## OpenGL 3 hardware matrix

Extensions exposed by OpenGL implementations

## April 2014, G-Truc Creation

Vendor			NVIDI	А		AMD			
Drivers version			337.5	0	14.4 rc				
Release date		07	7/04/2	014	15/04/2014				
Platforms	G80	G8X	GT	GT21X	R600	RV670	RV700		
ARB extensions	38%	38%	38%	38%	13%	13%	13%		
OpenGL 4.4	63%	63%	63%	63%	0%	0%	0%		
OpenGL 4.3	76%	81%	81%	81%	0%	0%	0%		
OpenGL 4.2	67%	67%	67%	67%	75%	75%	75%		
OpenGL 4.1	67%	67%	67%	67%	83%	83%	83%		
OpenGL 4.0	0%	0%	8%	46%	31%	54%	62%		
OpenGL 3.3	100%	100%	100%	100%	100%	100%	100%		
OpenGL 3.2	100%	100%	100%	100%	100%	100%	100%		
OpenGL 3.1	100%	100%	100%	100%	100%	100%	100%		
OpenGL 3.0	100%	100%	100%	100%	100%	100%	100%		
OpenGL 2.1	100%	100%	100%	100%	100%	100%	100%		
OpenGL 2.0	100%	100%	100%	100%	100%	100%	100%		

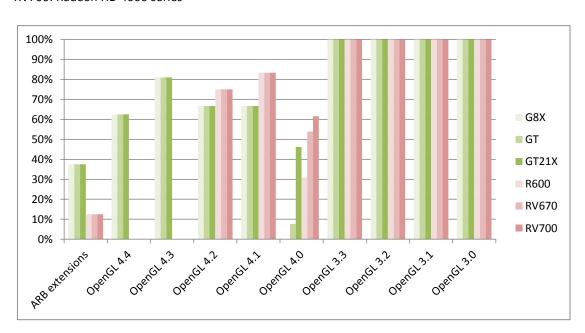
G80: GeForce 8800

G8X: GeForce 8600, 8400, 9XXX, GTS 1XX

GT: Tesla, GeForce GTX 2XX

GT21X: GeForce GT 21X, GeForce GT 3XX

R600: Radeon HD 2000 series RV670: Radeon HD 3000 series RV700: Radeon HD 4000 series



## Nomenclature:

Supported

Not supported

Support added from previous report

OpenGL Extensions	G80	G8X	GT	GT21X	R600	RV670	RV700
KHR texture compression astc ldr	Χ	Χ	Χ	Χ	Χ	Χ	Χ
ARB robustness	V	V	٧	V	Χ	Χ	Χ
ARB sparse texture	Χ	Χ	Χ	Χ	Χ	Χ	Χ
ARB shading language include	V	V	٧	V	Χ	Χ	Χ
ARB shader stencil export	Χ	Χ	Χ	Χ	Χ	Χ	Χ
ARB shader group vote	X	Χ	Χ	Χ	Χ	Χ	Χ
ARB shader draw parameters	Χ	Χ	Χ	Χ	Χ	Χ	Χ
ARB seamless cubemap per texture	X	Χ	Χ	Χ	Χ	Χ	Χ
ARB robustness isolation	V	V	٧	V	Χ	Χ	Χ
ARB robust buffer access behavior	V	V	V	V	Χ	Χ	Χ
ARB debug output	V	V	٧	V	V	V	V
ARB indirect parameters	X	Χ	Χ	Χ	Χ	Χ	Χ
ARB compute variable group size	Χ	Χ	Χ	Χ	Χ	Χ	Χ
ARB compatibility	V	V	V	V	V	V	V
ARB cl event	Χ	Χ	Χ	Х	Χ	Χ	Χ
ARB bindless texture	Χ	Χ	Χ	X	Χ	Χ	X
Support	38%	38%	38%	38%	13%	13%	13%

