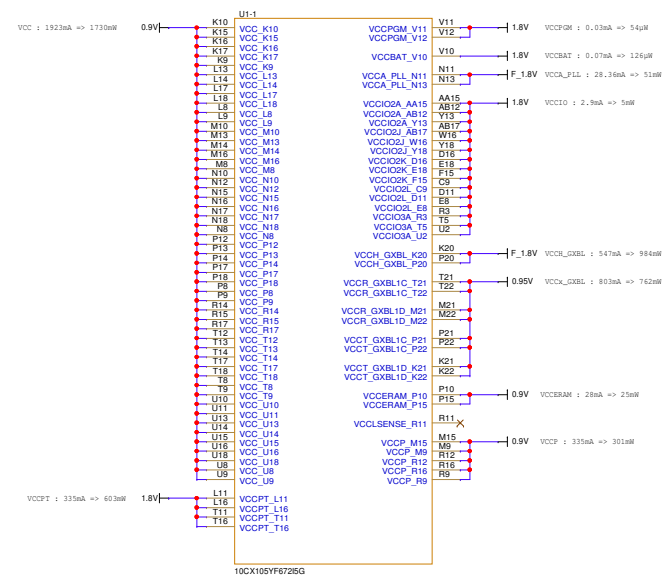
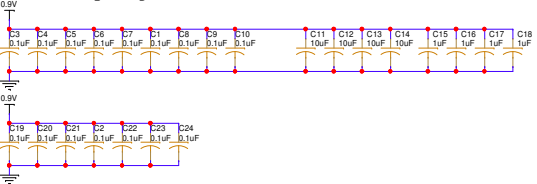


<div>&lt;Variant Name&gt;</div> <div>orolia</div>		
Title		
OVERVIEW		
Size	Document Number	Rev
A2	ART_CARD	4
Date:		
Friday, December 03, 2021		
FILE NAME	ART_CARD	Sheet 1 of 7

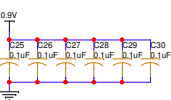
## FPGA POWER SUPPLY



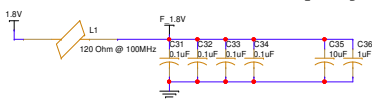
## VCC Decoupling



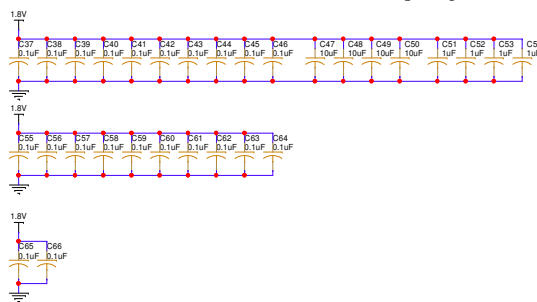
## VCCP and VCCERAM Decoupling



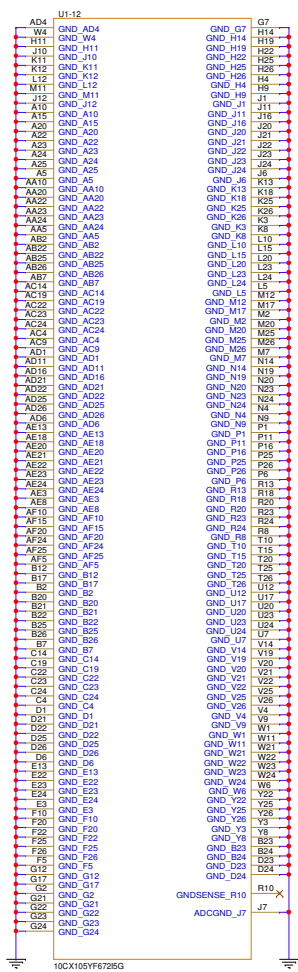
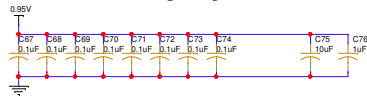
## VCCA\_PLL and VCCH\_GXBL Decoupling



## VCCPT, VCCPGM, VCCBAT and VCCIO Decoupling



## VCCR/VCCT Decoupling



Title			FPGA POWER		
Size	Document Number				Rev
A2	ART_CARD				4
Date:	Friday, December 03, 2021				
FILE NAME	ART_CARD		Sheet	2	of 7

