ADD Instruction

Chart title: **ADD Instruction**

Y-axis: **Time (in sec)**, ranging from 0 to 7

X-axis categories: add, 4 add, 8 add, 16 add, 32 add, 32 add, mixed registers, 32 add, constants only

Legend: Nvidia FX 5950, ATI R9800XT, ATI R9700Pro, Nvidia FX 5800Ultra, Nvidia 5650GO

Sparsely used Instructions

Y-axis: **Time (in sec)**, ranging from 0 to 7

X-axis categories: rcp, rsq, cmp, frc, 4 rcp, 4 rsq, 4 cmp, 4 frc

Legend: Nvidia FX 5950 — ATI R9800XT — ATI R9700Pro — Nvidia FX 5800Ultra — Nvidia 5650GO

Complex Instructions

Time (in sec)

pow | 4 pow | m4x4 | m4x3 | m3x3 | m3x3, simulated | nrm | nrm, simulated | sincos

◆ Nvidia FX 5950 ■ ATI R9800XT ▲ ATI R9700Pro ✕ Nvidia FX 5800Ultra ✳ Nvidia 5650GO
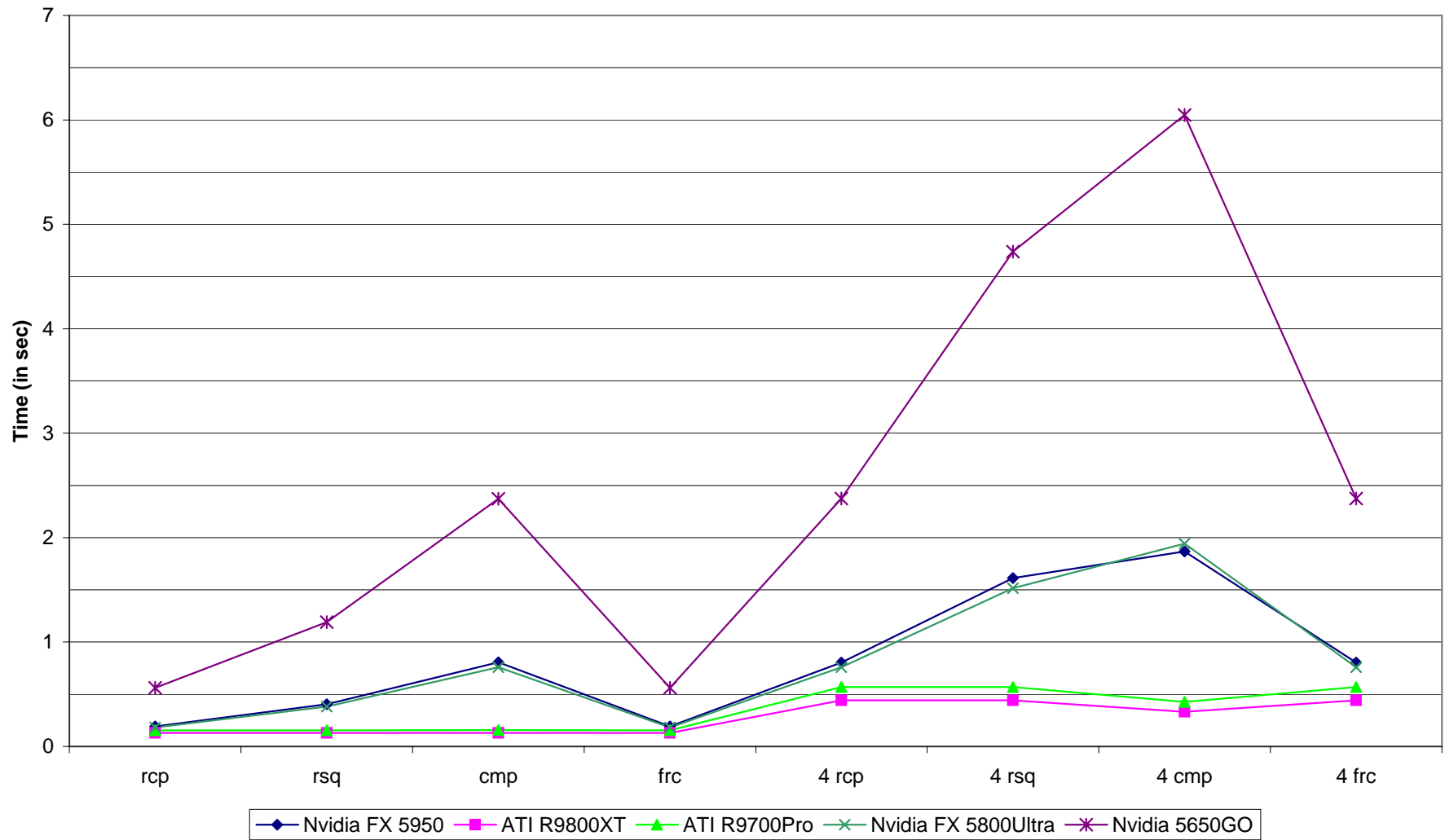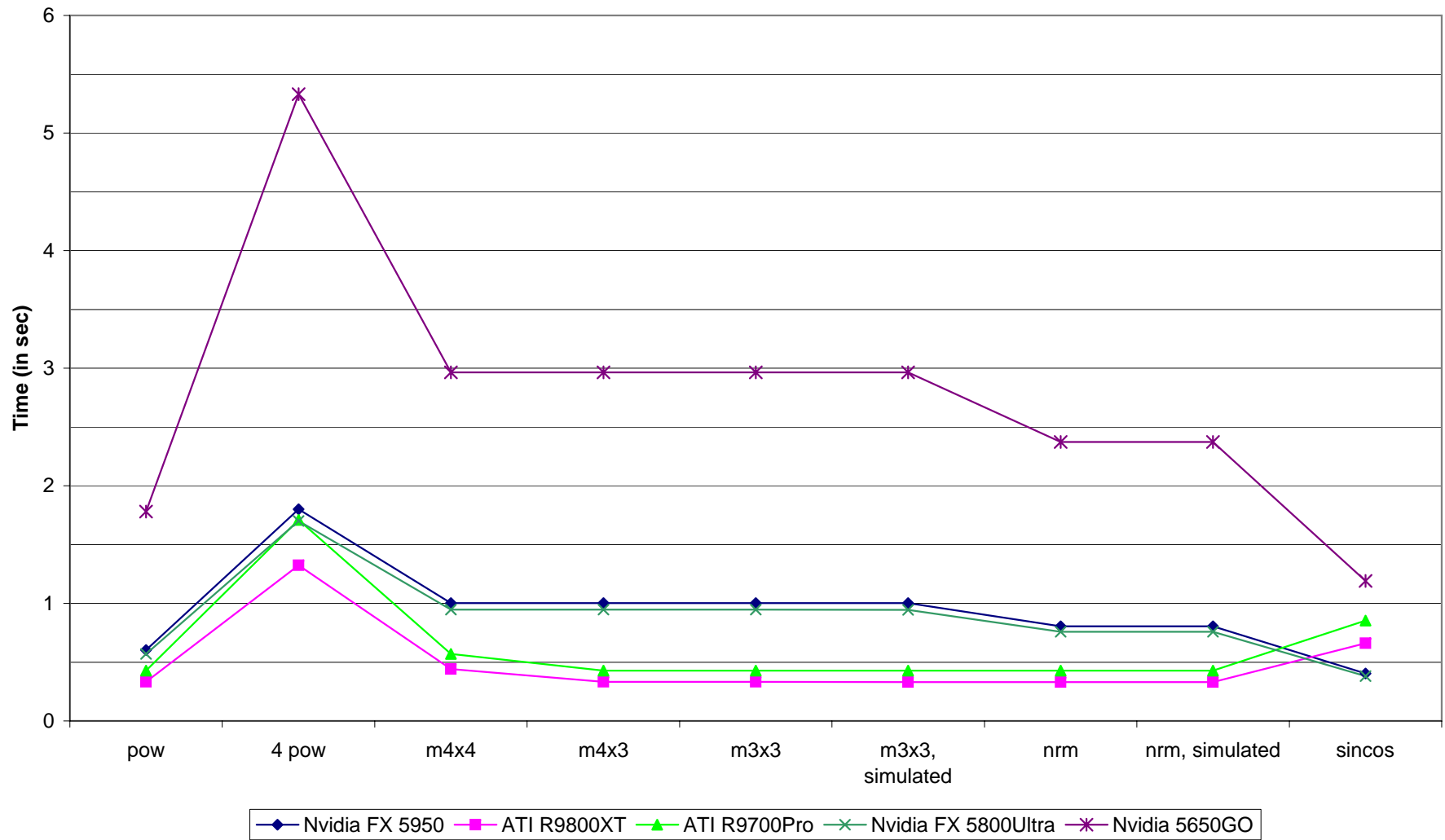
Random Combination of Instructions

Time (in sec)

- 4 instructions
- 8 instructions
- 16 instructions

◆ Nvidia FX 5950 ■ ATI R9800XT ▲ ATI R9700Pro ✕ Nvidia FX 5800Ultra
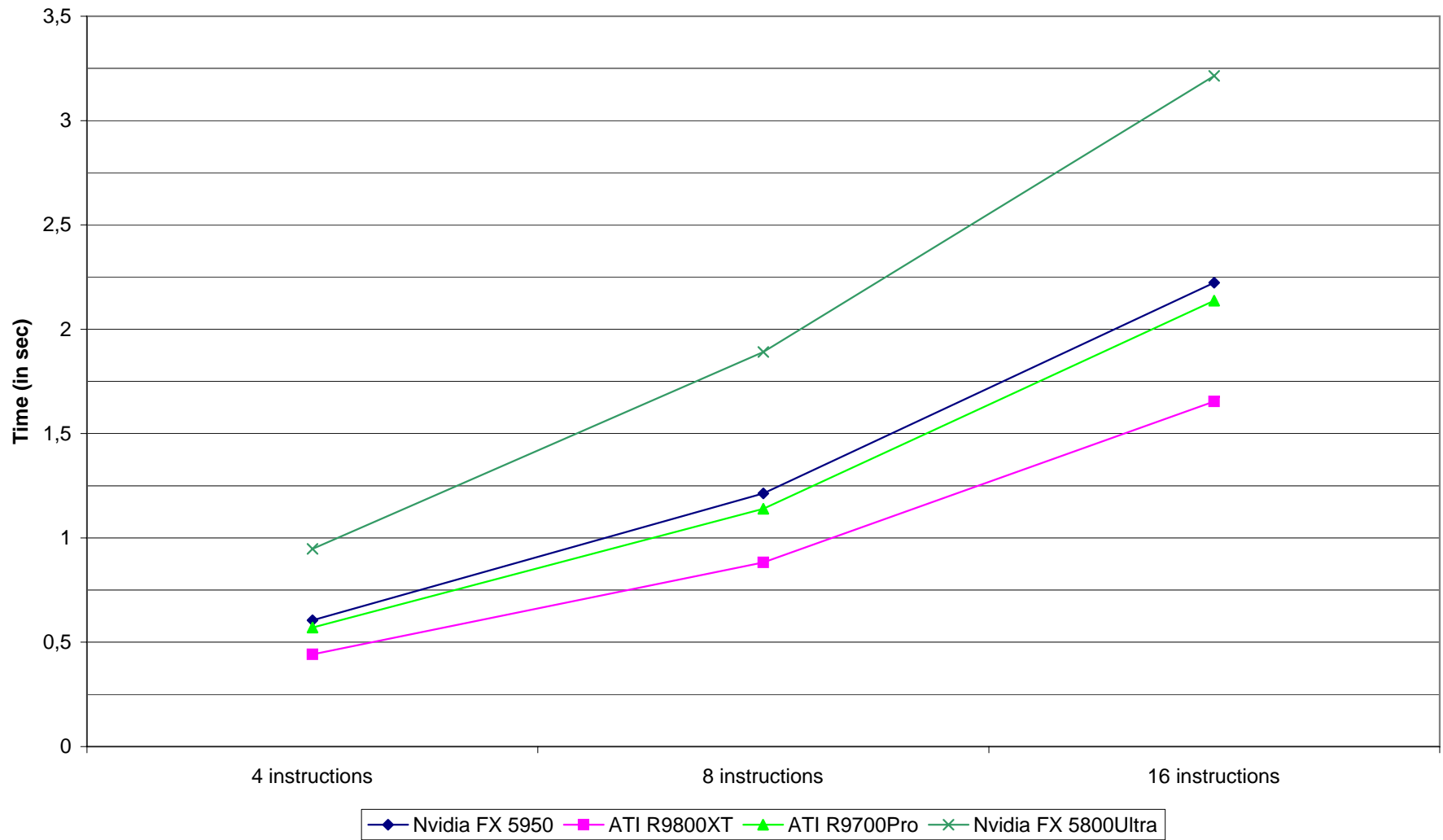
Common Arithmetic Instructions ATI X800Pro

Chart showing Time (in sec) on the y-axis versus Numer of Instructions on the x-axis for ADD, MUL, DP3, and MAD instructions.