OpenGL Extensions	G80	G8X	GT	GT21X	R600	RV670	RV700
EXT texture sRGB decode	V	V	V	V	Χ	Χ	Χ
EXT texture mirror clamp	V	٧	٧	V	٧	V	V
EXT shader integer mix	V	V	V	V	Χ	Х	Χ
EXT shader image load formatted	Χ	Χ	Χ	Χ	Χ	Χ	Χ
EXT framebuffer multisample blit scaled	Χ	Χ	Χ	Χ	Χ	Χ	Χ
EXT direct state access	V	V	V	V	V	V	V
EXT depth bounds test	V	V	V	V	Χ	Χ	Χ
EXT clip control	Χ	Χ	Χ	Χ	Χ	Χ	Χ
NV vertex buffer unified memory	V	V	V	V	Χ	Χ	Χ
NV texture multisample	V	V	V	V	Χ	Χ	Χ
NV texture barrier	V	V	V	V	V	V	V
NV shader thread shuffle	Χ	Χ	Χ	Χ	Χ	Χ	Χ
NV shader thread group	Χ	Χ	Χ	Χ	Χ	Χ	Χ
NV shader buffer store	Χ	Χ	Χ	Χ	Χ	Χ	Χ
NV shader buffer load	V	V	V	V	Χ	Χ	Χ
NV shader atomic float	Χ	Χ	Χ	Χ	Χ	Χ	Χ
NV multisample coverage	V	V	V	V	Χ	Χ	Χ
NV explicit multisample	V	V	V	V	V	V	V
NV depth buffer float	V	V	V	V	V	V	V
NV copy image	V	V	V	V	V	V	V
NV bindless texture	Χ	Χ	Χ	Χ	Χ	Χ	Χ
NV bindless multi draw indirect	Χ	Χ	Χ	Χ	Χ	X	Χ
NV blend equation advanced	Χ	Χ	Χ	Χ	Χ	Χ	Χ

