# OpenGL drivers status

Bug reports with reprodution cases

March 2015, G-Truc Creation

Vendor	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
Release date	17/03/2015	20/03/2015	06/03/2014	24/06/2014	30/06/2014
Drivers version	347.88	15.3 b1	10.18.10.4156	Mesa 10.2.2	MacOS X 10.9.4
Samples versions	4.5.1.0	4.5.1.0	4.5.1.0	4.4.2.1	4.4.2.1

Summary	NVIDIA 347.88	AMD 15.3 b1	Intel 10.18.10.4156	Mesa 10.2.2	MacOS X 10.9.4
ARB extensions	100%	50%	0%	0%	0%
OpenGL 4.5 support	100%	18%	0%	0%	0%
OpenGL 4.4 support	100%	100%	27%	0%	0%
OpenGL 4.3 support	100%	100%	90%	0%	0%
OpenGL 4.2 support	100%	88%	100%	0%	0%
OpenGL 4.1 support	100%	100%	100%	0%	57%
OpenGL 4.0 support	100%	100%	100%	0%	86%
OpenGL 3.3 support	100%	100%	100%	93%	100%
OpenGL 3.2 support	90%	93%	93%	90%	96%
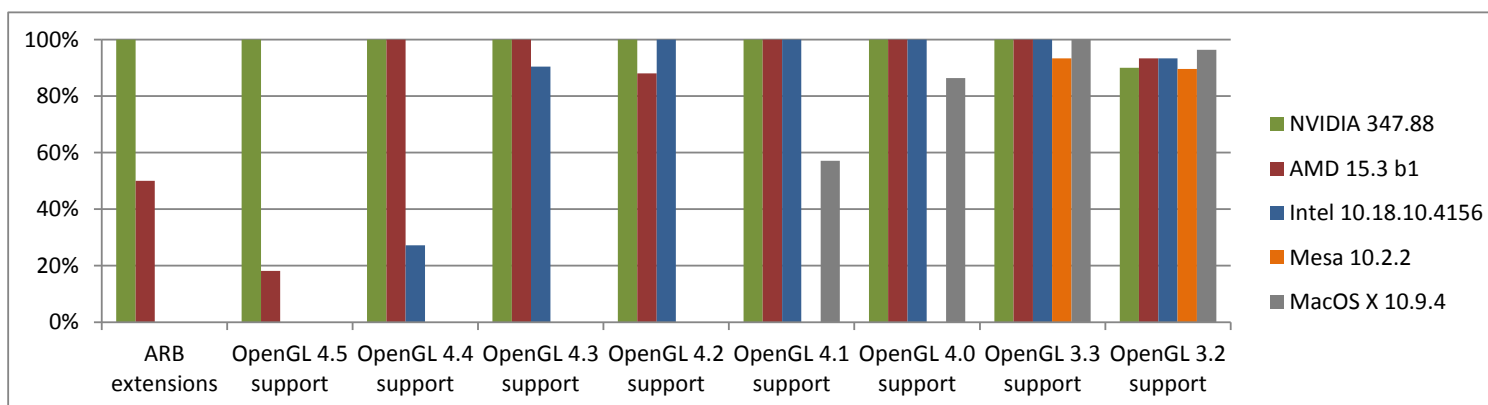
ARB extensions	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
buffer-sparse-arb	Pass	Unsupported	Unsupported	Unsupported	Unsupported
glsl-vote-arb	Pass	Fail	Unsupported	Unsupported	Unsupported
multi-draw-indirect-count-arb	Pass	Fail	Unsupported	Unsupported	Unsupported
multi-draw-indirect-id-arb	Pass	Pass	Unsupported	Unsupported	Unsupported
query-statistics-arb	Pass	Unsupported	Unsupported	Unsupported	Unsupported
texture-bindless-arb	Pass	Pass	Unsupported	Unsupported	Unsupported
texture-cube-arb	Pass	Pass	Unsupported	Unsupported	Unsupported
texture-sparse-arb	Pass	Fail	Unsupported	Unsupported	Unsupported
transform-feedback-arb	Pass	Pass	Unsupported	Unsupported	Unsupported
Pass	8	4	0	0	0
Ok but not conform	0	0	0	0	0
Workaround	0	0	0	0	0
Fail	0	3	0	0	0
Unsupported	0	1	8	8	8
Sub-Total	8	8	8	8	8
%	100%	50%	0%	0%	0%

