OpenGL ES 3 hardware matrix

Extensions exposed by OpenGL ES implementations

April 2016, G-Truc Creation

Nomenclature:

Supported

Not supported

Support added from previous report

OpenGL ES vendor extensions	Adreno			Apple			Mali				Mesa	Tegra		PowerVR			Vivante		Intel	
Architecture	300	400	500	6	6XT	7	600	700	800		Mesa	K1	X1	6	6XT	7	7000		B.T.	C.T.
APPLE_clip_distance	X	X	X	V	V	V	X	X	X		X	X		X	X	X	X		X	X
APPLE_color_buffer_packed_float	X	X	X	V	V	V	X	X	X		X	X		X	X	X	X		X	X
ARM_shader_framebuffer_fetch	X	X	X	X	X	X	V	V	V		X	X		X	X	X	X		X	X
ARM_shader_framebuffer_fetch_depth_stencil	X	X	X	X	X	X	V	V	V		X	X		X	X	X	X		X	X
ARM_shader_local_storage	X	X	X	X	X	X	V	V	V		X	X		X	X	X	X		X	X
ARM_packed_arithmetic	X	X	X	X	X	X	X	X	V		X	X		X	X	X	X		X	X
NV_bindless_texture	X	X	X	X	X	X	X	X	X		X	V		X	X	X	X		X	X
NV_conditional_render	X	X	X	X	X	X	X	X	X		X	V		X	X	X	X		X	X
NV_draw_texture	X	X	X	X	X	X	X	X	X		X	V		X	X	X	X		X	X
NV_conservative_raster	X	X	X	X	X	X	X	X	X		X		V	X	X	X	X		X	X
NV_fill_rectangle	X	X	X	X	X	X	X	X	X		X		V	X	X	X	X		X	X
NV_fragment_coverage_to_color	X	X	X	X	X	X	X	X	X		X		V	X	X	X	X		X	X
NV_fragment_shader_interlock	X	X	X	X	X	X	X	X	X		X		V	X	X	X	X		X	X
NV_framebuffer_mixed_samples	X	X	X	X	X	X	X	X	X		X		V	X	X	X	X		X	X
NV_geometry_shader_passthrough	X	X	X	X	X	X	X	X	X		X		V	X	X	X	X		X	X
NV_image_formats	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_internalformat_sample_query	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_path_rendering	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_path_rendering_shared_edge	X	X	X	X	X	X	X	X	X		X	X	V	X	X	X	X		X	X
NV_pixel_buffer_object	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_polygon_mode	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_sample_locations	X	X	X	X	X	X	X	X	X		X	X	V	X	X	X	X		X	X
NV_sample_mask_override_coverage	X	X	X	X	X	X	X	X	X		X	X	V	X	X	X	X		X	X
NV_shader_noperspective_interpolation	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_shadow_samplers_cube	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_shadow_samplers_array	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_texture_border_clamp	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_texture_compression_latc	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_texture_compression_s3tc	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_texture_compression_s3tc_update	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_viewport_array	X	X	X	X	X	X	X	X	X		X	V	V	X	X	X	X		X	X
NV_viewport_array2	X	X	X	X	X	X	X	X	X		X	X	V	X	X	X	X		X	X
IMG_multisampled_render_to_texture	X	X	X	V	V	V	X	X	X		X	X	X	V	V	V	X		X	X
IMG_texture_compression_pvrtc	X	X	X	V	V	V	X	X	X		X	X	X	V	V	V	X		X	X
IMG_texture_compression_pvrtc2	X	X	X	X	X	X	X	X	X		X	X	X	V	V	V	X		X	X
IMG_texture_filter_cubic	X	X	X	X	X	X	X	X	X		X	X	X	V	V	V	X		X	X

INTEL_fragment_shader_ordering	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		V	V	
OVR_multiview	X	V	V	X	X	X	X	V	V	X	X	X	X	X	X	X		X	X	
OVR_multiview2	X	V	V	X	X	X	X	V	V	X	X	X	X	X	X	X		X	X	
OVR_multiview_multisampled_render_to_texture	X	V	V	X	X	X	X	V	V	X	X	X	X	X	X	X		X	X	
Support	29%	29%	29%	14%	14%	14%	29%	29%	29%	14%	71%	71%	29%	29%	29%		29%	29%	29%	

