**Verification of PI3L720 IBIS model**

1. **Introduction:**

To verify the correlation between the ibis model and hspice model, we need to do some simulations:

**Add a 50Ω resistance between signals and INPUT PINs.**

1. The frequency of signal is **250MHz**:

vin1 a00 0 pulse ( 3 0 0 .1n .1n 1.9n 4n)

vin2 a10 0 pulse ( 0 3 0 .1n .1n 1.9n 4n)

1. Add **50Ω** pull-down resistor and **50pF** pull-down capacitance to the output;
2. Add **500Ω** pull-down resistor and **without** pull-down capacitance to the output;
3. Add **500Ω** pull-down resistor and **50pF** pull-down capacitance to the output;
4. The frequency of signal is **50MHz**:

vin1 a00 0 pulse ( 3 0 0 .1n .1n 9.9n 20n)

vin2 a10 0 pulse ( 0 3 0 .1n .1n 9.9n 20n)

1. Add **50Ω** pull-down resistor and **50pF** pull-down capacitance to the output;
2. Add **500Ω** pull-down resistor and **without** pull-down capacitance to the output;
3. Add **500Ω** pull-down resistor and **50pF** pull-down capacitance to the output;
4. **Conclusion:**
5. For SWITCH1, the simulation results of IBIS model can match very well with the HSPICE model at different load conditions.