INTEL map texture	Χ	Χ	Χ	Χ	Χ	Χ	Χ
INTEL fragment shader ordering	Χ	Χ	Χ	Χ	Χ	Χ	X
INTEL conservative rasterization	X	Χ	Χ	Χ	Χ	Χ	X
AMD vertex shader viewport index	Χ	Χ	Χ	Χ	Χ	Χ	Χ
AMD vertex shader layer	X	Χ	Χ	Χ	Χ	Χ	X
AMD transform feedback4	Χ	Χ	Χ	Χ	Χ	Χ	Χ
AMD transform feedback3 lines triangles	X	Χ	Χ	Χ	Χ	Χ	X
AMD stencil operation extended	Χ	Χ	Χ	Χ	Χ	X	Χ
AMD sparse texture pool	X	Χ	Χ	Χ	Χ	X	X
AMD sparse texture	Χ	Χ	Χ	Χ	Χ	X	X
AMD shader trinary minmax	X	Χ	Χ	Χ	Χ	X	X
AMD shader stencil value export	X	Χ	Χ	X	Χ	X	X
AMD shader stencil export	X	Χ	Χ	Χ	Χ	X	V
AMD seamless cubemap per texture	Χ	Χ	Χ	X	Χ	X	V
AMD sample positions	X	Χ	Χ	Χ	V	V	V
AMD query buffer object	X	Χ	Χ	X	Χ	Χ	X
AMD pinned memory	X	Χ	Χ	Χ	V	V	V
AMD_occlusion_query_event	X	Χ	Χ	X	Χ	X	X
AMD_interleaved_elements	X	Χ	Χ	Χ	Χ	X	X
AMD_gpu_shader_int64	X	Χ	Χ	X	Χ	X	X
AMD_gcn_shader	X	Χ	Χ	Χ	Χ	X	X
AMD framebuffer sample positions	X	Χ	Χ	X	Χ	X	X
AMD blend minmax factor	Χ	Χ	Χ	Χ	Χ	Χ	X
ATI texture mirror once	V	V	V	V	V	V	V
ATI texture mirror once Support	V 32%		-				
Support	32%	6 32%	32%	32%	17%	17%	21%
Support OpenGL 4.4	32% G80	6 32% G8X	32% GT	32% GT21X	17% R600	17% RV670	21% RV700
OpenGL 4.4  ARB buffer storage	32% G80 X	G8X X	32% GT X	32% GT21X X	R600 X	17% RV670 X	21% RV700 X
OpenGL 4.4  ARB buffer storage  ARB clear texture	32% G80 X X	G8X X X	GT X X	32% GT21X X X	R600 X X	17% RV670 X X	21% RV700 X X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts	32% G80 X X V	G8X X X V	GT X X V	GT21X X X V	R600 X X X	17% RV670 X X	21% RV700 X X X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind	32% G80 X X V	G8X X X V	GT X X V V	GT21X X X V V	R600 X X X X	17% RV670 X X X	21% RV700 X X X X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object	32% G80 X X V V	G8X X V V	GT X X V V X	GT21X X X V V	R600 X X X X	17%  RV670  X  X  X  X	21%  RV700  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge	32% G80 X X V V	G8X X X V V	GT X X V V V X V V	GT21X X X V V V	R600 X X X X X	17%  RV670  X  X  X  X  X	21%  RV700  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8	32% G80 X V V V V	G8X X X V V V	GT X X V V V V V V V V V V V V V V V V V	GT21X X V V V V	R600 X X X X X X	17%  RV670  X  X  X  X  X  X	21%  RV700  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev	32% G80 X V V V V V	G8X X V V V V	GT X V V V V V V V V V V V V V V V V V V	GT21X X V V V X V	R600 X X X X X X X X	RV670 X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8	32% G80 X V V V V	G8X X V V V V	GT X V V V V V V V V V V V V V V V V V V	GT21X X V V V X V	R600 X X X X X X X X	RV670 X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support	32% G80 X X V V V V C63%	G8X X X V V V V V	GT X X V V V X V V V X C 63%	GT21X X V V V V V V	R600 X X X X X X X X X	RV670 X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support	32% G80 X V V V V G3% G80	G8X X V V V V V G63%	GT X V V V V V G 63%	GT21X X V V V V V GT21X	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X RV670	21%  RV700  X  X  X  X  X  X  RV700
