**********Draft**********

# Using GTKWave to display the CVS from the rp2040-logic-analyzer
# 05/10/22

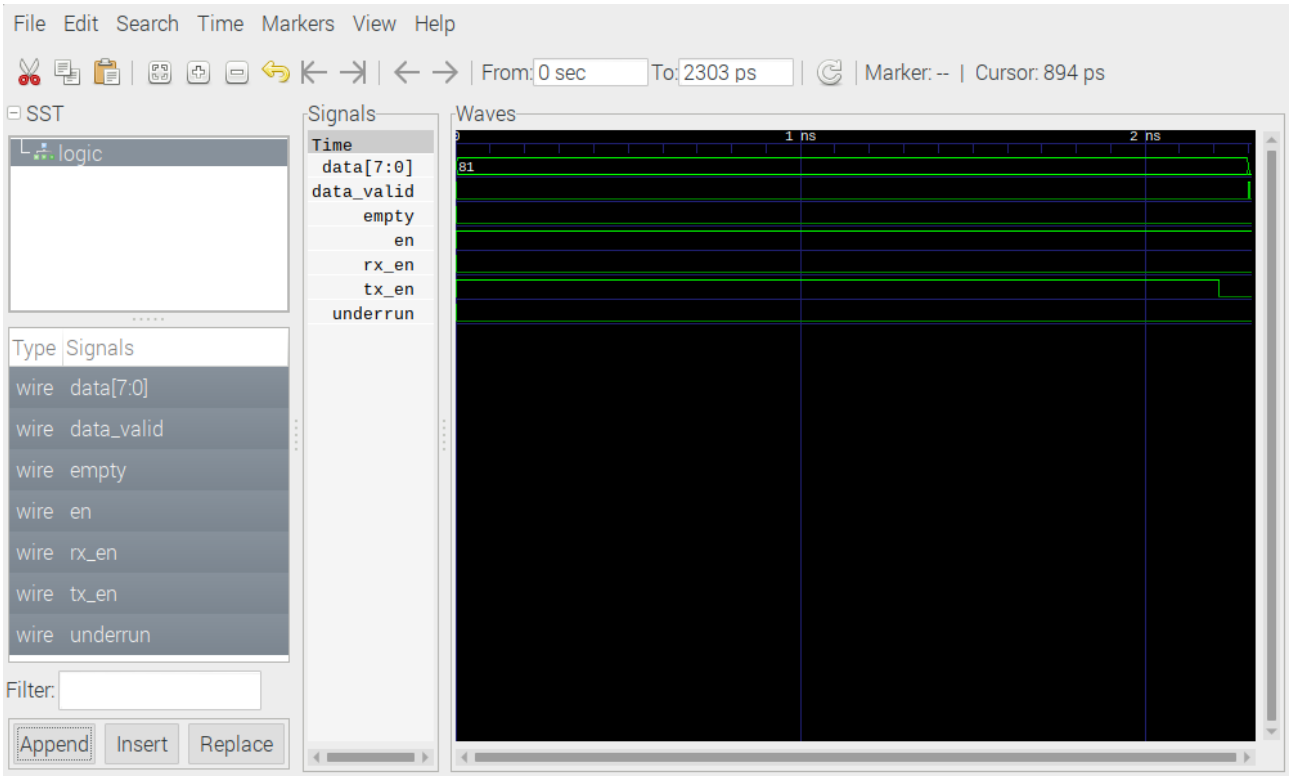
**********Draft**********

Need to reformat the data from pwm.txt
wc pwm.txt
 27801  27808 472625 pwm.txt
g
Clock speed is  125000000
Capture speed is 1000000.000000.2
Arming trigger
0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,1,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,1,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,1,0,0,0,0,0,1,
.
.
.