Legend: ADD, MUL, DP3, MAD

Texture Load on ATI R9800XT (linear filtering)

Legend: A8R8G8B8, X8R8G8B8, G16R16, L8, L16, Q8W8V8U8, Q16W16V16U16

X-axis: Texture Size (4x4, 16x16, 64x64, 256x256, 512x512)

Y-axis: Time (in sec)
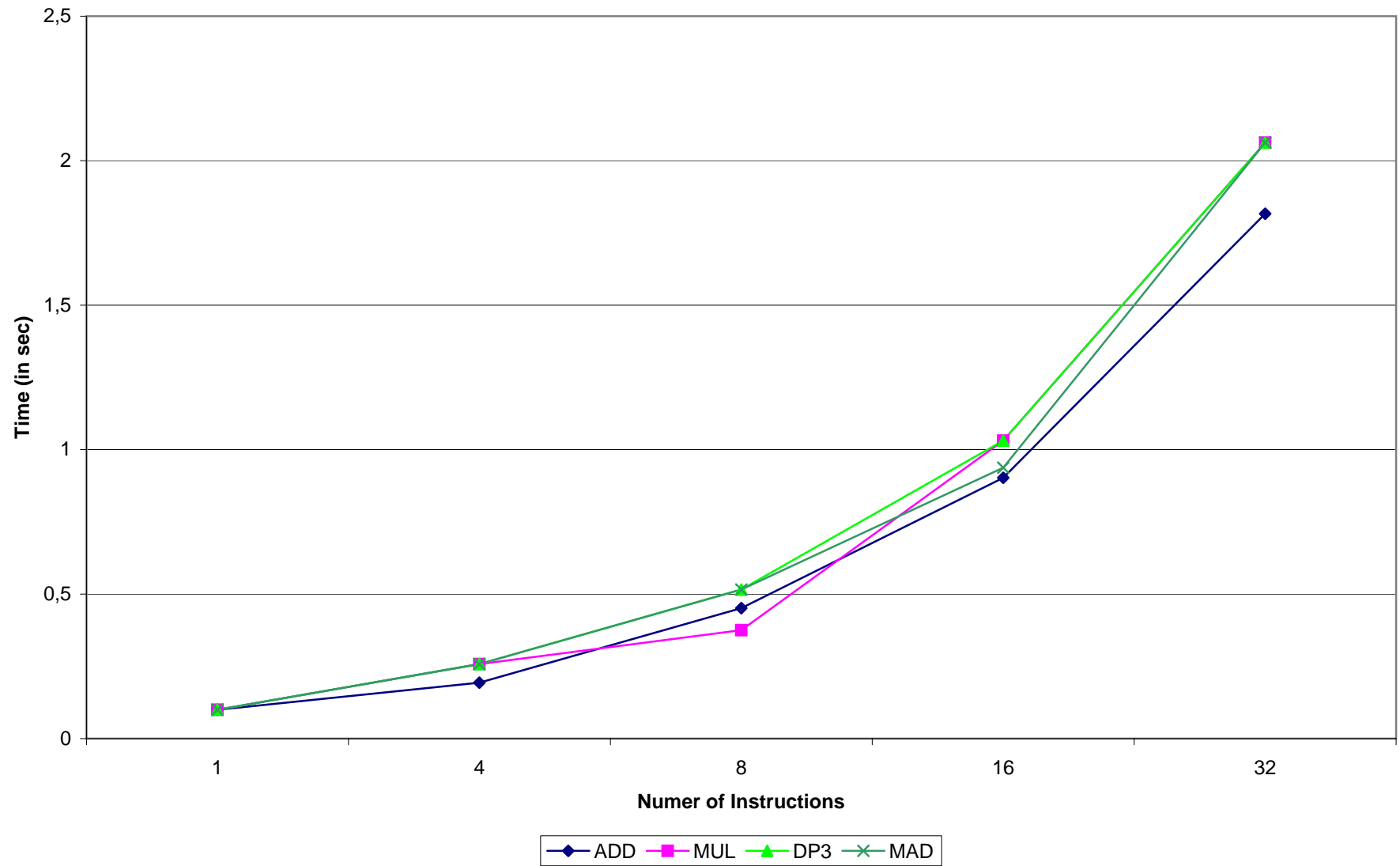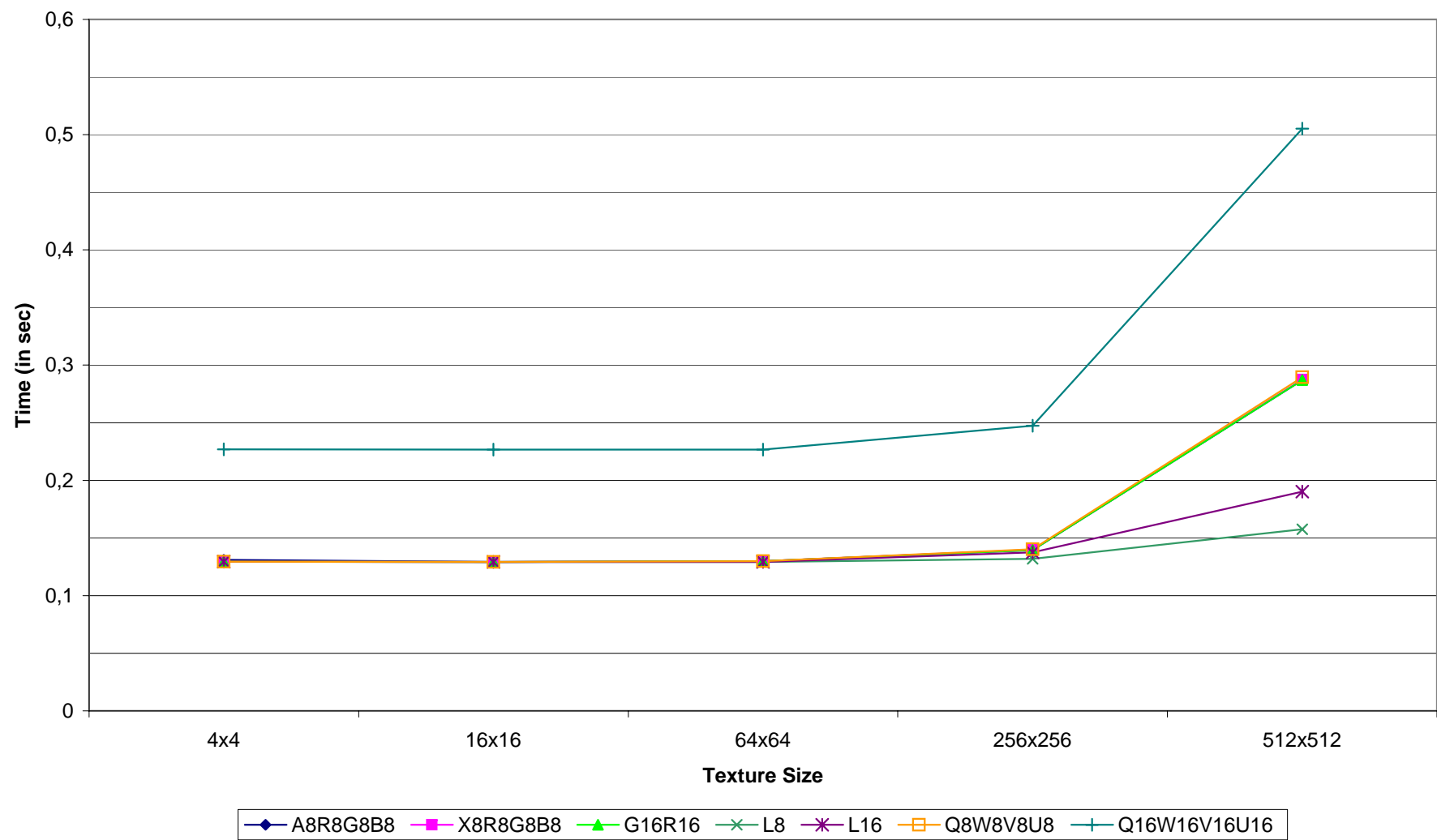
Texture Operations on a 256x256 Texture ATI R9800XT (linear filtering)

Legend: A8R8G8B8 · X8R8G8B8 · G16R16 · L8 · L16 · Q8W8V8U8 · Q16W16V16U16

Y-axis: Time (in sec)

