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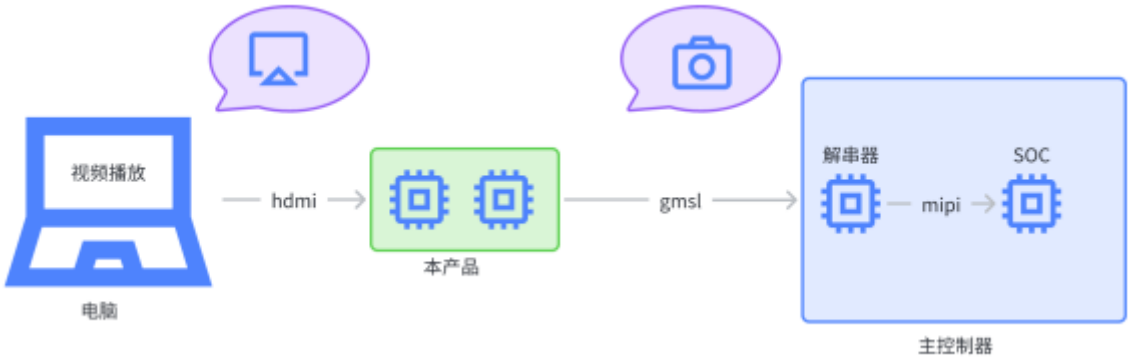
HDMI to GMSL2: yCamSim-basic (YUV422/RGB888)

yCamSim-basic converts HDMI video to GMSL signal (YUV422/RGB888), usually used for video injection, ADAS algorithm validation, and device test.

yCamSim-basic does not support RAW, for RAW injection, please see yCamSim-pro: HDMI to GMSL, support RAW8/10/12.

Block Diagram

yCamSim-basic converts HDMI video to GMSL signal.

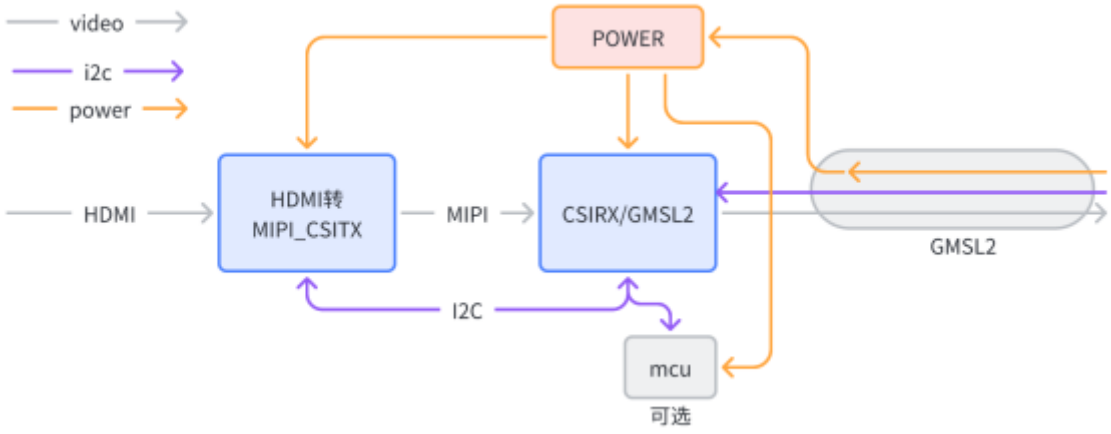


As shown in above image, when connected to a PC or other video source, in normal working mode:

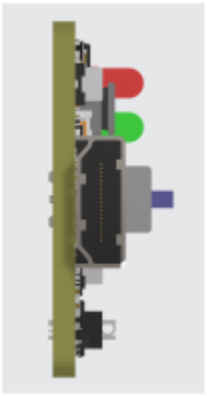
- To the video source, yCamSim-basic is a “Display device” or “screen”.
- To the down-stream DCU/ADAS controller, it is a GMSL camera with configurable resolution.