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support  OpenGL 4.3  GL ARB vertex attrib binding	32% G80 X X V V V C63% G80 V	G8X X V V V V V G63% V	GT X X V V V X V V V G 63%	GT21X X V V V V G33% GT21X V V V V V V V V V V V V V V V V V V V	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X X X X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support  OpenGL 4.3  GL ARB vertex attrib binding  GL ARB texture view	32% G80 X X V V V C63% G80 V X	G8X X X V V V V G63% G8X V	GT X X V V V X V V V G 63%	GT21X X V V V V V GT21X V V	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X X X X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support  OpenGL 4.3  GL ARB vertex attrib binding  GL ARB texture view  GL ARB texture storage multisample	32% G80 X V V V V G3% G80 V X V	G8X X V V V V G63% G8X V	GT X V V V V S 63%	GT21X X V V V V GT21X V V	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X X X X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support  OpenGL 4.3  GL ARB vertex attrib binding  GL ARB texture view  GL ARB texture storage multisample  GL ARB texture query levels	32% G80 X V V V C63% G80 V X V V	G8X X V V V V G63% G8X V V	GT X V V V V V V V V V V V V V V V V V V	GT21X X V V V C GT21X V V V V V V V V V V V V V V V V V V V	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X X X X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support  OpenGL 4.3  GL ARB vertex attrib binding  GL ARB texture view  GL ARB texture storage multisample  GL ARB texture query levels  GL ARB texture buffer range	32% G80 X X V V V C63% G80 V X V V	G8X X V V V V V V V V V V V V V V V V V V	GT X X V V V X X V V V V V V V V V V V V	GT21X X V V V V G3% GT21X V V V V V V V V V V V V V V V V V V V	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X X X X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support  OpenGL 4.3  GL ARB vertex attrib binding  GL ARB texture view  GL ARB texture storage multisample  GL ARB texture query levels  GL ARB stencil texturing	32% G80 X V V V V G3% V V V V V V V V V V V V V V V V V V V	G8X X V V V V G63% G8X V V V V	GT X X V V V X V V V V V V V V V V V V V	GT21X X V V V V GT21X V V V V V V V V V V V V V V V V V V V	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X X X X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support  OpenGL 4.3  GL ARB vertex attrib binding  GL ARB texture view  GL ARB texture view  GL ARB texture query levels  GL ARB texture buffer range  GL ARB stencil texturing  GL ARB shader storage buffer object	32% G80 X V V V V G3% V V V V V V V V V V V V V V V V V V V	G8X X V V V V G63% G8X V V V V V	GT X V V V V V V V V V V V V V V V V V V	GT21X X V V V C G3% GT21X V V V V V V V V V V V V V V V V V V V	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X X X X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X  X  X  X
OpenGL 4.4  ARB buffer storage  ARB clear texture  ARB enhanced layouts  ARB multi bind  ARB query buffer object  ARB texture mirror clamp to edge  ARB texture stencil8  ARB vertex type 10f 11f 11f rev  Support  OpenGL 4.3  GL ARB vertex attrib binding  GL ARB texture view  GL ARB texture storage multisample  GL ARB texture query levels  GL ARB stencil texturing	32% G80 X V V V V G3% V V V V V V V V V V V V V V V V V V V	G8X X V V V V G63% G8X V V V V	GT X X V V V X V V V V V V V V V V V V V	GT21X X V V V V GT21X V V V V V V V V V V V V V V V V V V V	R600 X X X X X X X X X X X X X X X X X X	RV670 X X X X X X X X X X X X X X X X X X X	21%  RV700  X  X  X  X  X  X  X  X  X  X  X  X

