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RESULT

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Area:

- Total Area = 114.881um x 894.774um = 102792.155um^2

|--- Mat Area = 57.440um x 111.847um = 6424.510um^2 (31.598%)

|--- Subarray Area = 28.720um x 51.568um = 1481.040um^2 (34.267%)

- Area Efficiency = 31.598%

Timing:

- Read Latency = 3.407ns

|--- H-Tree Latency = 361.162ps

|--- Mat Latency = 3.046ns

|--- Predecoder Latency = 194.830ps

|--- Subarray Latency = 2.851ns

|--- Row Decoder Latency = 208.904ps

|--- Bitline Latency = 35.803ps

|--- Senseamp Latency = 1.454ns

|--- Mux Latency = 75.472ps

|--- Precharge Latency = 1.410ns

- Write Latency = 21.855ns

|--- H-Tree Latency = 180.581ps

|--- Mat Latency = 21.675ns

|--- Predecoder Latency = 194.830ps

|--- Subarray Latency = 21.480ns

|--- Row Decoder Latency = 208.904ps

|--- Charge Latency = 96.881ps

- Read Bandwidth = 3.948GB/s

- Write Bandwidth = 744.882MB/s

Power:

- Read Dynamic Energy = 105.772pJ

|--- H-Tree Dynamic Energy = 24.225pJ

|--- Mat Dynamic Energy = 10.193pJ per mat

|--- Predecoder Dynamic Energy = 0.046pJ

|--- Subarray Dynamic Energy = 2.537pJ per active subarray

|--- Row Decoder Dynamic Energy = 0.045pJ

|--- Mux Decoder Dynamic Energy = 1.678pJ

|--- Bitline & Cell Read Energy = 0.002pJ

|--- Senseamp Dynamic Energy = 0.601pJ

|--- Mux Dynamic Energy = 0.024pJ

|--- Precharge Dynamic Energy = 0.186pJ

- Write Dynamic Energy = 187.673pJ

|--- H-Tree Dynamic Energy = 24.225pJ

|--- Mat Dynamic Energy = 20.431pJ per mat

|--- Predecoder Dynamic Energy = 0.046pJ

|--- Subarray Dynamic Energy = 5.096pJ per active subarray

|--- Row Decoder Dynamic Energy = 0.045pJ

|--- Mux Decoder Dynamic Energy = 1.678pJ

|--- Mux Dynamic Energy = 0.024pJ

- Leakage Power = 61.128uW

|--- H-Tree Leakage Power = 0.000pW

|--- Mat Leakage Power = 3.820uW per mat

Finished!

Parsing

Important line capture

Capture number

Capture unit

Convert from unit to standard unit

Energy and latency – seconds and joules

Area = Mm^2

Power = mW

Write to csv

Add in report why pcram does not work with nvsim – [in appendix] [screenshot]

Comparison code vs destiny

Explain that I edited 22nm up to 90nm in cfg and cell def file but that did not change the results

For the 3D comparison only do destiny and this file

sample\_3D\_RRAM.cfg

Change to 22nm