0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,1,0,0,0,0,0,1,
0,1,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,1,0,0,0,0,0,1,
0,1,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,
0,0,0,0,0,0,0,1,

downloaded an vcd example from https://en.m.wikipedia.org/wiki/Value_change_dump
to test.vcd

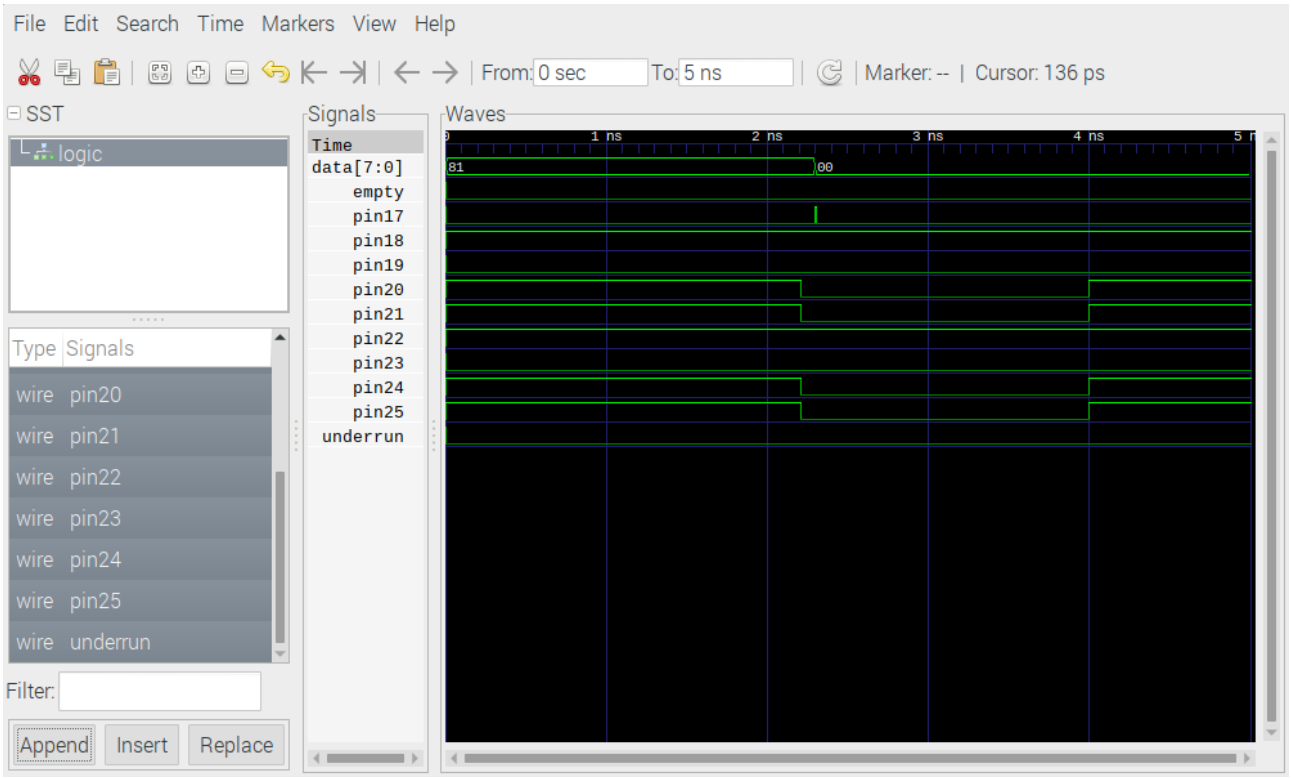
gtkwave test.vcd




Made some changes to file an saved as test1.vcd

```
13,16c13,21
<  $var wire 1 $ data_valid $end
<  $var wire 1 % en $end
<  $var wire 1 & rx_en $end
<  $var wire 1 ' tx_en $end
---
>  $var wire 1 $ pin17 $end
>  $var wire 1 % pin18 $end
>  $var wire 1 & pin19 $end
>  $var wire 1 ' pin20 $end
>  $var wire 1 ' pin21 $end
>  $var wire 1 % pin22 $end
>  $var wire 1 & pin23 $end
>  $var wire 1 ' pin24 $end
>  $var wire 1 ' pin25 $end
46c51,55
<
---
>  #4000
>  1'
>  #4010
>  0$
>  #5000
```