X-axis categories: texld; 2 texld; 2 texld, equal coordinates; 8 texld; 8 texld, interleaved; 8 texld, interleaved diff. sampler; constant indirection, texld; random indirection, texld; level3 random indirection, texld
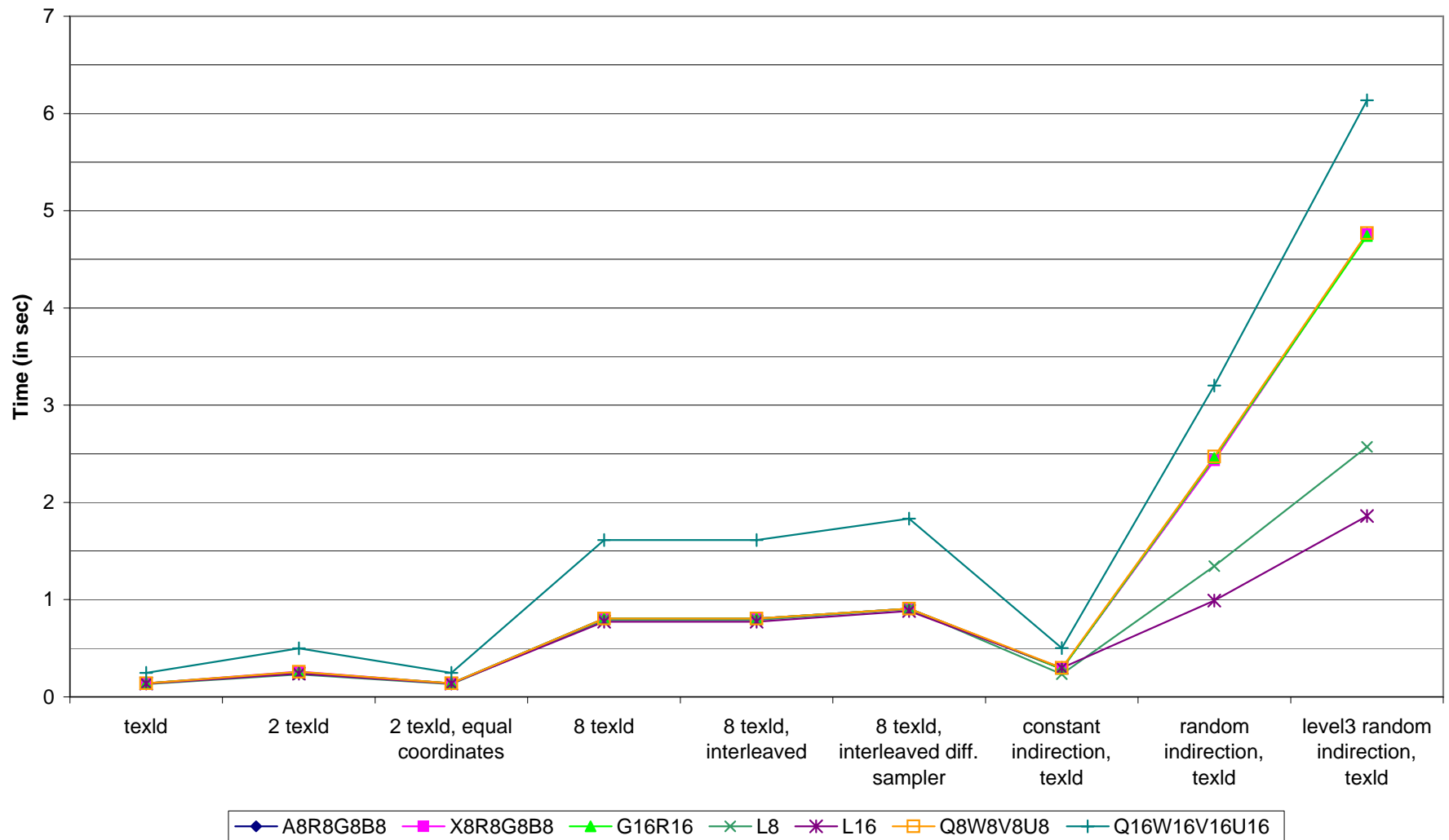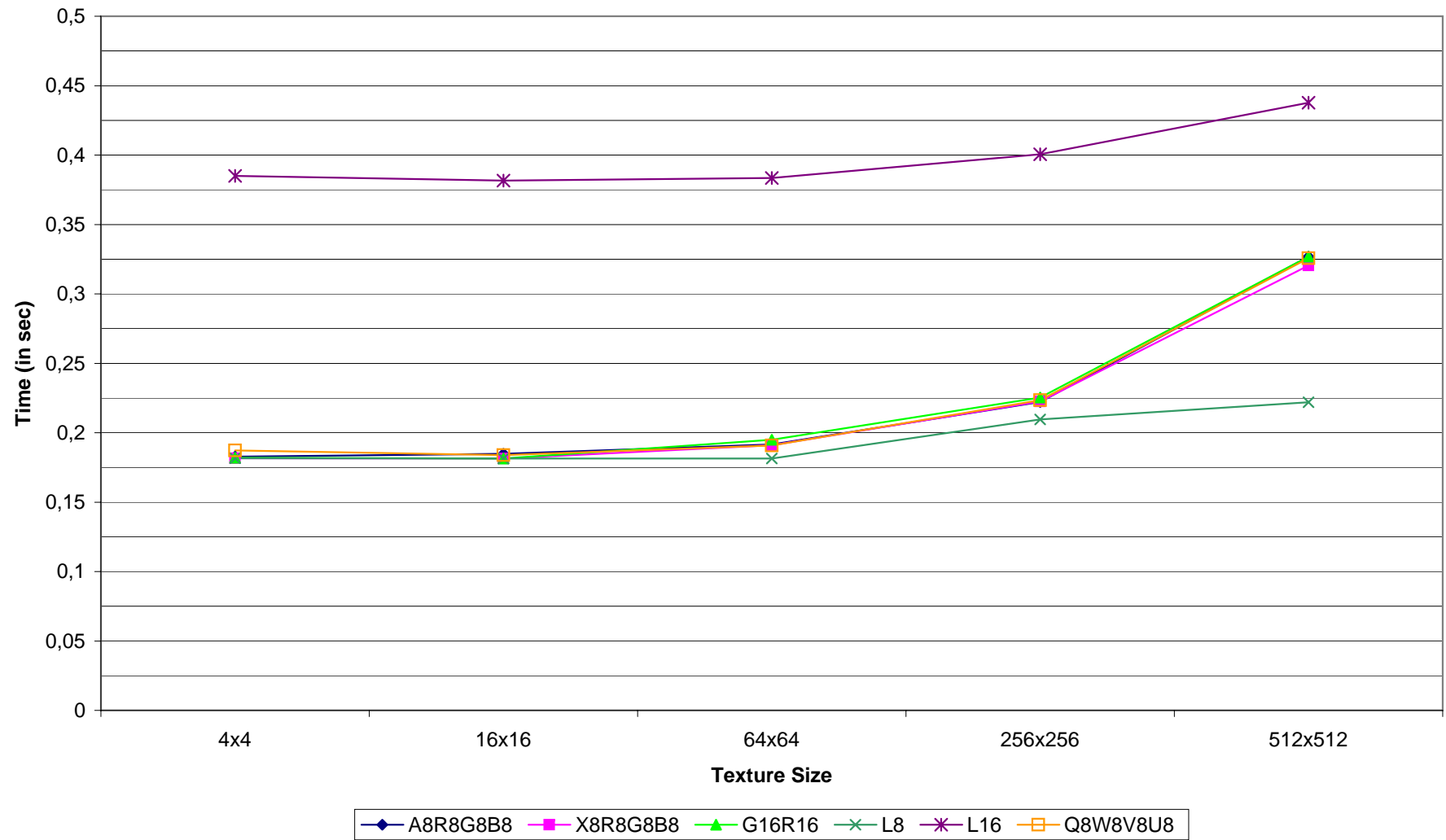
Texture Load on Nvidia FX 5950 (linear filtering)
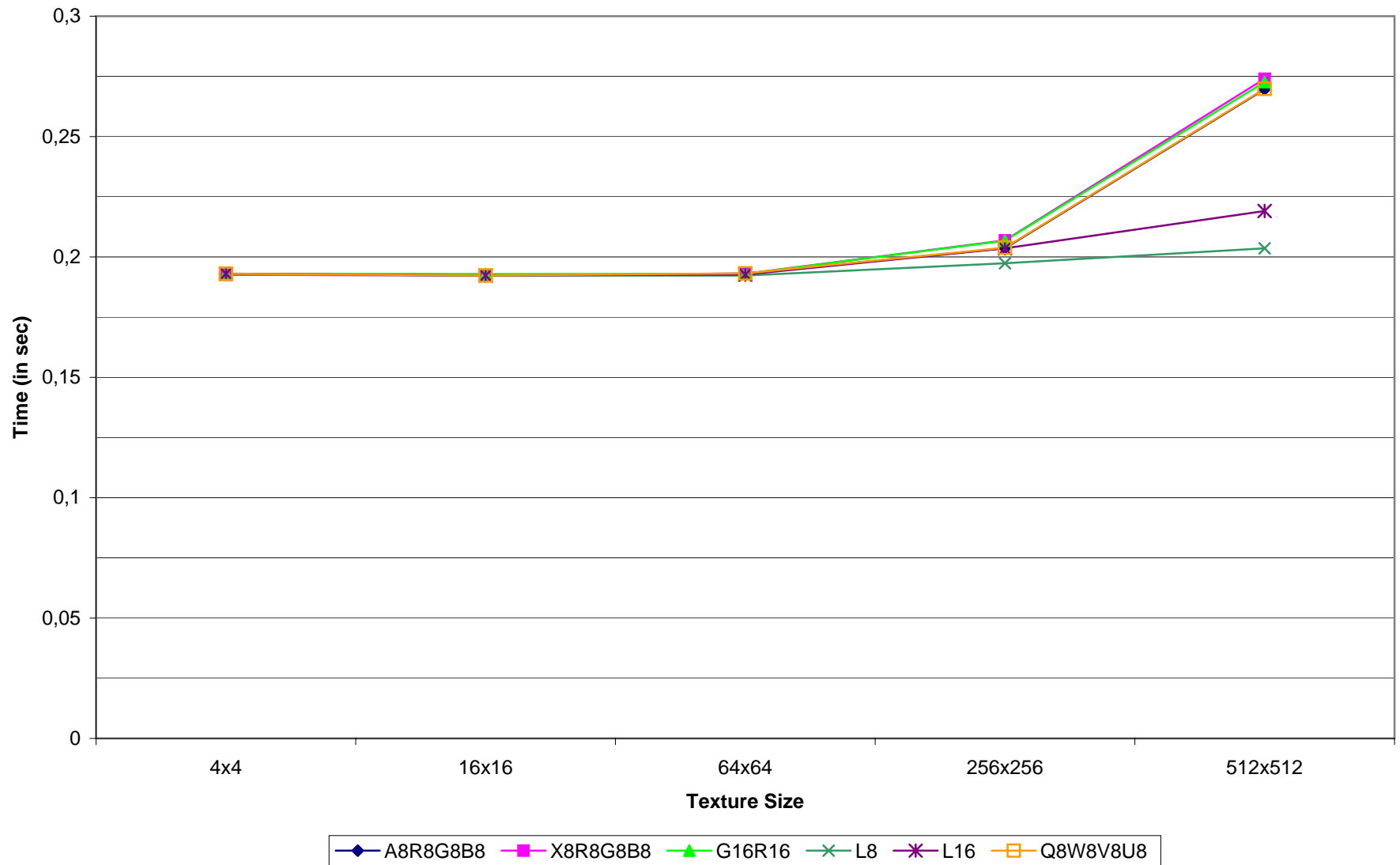
Texture Operations on a 256x256 Texture Nvidia FX 5950 (linear filtering)
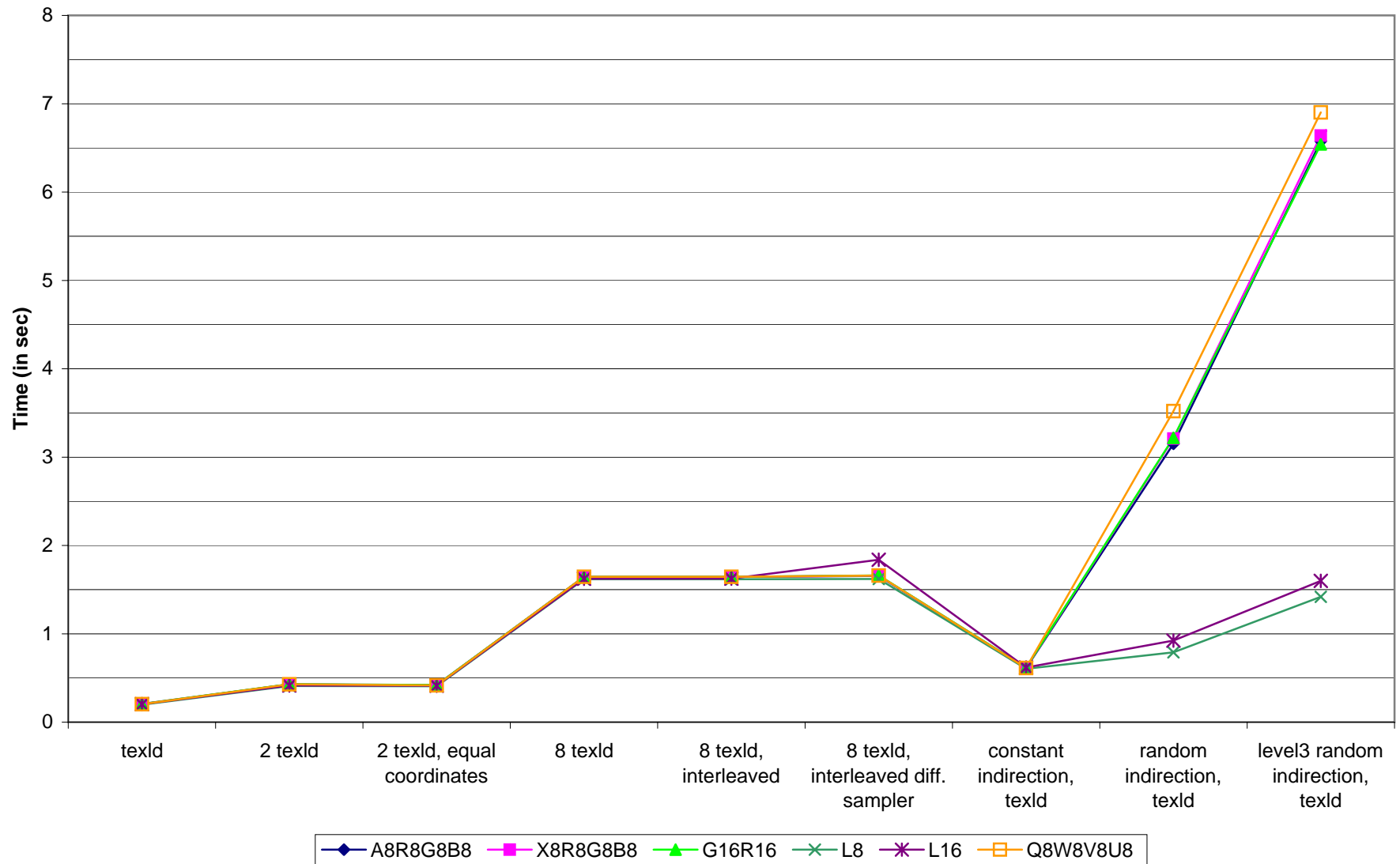
Y-axis: Time (in sec), ranging from 0 to 8

