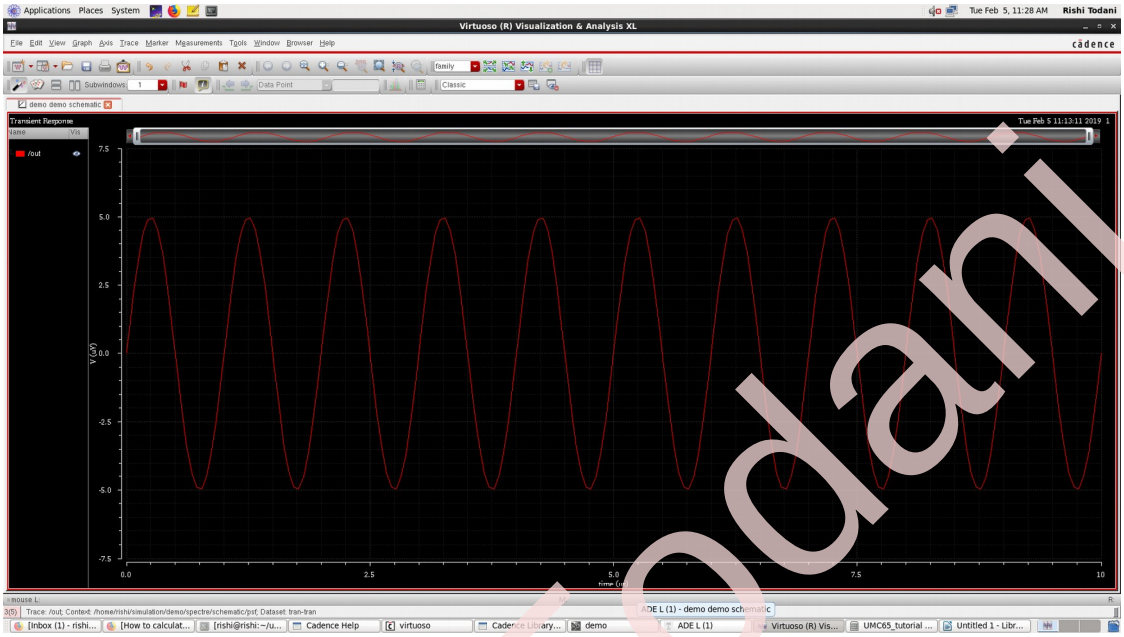
SMDP C2SD VLSI LAB – NIT DURGAPUR

THD Calculation

THD can be calculated from transient response. First plot output waveform. Remove any DC level by subtracting its average value and clip any transient which may be present in the first few cycles.



In the waveform window, select the wave and on the top menu bar, click
Measurement > Spectrum
A spectrum window opens alongside the wave

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In the spectrum window, the wave name should appear in the Signal/Expression Name tab.

Here wave name “out” is shown as example.

IN the above example, the frequency of sine wave shown is 1Mhz, i.e. 10us time period.

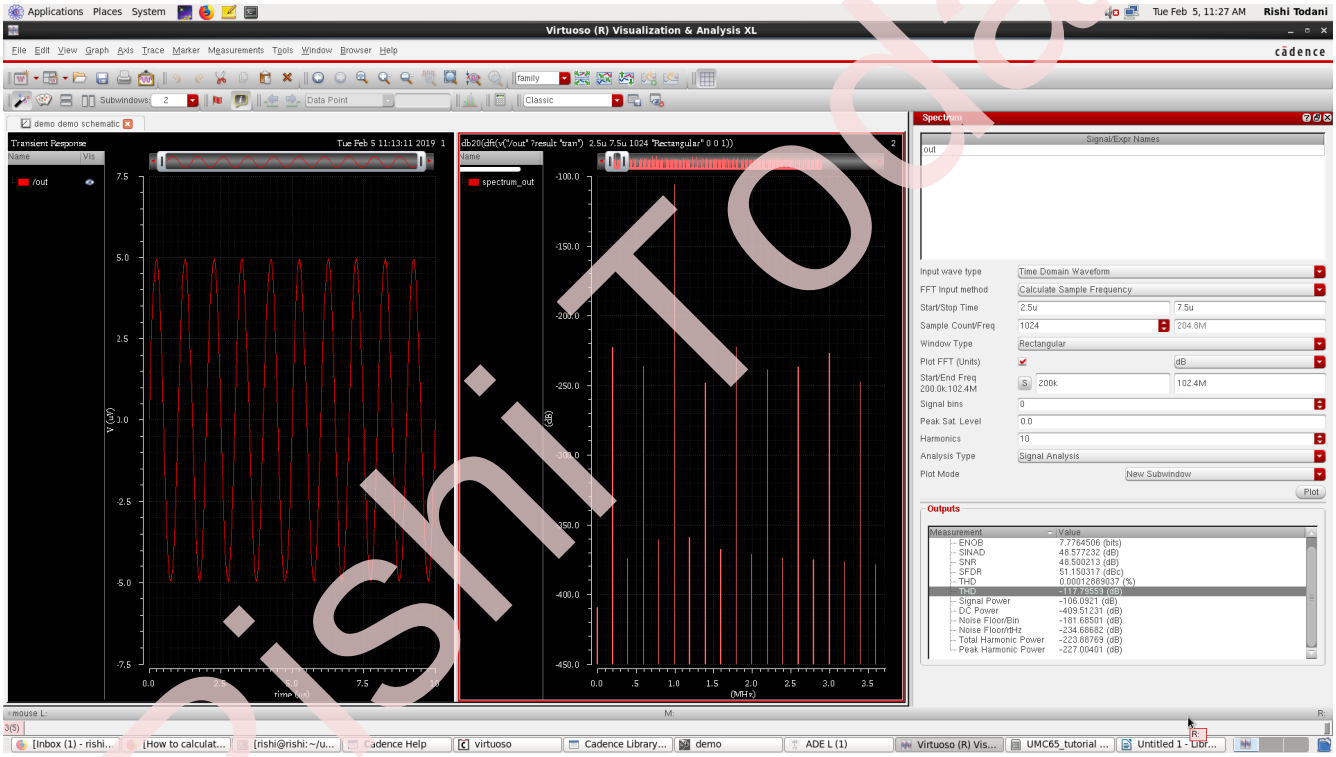
In start stop time we enter suitable timestamps to accommodate around 5 full cycles.

Here 2.5us to 7.5us

The start and end frequncy can be entered as suggested by the tool

No. oh Harmonics = 10

setup other options as suggested in below image and click on Plot



The values of THD in % and in dB is shown in the Outputs tab on bottom right.

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