

## 1 Overview

**1.1 Location** `$<APPSDKSamplesInstallPath>\samples\opencl\cl\`

**1.2 How to Run** See the *Getting Started* guide for how to build samples. You first must compile the sample.

Use the command line to change to the directory where the executable is located. The default executables are placed in `$<APPSDKSamplesInstallPath>\samples\opencl\bin\x86` for 32-bit builds and `$<APPSDKSamplesInstallPath>\samples\opencl\bin\x86_64` for 64-bit builds.

Type the following command(s).

1. `MemoryOptimizations`  
Performs benchmarks to test global memory bandwidth using various access patterns and vector sizes.
2. `MemoryOptimizations -h`  
This prints the help message.

**1.3 Command Line Options** Table 1 lists, and briefly describes, the command line options.

**Table 1 Command Line Options**

Short Form	Long Form	Description
-h	--help	Shows all command options and their respective meaning.
	--device	Devices on which the program is to be run. Acceptable values are <code>cpu</code> or <code>gpu</code> .
-q	--quiet	Quiet mode. Suppresses all text output.
-e	--verify	Verify results against reference implementation.
-t	--timing	Print timing.
	--dump	Dump binary image for all devices.
	--load	Load binary image and execute on device.
	--flags	Specify compiler flags to build the kernel.
-p	--platformId	Select platformId to be used (0 to N-1, where N is the number of available platforms).
-d	--deviceId	Select deviceId to be used (0 to N-1, where N is the number of available devices).
-v	--version	AMD APP SDK version string.

## 2 Implementation Details

This sample runs the following benchmarks.

1. Copy 1D FastPath.
2. Copy 1D CompletePath.
3. Copy 2D 32-bit and 128-bit with the following 2D work-group sizes.  
{64, 2}, {64, 4}, {8, 8}, {256, 1}, {32, 2}, {64, 1}, {16, 16}, {16, 4}, {1, 64}
4. Copy 1D 128-bit.
5. NoCoal Copy 1D 32-bit.
6. Split Copy 1D 32-bit.

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