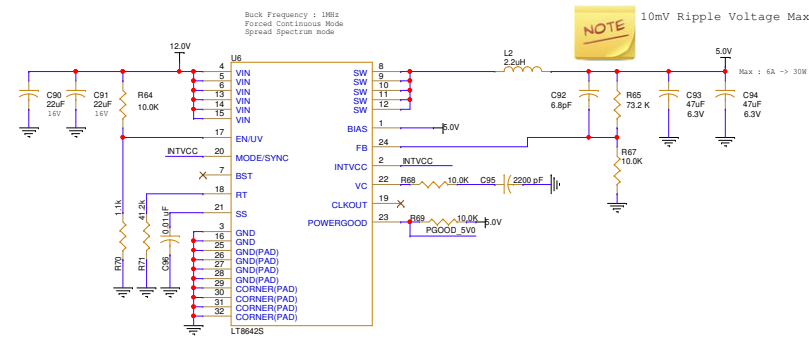
The schematic diagram illustrates the internal architecture of an FPGA, showing various functional blocks and their interconnections. Key components include:

- Logic Blocks:** Numerous logic gates (AND, OR, XOR, NAND, NOR, XNOR), multiplexers (MUX), and flip-flops (D, JK, SR) are distributed across the top and middle sections.
- Peripheral Components:**
  - EEPROM:** Located at the bottom left, it includes an EEPROM\_SCL, EEPROM\_SDA, and EEPROM\_WP pins.
  - JTAG:** Located at the bottom center, it includes JTAG\_TCK, JTAG\_TMS, JTAG\_TDI, and JTAG\_TDO pins.
  - Clocks:** Located at the bottom right, it includes CLK\_25M, CLK\_USR, and CLK\_100MHz pins.
- Signal Paths:** Various signal paths are shown, including data buses (e.g., D0-D15), control signals (e.g., CS, RD, WR), and status signals (e.g., DONE, ERROR).
- Power and Ground:** Power supply pins (e.g., VCC, GND) and ground connections are shown throughout the diagram.

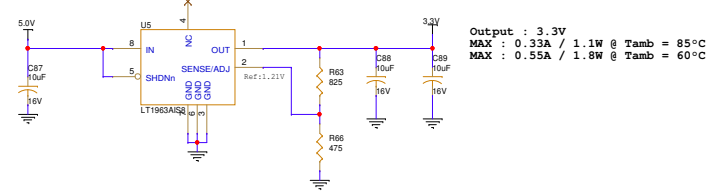
The diagram is a detailed representation of the FPGA's internal structure, showing the complex interconnections between the various functional blocks and peripheral components.

POWER NEED : FPGA : OCKO : Comp : TOTAL  
on 12V : : : 7500 : : 7500 mW  
on 11V\_ANA : : : : 80 : 80 mW  
on 5.0V : : : : 350 : 350 mW  
on 3.3V : : : : 243 : 243 mW  
on 1.8V : : : : 61 : 1704 mW  
on 0.95V : : : : 762 : 762 mW  
on 0.9V : : : : 2056 : 2056 mW  
-> 12695 mW