X-axis categories: texld, 2 texld, 2 texld, equal coordinates, 8 texld, 8 texld, interleaved, 8 texld, interleaved diff. sampler, constant indirection, texld, random indirection, texld, level3 random indirection, texld

Legend: A8R8G8B8, X8R8G8B8, G16R16, L8, L16, Q8W8V8U8

Texture Load on Nvidia FX 5800 (linear filtering)

Legend: A8R8G8B8, X8R8G8B8, G16R16, L8, L16, Q8W8V8U8

X-axis: Texture Size (4x4, 16x16, 64x64, 256x256, 512x512)

Y-axis: Time (in sec)

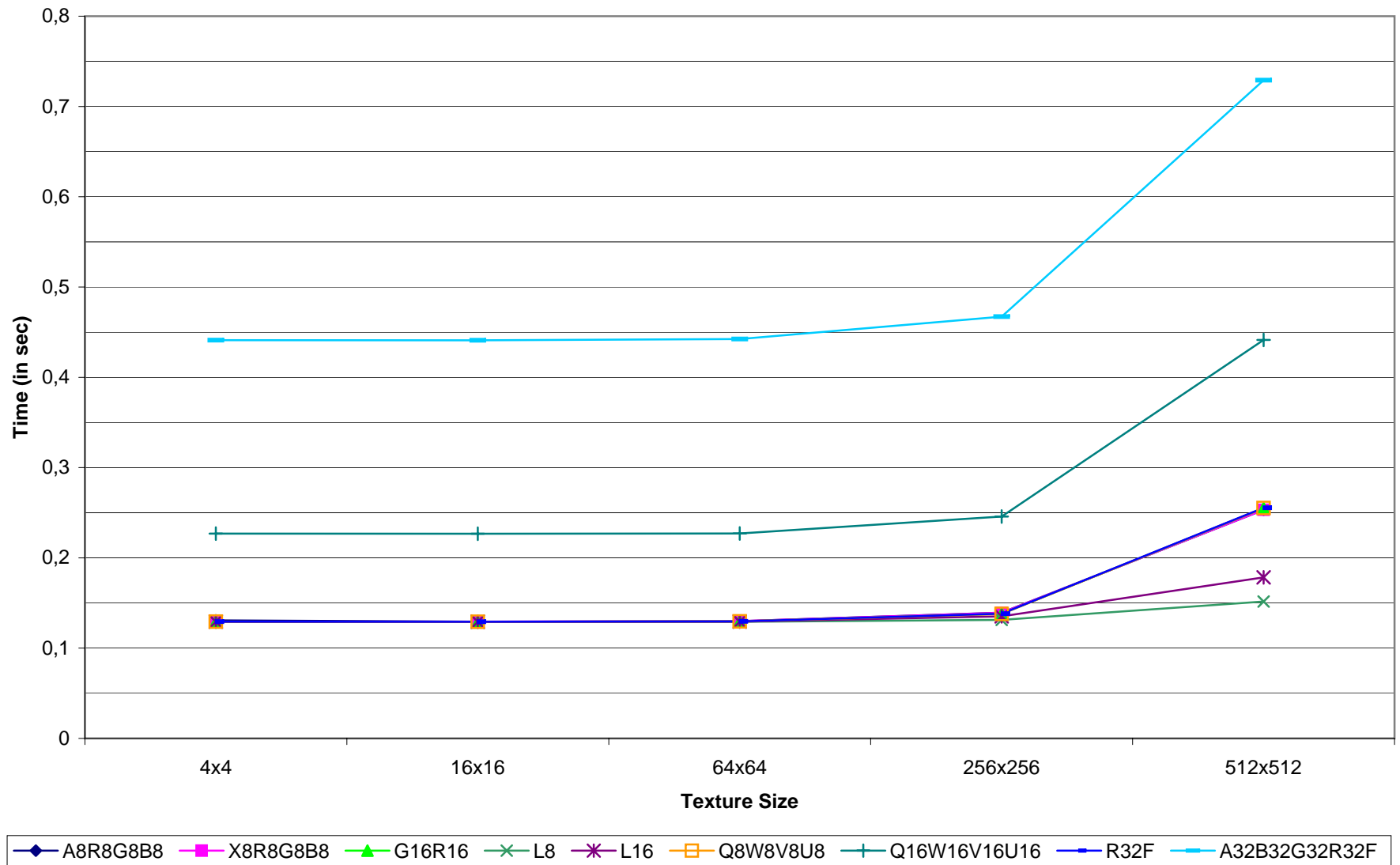**Texture Operations on a 256x256 Texture Nvidia FX 5800 (linear filtering)**
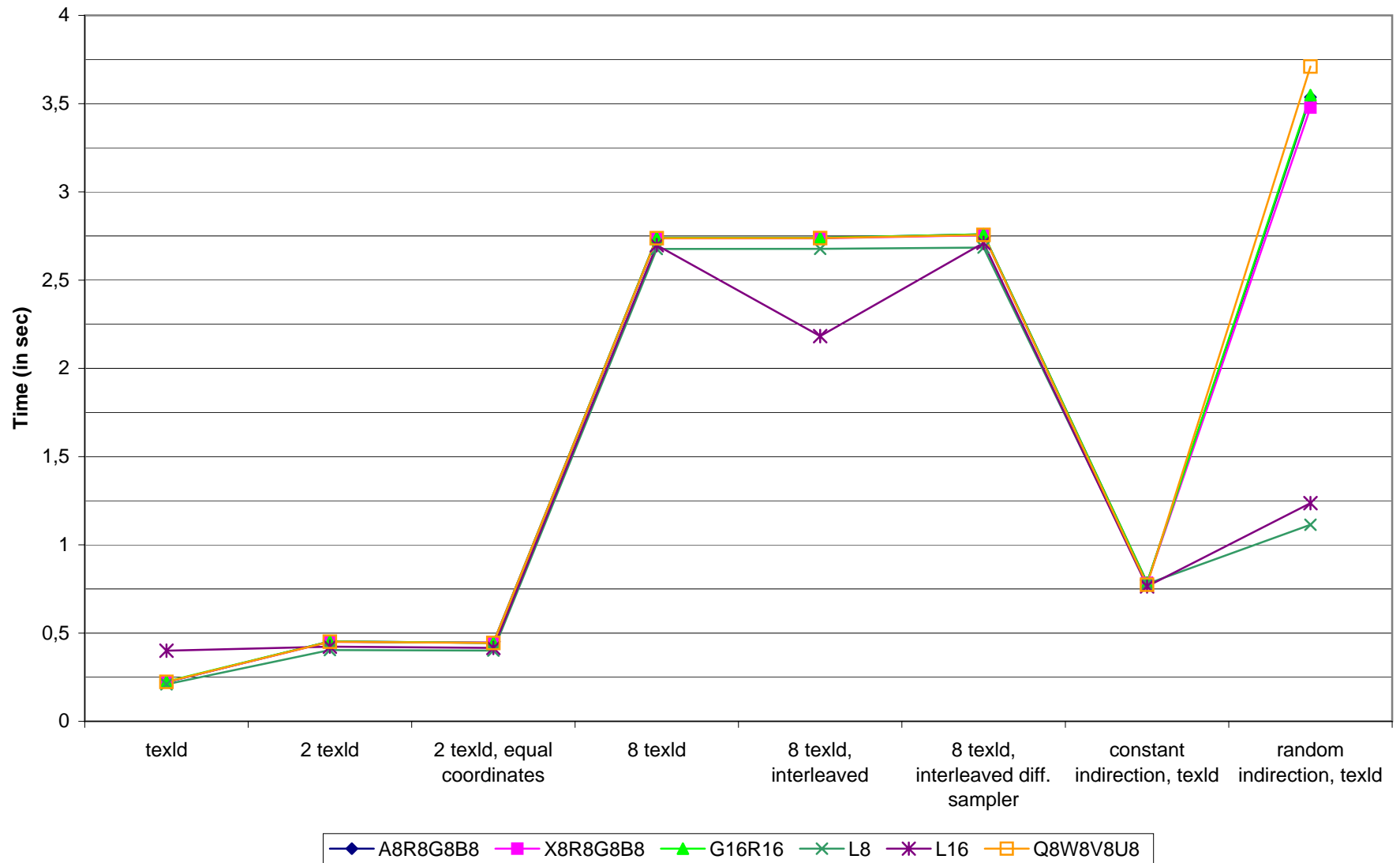
Texture Load on ATI X800Pro (linear filtering)

