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| **Huawei Technologies Co., Ltd.** | **Product Version** | **Confidentiality Level** |
| Hi3520D/Hi3515A/Hi3515C V100R001C0xSPC022 | INTERNAL |
|  | **Total Pages** |

Hi3520D/Hi3515A/Hi3515C V100R001C0xSPC022 Release Notes

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| --- | --- | --- | --- |
| Prepared by | BVT SDK Team | Date | 2013-07-20 |
| Reviewed by |  | Date |  |
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**Abstract**

Hi3520D/Hi3515A/Hi3515C V100R001C0xSPC022 is an official release.

**Acronyms and Abbreviations**

|  |  |
| --- | --- |
| Acronym or Abbreviation | Full Name |
| CBR | constant bit rate |
| HDMI | high-definition multimedia interface |
| HPD | hot plug detect |
| JPGD | JPEG decoder |
| MTD | memory technology device |
| MPP | media processing platform |
| PHY | physical layer |
| SDK | software development kit |
| TDE | two-dimensional engine |
| TDMS | transition minimized differential signaling |
| VI | video input |
| VFMW | video firmware |
| VGA | video graphics array |
| VO | video output |
| VPSS | video process subsystem |

# Version Information

|  |  |  |  |
| --- | --- | --- | --- |
| Product | Version Number | Date | Product Field |
| Hi3520D/Hi3515A/Hi3515C | V100R001C0xSPC022 | 2013-07-19 | BVT |

# Restrictions on Version Use

|  |  |
| --- | --- |
| Time Restriction | Until Hi3520D/Hi3515A/Hi3515C V100R001C0xSPC030 is released. |
| Area/Site Restriction | No area or site restrictions are provided. |
| Other Restriction | No other restrictions are provided. |
| Condition of Version Termination | Upon the release of Hi3520D/Hi3515A/Hi3515C V100R001C0xSPC030. |

# Resolved Issues

In this version, the issues found in the earlier version and certain known issues in earlier versions are resolved.

| SN | Brief Description | Detailed Description | Remarks |
| --- | --- | --- | --- |
| Hi3520D/Hi3515A/Hi3515C V100R001C0xSPC022 | | | |
| 01 | The physical layer (PHY) name is inaccurate, which causes misunderstanding. | [Symptom]  The PHY name is inaccurate, which causes misunderstanding.  [Solution]  The PHY is renamed **PHY-KSZ8051RNL**.  [Code Path]   * U-boot code path: **drivers/net/hisfv300/mii-drv.c** * Kernel code path: **drivers/net/hieth-sf/net.c** | The OSDRV needs to be updated. |
| 02 | Memory leakage occurs when a memory technology device (MTD) layer interface is used. | [Symptom]  Memory leakage occurs when the MTD layer interface parse\_mtd\_partitions is used.  [Solution]  Each time after parse\_mtd\_partitions is used, the requested memory is released.  [Code Path]   * **drivers/mtd/devices/hisfc350/hisfc350.c** * **drivers/mtd/devices/hisfc300new/hisfc300new.c** * **drivers/mtd/nand/hinfc301/hinfc301.c** | The OSDRV needs to be updated. |
| 03 | The memory occupied by the video process subsystem (VPSS) is too large. | [Symptom]  The memory occupied by the VPSS is too large.  [Cause Analysis]  The system allocates too large memory to the VPSS.  [Solution]  The memory of the VPSS consists of the DIE buffer and Ref&Mad buffer. Currently, the size of the memory allocated to the VPSS is changed. To be specific, the size of the DIE buffer is half of the original size, and the size of the Ref&Mad buffer is 1/8 of the original size. | The media processing platform (MPP) needs to be updated. |
| 04 | The denoising effect of the VPSS is not obvious. | [Symptom]  The denoising effect of the VPSS is not obvious.  [Solution]  The internal algorithm parameters are optimized to improve the denoising effect. That is, the value range and default value of the **u32TfStrength** parameter of HI\_MPI\_VPSS\_SetGrpParam are changed to 0−31 and 4 respectively. | The MPP needs to be updated. |
| 05 | The video firmware (VFMW) occupies too many resources. | [Symptom]  The VFMW uses large space of the flash memory and DDR.  [Solution]  The VFMW code is optimized. | The MPP needs to be updated. |
| 06 | The JPEG decoder (JPGD) occupies too many resources. | [Symptom] The JPGD uses large space of the flash memory.  [Solution] The function of decoding progressive JEPG pictures by using software is deleted, which reduces the used flash memory by more than 300 KB. | The MPP needs to be updated. |
| 07 | The speed four times the normal speed is not supported in the decoding and playback scenario. | [Symptom]  The speed four times the normal speed is not supported for a single channel in the decoding and playback scenario. The decoding frame rate cannot reach 100 fps.  [Solution]  The decoding process is optimized. | The MPP needs to be updated. |
| 08 | The name of the **/dev/log** file conflicts with the system log. | [Symptom]  The **/dev/log** file provided by the HiSilicon MPP conflicts with the system log.  [Solution] The **/dev/log** file is renamed **/dev/logmpp**. | The MPP needs to be updated. |
| 09 | The Ihs/Ivs polarity of video graphics array (VGA) resolutions is modified. | [Symptom]  The Ihs/Ivs polarity of the VGA resolutions 1024 x 768, 1440 x 900, and 1280 x 800 does not meet the VESA standard.  [Solution]  The video output (VO) code is modified. | The MPP needs to be updated. |
| 10 | The default high-definition multimedia interface (HDMI) transition minimized differential signaling (TMDS) status is changed. | [Symptom]  When there is no HDMI hot plug detect (HPD) signal, an unexpected picture is displayed on the monitor. The effect is different from that for the Hi3531 or Hi3521.  [Solution]  The HDMI code is modified, ensuring that the HDMI TMDS TX is enabled only when an HPD signal is detected, and the display effect is the same as that for the Hi3531 or Hi3521. | The MPP needs to be updated. |