1. **Simulation Result:**

PI3L720

**OUTP**

**SCL\_C**

**SDA\_C**

**OUTN**

**SCL\_C**

**SDA\_C**

R

**SCL\_C**

**SDA\_C**

R

**SCL\_C**

**SDA\_C**

50Ω

**SCL\_C**

**SDA\_C**

a0n

**SCL\_C**

**SDA\_C**

C

**SCL\_C**

**SDA\_C**

C

**SCL\_C**

**SDA\_C**

**Differential Signals**

**SCL\_C**

**SDA\_C**

**Output**

**SCL\_C**

**SDA\_C**

50Ω

**SCL\_C**

**SDA\_C**

a0p

**SCL\_C**

**SDA\_C**

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b0n

**SCL\_C**

**SDA\_C**

b0p

**SCL\_C**

**SDA\_C**

a00

**SCL\_C**

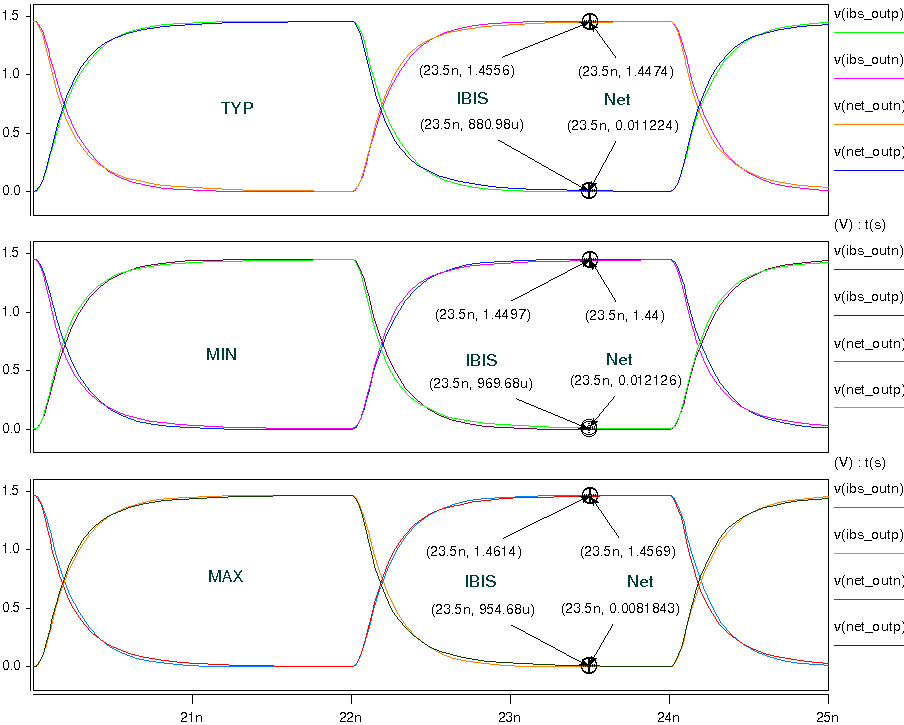
**SDA\_C**

a01

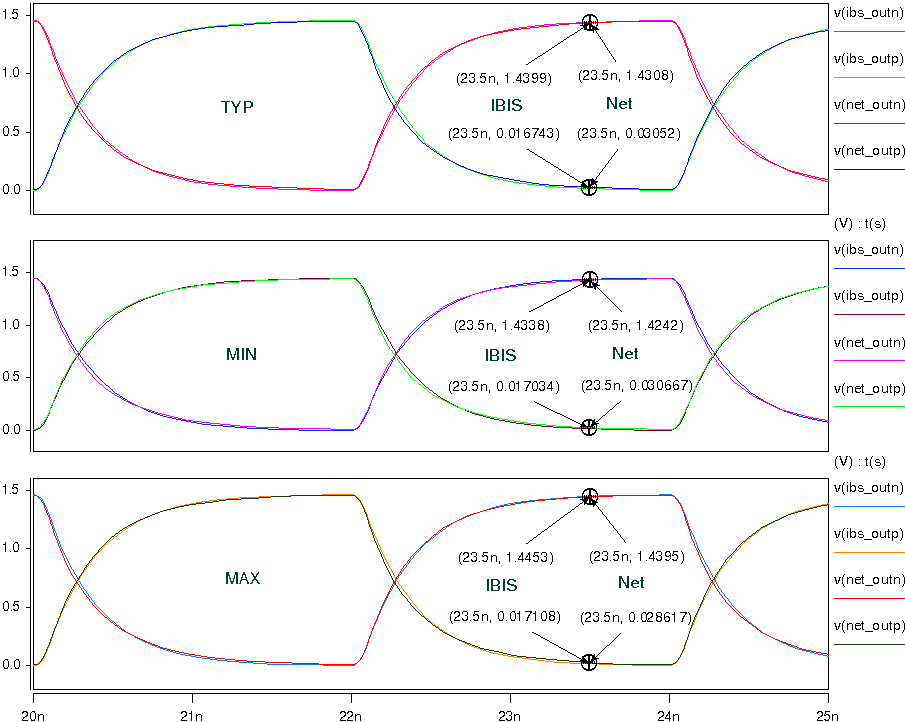
**SCL\_C**

**SDA\_C**

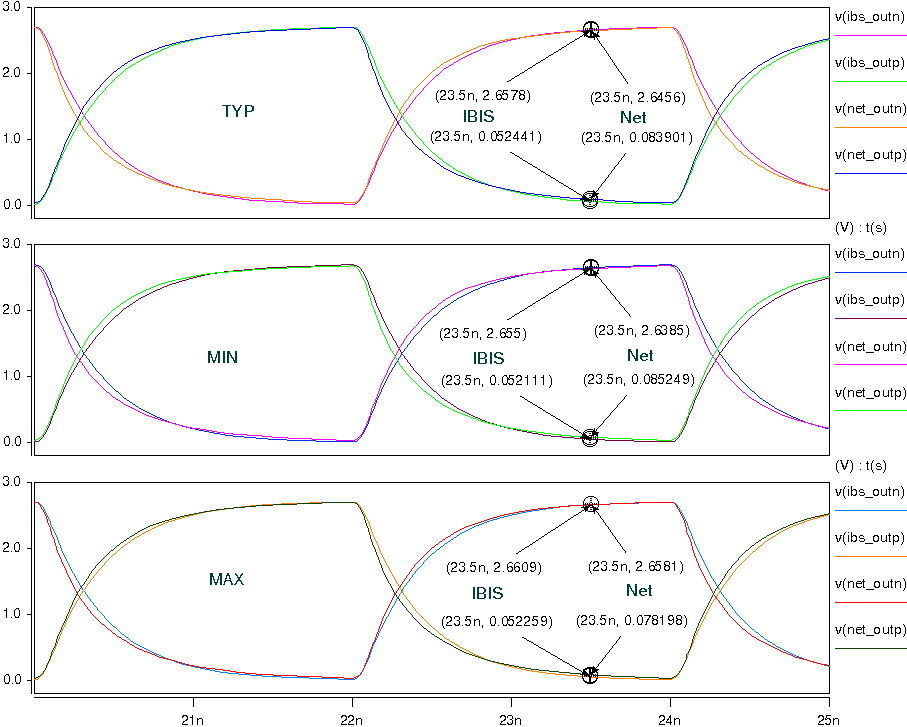
1. The frequency of inputs is **250MHz**:
2. Add **50Ω** pull-down resistor and **without** pull-down capacitance to the output;