Time (in sec) vs. Texture Size

Legend: A8R8G8B8, X8R8G8B8, L8, L16, Q8W8V8U8, Q16W16V16U16
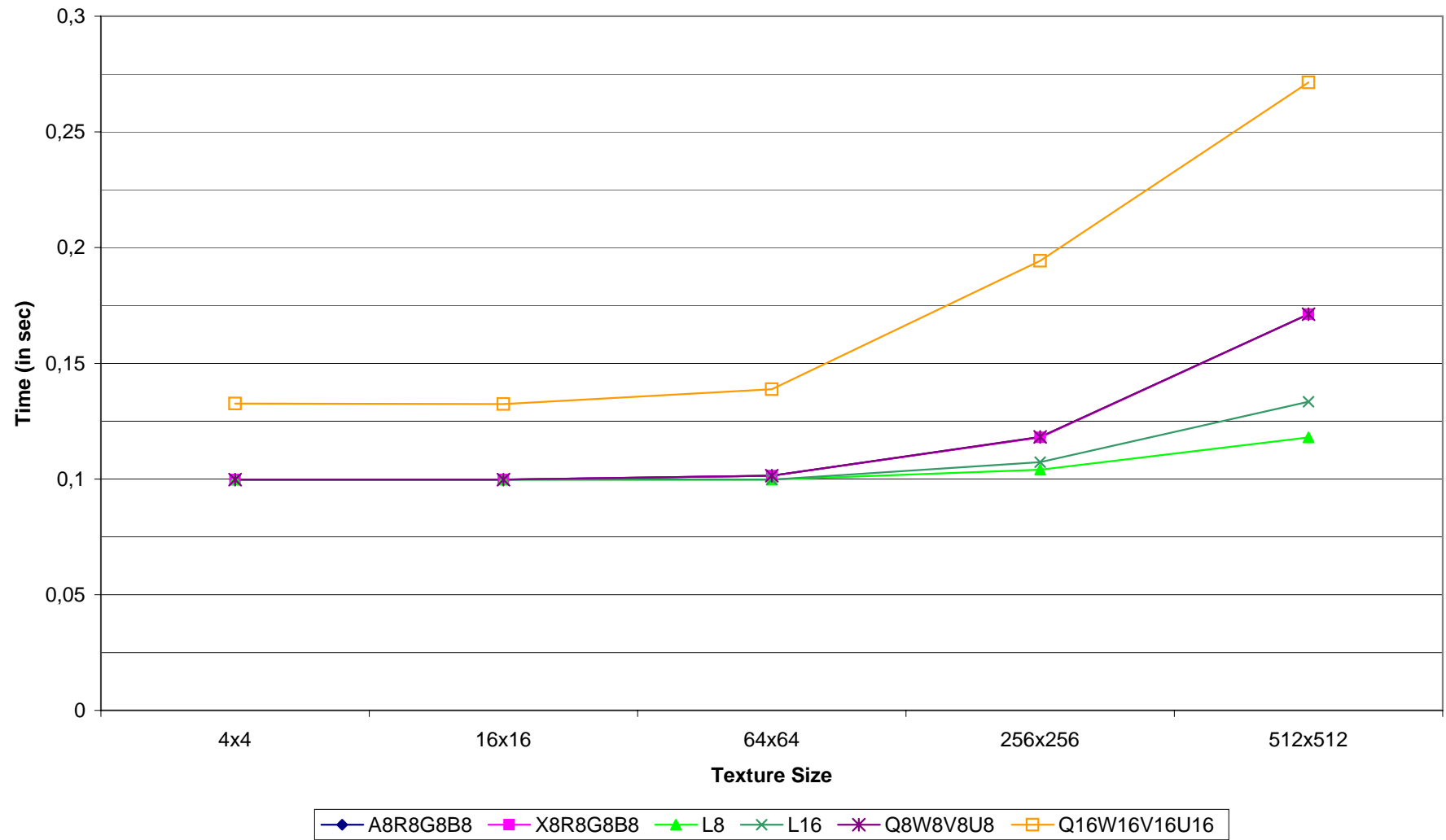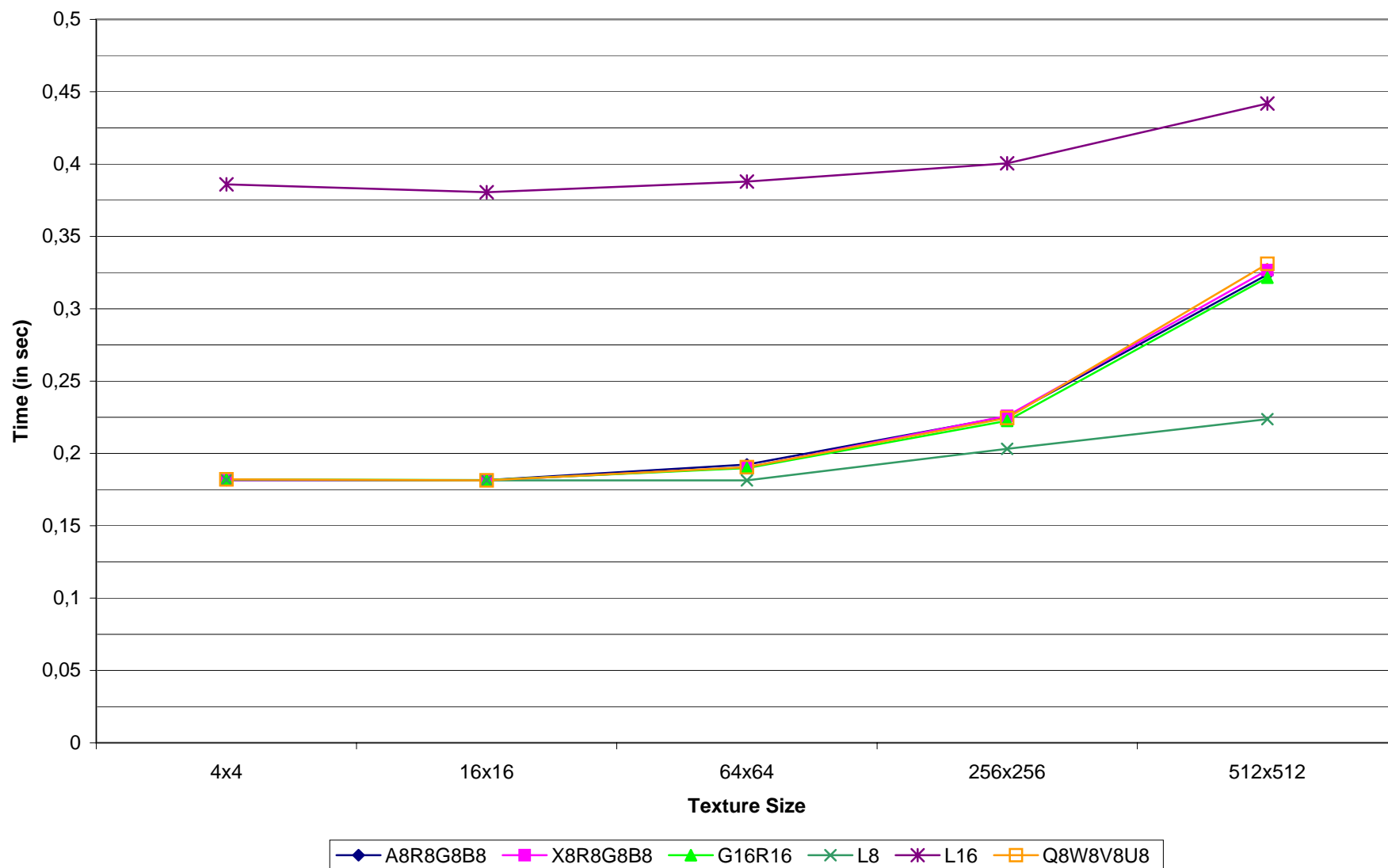
Texture Load on ATI R9800XT (point filtering)

Texture Load on Nvidia FX 5950 (point filtering)

Time (in sec) vs Texture Size

Legend: A8R8G8B8, X8R8G8B8, G16R16, L8, L16, Q8W8V8U8

Texture Load on Nvidia FX 5800 (point filtering)