# New Features

| SN | Brief Description | Detailed Description | Remarks |
| --- | --- | --- | --- |
| Hi3520D/Hi3515A/Hi3515C V100R001C0xSPC022 | | | |
| 01 | A method for supporting communication between processes is added. | [Function Description]  A file can be created in **/dev/shm** to support communication between processes.  [Instruction]  Create a file in **/dev/shm**.  [Code Path]  File system code: **rootfs/etc/inittab** | The OSDRV needs to be updated. |
| 02 | The **Qfactor** value of each encoded MJPEG frame can be obtained. | [Function Description]  The **Qfactor** value of each encoded MJPEG frame can be obtained.  [New MPIs] The **HI\_U32 u32Qfactor** member is added to VENC\_STREAM\_INFO\_JPEG\_S.  [Instruction]  Read the members of VENC\_STREAM\_INFO\_JPEG\_S when an MJPEG frame is obtained. | The MPP needs to be updated. |
| 03 | A CoverEx region can be overlaid when the video input (VI) channel captures pictures with different resolutions. | [Function Description]  When the VI channel captures pictures with different resolutions, the large and small pictures can be adapted in the software development kit (SDK), and a CoverEx region can be overlaid on the same position in the field of vision.  [Instruction]  For details, see the HiMPP Media Processing Software Development Reference. | The MPP needs to be updated. |
| 04 | The memory size of the two-dimensional engine (TDE) can be configured. | [Function Description]  The memory size of the two-dimensional engine (TDE) can be configured.  [Instruction]  When the TDE driver is loaded, the TDE memory size can be specified by setting **g\_u32TdeBuf**. | The MPP needs to be updated. |
| 05 | The Squanshfs source code is added. | [Function Description]  The executable Squanshfs tool for the PC and its source code are provided in the SDK. If Squanshfs tool is incompatible with the customers' environment, the Squanshfs4.2 source code can be compiled to generate a new tool on customers' servers | None |
| 06 | An H.264 constant bit rate (CBR) control algorithm is added. | [Function Description]  An H.264 CBR control algorithm is added. By using this algorithm, better pictures are obtained compared with other algorithms at the same bit rate.  [Instruction]  Specify VENC\_RC\_MODE\_H264CBRv2 when creating an H.264 encoding channel.  typedef enum hiVENC\_RC\_MODE\_E  {  // …  VENC\_RC\_MODE\_H264CBRv2,  }VENC\_RC\_MODE\_E; | The MPP needs to be updated. |
| 07 | The HDMI volume can be adjusted. | [Function Description]  The APIs for setting and obtaining the HDMI volume are added.  [New APIs]  HI\_S32 HI\_MPI\_AO\_SetVolume(AUDIO\_DEV AudioDevId, AO\_CHN AoChn, HI\_S32 s32VolumeDb);  HI\_S32 HI\_MPI\_AO\_GetVolume(AUDIO\_DEV AudioDevId, AO\_CHN AoChn, HI\_S32 \*ps32VolumeDb);  [Instruction]  For details, see the *HiMPP Media Processing Software Development Reference*. | The MPP needs to be updated. |

# Known Issues and Workarounds

No known issues and workarounds are provided.

# Change History

| Version | Change Description |
| --- | --- |
| **HiMPP Media Processing Software Development Reference** | |
| 14 | This issue is the fourteenth official release, which incorporates the following changes:  **Chapter 9 Audio**  In section 9.3.2, HI\_MPI\_AO\_SetVolume and HI\_MPI\_AO\_GetVolume are added. |
| **Hi3520D/Hi3515A/Hi3515C Hardware Design User Guide** | |
| 03 | This issue is the third official release, which incorporates the following changes:  **Chapter 1 Design Recommendations for Schematic Diagrams**  In section 1.2.4, the descriptions of Ethernet port indicators are added.  In section 1.3.1, the pins HDMI\_HOTPLUG, HDMI\_CEC, HDMI\_SCL, and HDMI\_SDA are added to Table 1-5. |
| **Hi3521/Hi3520A/Hi3520D/Hi3515A/Hi3515C U-boot Porting Development Guide** | |
| 04 | This issue is the fourth official release, which incorporates the following changes:  **Chapter 2 Porting the U-boot**  In section 2.5, the caution is updated. |
| **Hi3520D/Hi3515A/Hi3515C System Tailoring Guide** | |
| 01 | This issue is the fourth draft release, which incorporates the following changes:  **Chapter 1 Compiling Small-Sized Images of the Kernel and File System for the Hi3520D/Hi3515A**  In section 1.1, the descriptions are updated.  **Chapter 2 Tailoring the U-boot, Kernel, and File System**  In section 2.1, the descriptions of tailoring the U-boot are updated. |

# Description/List of Functional Features of the Version

The description or list of functional features of Hi3520D/Hi3515A/Hi3515C V100R001C0xSPC022 is not provided.

# Description of Installation and Upgrade

No description of installation and upgrade is provided.

# Appendix

No appendix is provided.