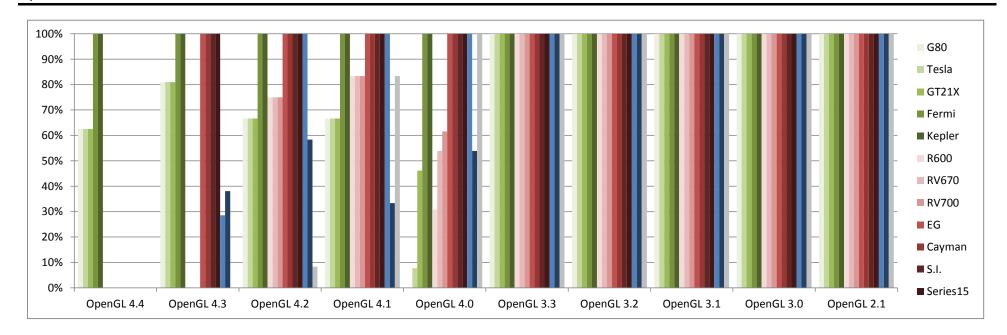
OpenGL hardware matrix

Extensions exposed by OpenGL implementations

November 2013, G-Truc Creation

Vendor			NVIDI	A					AMD				In	tel	Mesa	Apple
Drivers version		:	331.10 b	eta				13.	11 bet	a 9.2			33	325	git-10.0	10.9
Release date		(02/10/2	013				08	3/11/20	013			30/08	3/2013	06/11/2013	22/10/2013
Platforms	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
OpenGL 4.4	63%	63%	63%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5 0%
OpenGL 4.3	81%	81%	81%	100%	100%	0%	0%	0%	100%	100%	100%	100%	19%	29%	38%	0%
OpenGL 4.2	67%	67%	67%	100%	100%	75%	75%	75%	100%	100%	100%	100%	92%	100%	58%	8%
OpenGL 4.1	67%	67%	67%	100%	100%	83%	83%	83%	100%	100%	100%	100%	100%	100%	33%	83%
OpenGL 4.0	0%	8%	46%	100%	100%	31%	54%	62%	100%	100%	100%	100%	100%	100%	54%	100%
OpenGL 3.3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 3.2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 3.1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 3.0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 2.1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 2.0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		100%	100%	100%



Nomenclature:

Supported

Not supported

Support added from previous report

OpenGL Extensions	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
KHR texture compression astc ldr	Χ	Χ	Х	Χ	Χ	Χ	Х	Х	Χ	Χ	Χ	Χ	Χ	Χ	Х	Х
ARB robustness	V	V	V	V	V	X	Χ	X	Χ	Χ	Χ	Χ	Χ	Χ	X	X
ARB sparse texture	Χ	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	X
ARB shading language include	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	V
ARB shader stencil export	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	V	V	V	V	Χ	Χ	X	Χ
ARB shader group vote	X	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
ARB shader draw parameters	X	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	X
ARB seamless cubemap per texture	Χ	Χ	Χ	Χ	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	Χ
ARB robustness isolation	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	X
ARB robust buffer access behavior	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
ARB debug output	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
ARB indirect parameters	X	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	X
ARB compute variable group size	Χ	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	Χ
ARB compatibility	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X	Χ
ARB cl event	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	X
ARB bindless texture	Χ	Χ	Χ	Χ	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	Χ
EXT texture sRGB decode	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	V	V	X	V
EXT texture mirror clamp	V	V	V	V	V	V	V	V	V	V	V	V	X	Χ	X	V
EXT framebuffer multisample blit scaled	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	V
EXT direct state access	V	V	V	V	V	V	V	V	V	V	V	V	X	Χ	X	X
EXT depth bounds test	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	V	V	Χ	Χ	X	V
NV vertex buffer unified memory	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	X
NV texture multisample	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	X
NV texture barrier	V	V	V	V	V	V	V	V	V	V	V	V	X	Χ	X	V
NV shader buffer store	Χ	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
NV shader buffer load	V	V	V	V	V	X	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
NV shader atomic float	Χ	Χ	Χ	V	V	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X