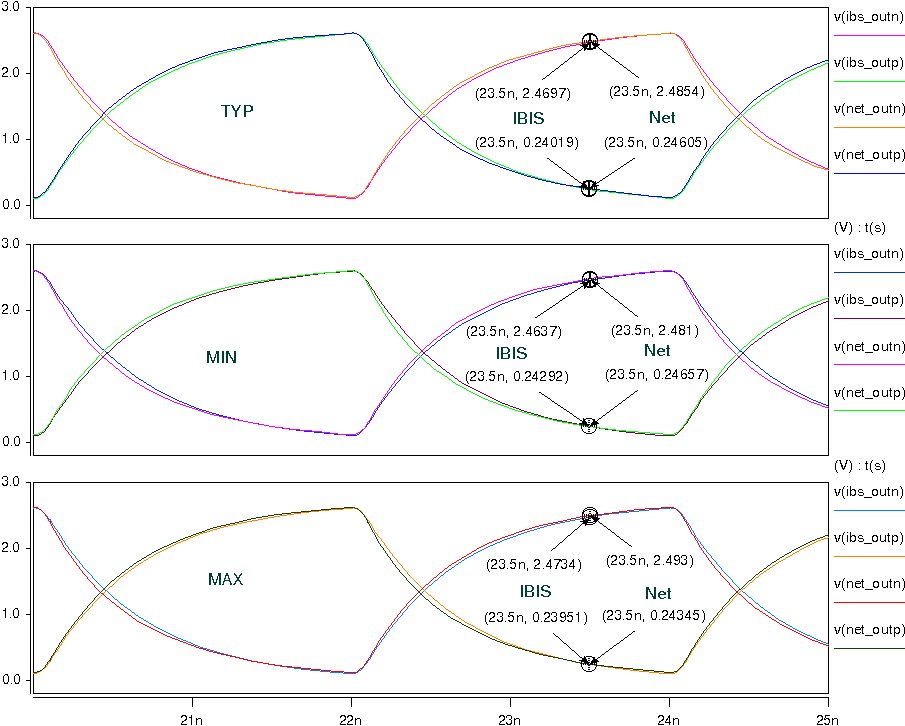
1. Add **50Ω** pull-down resistor and **5pF** pull-down capacitance to the output;



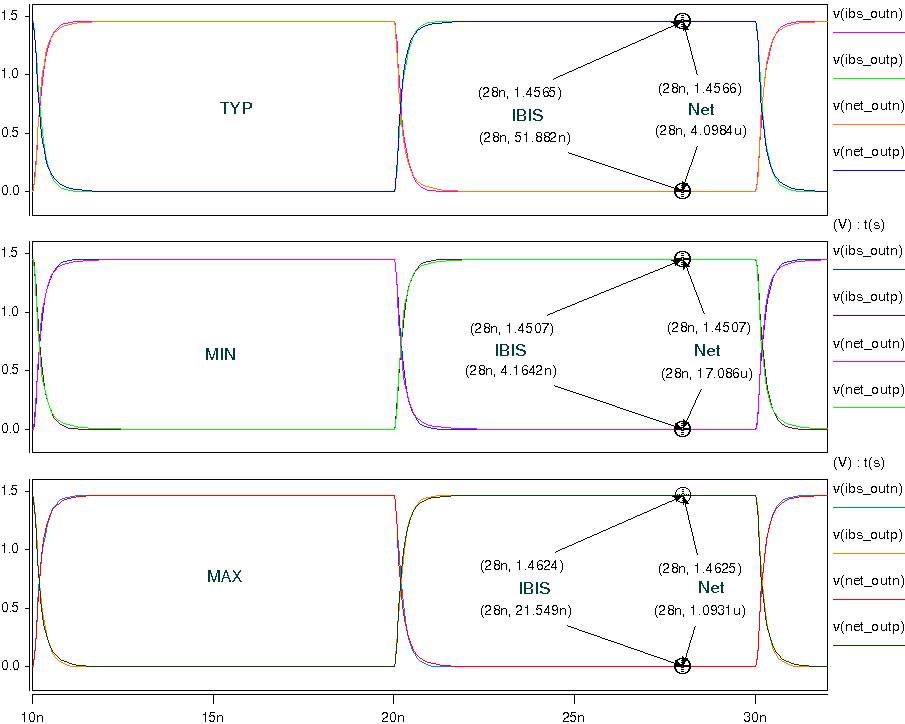
1. Add **500Ω** pull-down resistor and **without** pull-down capacitance to the output;