X V V

GL ARB multi draw indirect

GL ARB internalformat query2

GL ARB invalidate subdata

X V

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Χ

Χ

Χ

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Χ

Χ

Χ

GL ARB framebuffer no attachments	V	V	V	V	X	X	X
GL ARB fragment layer viewport	V	V	V	V	Χ	X	X
GL ARB explicit uniform location	V	V	V	V	Χ	X	X
GL ARB ES3 compatibility	V	V	V	V	Χ	X	Х
GL KHR debug	V	V	V	V	Χ	X	X
GL ARB copy image	V	V	V	V	Χ	X	Х
GL ARB compute shader	X	Х	Х	Х	X	X	X
GL ARB clear buffer object	V	V	V	V	Χ	Х	X
GL ARB arrays of arrays	V	٧	V	V	Χ	Χ	Χ
Support	76%	81%	81%	81%	0%	0%	0%
OpenGL 4.2	G80	G8X	GT			RV670	
GL ARB transform feedback instanced	X	Х	Х	Х	V	V	V
GL ARB texture compression bptc	X	Х	Х	X	Χ	X	X
GL ARB texture storage	V	V	V	V	V	V	V
GL ARB shading language packing	V	V	V	V	V	V	V
GL ARB shading language 420pack	V	V	V	V	V	V	V
GL ARB shader image load store	X	X	X	X	X	X	X
GL ARB shader atomic counters	X	Х	Х	Χ	Х	X	Х
GL ARB map buffer alignment	V	V	V	V	V	V	V
GL ARB internalformat query	V	V	V	V	V	V	V
GL ARB conservative depth	V	V	V	V	V	V	V
GL ARB compressed texture pixel storage	V	V	V	V	V	V	V
GL ARB base instance	V	٧	٧	٧	V	V	V
Support	67%	67%	67%	67%	75%	75%	75%
OpenGL 4.1	G80	G8X	GT			RV670	
GL ARB viewport array	V	V	V	V	V	RV670 V	V
GL ARB viewport array GL ARB vertex attrib 64bit	V X	V X	V X	V X	V X	RV670 V X	V X
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision	V X X	V X X	V X X	V X X	V X V	RV670 V X V	V X V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects	V X X V	V X X V	V X X V	V X X V	V X V	RV670 V X V	V X V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary	V X X V V	V X X V V	V X X V V	V X X V	V X V V	RV670 V X V V	V X V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility	V X X V V	V X X V V	V X X V V	V X X V V	V X V V V	RV670 V X V V V	V X V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary	V X X V V	V X X V V	V X X V V	V X X V V	V X V V V	RV670 V X V V V	V X V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support	V X X V V V	V X X V V V	V X X V V V	V X X V V V	V X V V V V	RV670 V X V V V V	V X V V V V 83%
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support OpenGL 4.0	V X X V V V G80	V X X V V V 67%	V X X V V GT	V X X V V V 67%	V X V V V V R600	RV670 V X V V V V RV670	V X V V V V 83%
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3	V X X V V V 67%	V X X V V V 67%	V X X V V GT X	V X X V V V 67%	V X V V V 83%	RV670 V X V V V V RV670 V	V X V V V V 83%
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2	V X X V V V 67% G80 X X	V X X V V V 67%	V X X V V V 67%	V X X V V V 67% GT21X X	V X V V V 83% R600 V	RV670 V X V V V 83% RV670 V	V X V V V 83% RV700 V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod	V X X V V V 67% G80 X X	V X X V V 67% G8X X X	V X X V V V 67% GT X V	V X X V V V 67% GT21X X V	V X V V V 83% R600 V V	RV670 V X V V V 83% RV670 V	V X V V V 83% RV700 V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather	V X X V V V 67%	V X X V V V 67% G8X X X X	V X X V V V 67%  GT X V X X X	V X X V V V 67% GT21X X V	V X V V V 83% R600 V V X	RV670 V X V V V 83% RV670 V V	V X V V V 83% RV700 V V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array	V X X V V V 67% G80 X X X X	V X X V V V 67% G8X X X X	V X X V V V 67% GT X V X X X X	V X X V V V 67% GT21X X V V	V X V V V 83% R600 V V X X	RV670 V V V