OpenGL 4.5	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
caps	Pass	Unsupported	Unsupported	Unsupported	Unsupported
clip-control	Pass	Pass	Unsupported	Unsupported	Unsupported
culling	Pass	Unsupported	Unsupported	Unsupported	Unsupported
direct-state-access	Pass	Unsupported	Unsupported	Unsupported	Unsupported
fbo-multisample-explicit	Pass	Unsupported	Unsupported	Unsupported	Unsupported
query-conditional	Pass	Fail	Unsupported	Unsupported	Unsupported
texture-barrier	Pass	Pass	Unsupported	Unsupported	Unsupported
texture-derivative	Pass	Unsupported	Unsupported	Unsupported	Unsupported
Pass	8	2	0	0	0
Ok but not conform	0	0	0	0	0
Workaround	0	0	0	0	0
Fail	0	1	0	0	0
Unsupported	0	5	8	8	8

Sub-Total	8	8	8	8	8
%	100%	100%	27%	0%	0%

OpenGL 4.4	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
atomic-counter	Pass	Pass	Pass	Unsupported	Unsupported
buffer-storage	Pass	Pass	Pass	Unsupported	Unsupported
buffer-type	Pass	Pass	Unsupported	Unsupported	Unsupported
caps	Pass	Pass	Unsupported	Unsupported	Unsupported
fbo-depth-stencil	Pass	Pass	Unsupported	Unsupported	Unsupported
fbo-without-attachment	Pass	Pass	Unsupported	Unsupported	Unsupported
interface-matching	Pass	Pass	Unsupported	Unsupported	Unsupported
query-occlusion	Pass	Pass	Pass	Unsupported	Unsupported
sampler-wrap	Pass	Pass	Unsupported	Unsupported	Unsupported
texture-compressed	Pass	Pass	Unsupported	Unsupported	Unsupported
transform-feedback	Pass	Pass	Unsupported	Unsupported	Unsupported
Pass	11	11	3	0	0
Ok but not conform	0	0	0	0	0
Workaround	0	0	0	0	0
Fail	0	0	0	0	0
Unsupported	0	0	8	9	9
Sub-Total	11	11	11	9	9
%	100%	100%	27%	0%	0%

OpenGL 4.3	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
atomic-counter	Pass	Pass	Pass	Unsupported	Unsupported
caps	Pass	Pass	Pass	Unsupported	Unsupported
debug	Pass	Pass	Pass	Unsupported	Unsupported
draw-vertex-attrib-binding	Pass	Pass	Pass	Unsupported	Unsupported
draw-without-vertex-attrib	Pass	Pass	Pass	Unsupported	Unsupported
fbo-invalidate	Pass	Pass	Pass	Unsupported	Unsupported
fbo-srgb-decode	Pass	Pass	Pass	Unsupported	Unsupported
fbo-without-attachment	Pass	Pass	Pass	Unsupported	Unsupported
image-sampling	Pass	Pass	Fail	Unsupported	Unsupported

	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
image-store	Pass	Pass	Pass	Unsupported	Unsupported
interface-matching	Pass	Pass	Pass	Unsupported	Unsupported
multi-draw-indirect	Pass	Pass	Pass	Unsupported	Unsupported
program-compute	Pass	Pass	Pass	Unsupported	Unsupported
program-compute-image	Pass	Pass	Pass	Unsupported	Unsupported
program-subroutine	Pass	Pass	Pass	Unsupported	Unsupported
query-conditional	Pass	Pass	Pass	Unsupported	Unsupported
query-occlusion	Pass	Pass	Pass	Unsupported	Unsupported
texture-buffer	Pass	Pass	Pass	Unsupported	Unsupported
texture-copy	Pass	Pass	Pass	Unsupported	Unsupported
texture-storage	Pass	Pass	Pass	Unsupported	Unsupported
texture-view	Pass	Pass	Fail	Unsupported	Unsupported
Pass	21	21	19		0
Ok but not conform	0	0	0		0
Workaround	0	0	0		0
Fail	0	0	2		0
Unsupported	0	0	0		0
Sub-Total	21	21	21		0
%	100%	100%	90%		0%

