

Platform Name	NVIDIA CUDA
Platform Vendor	NVIDIA Corporation
Platform Version	OpenCL 1.2 CUDA 9.1.84
Platform Profile	FULL_PROFILE
Platform Extensions	cl_khr_global_int32_base_atomics cl_khr_global_int32_extended_atomics cl_khr_local_int32_base_atomics cl_khr_local_int32_extended_atomics cl_khr_fp64 cl_khr_byte_addressable_store cl_khr_icd cl_khr_gl_sharing cl_nv_compiler_options cl_nv_device_attribute_query cl_nv_pragma_unroll cl_nv_copy_opts cl_nv_create_buffer
Platform Extensions function suffix	NV

Platform Name	NVIDIA CUDA
Number of devices	1
Device Name	Tesla V100-SXM2-16GB
Device Vendor	NVIDIA Corporation
Device Vendor ID	0x10de
Device Version	OpenCL 1.2 CUDA
Driver Version	390.87
Device OpenCL C Version	OpenCL C 1.2
Device Type	GPU
Device Topology (NV)	PCI-E, 00:00.4
Device Profile	FULL_PROFILE
Device Available	Yes
Compiler Available	Yes
Linker Available	Yes
Max compute units	80
Max clock frequency	1530MHz
Compute Capability (NV)	7.0
Device Partition	(core)
Max number of sub-devices	1
Supported partition types	None
Max work item dimensions	3
Max work item sizes	1024x1024x64
Max work group size	1024
Preferred work group size multiple	32
Warp size (NV)	32
Preferred / native vector sizes	
char	1 / 1
short	1 / 1
int	1 / 1
long	1 / 1
half	0 / 0 (n/a)
float	1 / 1
double	1 / 1 (cl_khr_fp64)
Half-precision Floating-point support	(n/a)
Single-precision Floating-point support	(core)
Denormals	Yes
Infinity and NaNs	Yes
Round to nearest	Yes
Round to zero	Yes
Round to infinity	Yes
IEEE754-2008 fused multiply-add	Yes
Support is emulated in software	No
Correctly-rounded divide and sqrt operations	Yes
Double-precision Floating-point support	(cl_khr_fp64)
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Round to nearest	Yes
Round to zero	Yes
Round to infinity	Yes
IEEE754-2008 fused multiply-add	Yes
Support is emulated in software	No
Address bits	64, Little-Endian
Global memory size	16945512448 (15.78GiB)
Error Correction support	Yes
Max memory allocation	4236378112 (3.945GiB)
Unified memory for Host and Device	No
Integrated memory (NV)	No
Minimum alignment for any data type	128 bytes
Alignment of base address	4096 bits (512 bytes)
Global Memory cache type	Read/Write
Global Memory cache size	1310720 (1.25MiB)
Global Memory cache line size	128 bytes
Image support	Yes
Max number of samplers per kernel	32
Max size for 1D images from buffer	134217728 pixels

Max 1D or 2D image array size	2048 images
Max 2D image size	32768x32768 pixels
Max 3D image size	16384x16384x16384 pixels
Max number of read image args	256
Max number of write image args	32
Local memory type	Local
Local memory size	49152 (48KiB)
Registers per block (NV)	65536
Max number of constant args	9
Max constant buffer size	65536 (64KiB)
Max size of kernel argument	4352 (4.25KiB)

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Queue properties	
Out-of-order execution	Yes
Profiling	Yes
Prefer user sync for interop	No
Profiling timer resolution	1000ns
Execution capabilities	
Run OpenCL kernels	Yes
Run native kernels	No
Kernel execution timeout (NV)	No
Concurrent copy and kernel execution (NV)	Yes
Number of async copy engines	2
printf() buffer size	1048576 (1024KiB)

Built-in kernels

Device Extensions                    cl\_khr\_global\_int32\_base\_atomics cl\_khr\_global\_int32\_extended\_atomics cl\_khr\_local\_int32\_base\_atomics cl\_khr\_local\_int32\_extended\_atomics cl\_khr\_fp64 cl\_khr\_byte\_addressable\_store cl\_khr\_icd cl\_khr\_gl\_sharing cl\_nv\_compiler\_options cl\_nv\_device\_attribute\_query cl\_nv\_pragma\_unroll cl\_nv\_copy\_opt s cl\_nv\_create\_buffer

NULL platform behavior

clGetPlatformInfo(NULL, CL\_PLATFORM\_NAME, ...) NVIDIA CUDA  
clGetDeviceIDs(NULL, CL\_DEVICE\_TYPE\_ALL, ...) Success [NV]  
clCreateContext(NULL, ...) [default] Success [NV]  
clCreateContextFromType(NULL, CL\_DEVICE\_TYPE\_DEFAULT) No platform  
clCreateContextFromType(NULL, CL\_DEVICE\_TYPE\_CPU) No devices found in platform  
clCreateContextFromType(NULL, CL\_DEVICE\_TYPE\_GPU) No platform  
clCreateContextFromType(NULL, CL\_DEVICE\_TYPE\_ACCELERATOR) No devices found in platform  
clCreateContextFromType(NULL, CL\_DEVICE\_TYPE\_CUSTOM) Invalid device type for platform  
clCreateContextFromType(NULL, CL\_DEVICE\_TYPE\_ALL) No platform

ICD loader properties

ICD loader Name	O.1
ICD loader Vendor	OCL Icd free software
ICD loader Version	2.2.11
ICD loader Profile	OpenCL 2