V 83% RV670 V V	V X V V V 83% RV700 V V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32	V X X V V V 67% G80 X X X X X	V X X V V V 67% G8X X X X X	V X X V V V 67%  GT X V X X X X X X	V X X V V V 67% GT21X X V V V V	V X V V V 83% R600 V V X X X	RV670 V V V V V 83% RV670 V V V	V X V V V 83% RV700 V V V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32 GL ARB tessellation shader	V X X V V V 67% G80 X X X X X	V X X V V 67% G8X X X X X X	V X X V V 67% GT X V X X X	V X V V V 67% GT21X X V V V V	V X V V V 83% R600 V V X X X X	RV670 V X V V V V 83% RV670 V V V V	V X V V V 83% RV700 V V V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32 GL ARB tessellation shader GL ARB shader subroutine	V X X V V V 67% G80 X X X X X X	V X X V V V 67% G8X X X X X X	V X X V V V 67%  GT X V X X X X X X X X X X X X X X X X X	V X X V V V GT21X X V V V V X X	V X V V V 83% R600 V V X X X X	RV670 V X V V V X RV670 V V V V X	V X V V V 83% RV700 V V V V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32 GL ARB tessellation shader GL ARB shader subroutine GL ARB sample shading	V X X V V V 67% G80 X X X X X X X	V X X V V V 67% G8X X X X X X X	V X X V V V 67%  GT X V X X X X X X X X X X X X X X X X X	V X X V V V GT21X X V V V V X X X	V X V V V 83% R600 V V X X X X X	RV670 V V V V V 83% RV670 V V V V V	V X V V V 83% RV700 V V V V V V
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32 GL ARB tessellation shader GL ARB shader subroutine GL ARB gpu shader5	V X X V V V 67% G80 X X X X X X X X X X	V X X V V 67% G8X X X X X X X X	V X X V V V 67%  GT X V X X X X X X X X X X X X X X X X X	V X X V V 67%  GT21X X V V V X X X X X X	V X V V V 83% R600 V V X X X X X X	RV670 V V V V V 83% RV670 V V V V V X	V X V V V 83% RV700 V V V V V X X
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32 GL ARB tessellation shader GL ARB shader subroutine GL ARB gpu shader5 GL ARB gpu shader fp64	V X X V V V 67% G80 X X X X X X X X X X X	V X X V V 67% G8X X X X X X X X X	V X X V V 67%  GT X V X X X X X X X X X X X X X X X X X	V X X V V 67%  GT21X X V V V X X X X X X X	V X V V V 83% R600 V V X X X X X X X	RV670 V V V V V V X V V V X X X	V X V V V 83% RV700 V V V V V X X X
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32 GL ARB tessellation shader GL ARB shader subroutine GL ARB gpu shader5 GL ARB gpu shader fp64 GL ARB draw indirect	V X X V V V 67% G80 X X X X X X X X X X X	V X X V V V 67% G8X X X X X X X X X X X	V X X V V V 67%  GT X V X X X X X X X X X X X X X X X X X	V X X V V 67%  GT21X X V V V X X X X X X X X	V X V V V 83% R600 V V X X X X X X X	RV670 V X V V V V X V V X X V X X X	V X V V V 83%  RV700 V V V V X X X X X
GL ARB viewport array GL ARB vertex attrib 64bit GL ARB shader precision GL ARB separate shader objects GL ARB get program binary GL ARB ES2 compatibility Support  OpenGL 4.0 GL ARB transform feedback3 GL ARB transform feedback2 GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32 GL ARB tessellation shader GL ARB shader subroutine GL ARB gpu shader5 GL ARB gpu shader fp64	V X X V V V 67% G80 X X X X X X X X X X X	V X X V V V 67% G8X X X X X X X X X X X X X X X X X X X	V X X V V V 67%  GT X X X X X X X X X X X X X X X X X X X	V X X V V 67%  GT21X X V V V X X X X X X X V	V X V V V 83% R600 V V X X X X X X X X X Y	RV670 V V V V V 83% RV670 V V V V V X X V V V	V X V V V 83%  RV700 V V V V X X X X V