OpenGL 4.2	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
atomic-counter	Pass	Pass	Pass	Unsupported	Unsupported
buffer-uniform	Pass	Pass	Pass	Unsupported	Unsupported
caps	Pass	Pass	Pass	Unsupported	Unsupported
clipping	Pass	Pass	Pass	Unsupported	Unsupported
debug-output	Pass	Pass	Pass	Unsupported	Unsupported
draw-base-instance	Pass	Pass	Pass	Unsupported	Unsupported
draw-image-space-rendering	Pass	Pass	Pass	Unsupported	Unsupported
fbo	Pass	Pass	Pass	Unsupported	Unsupported
image-load	Pass	Pass	Pass	Unsupported	Unsupported
image-store	Pass	Pass	Pass	Unsupported	Unsupported
image-unpack	Pass	Pass	Pass	Unsupported	Unsupported
interface-matching	Pass	Pass	Pass	Unsupported	Unsupported

	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
memory-barrier	Pass	Pass	Pass	Unsupported	Unsupported
picking	Pass	Pass	Pass	Unsupported	Unsupported
primitive-line-aa	Pass	Fail	Pass	Unsupported	Unsupported
sampler-fetch	Pass	Fail	Pass	Unsupported	Unsupported
sampler-gather	Pass	Pass	Pass	Unsupported	Unsupported
test-depth-conservative	Pass	Pass	Pass	Unsupported	Unsupported
texture-array	Pass	Pass	Pass	Unsupported	Unsupported
texture-compressed	Pass	Pass	Pass	Unsupported	Unsupported
texture-conversion	Pass	Fail	Pass	Unsupported	Unsupported
texture-cube	Pass	Pass	Pass	Unsupported	Unsupported
texture-pixel-store	Pass	Pass	Pass	Unsupported	Unsupported
texture-storage	Pass	Pass	Pass	Unsupported	Unsupported
transform-feedback-instanced	Pass	Pass	Pass	Unsupported	Unsupported
Pass	25	22	25		0
Ok but not conform	0	0	0		0
Workaround	0	0	0		0
Fail	0	3	0		0
Untested	0	0	0		0
Sub-Total	25	25	25		0
%	100%	88%	100%		0%

OpenGL 4.1	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
caps	Pass	Pass	Pass	Unsupported	Pass
fbo-layered	Pass	Pass	Pass	Unsupported	Pass
primitive-instanced	Pass	Pass	Pass	Unsupported	Pass
primitive-tessellation-2	Pass	Pass	Pass	Unsupported	Fail
primitive-tessellation-5	Pass	Pass	Pass	Unsupported	Fail
program-64	Pass	Pass	Pass	Unsupported	Pass
program-binary	Pass	Pass	Pass	Unsupported	Ok
program-separate	Pass	Pass	Pass	Unsupported	Fail
Pass	7	7	7	0	3
Ok but not conform	0	0	0	0	1
Workaround	0	0	0	0	0

	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
Fail	0	0	0	0	3
Untested	0	0	0	0	0
Sub-Total	7	7	7	0	7
%	100%	100%	100%	0%	57%

OpenGL 4.0	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
blend-rtt	Pass	Pass	Pass	Unsupported	Pass
caps	Pass	Pass	Pass	Unsupported	Pass
draw-indirect	Pass	Pass	Pass	Unsupported	Pass
fbo-layered	Pass	Pass	Pass	Unsupported	Pass
fbo-multisample	Pass	Pass	Pass	Unsupported	Pass
fbo-rtt	Pass	Pass	Pass	Unsupported	Pass
fbo-rtt-texture-array	Pass	Pass	Pass	Unsupported	Pass
fbo-shadow	Pass	Pass	Pass	Unsupported	Fail
primitive-instanced	Pass	Pass	Pass	Unsupported	Pass
primitive-smooth-shading	Pass	Pass	Pass	Unsupported	Pass
primitive-tessellation	Pass	Pass	Pass	Unsupported	Pass
program-64	Pass	Pass	Pass	Unsupported	Pass
program-subroutine	Pass	Pass	Pass	Unsupported	Pass
program-varying-blocks	Pass	Pass	Pass	Unsupported	Pass
program-varying-structs	Pass	Pass	Pass	Unsupported	Fail
sampler-array	Pass	Pass	Pass	Unsupported	Pass
sampler-fetch	Pass	Pass	Pass	Unsupported	Pass
texture-buffer-rgb	Pass	Pass	Pass	Unsupported	Pass
texture-cube	Pass	Pass	Pass	Unsupported	Pass
texture-derivative	Ok	Pass	Pass	Unsupported	Pass
transform-feedback-object	Pass	Pass	Pass	Unsupported	Pass
transform-feedback-stream	Pass	Pass	Pass	Unsupported	Fail
Pass	21	22	22	0	19
Ok but not conform	1	0	0	0	0
Workaround	0	0	0	0	0
Fail	0	0	0	0	3
Untested	0	0	0	0	0