Time (in sec) vs Texture Size

Legend: A8R8G8B8, X8R8G8B8, G16R16, L8, L16, Q8W8V8U8
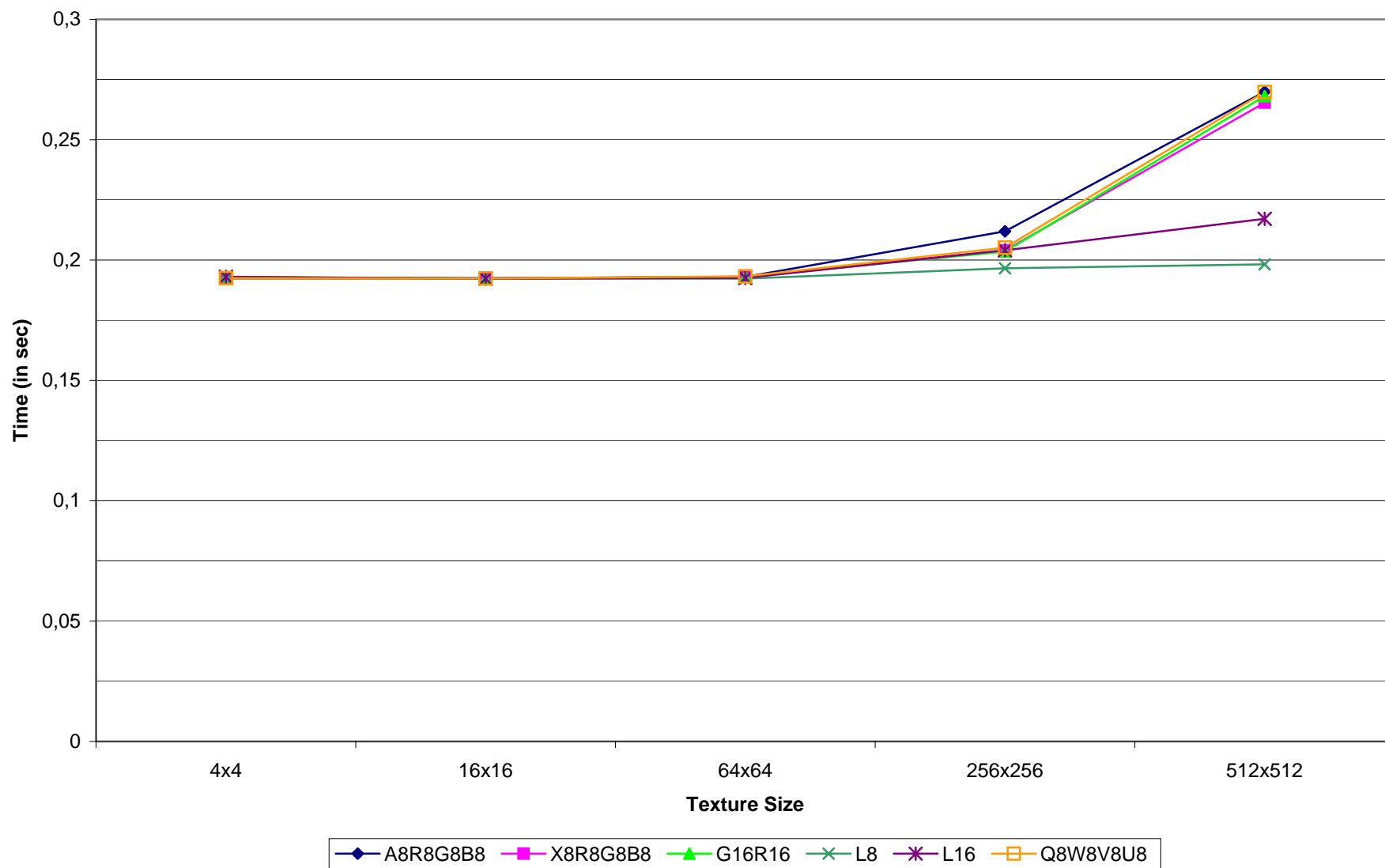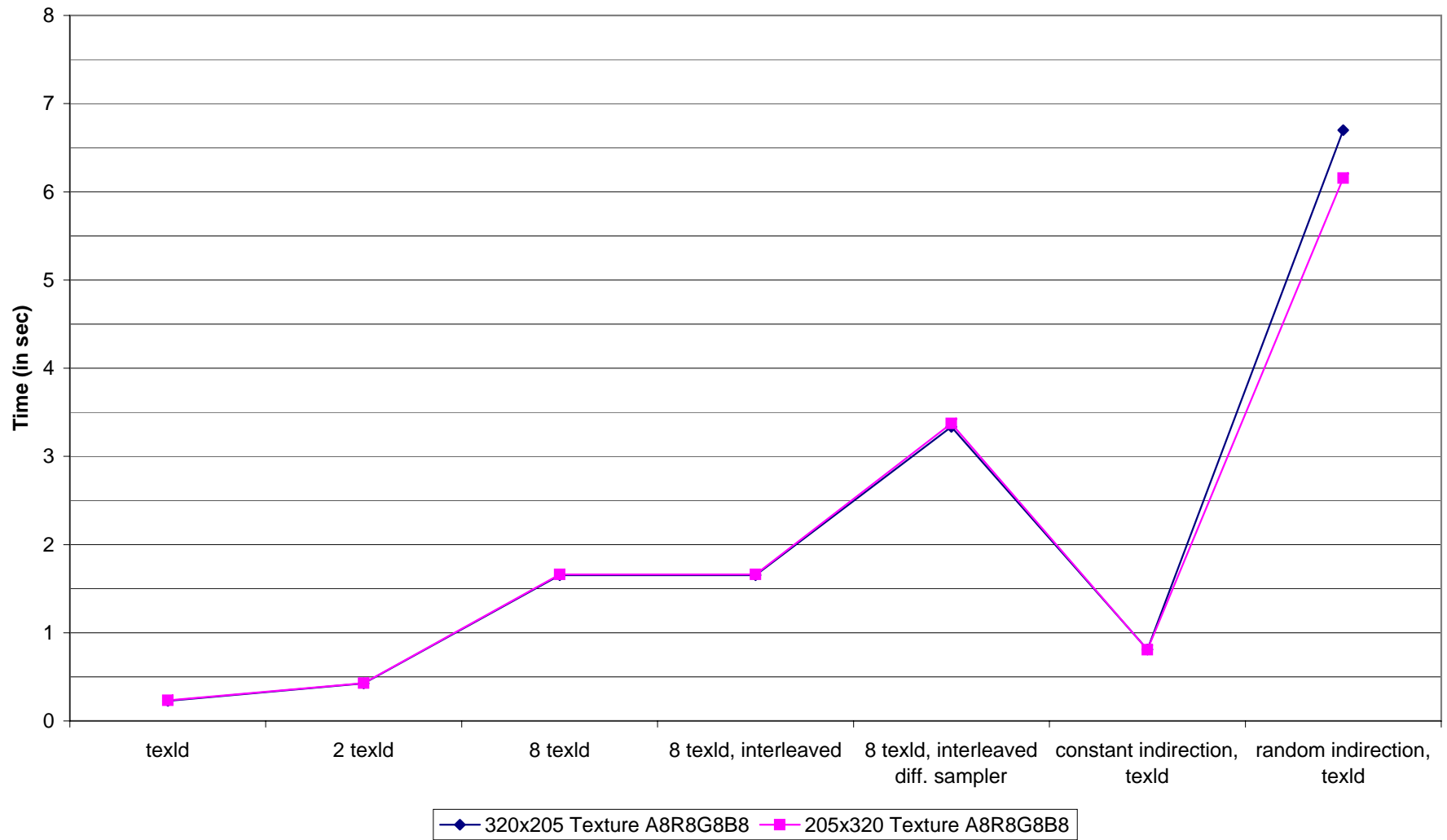
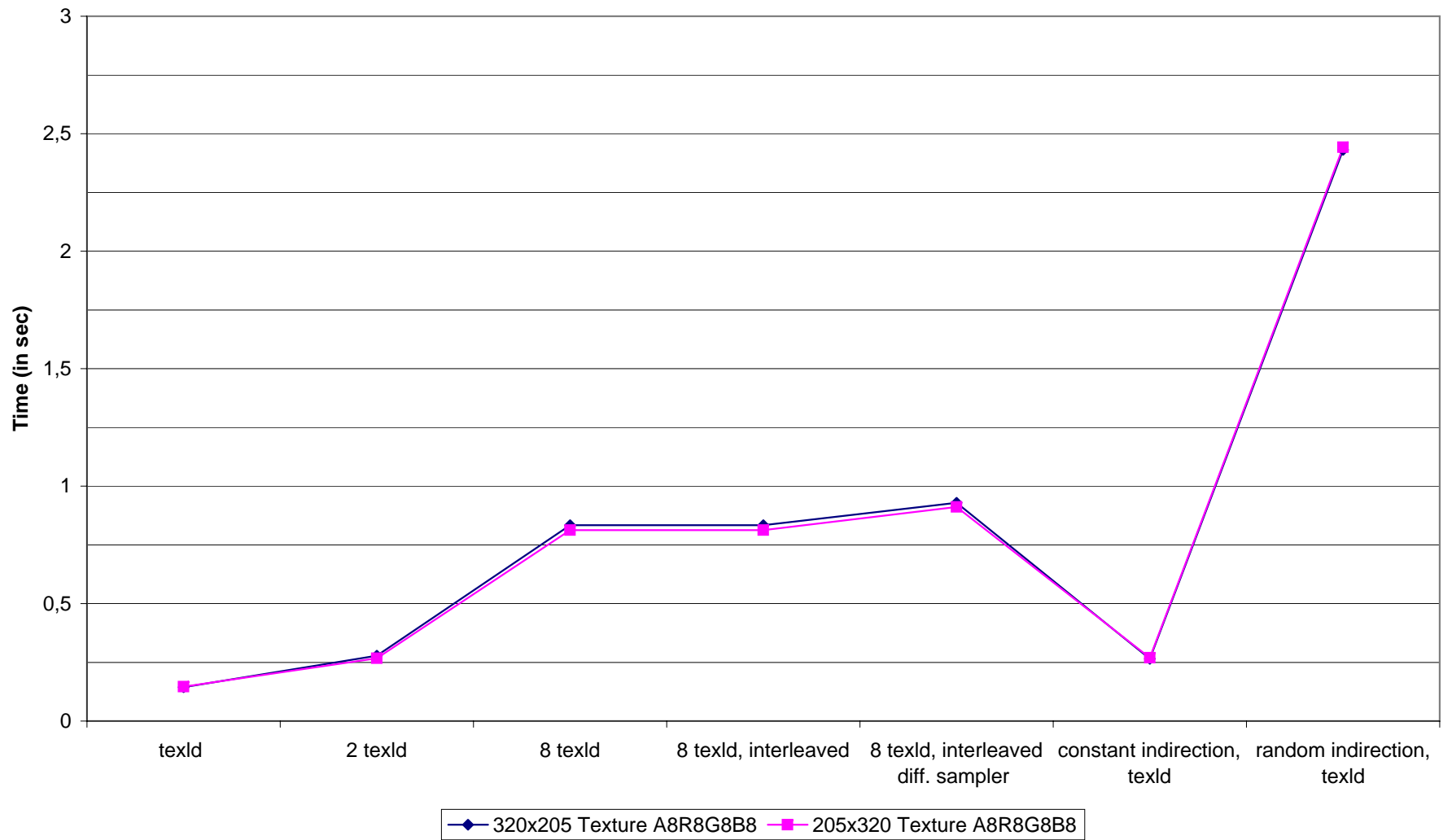**Non-power-of-two Textures on ATI R9800XT (linear filtering)**
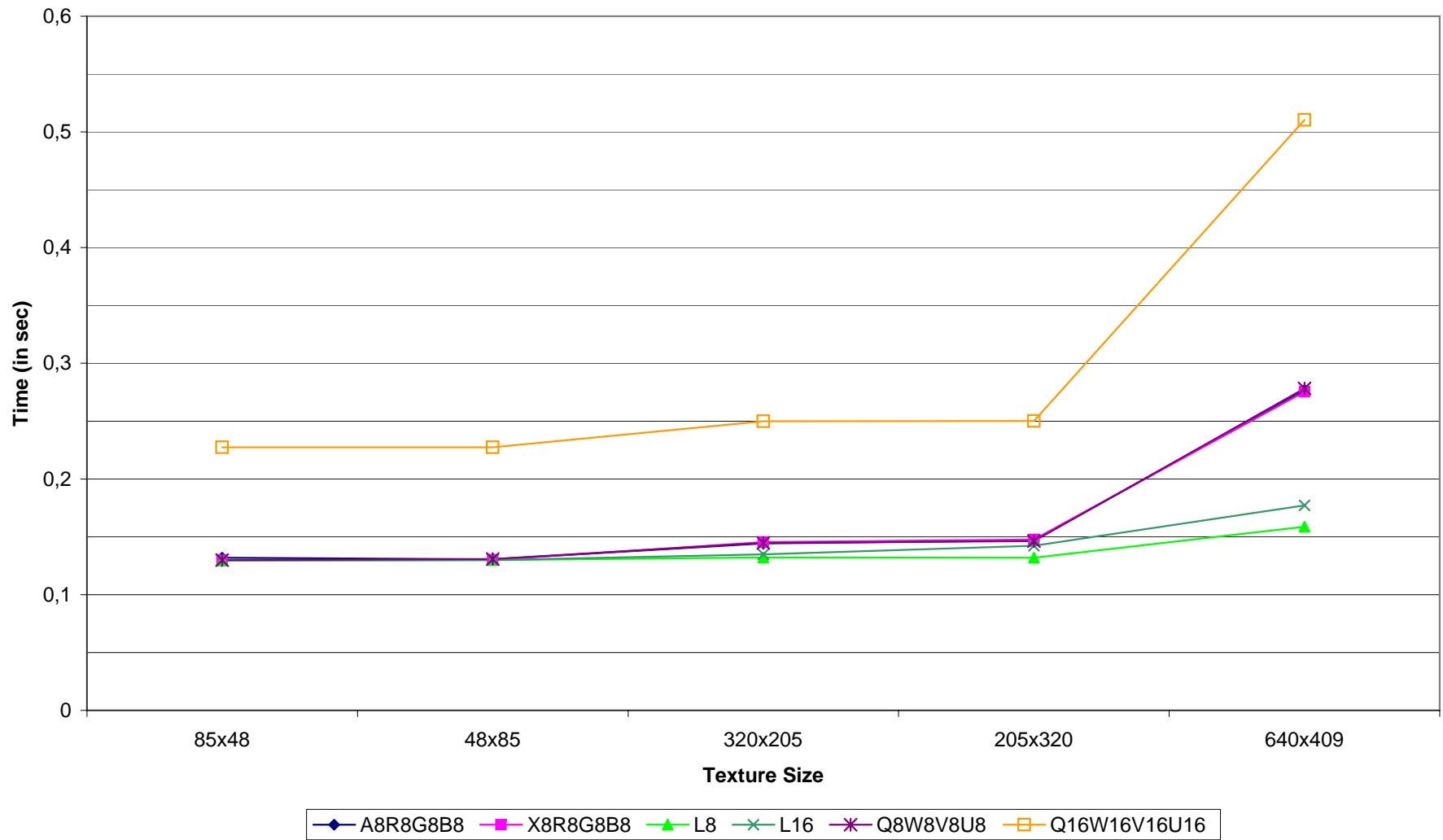
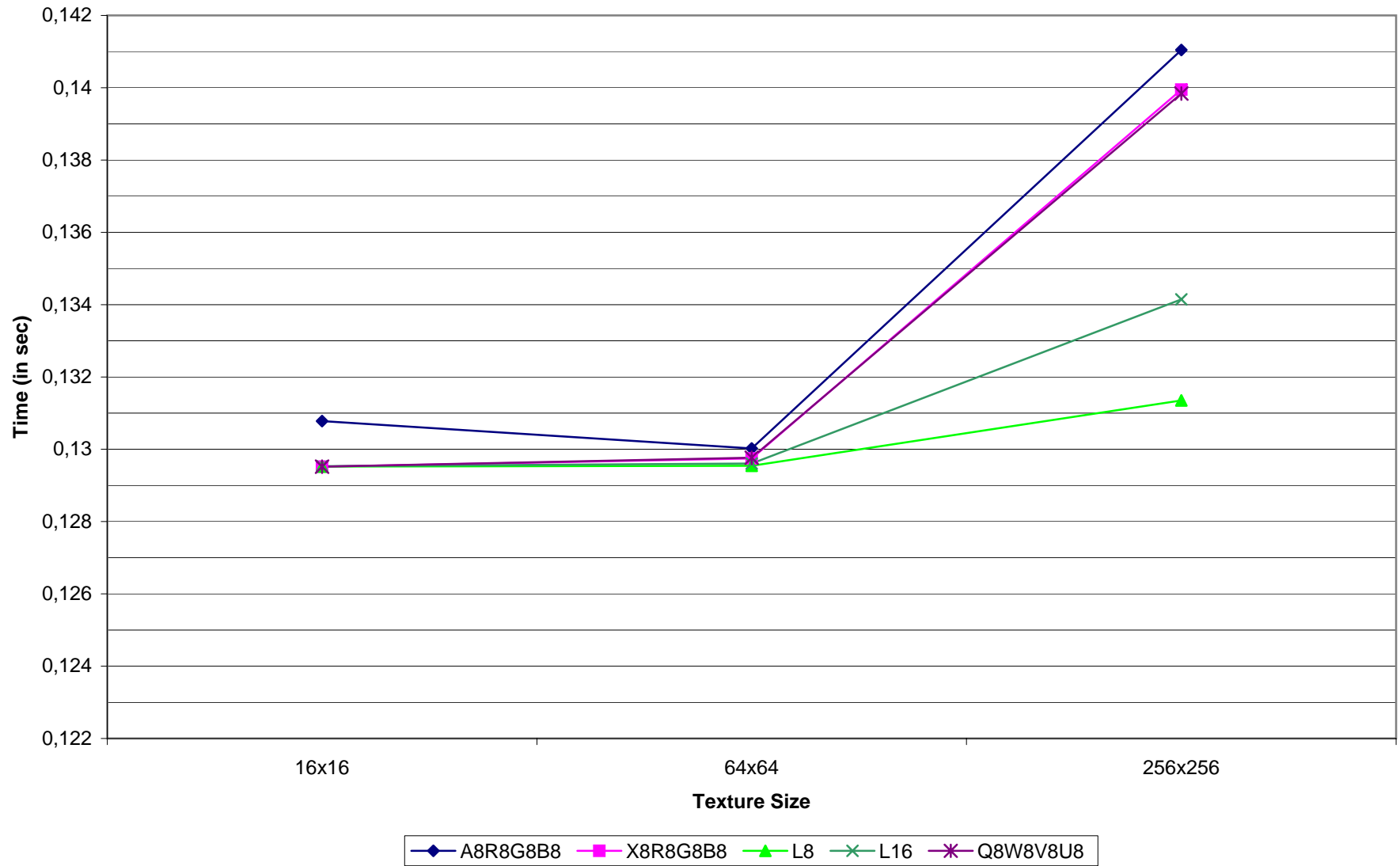**Non-power-of-two Textures on Nvidia FX 5950 (linear filtering)**
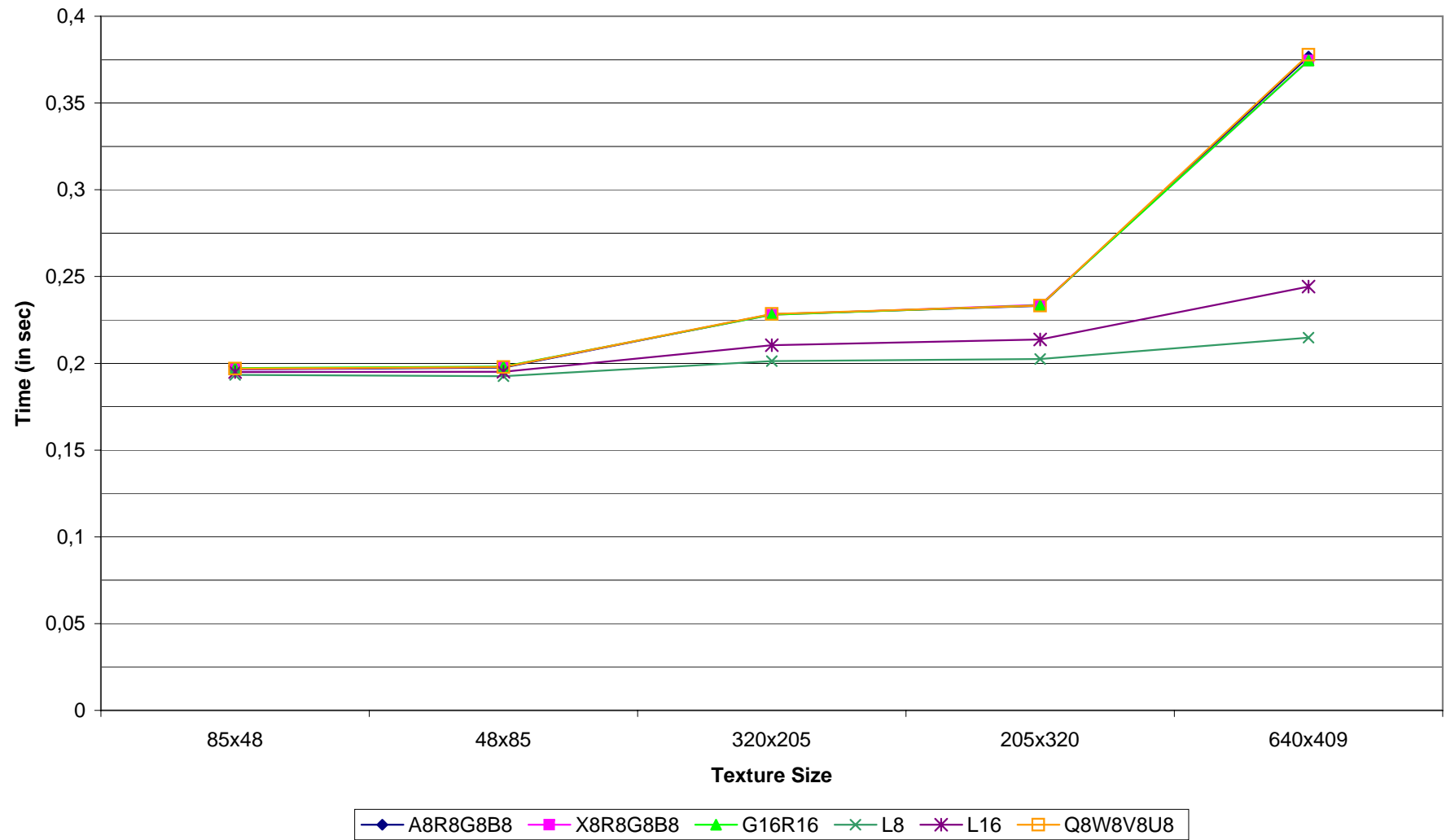
Texture Operations on Non-power-of-two Texture on Nvidia FX 5950 (linear filtering)

