



## FAQ / Application Note

**Subject : AMD processors APP (Adjusted Peak Performance)**

**FAQ Document No: H09010**

**Date: 2009/05/14**

**Model Name. ECM-3512,ECM-LX800,EMB-9655,ESM-2545**

**Rev. A1**

**Category:** General H/W S/W Others, 寫小分類

**Purpose :**

**Got AMD processors APP (Adjusted Peak Performance) value from AMD release FAQ-227**



AMD ECSD Technical Support Site

### Question:

Created on **03/12/2007**

**What is the Adjusted Peak Performance for AMD Geode™ processors, excluding the AMD Geode NX?**

### Answer:

Adjusted Peak Performance from the Wikipedia site:

The (simplified) algorithm used to calculate APP consists of the following steps:

- \* Determine how many 64-bit (or better) floating point operations every processor in the system can perform per clock cycle (best case). This is FPO(i).
- \* Determine the clock frequency of every processor. This is F(i).
- \* Choose the weighting factor for each processor: 0.9 for vector processors and 0.3 for non-vector processors. This is W(i).
- \* Calculate the APP for the system as follows:

$$APP = FPO(1) * F(1) * W(1) + \dots + FPO(n) * F(n) * W(n).$$

The unit of measurement is Weighted TeraFLOPS (WT).

Notes:

- \* Processors without 64-bit (or better) floating point support have an FPO of zero.
- \* The current APP limit is 0.75 WT.
- \* Use the document, <http://www.gpo.gov/bis/ear/txt/ccl4.txt>, (or an

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updated version) if you need to calculate APP for export purposes.

It holds more details and a number of clarifications and exceptions. Also consult a lawyer who specializes in these things.

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All AMD Geode™ processors (excluding the NX) can execute 64-bit floating point instructions in a average of 6 clocks.

All AMD Geode processors are also non-vector processors.

This makes the equation very simple.

APP(AMD Geode processors) = (CPU core MHz) times (0.3) divided by 6 divided by 1,000,000.

- APP (GX1, SCx200, GX, LX)@266MHz = .000013 WT**
- APP (GX1, SCx200, GX, LX)@300MHz = .000015 WT**
- APP (GX1, SCx200, GX, LX)@333MHz = .000017 WT**
- APP (GX1, SCx200, GX, LX)@400MHz = .000020 WT**
- APP (GX1, SCx200, GX, LX)@500MHz = .000025 WT**
- APP (GX1, SCx200, GX, LX)@600MHz = .000030 WT**

The AMD Geode processors are all very far from the 0.75 WT current APP limit.

Systems engineering work to quantify the exact 64-bit floating point instructions per clock result has not been done.

However, the AMD Geode processors cannot execute them at a rate faster the 1 per clock. So the results provided are absolute best case.

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