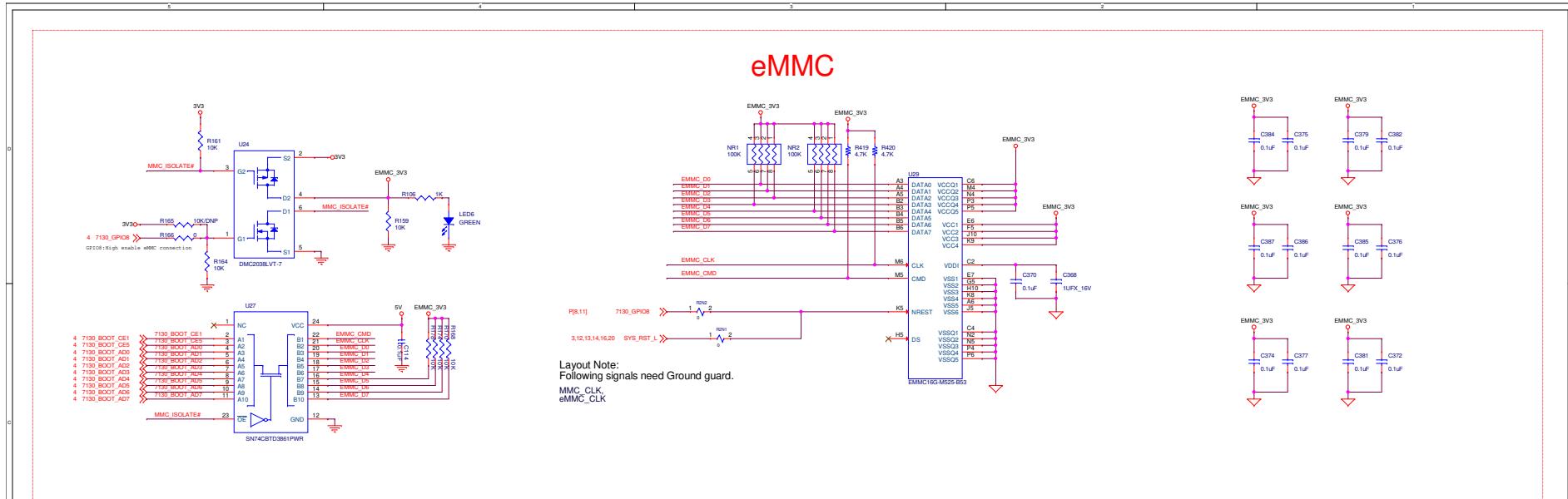


Ethernet Switch LEDs

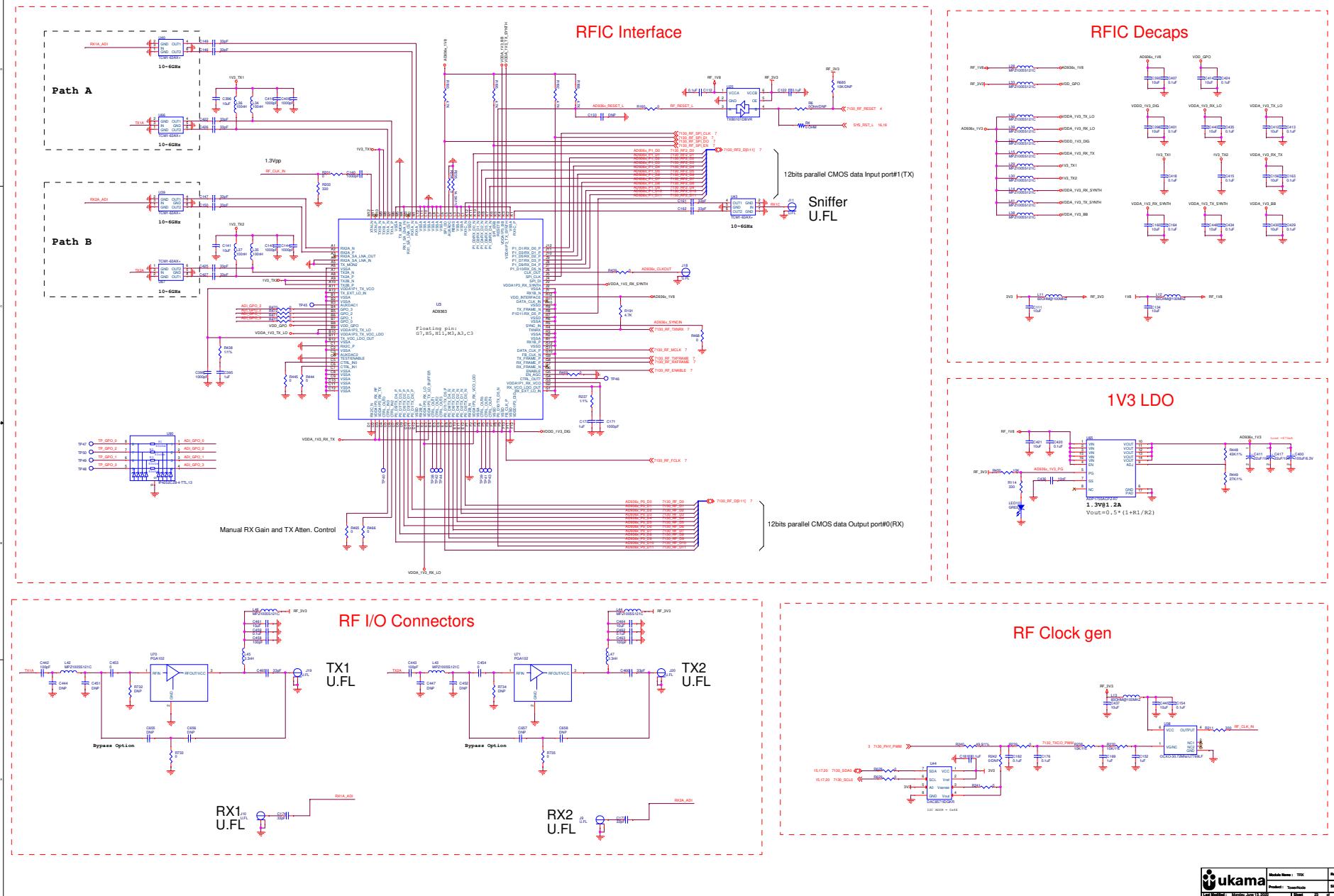


# Temperature Sensor & EEPROMs

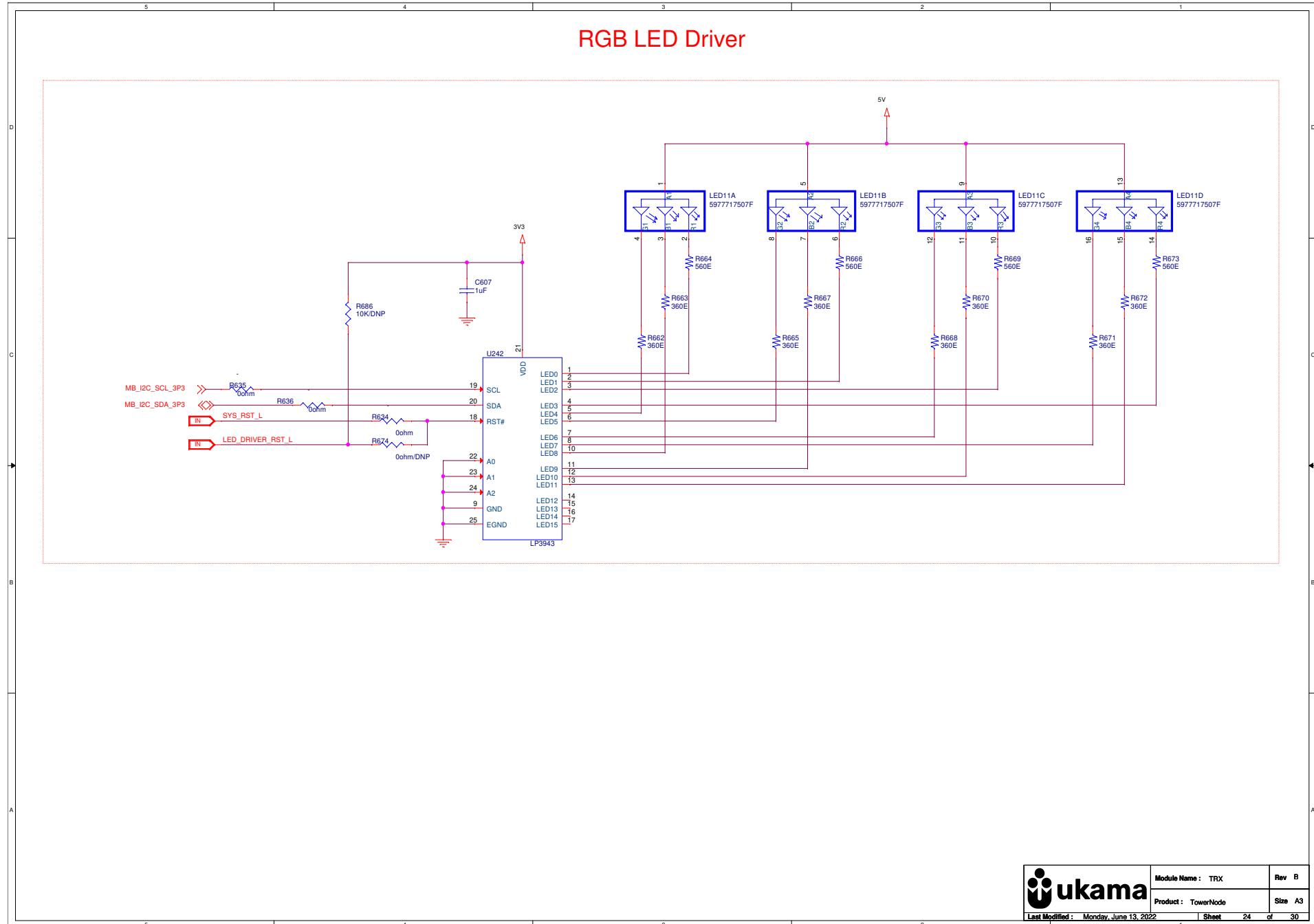




# RFIC Interface & Power

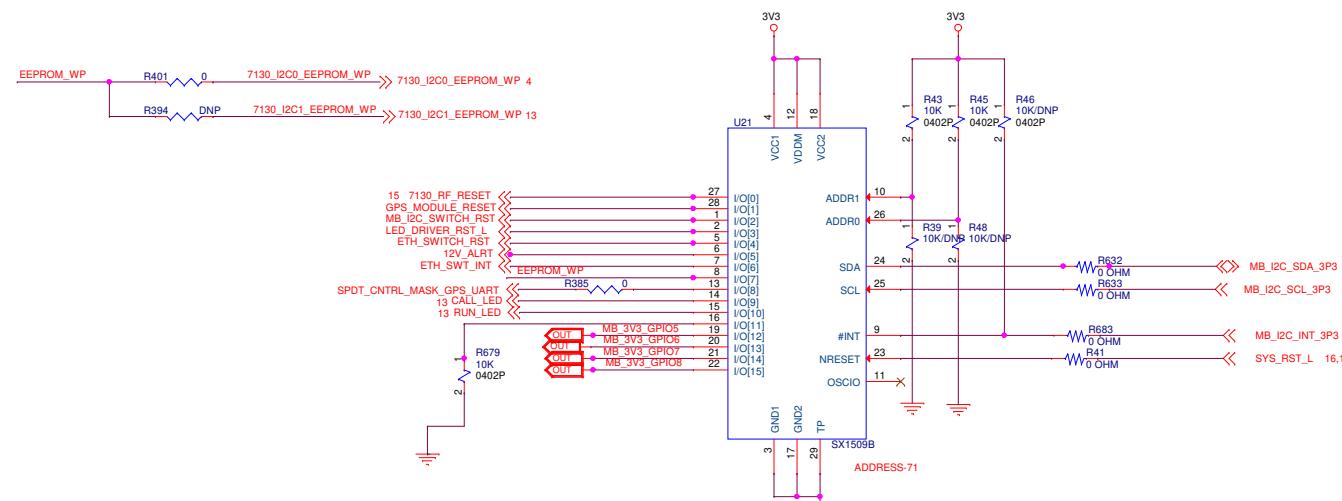