NV multisample coverage	V	٧ ١	/ \	/ V	X	X	X	Х	Х	Χ	Χ	Χ	Χ	Χ	Χ
NV explicit multisample	V	٧١	/ \	/ V	V	V	V	V	V	V	V	X	Χ	Х	X
NV copy image	V	٧	/ \	/ V	V	V	V	V	V	V	V	X	Χ	Χ	X
NV bindless texture	Χ	X	()	(V	X	Х	Х	Х	Х	Х	Χ	Χ	Χ	Χ	X
NV bindless multi draw indirect	Χ	X X	()	/ V	X	X	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
NV blend equation advanced	Χ	X X	()	/ V	X	X	X	X	Χ	Х	Χ	Χ	Χ	Χ	X
INTEL map texture	Χ	X X	()	(X	Х	X	X	Χ	Χ	Χ	Χ	Χ	V	X	X
INTEL fragment shader ordering	Χ	X X	〈	(X	Х	Х	X	Χ	Χ	Χ	Χ	V	V	X	X
ATI texture mirror once	V	٧ ١	/ \	/ V	V	V	V	V	V	V	V	X	Χ	Χ	V
AMD vertex shader viewport index	Χ	X X	()	(X	Х	X	X	V	V	V	V	X	Χ	Χ	X
AMD vertex shader layer	Χ	X X	()	(X	Х	X	X	V	V	V	V	X	Χ	Χ	X
AMD transform feedback3 lines triangles	Χ	X X	()	(X	Х	X	X	Χ	V	V	V	X	Χ	Χ	X
AMD stencil operation extended	Χ	X X	()	(X	Х	X	X	X	Х	V	V	X	Χ	Χ	X
AMD sparse texture	Χ	X X	()	(X	Х	X	X	Χ	Χ	V	V	X	Χ	Χ	X
AMD shader trinary minmax	Χ	X X	()	(<u>X</u>	Х	X	X	Х	Х	V	V	X	Χ	Χ	X
AMD seamless cubemap per texture	Χ	X X	()	(V	X	X	V	V	V	V	V	X	Χ	Χ	X
AMD sample positions	X	X X	()	(X	V	V	V	V	V	V	V	X	Χ	Χ	X
AMD query buffer object	Χ	X X	()	(X	Х	X	X	V	V	V	V	X	Χ	Χ	X
AMD pinned memory	X	X X	()	(X	V	V	V	V	V	V	V	X	Χ	Χ	X
AMD_occlusion_query_event	X	X X	()	(X	Х	Χ	X	X	X	Χ	V	X	Χ	Χ	X
AMD blend minmax factor	X	X	〈	(X	Х	X	X	Х	V	V	V	X	Χ	Χ	Χ
Support	40%	40%	40%	58%	67%	21%	21%	23%	33%	38% 4	6% 489	% 89	6 10)%	2% 15%

OpenGL 4.4	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
ARB buffer storage	Χ	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
ARB clear texture	Χ	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
ARB enhanced layouts	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
ARB multi bind	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
ARB query buffer object	Χ	Χ	Χ	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
ARB texture mirror clamp to edge	V	V	V	V	V	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
ARB texture stencil8	V	V	V	V	V	Χ	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
ARB vertex type 10f 11f 11f rev	V	V	V	V	V	Χ	X	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
Support	63%	63%	63%	100%	100%	0%	0%	0%	0%	6 0%	0%	0%	6 0%	0%	0	% 0%

