

Release Note

Project Name	OnSemiCamModule_96B	Project Code	OT_U21_431
Release Name/Number	1.0	Release Date	01/19/2022
EI Point of Contacts	Deepak Rathore	Customer Point of Contacts	Soma Polonkai

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1. Release Description

The Software release version (v1.0) is based on dhcom_stm32mp1-bsp-platform release from dh-electronics. It is to be used with Avenger96 Development board. This release is based on dhcom_stm32mp1-bsp-platform release from dh-electronics with adaptations and customizations from eInfochips to interface AP1302 ISP with Avenger96 Development platform.

2. Release Details

This release consists of the following:

- Pre-built images
- Documentation
- Build and source code setup script
- Readme
- Yocto recipes and patches
- Test report

This release includes the following references and additional information:

- **ei_OnSemiCamModule_96B_AV96_ReleaseNote.pdf** – Provides release information
- **ei_Camera_User_Guide_STM32MP1_Avenger96_L5_10_Rel_1_0.pdf** – Provides the information on interfacing camera to Avenger96 development board and steps to capture images and stream
- **ei_OnSemiCamModule_96B_AV96_TestCases.xlsx** – Provides the validated test cases and its result to verify the camera module

a. Software Package Deliverables

Download or clone release [Avenger96](#), it contains following:

```
Avenger96/Kernel_5_10_74
├── Avenger96_L5_10_74_Rel_1_0_patches
├── readme.md
├── Software_Docs
│   ├── ei_Camera_User_Guide_STM32MP1_Avenger96_L5_10_Rel_1_0.pdf
│   ├── ei_OnSemiCamModule_96B_AV96_ReleaseNote.pdf
│   └── ei_OnSemiCamModule_96B_AV96_TestCases.xlsx
├── Yocto_build_manual_steps_avenger96.txt
└── yocto_build_setup_Avenger96.sh
```

b. For Product Delivery**i) Shipping Address:**

N.A.

ii) If customer's shipment account to be used, provide details

N.A.

3. Release Contents

a. Release Feature Description

Sr. No.	Feature Description	Feature Change implemented/ Bug Resolved or	Ref ID
1	Live stream from AR0430 camera image sensor using AP1302 ISP in HDMI Display supporting following resolution: <ul style="list-style-type: none"> 4MP (2316x1746) @3FPS 	Feature	
2	ISP Control feature – Identify resolution, FPS and data format type of AP1302 ISP	Feature	
3	ISP Control feature - White balance on AP1302 ISP is supported	Feature	
4	ISP Control feature - Exposure on AP1302 ISP is supported	Feature	
5	ISP Control feature - Gain on AP1302 ISP is supported	Feature	
6	ISP Control feature - Contrast on AP1302 ISP is supported	Feature	
7	ISP Control feature - Brightness on AP1302 ISP is supported	Feature	
8	ISP Control feature - Saturation on AP1302 ISP is supported	Feature	
9	ISP Control feature - Gamma on AP1302 ISP is supported	Feature	

b. Known Issues

No known issue in this release.

c. For Product Delivery

NA

d. Applicable Accessories

NA

e. List of Documents Delivered/ Affected

Sr. No.	Document Name	Current Version
1	ei_Camera_User_Guide_STM32MP1_Avenger96_L5_10_Rel_1_0.pdf	1.0
2	ei_OnSemiCamModule_96B_AV96_TestCases.xls	1.0

4. Software and Hardware Tool Used

- Avenger96 Development board
- SD Card
- 12V/2A Power adapter
- Ethernet cable
- HDMI Display
- USB Mouse
- USB Keyboard
- SRT-Vision96-AR0430 mezzanine (AP-vision-AR0430)

5. Dependencies and Restrictions

- The theoretical throughput rate of MIPI CSI-2.1 interface of about 2.5 Gbyte/s is not possible due to the hardware limitations in the STM32MP1. Please refer to the [section 3.3 STM32MP1 Series video throughput performance through DCMI of this document](#)
- We are observing low FPS during streaming of camera sensor preview to HDMI display in DH Mainline based Avenger96 release

6. Installation notes

Refer to the Section 2.3 and Section 2.4 of ei_Camera_User_Guide_STM32MP1_Avenger96_L5_10_Rel_1_0.pdf to flash firmware image to SD Card for Avenger96 board.

7. Test Environment

Refer to the ei_OnSemiCamModule_96B_AV96_TestCases.xls for all the Avenger96 camera interface Test cases.

8. Recommendations for System Handling

Avenger96 boards have to be used in ESD safe environment.