# RGB LED Driver

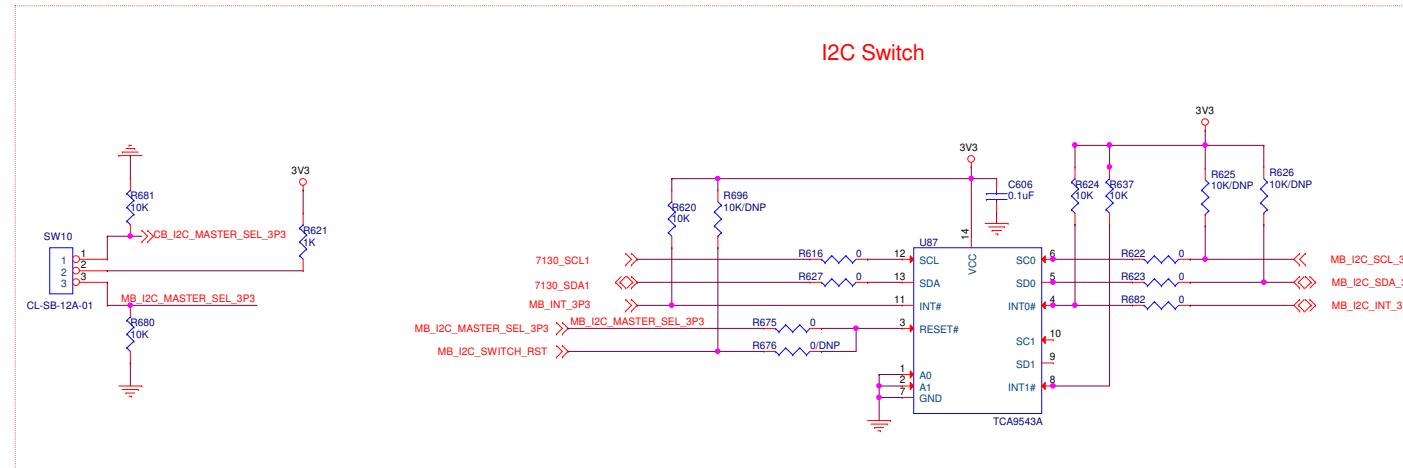


# I/O Expander & I2C Switch

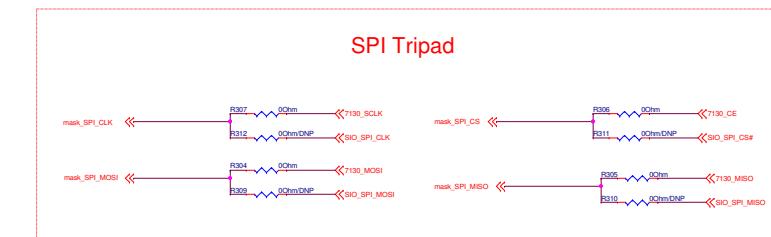
