

## 1 Overview

**1.1 Location** \$(AMDAPPSDKSAMPLESROOT)\samples\opencl\cl\app

**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 pre-compiled sample executable is at \$(AMDAPPSDKSAMPLESROOT)\samples\opencl\bin\x86\ for 32-bit builds, and \$(AMDAPPSDKSAMPLESROOT)\samples\opencl\bin\x86\_64\ for 64-bit builds.

Type the following command(s).

1. Histogram  
Runs with default options; x = 1024, y = 1024.
2. Histogram -h  
This prints the help file.

**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 cpu or gpu.
-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.
-x	--width	Width of the input array.
-y	--height	Height of the input array.
-i	--iterations	Number of iterations for kernel execution.

## 2 Implementation Details

Each work-item calculates the histogram bin from BIN\_SIZE elements. The block histogram bins are calculated from the histogram bins of the work-items of each block. The final histogram bin is calculated from the block histogram bins on the host (CPU) side.

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### Contact

Advanced Micro Devices, Inc.  
One AMD Place  
P.O. Box 3453  
Sunnyvale, CA, 94088-3453  
Phone: +1.408.749.4000

For AMD Accelerated Parallel Processing:  
URL: [developer.amd.com/appsdk](http://developer.amd.com/appsdk)  
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