OpenGL 4.3	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	FG.	Cayman	S L	C.I.	IVB	HSW	Mesa	MacOS >	X
GL ARB vertex attrib binding	V	V	V	V	V	X	X	X	V	V	V V	V	X	X	V	X	`
GL ARB texture view	V	V	V	V	V	Χ	X	X	V	V	V	V	X	Χ	V	X	
GL ARB texture storage multisample	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	Χ	Χ	V	X	
GL ARB texture query levels	V	V	V	V	V	Χ	Х	Х	V	V	V	V	Х	Χ	V	X	
GL ARB texture buffer range	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	Χ	Χ	V	X	
GL ARB stencil texturing	V	V	V	V	V	Χ	Х	Χ	V	V	V	V	Χ	Χ	Х	Х	
GL ARB shader storage buffer object	X	Χ	Χ	V	V	Χ	Χ	Χ	V	V	V	V	Χ	V	Χ	Х	
GL ARB shader image size	X	Χ	Х	V	V	Χ	Х	Х	V	V	V	V	Χ	Χ	Х	Х	
GL ARB program interface query	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	V	V	Х	Х	
GL ARB multi draw indirect	X	Χ	Х	V	V	Χ	Х	Х	V	V	V	V	V	V	Х	Х	
GL ARB invalidate subdata	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	X	Χ	V	X	
GL ARB internalformat query2	V	V	V	V	V	Χ	Х	Х	V	V	V	V	Χ	Χ	Х	Х	
GL ARB framebuffer no attachments	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	Χ	Χ	Χ	Х	
GL ARB fragment layer viewport	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	Χ	Χ	Χ	Х	
GL ARB explicit uniform location	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	Χ	Χ	Χ	X	
GL ARB ES3 compatibility	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	X	Χ	V	X	
GL KHR debug	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	V	V	V	X	
GL ARB copy image	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	Χ	Χ	Χ	X	
GL ARB compute shader	X	Χ	X	V	V	Χ	Χ	Χ	V	V	V	V	Χ	V	Χ	X	
GL ARB clear buffer object	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	Χ	Χ	Χ	X	
GL ARB arrays of arrays	V	V	V	V	V	Χ	Χ	Χ	V	V	V	V	V	V	Χ	X	
Support	81%	81%	81%	100%	100%	0%	0%	0%	100%	100%	100%	6 100%	19%	29%		38%	0
On Cl. 4.2	C00	TI-	CT24V	F	V = l =	DC00	DV670	D) /700	F.C.	6	CI		I) /D	LICVA	N 4	N4OC \	
OpenGL 4.2	G80	Tesla		v	Kepler	R600 V		RV700	V	Cayman	S.I. V	C.I.	IVB V	HSW V	Mesa V	MacOS >	`
GL ARB transform feedback instanced	X	X	X			_	V	V		V		V	_	V	_		
GL ARB texture compression bptc	^	X		V	V	X	X	X	V	V	V		V		X	X	
GL ARB shading language packing	V	V	V	V	V	V	V	V	V		V	V	V	V	V	X	
GL ARB shading language packing	V	V	V	V	•	V	V	_	V	V	V	V	V	V	V	X	
GL ARB shading language 420pack	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X	
GL ARB shader image load store	X	X	X	V	V	X	X	X	V	V	V	V	X	V	X	X	
GL ARB shader atomic counters	X	X	Χ	V	V	X	Χ	Χ	V	V	V	V	V	V	X	X	