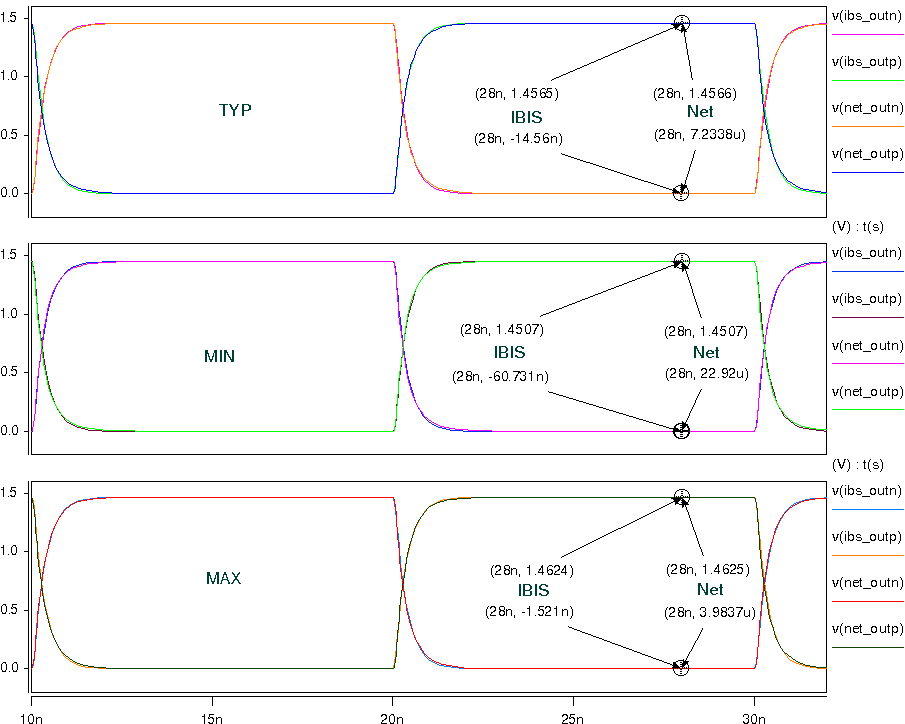
1. Add **500Ω** pull-down resistor and **5pF** pull-down capacitance to the output;



