

Histogram Sample Application Usage Note

This document provides an overview about how to execute Histogram sample example and how to verify the output data.

Histogram Sample Example:

Sample application gets the statistics for the 256bins\histogram with input data right shifted by 2, from the driver. It uses the (640*480) image size. Please follow the bellow steps to run the sample application.

1. For hardware setup, Connect XDS 510 USB emulator to the JTAG connector on DM6437 board. Switch on the power supply for board.
2. Open CCS 3.3 setup. Import EVMDM6437_XDS510USB configuration. Click on "Save & Quit" button and exit the setup.
3. Open CCS3.3. This will open "CCStudio: Parallel Debug Manager" window. Connect C64PLUS and open the CCS window.
4. Build the VPFE library with PSP_VIDEO_PATH_ENABLE Macro enabled in psp_vpfe.h.
5. Before running the sample application of Histogram run the previewer on the fly application to ensure that sensor is configured correctly and input image is stable.
6. Open
`"<root>\packages\ti\sdo\pspdrivers\system\dm6437\bios\evmDM6437\video\sample\build\histogram\psp_bios_hist_st_example.pjt"`.
7. Compile this project using Project->Build.
8. Load the generated .out file and execute it.
9. After completion of this application execution, "Sample test case passed" message will be printed on DSP/BIOS -> Message Log.
10. Output file "out_app_hist.csv" containing statistics generated, will be stored in Debug or Release folder.
11. After running the sample application of Histogram, execute the previewer on the fly application to ensure output image is still stable

To plot the histogram of the generated statistics perform following steps.

1. Open generated "out_app_hist.csv" file in Microsoft Excel 2003.
2. Select all statistics from generated "out_app_hist.csv" file, as shown in figure below.

B	C	D
	Time step 94 ms	
	19481	
	0	
	0	
	0	
	25	
	1132	
	3923	
	4955	
	3129	
	1191	
	645	
	546	

Figure 1. Data Selection From “.xls” file.

3. Copy the statistics & paste them into corresponding worksheet of packages\ti\sdo\pspdriivers\drivers\histogram\docs\Histogram_Statistics.xls” as per bins configuration in application. Histogram will be displayed on color basis in the respective charts. For sample application paste the statistics in 256Bins worksheet.