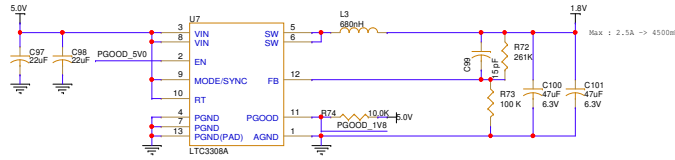
12V to 5V Switch Converter



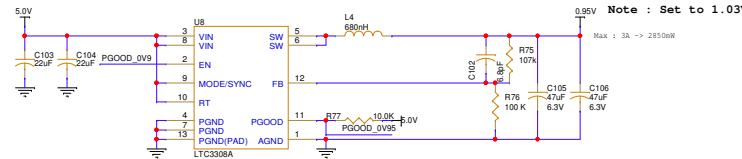
5V to 3.3V LDO Converter



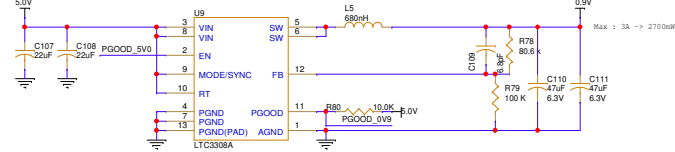
5V to 1.8V Switch Converter



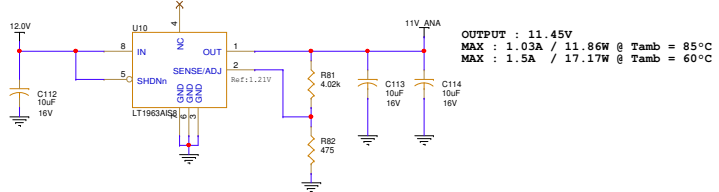
5V to 0.95V Switch Converter



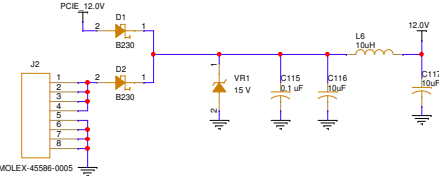
5V to 0.9V Switch Converter



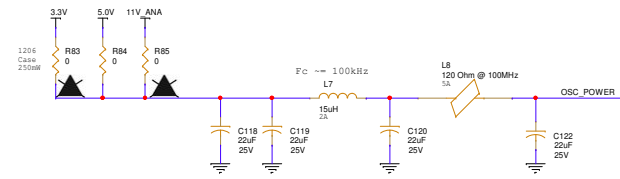
ANALOG POWER SUPPLY



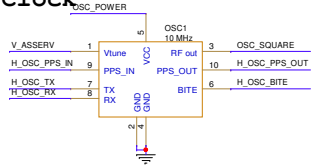
POWER CONNECTOR



OSCILLATOR POWER SUPPLY

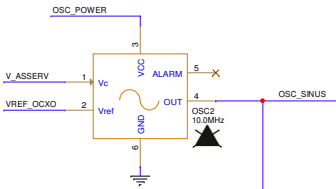


MiniRubidium  
Miniature Atomic Clock

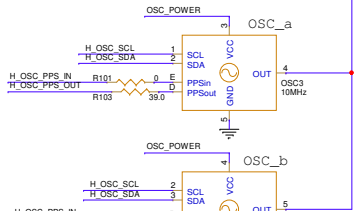


OCXO

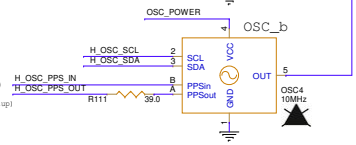
EuroPack OCXO  
36x27mm  
Power : 3W (nom.) to 6W (Startup)



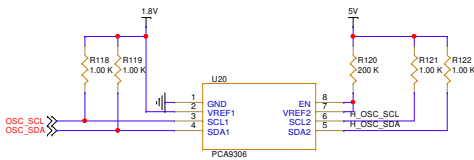
38x27mm NCOCXO  
Power : 1W (nom.) to 2W (Startup)



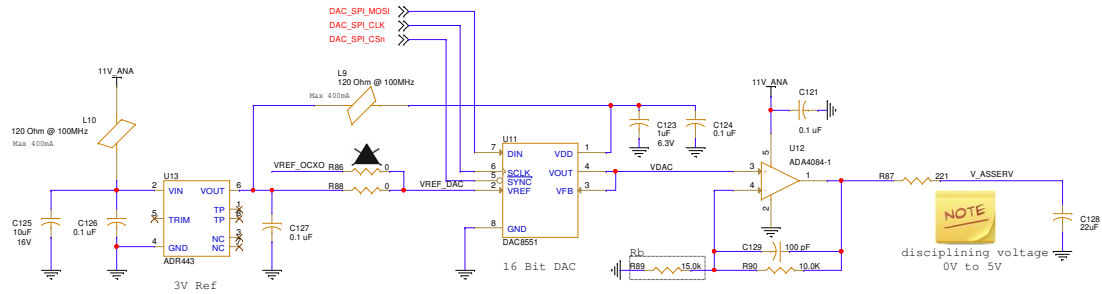
52x42mm NCOCXO  
Power : 3W (nom.) to 7.5W (Startup)