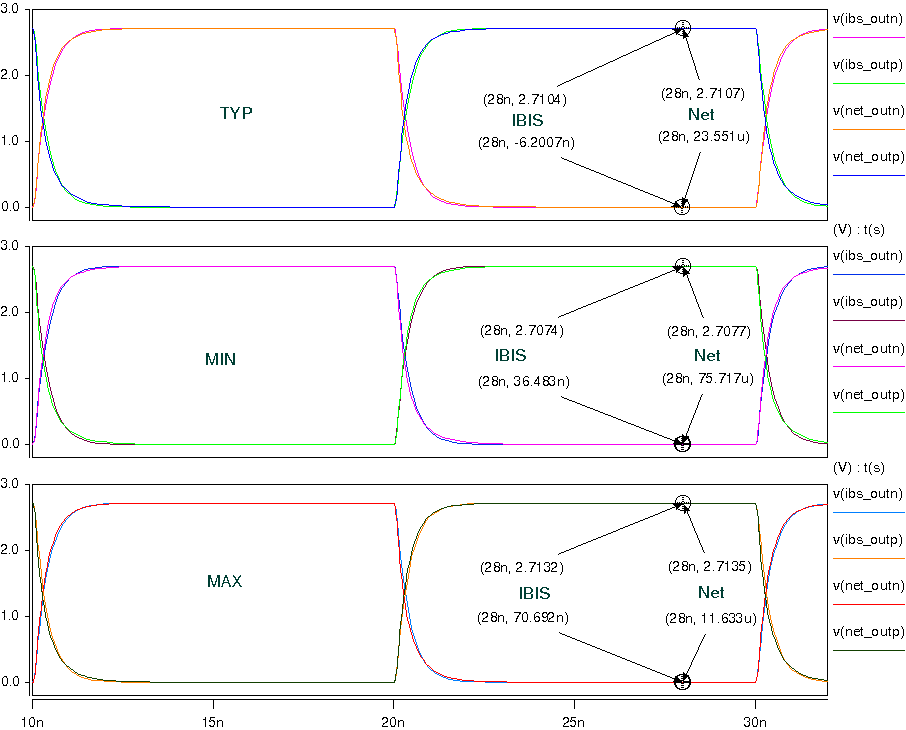
1. The frequency of inputs is **50MHz**:
2. Add **50Ω** pull-down resistor and **without** pull-down capacitance to the output;



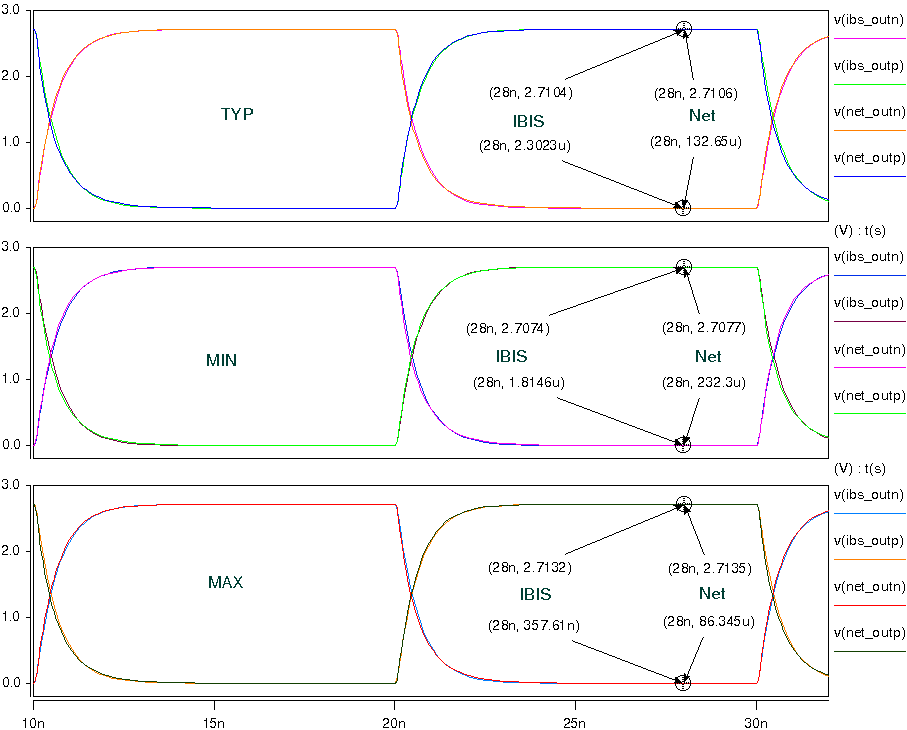
1. Add **50Ω** pull-down resistor and **50pF** pull-down capacitance to the output;



1. Add **500Ω** pull-down resistor and **without** pull-down capacitance to the output;



1. Add **500Ω** pull-down resistor and **5pF** pull-down capacitance to the output;

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