

How to Dump Frames for Camera Tuning And Debugging

Key words: SM8250, Spectra 480, ISP, Know-How

1.1 Introduction

The document describes how to dump frames for camera tuning and debugging.

1.2 Frequently Used Command Overview

<Camxsettings.xml> shows the details information of dump command, below listed frequently used command.

persist.vendor.camera.autoImageDump	1: enable dump 0: disable dump
persist.vendor.camera.autoImageDumpMask	ImageDumpType will limit dumps to only the specified nodes and ports when autoImageDump is enabled. No dumps = 0x0 All output ports for IFE = 0x1 All output ports for IPE = 0x2 All output ports for BPS = 0x4 All JPEG output ports for all JPEG nodes = 0x8 All output ports for FDHw = 0x10 All output ports for LRME = 0x20 All output ports for RANSAC = 0x40 All output ports for all ChiNodes = 0x80 All output ports for CVP = 0x100 All other nodes not explicitly listed above = 0x40000000
persist.vendor.camera.autoInputImageDumpMask	ImageDumpType Will limit dumps to only the specified nodes when autoInputImageDump is enabled. No dumps = 0x0 All input ports for IFE = 0x1 All input ports for IPE = 0x2 All input ports for BPS = 0x4 All JPEG input ports for all JPEG nodes = 0x8 All input ports for FDHw = 0x10 All input ports for LRME = 0x20 All input ports for RANSAC = 0x40 All input ports for all ChiNodes = 0x80 All input ports for CVP = 0x100 All other nodes not explicitly listed above = 0x40000000
persist.vendor.camera.dumpInputatOutput	Dumps input port when output port is dumped
persist.vendor.camera.autoImageDump[Node]InstanceMask	Auto Image Dump Instance Mask for specified node Instance ID is decided from usecase topology and will be showed in dumped file name.

<code>persist.vendor.camera.autoImageDump[Node]inputPortMask</code>	Auto Image Dump Output Port Mask for specified node
<code>persist.vendor.camera.autoImageDump[Node]outputPortMask</code>	Auto Image Dump Input Port Mask for specified node
<code>persist.vendor.camera.offlineImageDumpOnly</code>	Dumps offline processing output images only for all enabled nodes
<code>persist.vendor.camera.reprocessDump 1</code>	Dumps reprocess input image and metadata

1.3 Some Usecase in debugging and tuning

1.3.1 Sensor Raw dump

```
adb root
adb remount
adb shell setprop persist.vendor.camera.autoImageDump 1
adb shell setprop persist.vendor.camera.autoImageDumpMask 0x1 // IFE Node
adb shell setprop persist.vendor.camera.autoImageDumpIFEOutputPortMask 0xFB8 // IFE AllRawOutput
adb shell setprop persist.vendor.camera.offlineImageDumpOnly 0
adb shell setprop persist.vendor.camera.reprocessDump 0
adb reboot
```

1.3.2 Sensor Raw dump (dump snapshot raw only)

```
adb root
adb remount
adb shell setprop persist.vendor.camera.autoImageDump 1
adb shell setprop persist.vendor.camera.autoImageDumpMask 0x4 // BPS Node
adb shell setprop persist.vendor.camera.autoInputImageDumpMask 0x04 // BPS Node
adb shell setprop persist.vendor.camera.autoImageDumpBPSouputPortMask 0x0 // No BPSOutputPort, only
dump Input port
adb shell setprop persist.vendor.camera.reprocessDump 1
adb reboot
```

1.3.3 MFNR snapshot all In&outputs dump

```
adb root
adb remount
adb shell setprop persist.vendor.camera.autoImageDump 1
adb shell setprop persist.vendor.camera.autoImageDumpMask 0x6 // BPS+IPE Node
adb shell setprop persist.vendor.camera.offlineImageDumpOnly 1
adb shell setprop persist.vendor.camera.reprocessDump 1
adb shell setprop persist.vendor.camera.autoImageDumpIPEInstanceMask 0xFFFFFBFF //optional, To disable
possible IPE offline preview instance
adb reboot
```

1.3.4 LDC calibration YUV dump (IFE output size)

```
adb root
adb remount
adb shell setprop persist.vendor.camera.autoImageDump 1
adb shell setprop persist.vendor.camera.autoImageDumpMask 0x1 // IFE Node
```

```
adb shell setprop persist.vendor.camera.autoImageDumpIfeOutputPortMask 0x1 // IFEOutputPortFull
adb reboot
```

1.3.5 CVP Input dump

```
adb root
adb remount
adb shell setprop persist.vendor.camera.autoImageDump 1
adb shell setprop persist.vendor.camera.autoImageDumpMask 0x100 // CVP Node
adb shell setprop persist.vendor.camera.autoInputImageDumpMask 0x100 // CVP Node
adb shell setprop persist.vendor.camera.offlineImageDumpOnly 0
adb shell setprop persist.vendor.camera.reprocessDump 1
adb shell setprop persist.vendor.camera.dumpInputatOutput 1
adb reboot
```

1.3.6 FD input dump

```
adb root
adb remount
adb shell setprop persist.vendor.camera.autoImageDump 1
adb shell setprop persist.vendor.camera.autoImageDumpMask 0x10 //FD Node
adb shell setprop persist.vendor.camera.autoInputImageDumpMask 0x10 //FD Node
adb shell setprop persist.vendor.camera.offlineImageDumpOnly 0
adb shell setprop persist.vendor.camera.reprocessDump 1
adb shell setprop persist.vendor.camera.dumpInputatOutput 1
adb reboot
```

1.4 Dump files location and name

Dump files location (Android P and later): /data/vendor/camera

Dump files name info (OEM may change the name format)