Texture Operations on Non-power-of-two Textures on ATI R9800XT (linear filtering)

Chart plotting Time (in sec), y-axis from 0 to 3, against texture operations: texld, 2 texld, 8 texld, 8 texld interleaved, 8 texld interleaved diff. sampler, constant indirection texld, random indirection texld.

Legend: 320x205 Texture A8R8G8B8, 205x320 Texture A8R8G8B8

Cube Map Textures on ATI R9800XT (linear filtering)

Texture Operations on a 256x256 Cube Map Texture on ATI R9800XT (linear filtering)
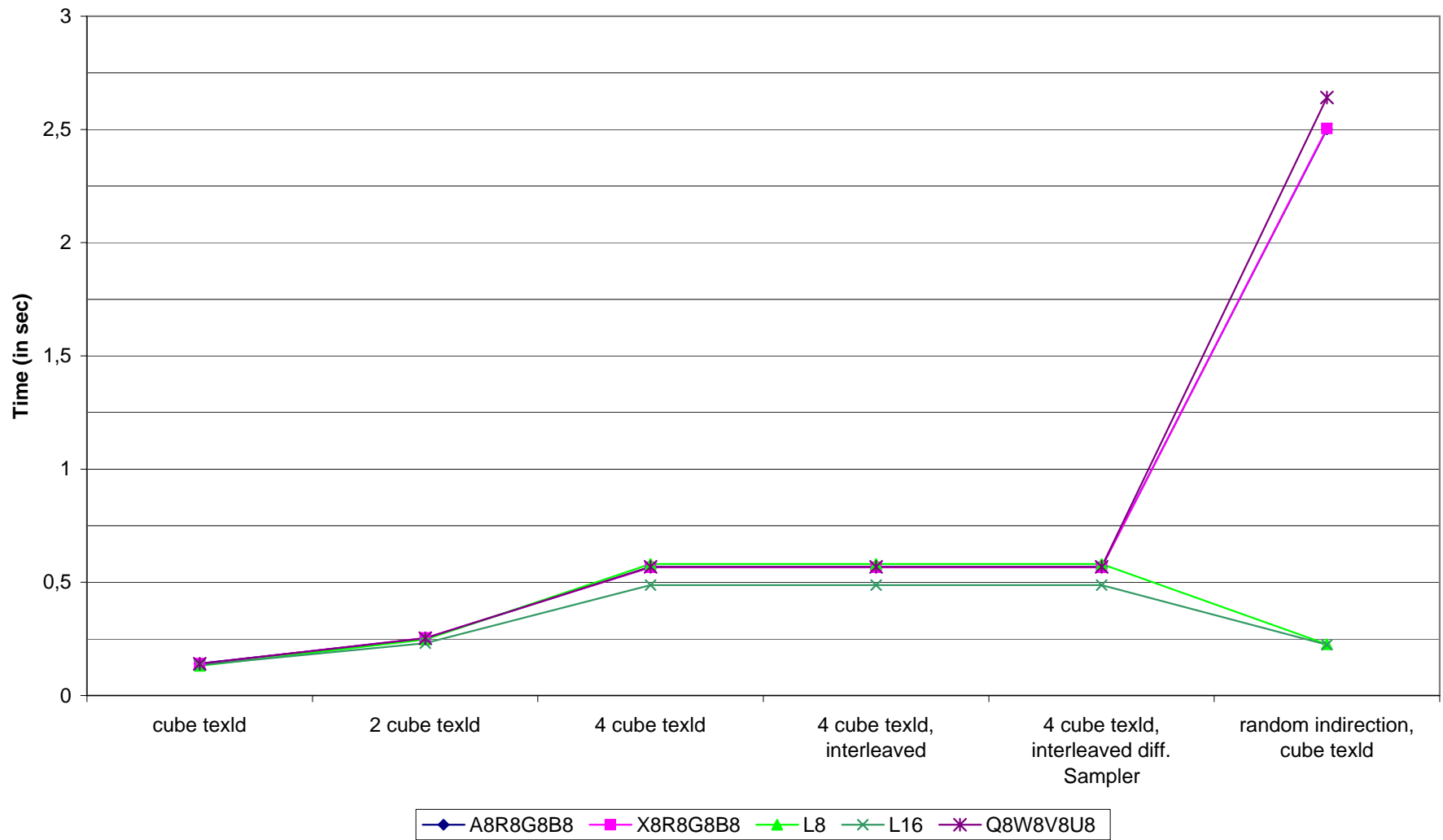
Y-axis: Time (in sec)

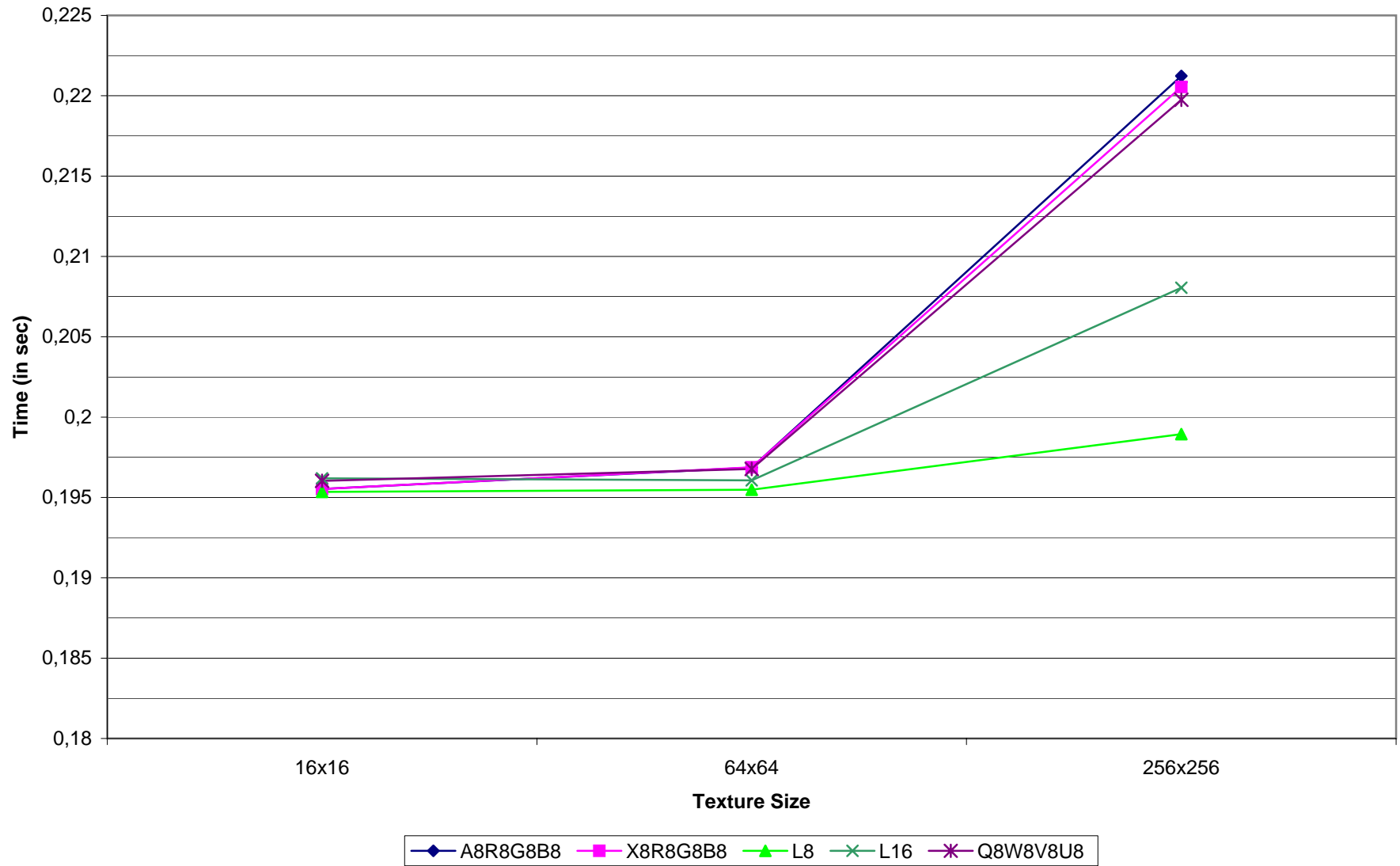X-axis categories: cube texld | 2 cube texld | 4 cube texld | 4 cube texld, interleaved | 4 cube texld, interleaved diff. Sampler | random indirection, cube texld

Legend: A8R8G8B8 — X8R8G8B8 — L8 — L16 — Q8W8V8U8

Cube Map Textures on Nvidia FX 5950 (linear filtering)