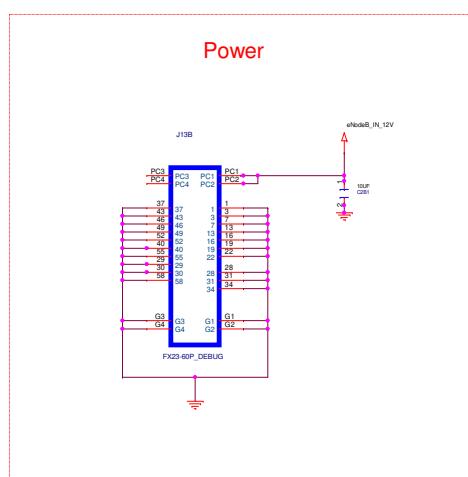
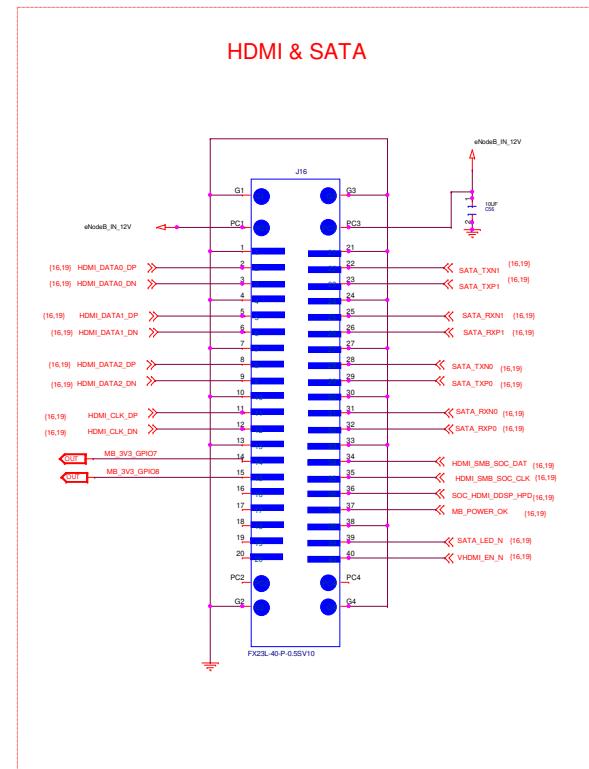
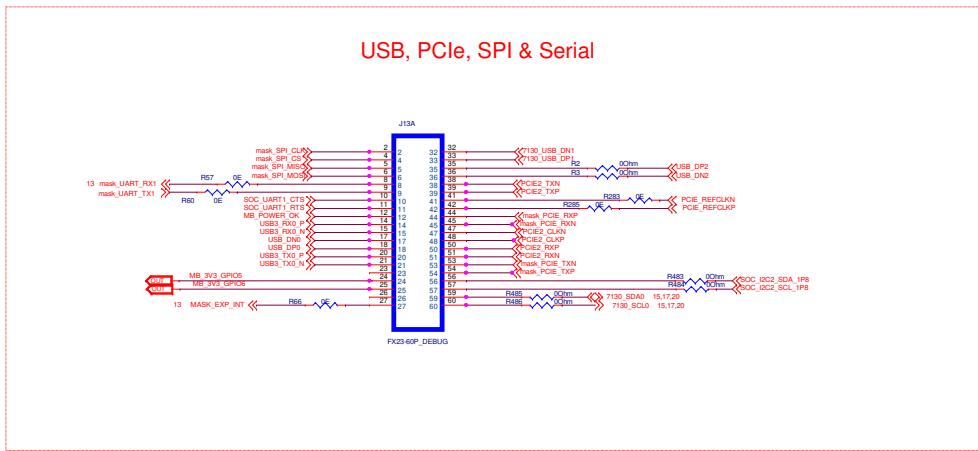
## I2C - GPIO Expander