OpenGL 3.3	G80	G8X	GT			RV670	
GL ARB vertex type 2 10 10 10 rev	V	V	V	V	V	V	V
GL ARB timer query	V V	V	V	V	V	V	V
GL ARB texture swizzle		V	V	V	V	V	V
GL ARB texture rgb10 a2ui	V V	V	V V	V	V	V	V
GL ARB shader bit encoding	V	V	V	V	V	V	V
GL ARB sampler objects GL ARB occlusion query2	V	V	V	V	V	V	V
GL ARB instanced arrays	V	V	V	V	V	V	V
GL ARB explicit attrib location	V	V	V	V	V	V	V
GL ARB blend func extended	V	V	V	V	V	V	V
Support		-				100%	
OpenGL 3.2	G80	G8X	GT	GT21X	R600	RV670	RV700
GL ARB vertex array bgra	٧	٧	٧	V	٧	V	V
GL ARB texture multisample	V	٧	V	V	V	V	V
GL ARB sync	V	V	V	V	V	V	V
GL ARB seamless cube map	V	٧	V	V	V	V	V
GL ARB provoking vertex	V	٧	V	V	V	V	V
GL ARB geometry shader4	V	V	V	V	V	V	V
GL ARB fragment coord conventions	V	V	V	V	V	V	V
GL ARB depth clamp	V	V	V	V	V	V	V
GL ARB draw elements base vertex	V	V	V	V	V	V	V
Support	100%	100%	100%	100%	100%	100%	100%
OpenCL 2.1	COO	COV	СТ	CT21V	DC00	DV670	DV/700
OpenGL 3.1	G80	G8X	GT			RV670	
GL ARB uniform buffer object	V	V	V	V	V	V	V
GL ARB uniform buffer object GL EXT texture snorm	V V	V V	V V	V V	V V	V V	V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle	V V V	V V V	V V V	V V V	V V V	V V V	V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object	V V V	V V V	V V V	V V V	V V V	V V V	V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart	V V V	V V V	V V V	V V V	V V V	V V V	V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced	V V V V	V V V V	V V V V	V V V V	V V V V	V V V V	V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart	V V V V V	V V V V V	V V V V V	V V V V V	V V V V V	V V V V	V V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer	V V V V V	V V V V V	V V V V V	V V V V V	V V V V V	V V V V V	V V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer	V V V V V 100%	V V V V V	V V V V V V T00%	V V V V V V	V V V V V V	V V V V V	V V V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object	V V V V V V 100%	V V V V V V 100%	V V V V V V 100%	V V V V V 100%	V V V V V 100%	V V V V V 100%	V V V V V 100%
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback	V V V V V 100%	V V V V V 100%	V V V V V 100%	V V V V V 100% GT21X V	V V V V V 100% R600 V	V V V V V 100% RV670 V	V V V V V 100% RV700 V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg	V V V V V 100% G80 V V	V V V V V 100% G8X V V	V V V V V 100% GT V V	V V V V V 100% GT21X V V	V V V V V 100% R600 V V	V V V V V 100% RV670 V V	V V V V V 100% RV700 V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent	V V V V V 100% G80 V V V	V V V V V 100%	V V V V V 100%	V V V V V 100% GT21X V V V	V V V V V 100% R600 V V	V V V V V 100% RV670 V V	V V V V V 100% RV700 V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent GL EXT texture integer	V V V V V 100% G80 V V V V	V V V V V 100% G8X V V V	V V V V V V V V V V V V V V V V V V V	V V V V V 100% GT21X V V V	V V V V V 100% R600 V V V	V V V V V 100% RV670 V V V	V V V V V 100% RV700 V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent GL EXT texture integer GL ARB texture float	V V V V V 100% G80 V V V V	V V V V V 100% G8X V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V 100% GT21X V V V V	V V V V V 100% R600 V V V V	V V V V V 100% RV670 V V V V	V V V V V 100% RV700 V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent GL EXT texture integer GL ARB texture float GL ARB texture compression rgtc	V V V V V 100% G80 V V V V V	V V V V V 100% G8X V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V 100% GT21X V V V V V	V V V V V 100% R600 V V V V V	V V V V V 100% RV670 V V V V	V V V V V 100% RV700 V V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent GL EXT texture integer GL ARB texture float GL ARB texture compression rgtc GL EXT texture array	V V V V V 100% G80 V V V V V V	V V V V V 100% G8X V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V V T100% GT21X V V V V V V	V V V V V 100% R600 V V V V V V	V V V V V 100% RV670 V V V V V	V V V V V 100% RV700 V V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent GL EXT texture integer GL ARB texture float GL ARB texture compression rgtc GL EXT texture array GL EXT packed float	V V V V V 100% G80 V V V V V V V	V V V V V 100% G8X V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V 100%  GT21X V V V V V V V V V V V V V V V V V V V	V V V V V 100% R600 V V V V V V	V V V V V 100% RV670 V V V V V V	V V V V V V V V V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent GL EXT texture integer GL ARB texture float GL ARB texture compression rgtc GL EXT texture array GL EXT packed float GL EXT packed depth stencil	V V V V V V 100% G80 V V V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V 100%  GT21X V V V V V V V V V V V V V V V V V V V	V V V V V 100% R600 V V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V 100%  RV700 V V V V V V V V V V V V V V V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent GL EXT texture integer GL ARB texture float GL ARB texture compression rgtc GL EXT texture array GL EXT packed float GL EXT packed depth stencil GL ARB map buffer range	V V V V V 100% G80 V V V V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V 100%  GT21X V V V V V V V V V V V V V V V V V V V	V V V V V 100% R600 V V V V V V V V	V V V V V V V V V V V V V V	V V V V V V V V V V V V V V
GL ARB uniform buffer object GL EXT texture snorm GL ARB texture rectangle GL ARB texture buffer object GL NV primitive restart GL ARB draw instanced GL ARB copy buffer Support  OpenGL 3.0 GL ARB vertex array object GL EXT transform feedback GL ARB texture rg GL EXT texture shared exponent GL EXT texture integer GL ARB texture float GL ARB texture compression rgtc GL EXT texture array GL EXT packed float GL EXT packed depth stencil	V V V V V V 100% G80 V V V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V V 100%  GT21X V V V V V V V V V V V V V V V V V V V	V V V V V 100% R600 V V V V V V V	V V V V V V V V V V V V V V V V V V V	V V V V 100%  RV700 V V V V V V V V V V V V V V V V V V

