**sov06-d6c89c**

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Task 6.30.21

1. Frequency response of the circuit
2. Time domain response when we feed a signal of 10MHz, 5MHz, 1MHz rectangular shape or Square wave
3. Compare those response with the measurements
4. If it works the prof will provide some measured data or we will measure some dada with real device
5. and observe how the measurement will change while not using the filter

Task 7.13.21

* As we are using chock so we have to use all the 4 pins and no pins should be kept empty or grounded that is why we can part the circuit into common mode part and differential mode part so that we can also measure the common mode current and differential mode current
* Capacitor value should be high
* Circuit simulation should not be on EM simulator based it should be normal simulation. Because EM simulator will not show more inside of the entire simulation as frequency is low, it does not give details
* Time domain response must be showed…
* Write 2 or 3 pages summary about frequency domain simulation and time domain simulation as we have S parameter and also write some suggestions like setup how I would like to measure that.

1)What is the difference between Circuit Simulation and EM(ElectroMagnetic)Simulation

Circuit simulation is based on many small blockes, and signal flow is only through the drawn connections between the blocks. Inside a block, there might be some coupling included (e.g. model for two coupled lines) but there is no other coupling between the blocks. If you have two blocks with a single line, the coupling between the lines is not included. The signal between blocks is only through the connections (wires) that you draw between the blocks.

2) When we are going for EM simulation

We can use circuit models for simple layout elements (line, tee, cross, ...)

We use EM when coupling between blocks is important, or where we have no good models for complex layouts.

3) What is the use of EM Simulation

EM gives accurate S-parameters for any layout, with no need for a circuit model.

4) Can we do EM simulation for circuit contains both passive and active elements

5) Why can't we do EM simulation, if circuit contains both passive and active elements

Technically, the EM simulation is only done on the layout. This results in S-parameters for the layout without devices. The devices are then connected at the ports and the overall circuit is simulated.

6) Why we go EM simulation, if circuit contains only MLIN's and passive components

We use EM when coupling between blocks is important, or where we have no good models for complex layouts, or where we have extreme geometries outside the model range. EM gives accurate S-parameters for any layout, with no need for a circuit model.