	Sub-Total	22	22	22	0	22
	%	100%	100%	100%	0%	86%

OpenGL 3.3	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
blend-index	Pass	Pass	Pass	Pass	Pass
blend-rtt	Pass	Pass	Pass	Pass	Pass
buffer-type	Pass	Pass	Pass	Pass	Pass
caps	Pass	Pass	Pass	Pass	Pass
draw-instanced-array	Pass	Pass	Pass	Pass	Pass
query-conditional	Pass	Pass	Pass	Pass	Pass
query-occlusion	Pass	Pass	Pass	Pass	Pass
query-timer	Pass	Pass	Pass	Pass	Pass
sampler-anisotropy-ext	Pass	Pass	Pass	Pass	Pass
sampler-filter	Pass	Pass	Pass	Pass	Pass
sampler-object	Pass	Pass	Pass	Pass	Pass
sampler-wrap	Pass	Pass	Pass	Pass	Pass
texture-integer-rgb10a2ui	Pass	Pass	Pass	Pass	Pass
texture-rect	Pass	Pass	Pass	Fail	Pass
texture-swizzle	Pass	Pass	Pass	Pass	Pass
Pass	15	15	15	14	15
Ok but not conform	0	0	0	0	0
Workaround	0	0	0	0	0
Fail	0	0	0	1	0
Untested	0	0	0	0	0
Sub-Total	15	15	15	15	15
%	100%	100%	100%	93%	100%

OpenGL 3.2	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
buffer-uniform	Pass	Pass	Pass	Pass	Pass
buffer-uniform-shared	Pass	Pass	Pass	Pass	Pass
buffer-update	Pass	Pass	Pass	Pass	Pass
caps	Pass	Pass	Pass	Pass	Pass
draw-base-vertex	Fail	Pass	Fail	Pass	Pass

draw-image-space	Pass	Pass	Pass	Pass	Pass
draw-instanced	Pass	Pass	Pass	Pass	Pass
draw-multiple	Pass	Pass	Pass	Pass	Pass
draw-range-arrays	Pass	Pass	Pass	Pass	Pass
draw-range-elements	Pass	Pass	Pass	Pass	Pass
draw-without-vertex-attrib	Pass	Pass	Pass	Pass	Pass
fbo	Pass	Pass	Pass	Pass	Pass
fbo-blit	Pass	Pass	Pass	Pass	Pass
fbo-depth	Pass	Pass	Pass	Pass	Pass
fbo-depth-multisample	Pass	Pass	Pass	Workaround	Pass
fbo-depth-stencil	Pass	Pass	Pass	Pass	Pass
fbo-integer	Pass	Pass	Pass	Pass	Pass
fbo-integer-blit	Pass	Pass	Pass	Pass	Pass
fbo-layered	Pass	Pass	Pass	Pass	Pass
fbo-multisample	Pass	Pass	Pass	Workaround	Pass
fbo-multisample-explicit	Pass	Pass	Pass	Pass	Pass
fbo-multisample-integer	Pass	Pass	Pass	Fail	Unsupported
fbo-rtt	Pass	Pass	Pass	Pass	Pass
fbo-rtt-texture-array	Pass	Pass	Pass	Pass	Pass
fbo-shadow	Pass	Pass	Pass	Pass	Fail
fbo-srgb	Fail	Fail	Fail	untested	untested
fbo-srgb-blend	Fail	Fail	Fail	untested	untested
glsl-builtin-blocks	Pass	Pass	Pass	Pass	Pass
glsl-cast-fail	Fail	Pass	Fail	Pass	Fail
glsl-discard	Pass	Pass	Pass	Pass	Pass
glsl-input-struct	Fail	Pass	Pass	Pass	Pass
glsl-precision	Pass	Pass	Pass	Pass	Pass
primitive-front-face	Pass	Pass	Pass	Pass	Pass
primitive-line-msaa	Pass	Pass	Pass	Pass	Pass
primitive-point	Pass	Pass	Pass	Pass	Pass
primitive-point-clip	Ok	Pass	Pass	Pass	Pass
primitive-point-quad	Pass	Pass	Pass	Fail	Pass
primitive-shading	Fail	Fail	Pass	Fail	Pass