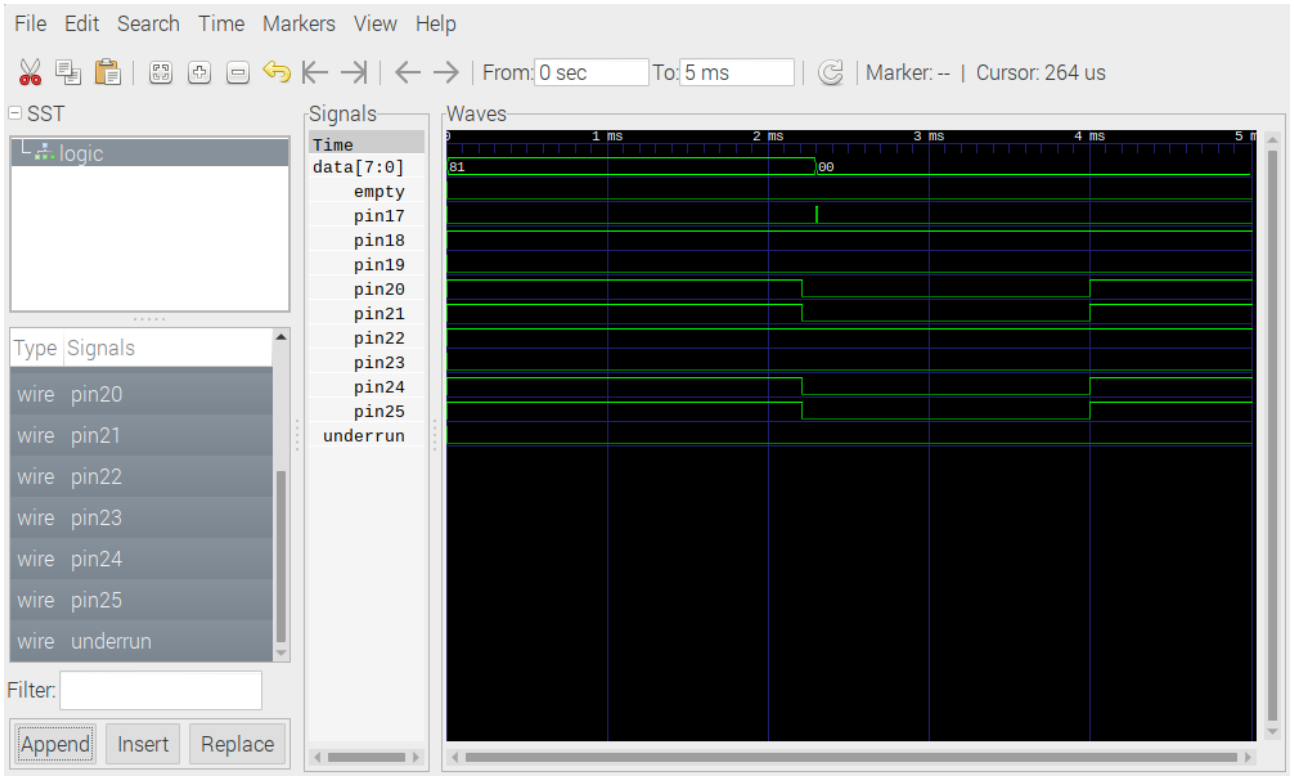
gtkwave test1.vcd




Change the timescale

< $timescale 1ps $end
---
> $timescale 1us $end

gtkwave test2.vcd


File Edit Search Time Markers View Help
From: 0 sec
To: 5 ms
Marker: --
Cursor: 264 us
SST
logic
Type Signals
wire pin20
wire pin21
wire pin22
wire pin23
wire pin24
wire pin25
wire underrun
Filter:
Append
Insert
Replace
Signals
Time
data[7:0]
empty
pin17
pin18
pin19
pin20
pin21
pin22
pin23
pin24
pin25
underrun
Waves
1 ms
2 ms
3 ms
4 ms
81
00