**IBIS model verification of PI4ULS5V106**

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

**The frequency of input signal is 62.5MHz, clamp=1:**

vin in 0 pulse 0 pwr 0 1n 1n 79n 160n

1. **Netlist simulation V.S. IBIS simulation on A-side:**

PI4ULS5V106

**VOUT**

**SCL\_C**

**SDA\_C**

**Input Signals**

**SCL\_C**

**SDA\_C**

**VIN**

**SCL\_C**

**SDA\_C**

A1

**SCL\_C**

**SDA\_C**

B1

**SCL\_C**

**SDA\_C**

**…..**

**SCL\_C**

**SDA\_C**

VREFA

**SCL\_C**

**SDA\_C**

R=145Ohm

**SCL\_C**

**SDA\_C**

1. VREFB=1.8V, VREFA=0.95V
2. Simulation **without** package data;
3. Simulation **with** package data.
4. VREFB=3.3V, VREFA=1.8V
5. Simulation **without** package data;
6. Simulation **with** package data.
7. **Netlist simulation V.S.IBIS simulation on B-side:**

PI4ULS5V106

**VOUT**

**SCL\_C**

**SDA\_C**

**Input Signals**

**SCL\_C**

**SDA\_C**

**VIN**

**SCL\_C**

**SDA\_C**

B1

**SCL\_C**

**SDA\_C**

A1

**SCL\_C**

**SDA\_C**

**…..**

**SCL\_C**

**SDA\_C**

VREFB

**SCL\_C**

**SDA\_C**

R=465Ohm

**SCL\_C**

**SDA\_C**

1. VREFA=0.95V, VREFB=1.8V
2. Simulation **without** package data;
3. Simulation **with** package data.
4. VREFA=1.8V, VREFB=3.3V
5. Simulation **without** package data;
6. Simulation **with** package data.
7. **Conclusion:**

For the verification, the simulation results of IBIS model can match very well with the HSPICE model at above simulating conditions.

1. **Simulation waveform on A-side:**
2. VREFB=1.8V, VREFA=0.95V
3. Simulation **without** package data;



1. Simulation **with** package data.



1. VREFB=3.3V, VREFA=1.8V
2. Simulation **without** package data;



1. Simulation **with** package data.



1. **Simulation waveform on b-side:**
2. VREFA=0.95V, VREFB=1.8V
3. Simulation **without** package data;



1. Simulation **with** package data.



1. VREFA=1.8V, VREFB=3.3V
2. Simulation **without** package data;



1. Simulation **with** package data.