	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
primitive-sprite	Pass	Pass	Pass	Pass	Pass
program	Pass	Pass	Pass	Pass	Pass
program-uniform	Pass	Pass	Pass	Pass	Pass
query-conditional	Pass	Fail	Pass	Pass	Pass
query-occlusion	Pass	Pass	Pass	Pass	Pass
sync	Pass	Pass	Pass	Pass	Pass
test-scissor	Pass	Pass	Pass	Pass	Pass
texture-2d	Pass	Pass	Pass	Pass	Pass
texture-3d	Pass	Pass	Pass	Pass	Pass
texture-buffer	Pass	Pass	Pass	Pass	Pass
texture-compressed-ext	Pass	Pass	Pass	Pass	Pass
texture-cube	Pass	Pass	Pass	Pass	Pass
texture-derivative	Pass	Pass	Pass	Pass	Pass
texture-fetch	Pass	Pass	Pass	Pass	Pass
texture-format	Pass	Pass	Pass	Pass	Pass
texture-integer	Pass	Pass	Pass	Fail	Pass
texture-lod	Pass	Pass	Pass	Pass	Pass
texture-offset	Pass	Pass	Pass	Pass	Pass
texture-pixel-store	Pass	Pass	Pass	Pass	Pass
texture-streaming	Pass	Pass	Pass	Pass	Pass
transform-feedback-interleave	Pass	Pass	Pass	Pass	Pass
transform-feedback-separate	Pass	Pass	Pass	Pass	Pass
Pass	53	56	56	52	54
Ok but not conform	1	0	0	0	0
Workaround	0	0	0	2	0
Fail	6	4	4	4	2
Untested	0	0	0	0	0
Sub-Total	60	60	60	58	56
%	90%	93%	93%	90%	96%

Extensions	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
330-fbo-multisample-nv	Pass	Pass	Unsupported	Unsupported	Unsupported
400-sampler-array-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported

	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
440-shader-invocation-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
430-perf-monitor-amd	Unsupported	Pass	Unsupported	Unsupported	Unsupported
430-direct-state-access-ext	Pass	Pass	Pass	Unsupported	Unsupported
500-blend-op-amd	Unsupported	Pass	Unsupported	Unsupported	Unsupported
500-buffer-pinned-amd	Unsupported	Pass	Unsupported	Unsupported	Unsupported
500-conservative-raster-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-fbo-layered-amd	Unsupported	Pass	Fail	Unsupported	Unsupported
500-fbo-layered-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-fbo-multisample-amd	Unsupported	Pass	Unsupported	Unsupported	Unsupported
500-fill-rectangle-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-primitive-bindless-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-primitive-shading-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-sample-location-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-sample-location-grid-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-shader-blend-intel	Unsupported	Fail	Pass	Unsupported	Unsupported
500-shader-blend-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-shader-invocation-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-test-depth-clamp-amd	Unsupported	Pass	Unsupported	Unsupported	Unsupported
500-texture-bindless-nv	Pass	Unsupported	Unsupported	Unsupported	Unsupported
500-texture-sparse-amd	Unsupported	Fail	Unsupported	Unsupported	Unsupported
Pass	14	8	2	0	0
Ok but not conform	0	0	0	0	0
Workaround	0	0	0	0	0
Fail	0	2	1	0	0
Untested	0	0	0	0	0
Sub-Total	14	10	3	0	0
%	100%	80%	67%	0%	0%

OpenGL ES 3.0	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
es-300-draw-elements	Pass	Unsupported	Pass	Unsupported	Unsupported
es-300-fbo-srgb	Pass	Unsupported	Pass	Unsupported	Unsupported
Pass	1	0	1	0	0
Ok but not conform	0	0	0	0	0

	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
Workaround	0	0	0	0	0
Fail	0	0	0	0	0
Untested	0	0	0	0	0
Sub-Total	1	0	1	0	0
%	100%	0%	100%	100%	0%

OpenGL ES 2.0	NVIDIA	AMD	Intel Windows	Intel Linux	Apple
es-200-draw-elements	Pass	Unsupported	Pass	Pass	Unsupported
Pass	1	0	1	1	0
Ok but not conform	0	0	0	0	0
Workaround	0	0	0	0	0
Fail	0	0	0	0	0
Untested	0	0	0	0	0
Sub-Total	1	0	1	1	0
%	100%	0%	100%	100%	0%