Time (in sec) vs **Texture Size**

Legend: A8R8G8B8, X8R8G8B8, L8, L16, Q8W8V8U8

Texture Operations on a 256x256 Cube Map Texture on Nvidia FX 5950 (linear filtering)
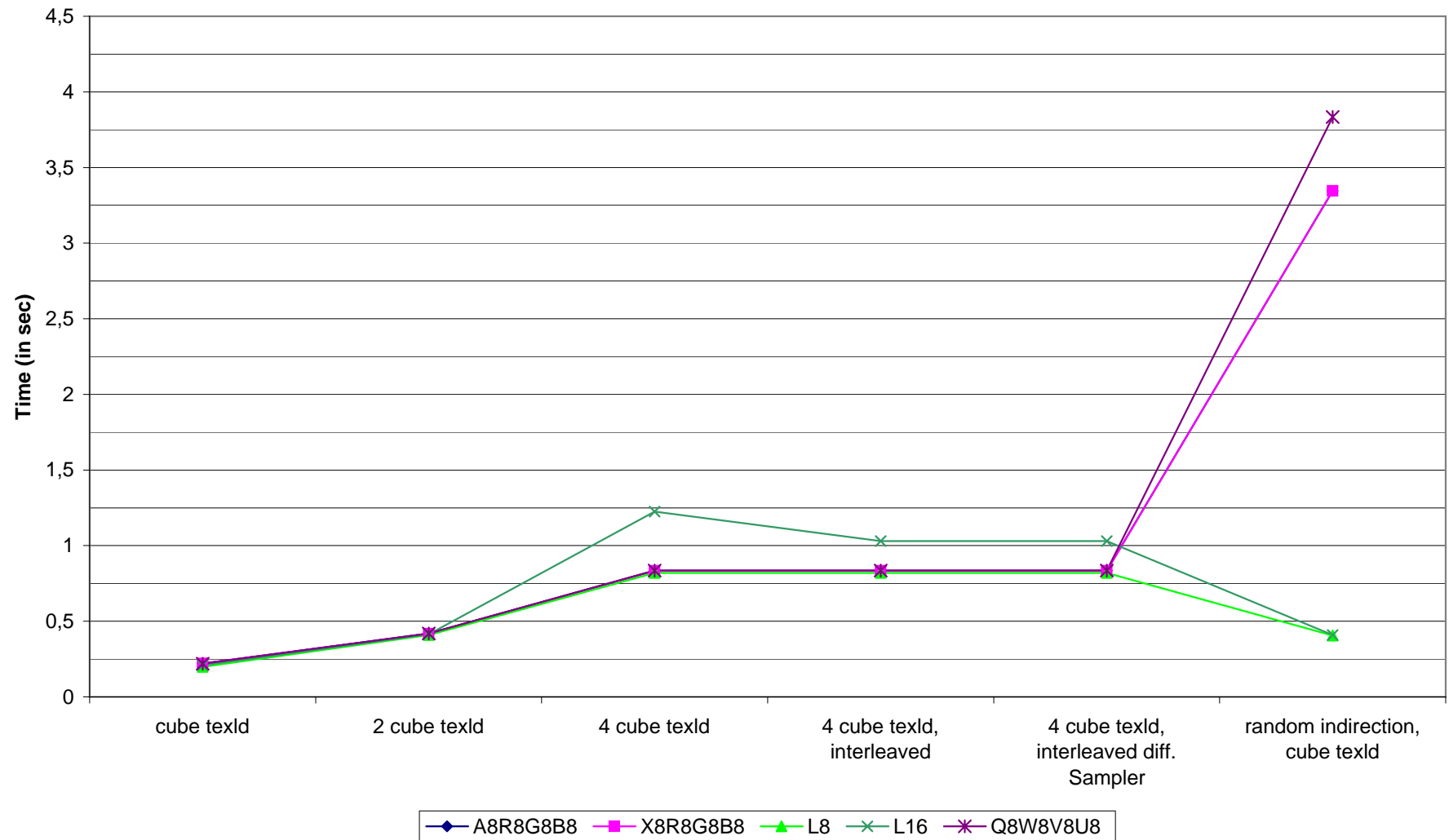
Time (in sec)

4,5

4

3,5

3

2,5

2

1,5

1

0,5

0

cube texld | 2 cube texld | 4 cube texld | 4 cube texld, interleaved | 4 cube texld, interleaved diff. Sampler | random indirection, cube texld

A8R8G8B8 — X8R8G8B8 — L8 — L16 — Q8W8V8U8

Cube Map Textures on ATI R9800XT (point filtering)

Legend: A8R8G8B8, X8R8G8B8, L8, L16, Q8W8V8U8, R32F, A32B32G32R32F

Y-axis: Time (in sec)

X-axis: Texture Size (16x16, 64x64, 256x256)

Cube Map Textures on Nvidia FX 5950 (point filtering)

Time (in sec)

Texture Size

16x16   64x64   256x256

A8R8G8B8   X8R8G8B8   L8   L16   Q8W8V8U8
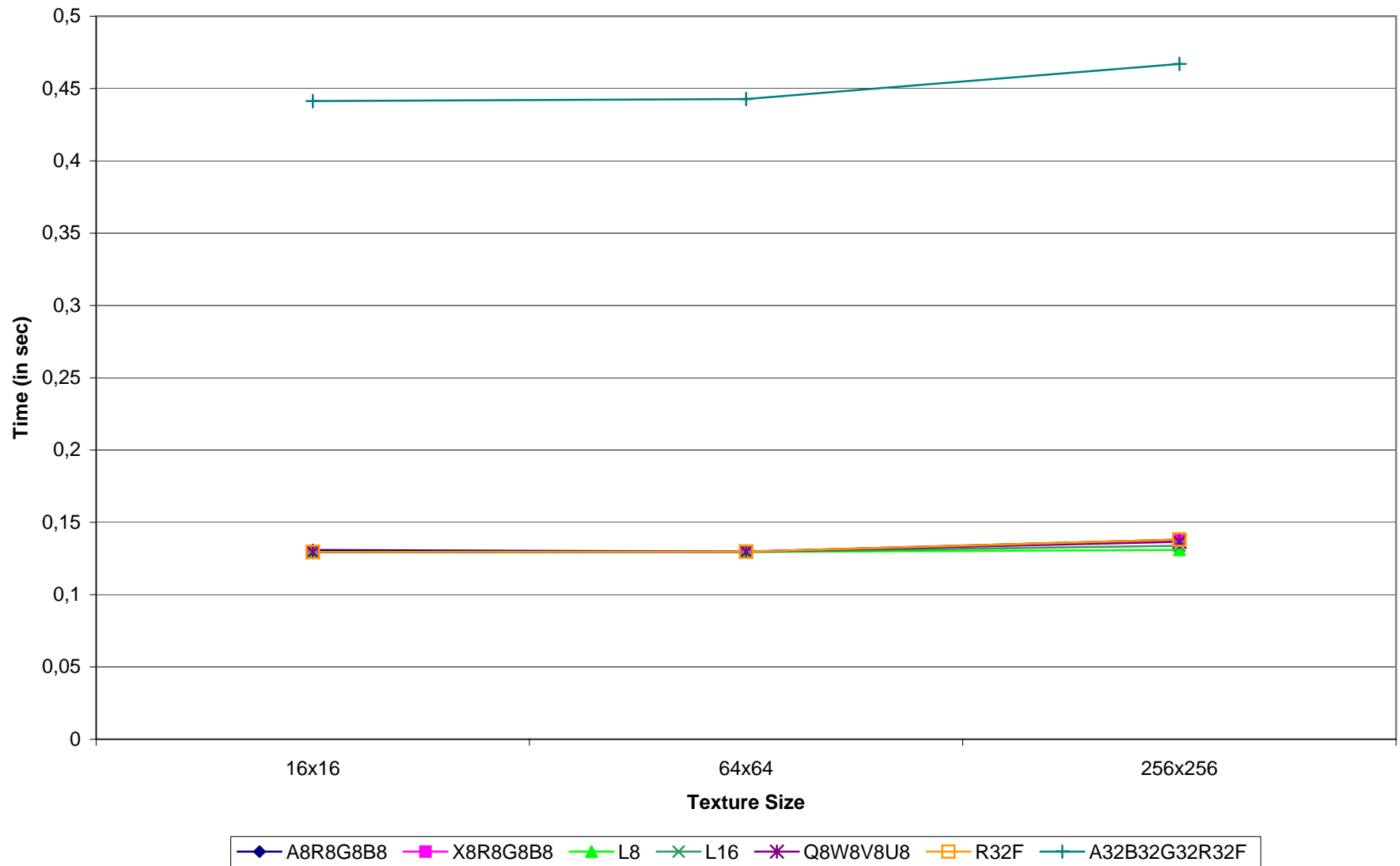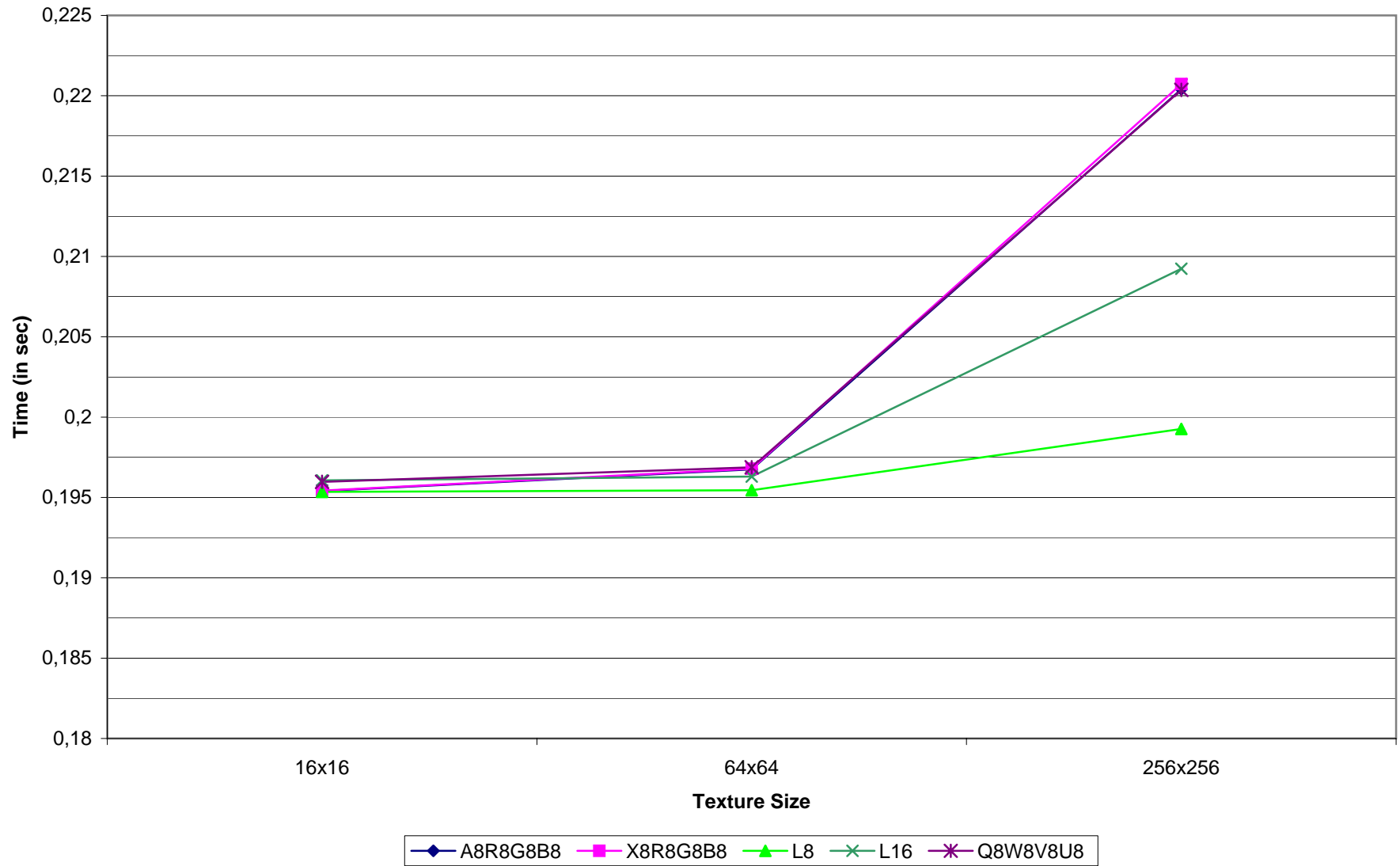
Cube Map Textures on a Nvidia FX 5800 (linear filtering)

Legend: A8R8G8B8 · X8R8G8B8 · L8 · L16 · Q8W8V8U8

Y-axis: Time (in sec)

X-axis: Texture Size (16x16, 64x64, 256x256)

Cube Map Textures on Nvidia FX 5800 (point filtering)

Legend: A8R8G8B8, X8R8G8B8, L8, L16, Q8W8V8U8

Y-axis: Time (in sec)

X-axis: Texture Size — 16x16, 64x64, 256x256