

## LAB 2\_Part 3

- 1 Target:  
Using video output and input on the embedded system with HDMI.
- 2 Demonstration:
  - 2.1 Show camera stream on the HDMI output. (4%)
  - 2.2 Meet **Note 3.2 & 3.3** requirements. (6%)
  - 2.3 Finish advance. (24%)
  - 2.4 Upload your source code to E3.
- 3 Notes:
  - 3.1 There are no instructions in this lab, you should be able to do this by modifying the work you have done and some instructions in some previous labs.
  - 3.2 Your video output should be strictly centered. Make sure you use HDMI 1080p to show the full size of camera. (3%)
  - 3.3 Explain how you align output to the center. (3%)
- 4 Hints:
  - 4.1 You should follow the document “TQIMX6\_uboot菜单手册” to modify some bootup arguments.
  - 4.2 Linux framebuffer is in sleep mode in default.
  - 4.3 <http://www.armadeus.org/wiki/index.php?title=Framebuffer>
- 5 Advance:
  - 5.1 Make your board an electronic scroll board. Your board should automatically start to show the picture we provided on the HDMI output after bootup. (12%)
  - 5.2 You can control the electronic scroll board to move left or right by pressing “J” and “L” (without “enter”). (12%)