0, 400							,										
GL ARB map buffer alignment	V	V	V	V	V			/		V	V	V	V	V	V	X	
GL ARB internalformat query	V	V	V	V	V			/		V	V	V	V	V	V	V	
GL ARB conservative depth	V	V	V	V	V			V		V	V	V	V	V	V	X	
GL ARB compressed texture pixel storage	<u>e</u> V	V	V	V	V					V	V	V	V	V	X	X	
GL ARB base instance	V	V	V	V	V	V	V	V		V	V	V	V	V	V	X	221
Support	67%	67%	67%	100%	100%	75%	75%	75%	100%	100%	100%	100%	92%	100%		58%	8%
OpenGL 4.1	C00	Toolo	CT24V	Fauna:	Kanlar	DC00	RV670	01/700	F.C.	Cavua	C I	CI	IV/D	LICIA	N.4.0.0	MacOS	V
	G80	Tesla V	GT21X V	V	Kepler V					Cayman V	5.I. V	C.I.	IVB V	HSW V	Mesa X	V	X
GL ARB viewport array	V	•				•	-	•	-	V		V			X		
GL ARB vertex attrib 64bit	X	X	X	V	V				•	•	V		V	V	X	V	
GL ARB shader precision	X	X	X	V	V					V	V	V	V	V	X		
GL ARB separate shader objects	V	V	V	V	V		•	/		V	V	V	V	V	X	V	
GL ARB get program binary	V	V	V	V	V					V	V	V	V	V	V	X	
GL ARB ES2 compatibility	V	V 670	V 6701	V	V 1000/	V	•	V	•	V 1000/	V	V	V	V	<u>V</u>	V	000/
Support	67%	67%	67%	100%	100%	83%	83%	83%	100%	100%	100%	100%	100%	100%		33%	83%
OpenGL 4.0	G80	Tesla		Fermi	Kepler					Cayman		C.I.	IVB	HSW	Mesa	MacOS	Х
GL ARB transform feedback3	X	Χ	Χ	V	V	V '	√ '	/	V	V	V	V	V	V	V	V	
					_	_	•			•					•		
GL ARB transform feedback2	X	V	V	V	V	V '	/ /			V	V	V	٧	V	V	V	
GL ARB texture query lod	X X	Х	V	V	V	V	V .	/	V	V V	V V	V V		V V	V V	V V	
	X X X		V V			V X X	/ X '	/	V	V	V	V	٧	V	V	V	
GL ARB texture query lod GL ARB texture gather GL ARB texture cube map array	X X X	X X X	V V V	V V V	V V V	V X X X	V X 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 texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32	X X X X	X X	V V	V V V V	V V	V X X X	V X 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 texture query lod GL ARB texture gather GL ARB texture cube map array	X X X X X	X X X	V V V	V V V	V V V	V X X Y Y Y Y	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 texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32	X X X X X	X X X	V V V	V V V V	V V V	V X X X Y X X X X X X X X X X X X X X X	X Y Y	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 texture query lod GL ARB texture gather GL ARB texture cube map array GL ARB texture buffer object rgb32 GL ARB tessellation shader	X X X X X X	X X X X	V V V X	V V V V	V V V V	V X X X Y Y X X X X X X X X X X X X X X	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	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	
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	X X X X X X X	X X X X X	V V V X X	V V V V V	V V V V V V	V X X X Y X X X X X X X X X X X X X X X	V V V V V V V V V V V V V V V V V V V	V V V V X	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	
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	X X X X X X X	X X X X X	V V V X X X X V V	V V V V V V	V V V V V V V V	V X X X V X X X X X X X X X X X X X X X	V V V V V V V V V V V V V V V V V V V	V V V V X	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 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 X X X X	V V V V V V V V V	
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 GL ARB gpu shader5	X X X X X X X X	X X X X X X	V V V X X X X	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 X X X X X X X X X X X X X X X X X X X	X Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	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 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 V V V V V V V V V V V V V V V V V	V V V V X X X X	V V V V V V V	
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 GL ARB gpu shader5 GL ARB gpu shader fp64	X X X X X X X X X	X X X X X X X	V V V X X X X X	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 X X X X X X X X X X X X X X X X X X X	X	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 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 V V V V V V V V V V V V V V V V V	V V V V X X X X X X X	V V V V V V V	
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 GL ARB gpu shader5 GL ARB gpu shader fp64 GL ARB draw indirect	X X X X X X X X X X	X X X X X X X X X	V V V X X X X X X X X X X X X X Y V Y X X X X	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 X X X X X X X X X X X X X X X X X X X	X	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 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 V V V V V V V V V V V V V V V V V V	V V V V X X X X X X X X V V	V V V V V V V V V V V V V V V V V V V	100%
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 GL ARB gpu shader5 GL ARB gpu shader fp64 GL ARB draw indirect GL ARB draw buffers blend	X X X X X X X X	X X X X X X X X	V V V X X X X X X X X X X X X X Y V Y X X X X	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 X X X X X X X X X X X X X X X X X X Y 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 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	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 X X X X X X X X V V	V V V V V V V V V V V V V V V V V V V	100%