OpenGL ES EXT extensions	Adreno			PowerVR			Mali			Mesa	Tegra		PowerVR			Vivante	Intel	
Architecture	300	400	500	6	6XT	7	600	700	800	Mesa	K1	X1	6	6XT	7	7000	B.T.	C.T.
EXT_base_instance	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_buffer_storage	X	V	V	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_color_buffer_half_float	V	V	V	V	V	V	X	V	V	X	V	V	X	X	X	X	V	V
EXT_copy_texture	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X	X	X
EXT_disjoint_timer_query	V	V	V	X	X	X	V	V	V	X	V	V	X	X	X	X	V	V
EXT_draw_elements_base_vertex	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_float_blend	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_multi_draw_arrays	X	X	X	X	X	X	X	X	X	V	V	V	V	V	V	V	V	V
EXT_multi_draw_indirect	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_multisampled_render_to_texture	V	V	V	X	X	X	V	V	V	X	X	X	V	V	V	V	X	X
EXT_pvrtc_sRGB	X	X	X	V	V	V	X	X	X	X	X	X	X	X	X	X	X	X
EXT_render_snorm	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_shader_framebuffer_fetch	X	X	V	V	V	V	X	X	X	X	X	X	V	V	V	X	X	X
EXT_shader_pixel_local_storage	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X	X	X	X
EXT_sparse_texture	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_sparse_texture2	X	X	X	X	X	X	X	X	X	X	X	V	X	X	X	X	X	X
EXT_sRGB_write_control	V	V	V	X	X	X	V	V	V	X	V	V	X	X	X	X	V	V
EXT_texture_compression_dxt1	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	V	V	V
EXT_texture_compression_s3tc	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	V	V	V
EXT_texture_norm16	X	V	V	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_texture_srgb_decode	V	V	V	X	X	X	V	V	V	X	V	V	V	V	V	X	V	V
EXT_texture_srgb_r8	X	V	V	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EXT_texture_srgb_rg8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EXT_texture_view	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
EXT_yuv_target	X	V	V	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Support	29%	29%	29%	14%	14%	14%	29%	29%	29%	14%	71%	71%	29%	29%	29%		29%	29%	29%

OpenGL ES OES extensions	Adreno			PowerVR			Mali			Mesa	Tegra		PowerVR			Vivante	Intel	
Architecture	300	400	500	6	6XT	7	600	700	800	Mesa	K1	X1	6	6XT	7	7000	B.T.	C.T.
OES_compressed_paletted_texture	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X	V	V	V
OES_depth32	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	V	X	X
OES_surfaceless_context																	V	V
OES_texture_view	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
OES_texture_compression_astc	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X	X	X	X
OES_texture_float_linear	X	V	V	X	X	X	X	X	X	X	V	V	X	X	X	X	V	V
Support	0%	0%	0%	0%	0%	0%	50%	50%	50%	0%	50%	50%	0%	0%	0%		0%	0%	0%

OpenGL ES KHR extensions	Adreno			PowerVR			Mali			Mesa	Tegra		PowerVR			Vivante	Intel	
Architecture	300	400	500	6	6XT	7	600	700	800	Mesa	K1	X1	6	6XT	7	7000	B.T.	C.T.
KHR_blend_equation_advanced_coherent	X	V	V	V	V	V	X	V	V	X	V	V	V	V	V	X	X	X
KHR_context_flush_control	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
KHR_no_error	X	V	V	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X

KHR_robust_buffer_access_behaviour	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X	
KHR_texture_compression_astc_sliced_3d	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X	
KHR_texture_compression_astc_hdr	X	X	V	X	X	X	V	V	V	X	X	X	X	X	X	X		X	X	
Support	0%	33%	50%	17%	17%	17%	17%	33%	33%	0%	83%	83%	17%	17%	17%		0%	0%	0%	