## I2C Switch

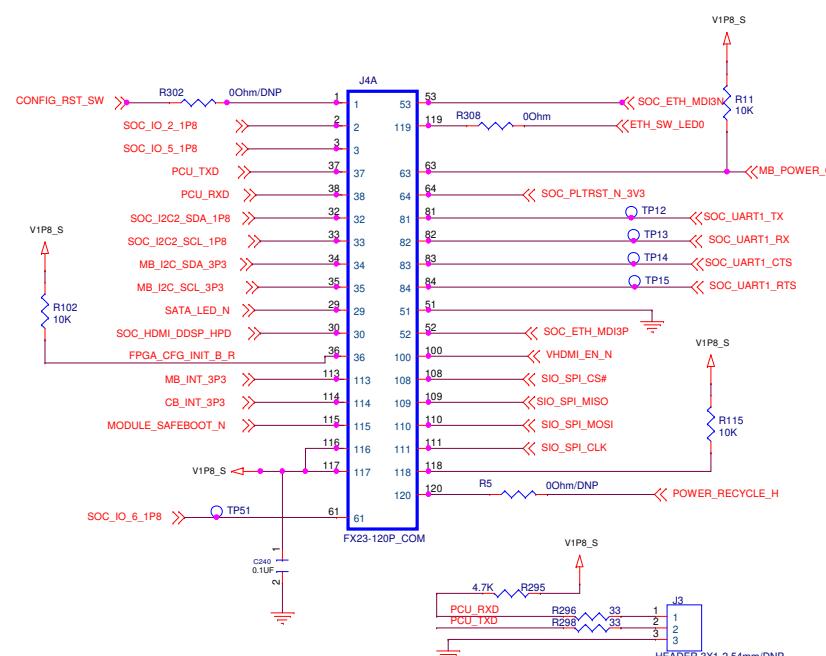


# Mask module Connector



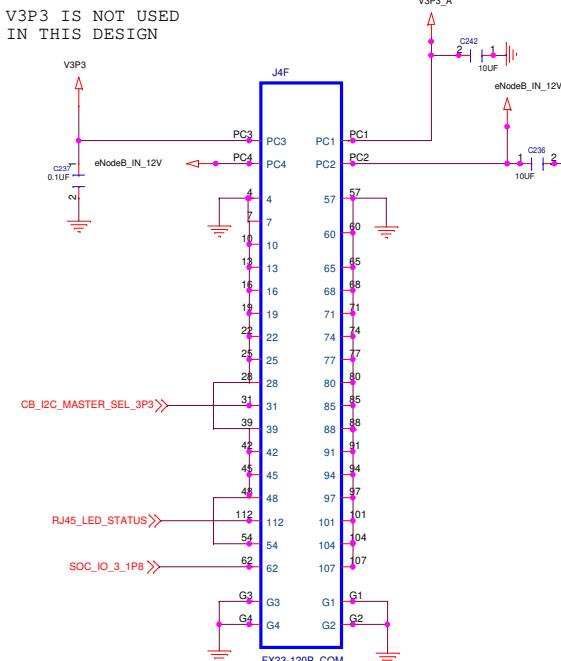
# Comm module connector -1

## GPIO, I2C, UART



## Power & Ground

NOTE: V3P3 IS NOT USED IN THIS DESIGN



## GPIO Level translators