GL ARB vertex type 2 10 10 10 rev	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
GL ARB timer query	V	٧	V	V	V	V	V	V	٧	V	V	V	٧	V	V	V
GL ARB texture swizzle	٧	٧	V	V	V	٧	V	V	V	V	٧	٧	٧	V	V	V
GL ARB texture rgb10 a2ui	V	٧	V	V	V	V	V	V	٧	V	V	V	٧	V	V	V
GL ARB shader bit encoding	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
GL ARB sampler objects	V	V	V	V	V	V	V	V	٧	V	V	V	V	V	V	V
GL ARB occlusion query2	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
GL ARB instanced arrays	٧	٧	V	V	V	٧	V	V	V	V	٧	٧	٧	V	V	V
GL ARB explicit attrib location	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
GL ARB blend func extended	٧	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100	% 100%
OpenGL 3.2	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
GL ARB vertex array bgra	V	٧	V	V	V	٧	V	V	٧	V	٧	٧	٧	٧	V	V
GL ARB texture multisample	٧	٧	V	V	V	٧	V	V	V	V	٧	٧	٧	V	V	V
GL ARB sync	V	V	V	V	V	V	V	V	٧	V	V	V	V	V	V	V
GL ARB seamless cube map	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
GL ARB provoking vertex	V	V	V	V	V	V	V	V	٧	V	V	V	V	V	V	V
GL ARB geometry shader4	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
GL ARB fragment coord conventions	V	V	V	V	V	V	V	V	٧	V	V	V	V	V	V	V
GL ARB depth clamp	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
GL ARB draw elements base vertex	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100	% 100%
OpenGL 3.1	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
GL ARB uniform buffer object	٧	٧	V	V	V	٧	V	V	٧	V	٧	٧	V	٧	V	V
GL EXT texture snorm	V	٧	V	V	V	٧	V	V	V	V	٧	V	V	V	V	V
GL ARB texture rectangle	V	٧	V	V	V	٧	V	V	٧	V	V	V	V	V	V	V
GL ARB texture buffer object	V	٧	V	V	V	٧	V	V	V	V	٧	٧	V	V	V	V
GL NV primitive restart	V	٧	V	V	V	٧	V	V	V	V	V	V	V	V	V	V
GL ARB draw instanced	V	V	V	V	V	V	V	V	٧	V	V	V	V	V	V	V
GL ARB copy buffer	V	V	V	V	V	V	V	V	٧	V	V	V	V	V	V	V
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100	% 100%

OpenGL 3.0	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	Evergi	r Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS	X
GL ARB vertex array object	V	٧	V	V	V	V	V	V	V	V	V	V	٧	٧	V	V	
GL EXT transform feedback	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB texture rg	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL EXT texture shared exponent	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL EXT texture integer	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB texture float	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB texture compression rgtc	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL EXT texture array	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL EXT packed float	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL EXT packed depth stencil	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB map buffer range	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB half float vertex	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB half float pixel	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	V	V	V	V	V	V	V	V	V	
GL ARB framebuffer sRGB	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB framebuffer object	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB depth buffer float	٧	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL NV conditional render	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB color buffer float	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		100%	100%
OpenGL 2.1	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS	Χ
GL EXT texture sRGB	V	V	V	V	V	V	V	V	V	V	٧	V	٧	٧	V	V	
GL ARB pixel buffer object	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		100%	100%
OpenGL 2.0	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	FG	Cayman	SI	C.I.	IVB	HSW	Mesa	MacOS	X
GL ARB vertex shader	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	^
GL ARB texture non power of two	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL EXT stencil two side	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB shading language 100	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
OL AND SHAUING HANGUAGE TOO	V	•	V	V	V	V	V	V	V	V	V	V	V	V	V	V	

GL ARB shader objects	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
GL ARB point sprite	V	V	V	V	V	V	V	V	V	V	V	V	٧	٧	V	V	
GL ARB fragment shader	V	V	V	V	V	V	V	V	V	V	V	V	٧	٧	V	V	
GL ARB draw buffers	V	٧	V	V	V	٧	V	V	V	V	V	V	٧	٧	٧	V	
GL EXT blend equation separate	V	٧	V	V	V	٧	V	V	V	V	V	V	٧	٧	٧	V	
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		100%	100%