OpenGL ES 3.2	Adreno			PowerVR			Mali			Mesa	Tegra		PowerVR			Vivante		Intel	
Architecture	300	400	500	6	6XT	7	600	700	800	Mesa	K1	X1	6	6XT	7	7000		B.T.	C.T.
OpenGL ES 3.2	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X
KHR_blend_equation_advanced	X	V	V	X	X	X	V	V	V	X	V	V	V	V	V	X		V	V
KHR_debug	V	V	V	X	X	X	V	V	V	V	V	V	V	V	V	X		V	V
KHR_robustness	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X
KHR_texture_compression_astc_ldr	X	V	V	X	V	V	V	V	V	V	V	V	X	V	V	X		X	V
OES_copy_image	X	X	X	X	X	X	X	V	V	V	V	V	X	X	X	X		X	V
OES_draw_buffers_indexed	X	X	X	X	X	X	X	V	V	V	V	V	X	X	X	X		X	V
OES_draw_elements_base_vertex	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	X		X	X
OES_geometry_shader	X	X	X	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
OES_geometry_point_size	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	V
OES_gpu_shader5	X	X	X	X	X	X	X	V	V	V	V	V	X	X	X	X		X	V
OES_primitive_bounding_box	X	X	X	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
OES_sample_shading	X	V	V	X	X	X	X	V	V	V	V	V	X	X	X	X		V	V
OES_sample_variables	X	V	V	X	X	X	X	V	V	V	V	V	X	X	X	X		V	V
OES_shader_image_atomic	X	V	V	X	X	X	V	V	V	V	V	V	V	V	V	X		V	V
OES_shader_io_blocks	X	X	X	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
OES_shader_multisample_interpolation	X	V	V	X	X	X	X	V	V	V	V	V	X	X	X	X		V	V
OES_tessellation_shader	X	X	X	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
OES_tessellation_point_size	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	V
OES_texture_border_clamp	X	X	X	X	X	X	X	V	V	V	V	V	X	X	X	X		X	V
OES_texture_buffer	X	X	X	X	X	X	X	V	V	V	V	V	X	X	X	X		X	V
OES_texture_cube_map_array	X	X	X	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
OES_texture_stencil8	X	V	V	X	X	X	V	V	V	V	V	V	V	V	V	X		V	V
OES_texture_storage_multisample_2d_array	X	V	V	X	X	X	V	V	V	V	V	V	V	V	V	X		V	V
EXT_color_buffer_float	V	V	V	X	X	X	X	V	V	V	V	V	V	V	V	X		V	V
EXT_draw_buffers_indexed	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
EXT_geometry_point_size	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	V
EXT_geometry_shader	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
EXT_gpu_shader5	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
EXT_primitive_bounding_box	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
EXT_robustness	V	V	V	X	X	X	V	V	V	V	V	V	V	V	V	V		V	V
EXT_shader_io_blocks	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
EXT_tessellation_point_size	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	V
EXT_tessellation_shader	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
EXT_texture_cube_map_array	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
EXT_texture_border_clamp	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		X	V
EXT_texture_buffer	X	V	V	X	X	X	X	V	V	X	V	V	X	X	X	X		V	V
APPLE_copy_texture_levels	X	X	X	V	V	V	X	X	X	X	X	X	X	X	X	X		X	X
Support	4%	38%	38%	0%	4%	4%	25%	79%	79%	58%	100%	100%	21%	25%	25%		0%	33%	88%	

OpenGL ES 3.1	Adreno			PowerVR			Mali			Mesa	Tegra		PowerVR			Vivante		Intel	
Architecture	300	400	500	6	6XT	7	600	700	800	Mesa	K1	X1	6	6XT	7	7000		B.T.	C.T.
OpenGL ES 3.1	X	V	V	X	X	X	V	V	V	V	V	V	V	V	V	X		V	V

EXT_separate_shader_objects	X	X	X	V	V	V	X	X	X	X	V	V	V	V	V	X	V	V	
EXT_shader_integer_mix	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	V	V	
Support	29%	29%	29%	14%	14%	14%	29%	29%	29%	14%	71%	71%	29%	29%	29%	29%	29%	29%	