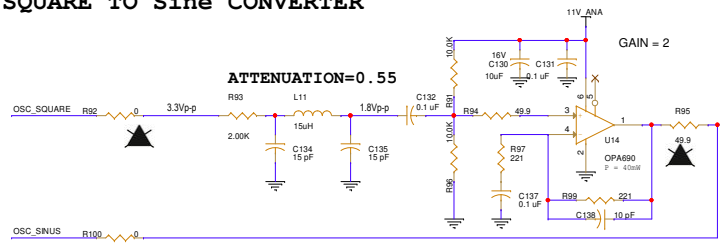
I2C VOLTAGE-LEVEL TRANSLATOR



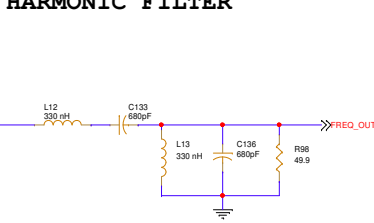
OSCILLATOR CONTROL VOLTAGE



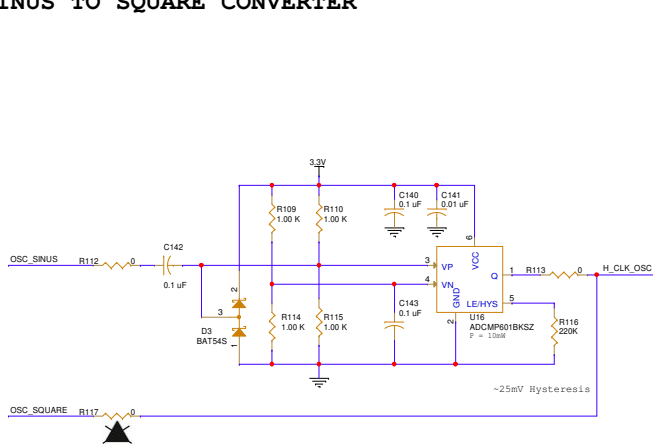
SQUARE TO Sine CONVERTER



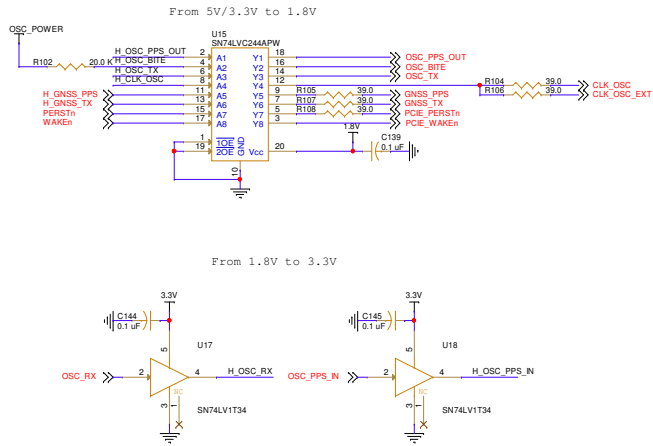
HARMONIC FILTER



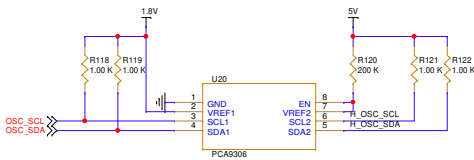
SINUS TO SQUARE CONVERTER



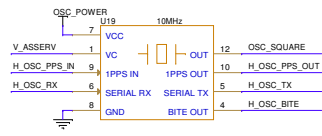
LOGIC VOLTAGE-LEVEL TRANSLATOR



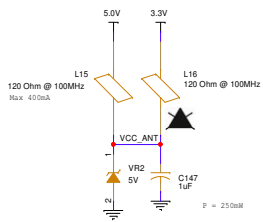
I2C VOLTAGE-LEVEL TRANSLATOR



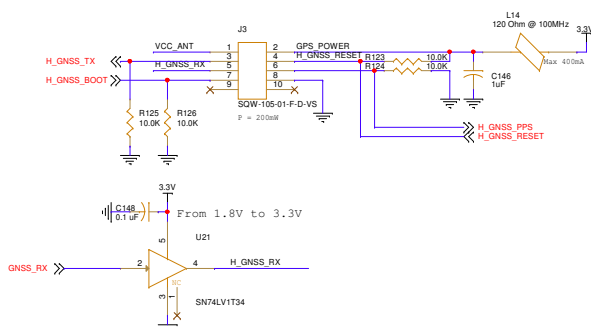
Chip Scale Atomic Clock



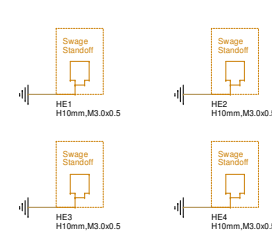
## ANTENNA POWER SUPPLY



## GNSS RECEIVER



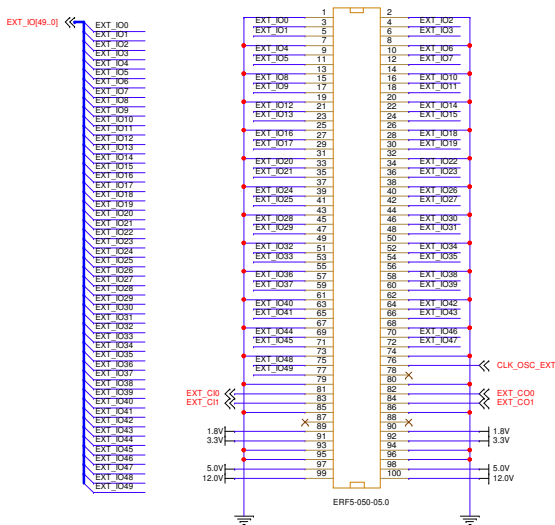
