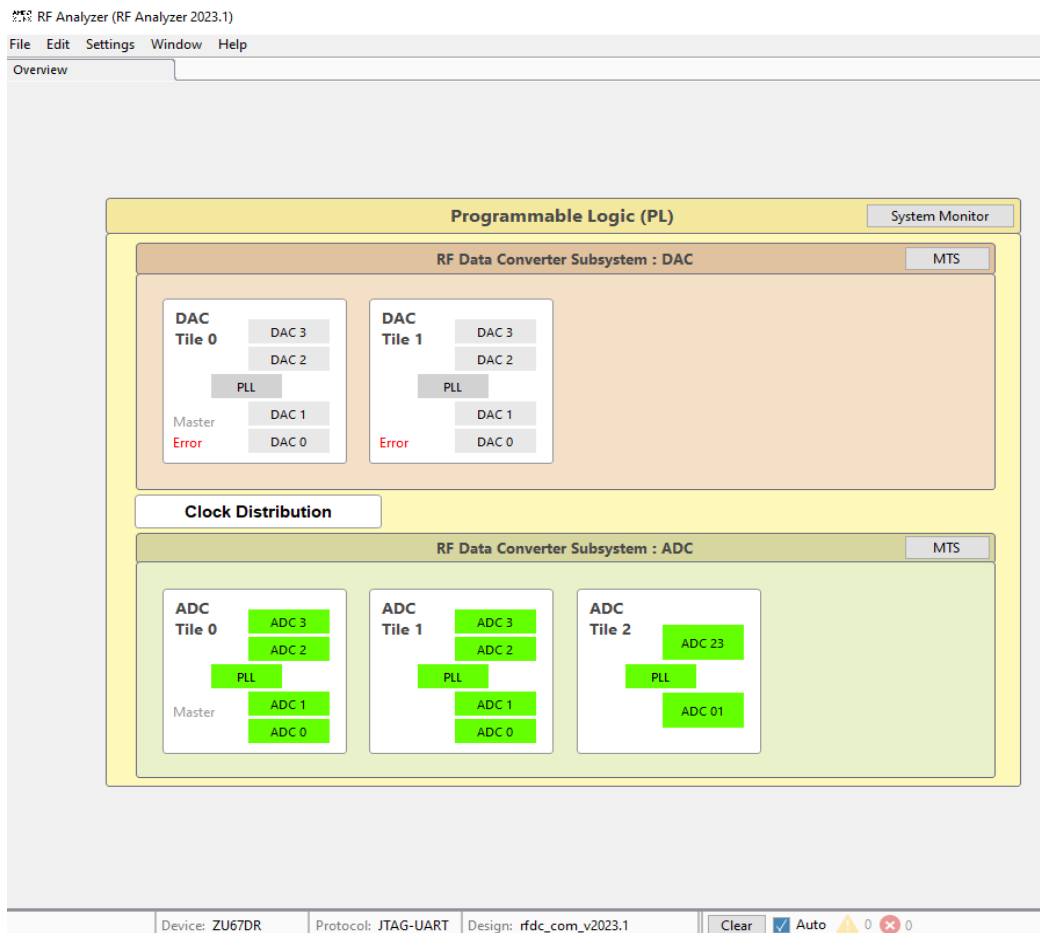


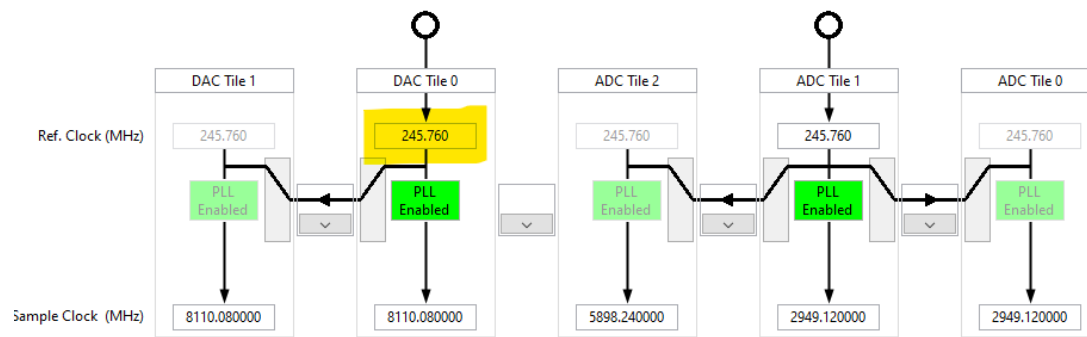
## INITIAL STEPS

- Connect zcu670 to usb port on pc and turn on (black and red switch near microUSB connection)
- Open RF analyzer and connect to local server (target is on local machine). ZCU670 should show up under hardware.
- Click on the yellow folder icon near bitstream path to select bitstream. You want RF\_Analyzer\_67DR\_32\_mA.bit and click "Download Bitstream"
- Select xzcu67dr in the hardware window. Click "select target" next to the bitstream path.



this is what you should be seeing at this point.

- Notice there are errors on the two DACs. That's because the clocks are configured incorrectly. Click the "Clock Distribution" button to open the clock settings for the DAC/ADCs.
- Change the clock value of DAC tile to match the ADC tiles. It should be 245.760. Hit "Apply."



Tile	Sample Clock (MHz)	PLL	Ref. Clock (MHz)	Source Tile	Distribute Clock
DAC Tile 1	8110.080000	<input checked="" type="checkbox"/>	245.760	DAC Tile 0	None
DAC Tile 0	8110.080000	<input checked="" type="checkbox"/>	245.760	DAC Tile 0	Input Ref. Clock
ADC Tile 2	5898.240000	<input checked="" type="checkbox"/>	245.760	ADC Tile 1	None
ADC Tile 1	2949.120000	<input checked="" type="checkbox"/>	245.760	ADC Tile 1	Input Ref. Clock
ADC Tile 0	2949.120000	<input checked="" type="checkbox"/>	245.760	ADC Tile 1	None

correct DAC clock values

## HARDWARE SETUP

- Follow the Xilinx procedure for board connections.
- Depending what DAC/ADCs you want to test, connect it accordingly.

Four DAC blocks (DAC 0, DAC 1, DAC 2, DAC 3) and a PLL block. Each DAC block shows VOUT\_P, VOUT\_N, and VOP (31.98 mA) connections. The PLL block shows a frequency of 8110.080 MHz.

## XILINX

### DAC Tile 0 - DAC 0

● Enable
Interrupts
Master Tile

#### RF Converter Settings

DataPath IMR low pass  
Nyquist Zone Zone 1

Decoder Mode SNR Optimized  
Current 31.981 mA  
☐ VCM

#### Interpolation Settings

Interpolation 2x

#### Mixer Settings

Digital Input I/Q  
Type Fine  
Mode I/Q to Real  
Frequency 0.000000 MHz  
Phase Init +0.0000 °  
Mixer Scale Auto

#### Power Management

PowerMode ☒  
DisableIPControl ☐

#### QMC Settings

Enable Gain ☐  
Gain 0.00000 Inf dBV  
Enable Phase ☐  
Phase Mismatch +0.0000 °  
Offset 0 LSB

#### Inverse Sinc Settings

Mode Disabled

✕ Crossbar
↺ Refresh
Apply
Generation ➔

In our case since we were transmitting at higher frequency, we selected Nyquist Zone to be 2 (unlike the photo).