OpenGL ES 3.0	Adreno			PowerVR			Mali			Mesa	Tegra		PowerVR			Vivante	Intel	
Architecture	300	400	500	6	6XT	7	600	700	800	Mesa	K1	X1	6	6XT	7	7000	B.T.	C.T.
OpenGL ES 3.0	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
OES_compressed_ETC1_RGB8_texture	V	V	V	X	X	X	V	V	V	V	V	V	V	V	V	V	V	V
OES_depth_texture	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
OES_depth24	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
OES_element_index_uint	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
OES_fbo_render_mipmap	V	V	V	V	V	V	V	V	V	V	V	V	X	X	X	V	V	V
OES_get_program_binary	V	V	V	X	X	X	V	V	V	V	V	V	V	V	V	V	V	V
OES_packed_depth_stencil	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
OES_rgb8_rgba8	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
OES_standard_derivatives	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
OES_texture_3D	V	V	V	X	X	X	V	V	V	V	X	X	X	X	X	X	V	V
OES_texture_float	V	V	V	V	V	V	X	X	X	X	V	V	V	V	V	X	V	V
OES_texture_half_float	V	V	V	V	V	V	X	X	X	X	V	V	V	V	V	X	V	V
OES_texture_half_float_linear	V	V	V	V	V	V	X	X	X	X	V	V	V	V	V	V	V	V
OES_texture_npot	V	V	V	X	X	X	V	V	V	V	V	V	V	V	V	V	V	V
OES_vertex_array_object	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
OES_vertex_half_float	V	V	V	X	X	X	V	V	V	X	V	V	V	V	V	V	V	V
OES_vertex_type_10_10_10_2	V	V	V	X	X	X	X	X	X	X	V	V	X	X	X	V	X	X
EXT_blend_minmax	X	X	X	V	V	V	V	V	V	V	X	X	V	V	V	X	V	V
EXT_discard_framebuffer	V	V	V	V	V	V	V	V	V	V	X	X	V	V	V	V	V	V
EXT_draw_buffers	X	X	X	X	X	X	X	X	X	X	X	X	V	V	V	X	V	V
EXT_frag_depth	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	V	V	V
EXT_instanced_arrays	X	X	X	V	V	V	X	X	X	X	X	X	X	X	X	X	V	V
EXT_map_buffer_range	X	X	X	V	V	V	X	X	X	V	V	V	X	X	X	X	V	V
EXT_occlusion_query_boolean	X	X	X	V	V	V	V	V	V	X	V	V	V	V	V	X	V	V
EXT_shadow_samplers	X	X	X	V	V	V	V	V	V	X	V	V	X	X	X	X	V	V
EXT_shader_texture_lod	X	X	X	V	V	V	X	X	X	X	V	V	V	V	V	X	V	V
EXT_sRGB	V	V	V	V	V	V	V	V	V	X	V	V	X	X	X	X	V	V
EXT_texture_storage	X	X	X	V	V	V	V	V	V	X	V	V	X	X	X	X	V	V
EXT_texture_rg	X	X	X	V	V	V	V	V	V	V	V	V	V	V	V	X	V	V
EXT_texture_type_2_10_10_10_REV	V	V	V	X	X	X	V	V	V	V	V	V	X	X	X	V	V	V
EXT_unpack_subimage	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	V	V	V
IMG_texture_npot	X	X	X	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X
NV_copy_buffer	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
NV_draw_buffers	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
NV_draw_instanced	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
NV_explicit_attrib_location	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
NV_fbo_color_attachments	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
NV_sRGB_formats	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
NV_texture_npot_2D_mipmap	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
NV_framebuffer_blit	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
NV_instanced_arrays	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
NV_non_square_matrices	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X

NV_pack_subimage	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X	
NV_packed_float	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X	
NV_read_buffer	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	X		X	X	
NV_read_depth_stencil	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X	
NV_texture_array	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X	
NV_generate_mipmap_sRGB	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X	
NV_framebuffer_multisample	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X		X	X	
APPLE_texture_max_level	X	X	X	V	V	V	X	X	X	V	X	X	X	X	X	V		V	V	
APPLE_texture_packed_float	X	X	X	V	V	V	X	X	X	X	X	X	X	X	X	X		X	X	
APPLE_sync	X	X	X	V	V	V	X	X	X	X	X	X	X	X	X	X		X	X	
APPLE_framebuffer_multisample	X	X	X	V	V	V	X	X	X	X	X	X	X	X	X	X		X	X	
Support	29%	29%	29%	14%	14%	14%	29%	29%	29%	14%	71%	71%	29%	29%	29%			29%	29%	29%