GL EXT gpu shader4	V	V	V	V	V	V	V
GL ARB framebuffer sRGB	V	٧	V	V	V	V	V
GL ARB framebuffer object	V	V	V	V	V	V	V
GL ARB depth buffer float	V	V	V	V	V	V	V
GL NV conditional render	V	V	V	V	V	V	V
GL ARB color buffer float	V	V	V	V	V	V	V
Support	100%	100%	100%	100%	100%	100%	100%
OpenGL 2.1	G80	G8X	GT	GT21X	R600	RV670	RV700
GL EXT texture sRGB	V	V	V	V	V	V	V
GL ARB pixel buffer object	V	V	V	V	V	V	V
Support	100%	100%	100%	100%	100%	100%	100%
Support	100/0	100/0	100/0	100/0	100/0	100/0	10070
Support	10070	10070	10070	10070	10070	10070	10070
OpenGL 2.0	G80	G8X	GT			RV670	
OpenGL 2.0	G80	G8X	GT	GT21X	R600	RV670	RV700
OpenGL 2.0 GL ARB vertex shader	G80 V	G8X V	GT V	GT21X V	R600 V	RV670 V V	RV700 V
OpenGL 2.0  GL ARB vertex shader  GL ARB texture non power of two	G80 V V	G8X V V	GT V V	GT21X V V	R600 V V	RV670 V V	RV700 V V
OpenGL 2.0 GL ARB vertex shader GL ARB texture non power of two GL EXT stencil two side	G80 V V	G8X V V	GT V V	GT21X V V	R600 V V	RV670 V V	RV700 V V
OpenGL 2.0  GL ARB vertex shader  GL ARB texture non power of two  GL EXT stencil two side  GL ARB shading language 100	G80 V V V	G8X V V V	GT V V V	GT21X V V V	R600 V V V	RV670 V V V	RV700 V V V V
OpenGL 2.0  GL ARB vertex shader  GL ARB texture non power of two  GL EXT stencil two side  GL ARB shading language 100  GL ARB shader objects	G80 V V V V	G8X V V V	GT V V V	GT21X V V V V	R600 V V V V	RV670 V V V V	RV700 V V V V
OpenGL 2.0 GL ARB vertex shader GL ARB texture non power of two GL EXT stencil two side GL ARB shading language 100 GL ARB shader objects GL ARB point sprite	G80 V V V V	G8X V V V V	GT V V V V	GT21X V V V V V V V	R600 V V V V V	RV670 V V V V V	RV700 V V V V V
OpenGL 2.0  GL ARB vertex shader  GL ARB texture non power of two  GL EXT stencil two side  GL ARB shading language 100  GL ARB shader objects  GL ARB point sprite  GL ARB fragment shader	G80 V V V V V	G8X V V V V V V V	GT V V V V V	GT21X V V V V V V V V V	R600 V V V V V	RV670 V V V V V V	RV700 V V V V V V