## GNSS STANDOFF



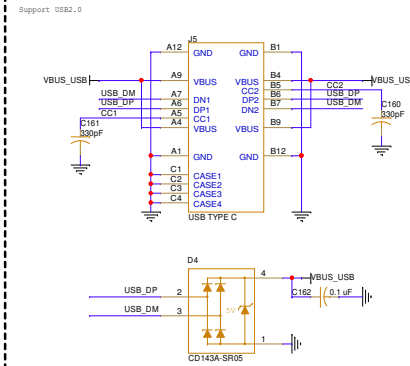
## BRACKET HOLES



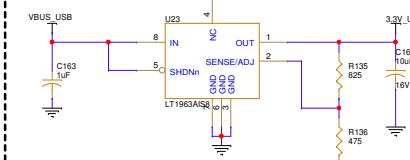
## EXTENSION CONNECTOR



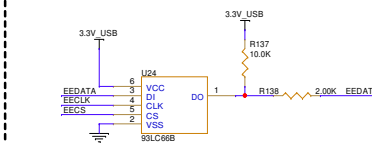
## USB-C CONNECTOR



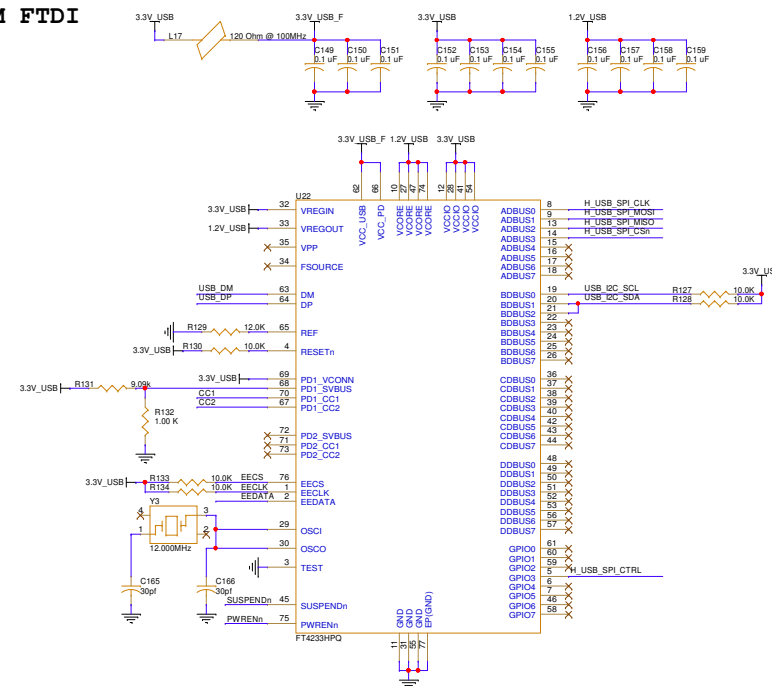
## USB SELF-POWERED



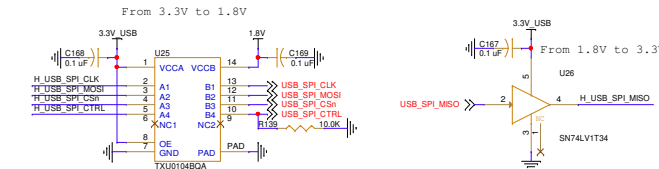
## EEPROM FTDI



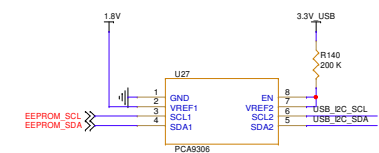
## EEPROM FTDI



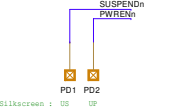
## SPI VOLTAGE-LEVEL TRANSLATOR



## I2C VOLTAGE-LEVEL TRANSLATOR



## TEST POINTS



Title		
GNSS - EXTENSION		
Size	Document Number	Rev
A2	ART_CARD	4
Date:	Friday, December 03, 2021	
FILE NAME	ART_CARD	Sheet 6 of 7