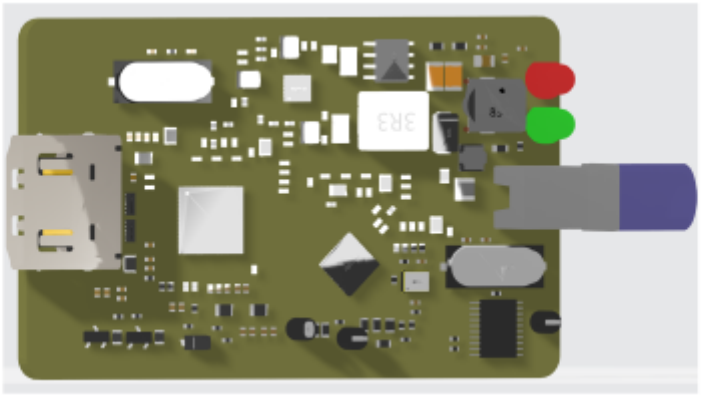
it is able to replace GMSL cameras(with ISP) module, to inject video.

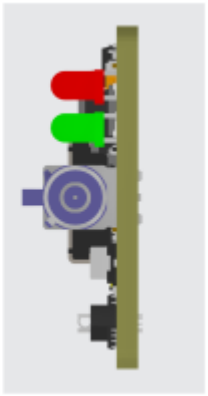
Signal and power flow descripted blow(May change without prior notice)

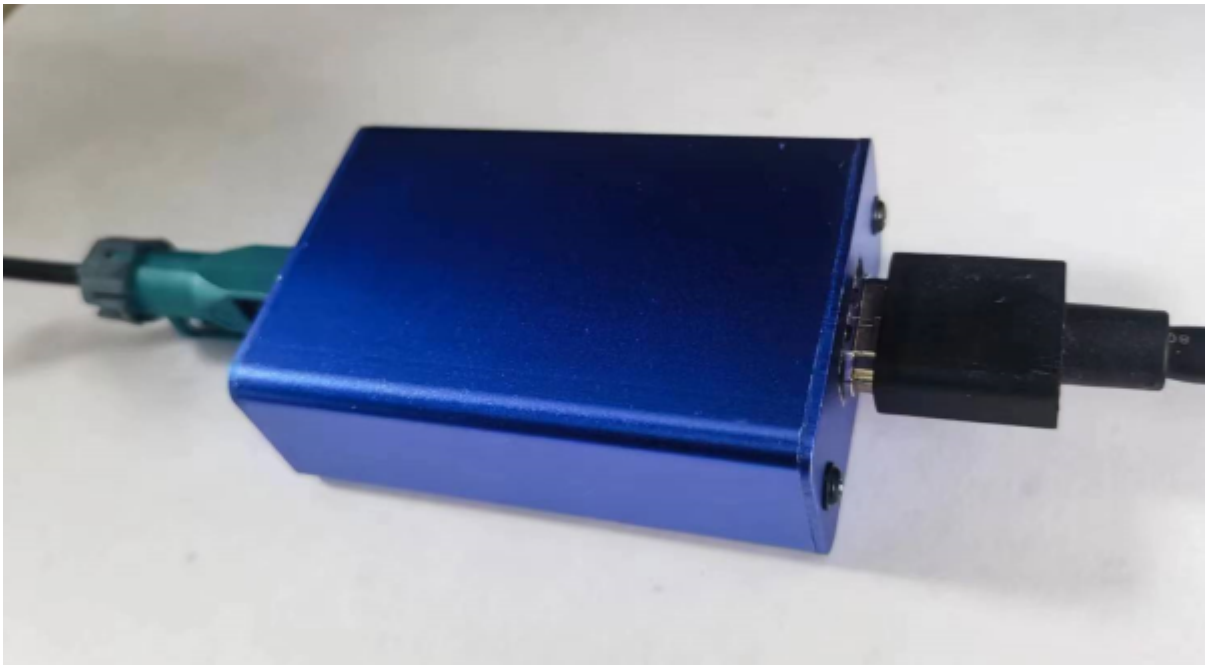


Images:









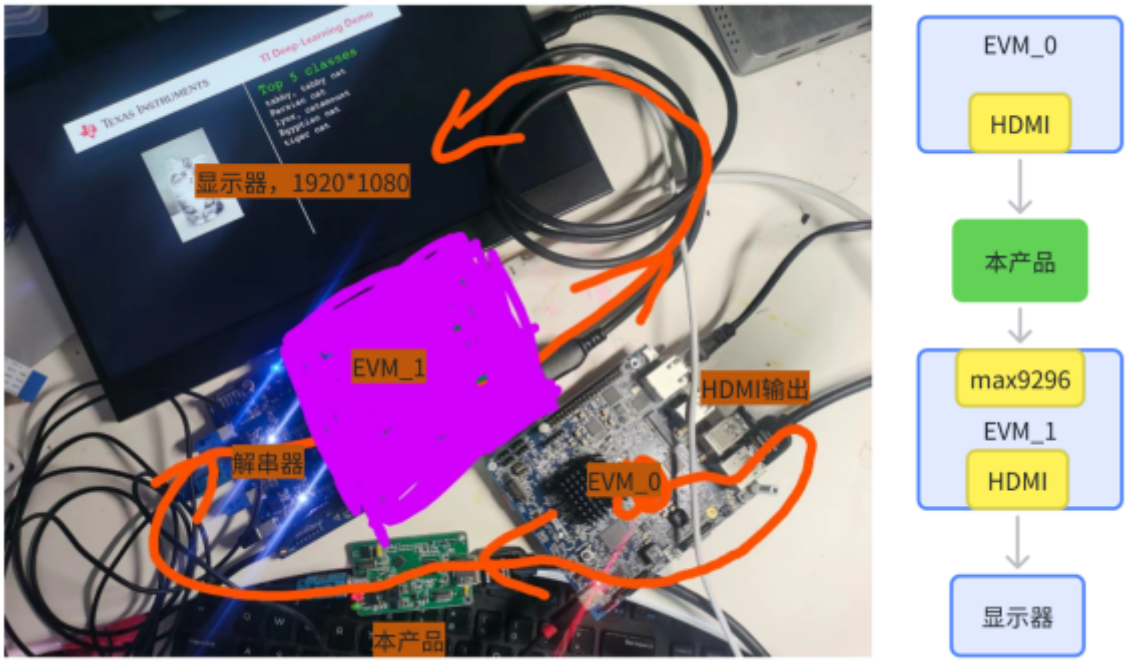
User Manual

yCamSim-basic is a transparent video convert: convert HDMI to GMSL2 while keep the resolution and frame rate. The output format of the video is YUV422 or RGB.

yCamSim-basic does not need special configuration.

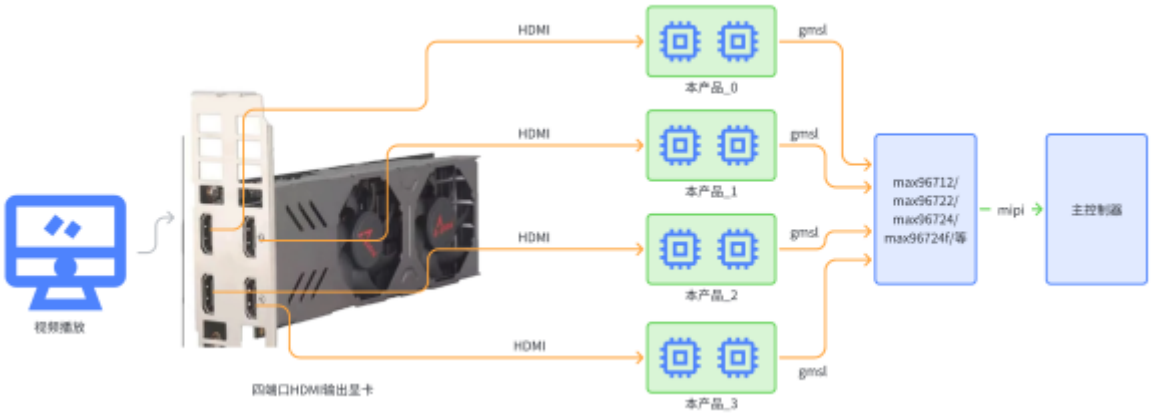
Use Case

User case1：video loopback test



User case 2：front camera video injection

User case 3：SVM video injection



User Guide

Basic Steps

- Connect the product's HDMI to the video source.
- Use a GMSL cable to connect the Fakra interface of this product to the deserializer of the main controller.
- The POC power supply for GMSL is 6–16V. When the power supply is normal, the red LED on the device will light up.
- Check if the video source has detected a new display device.
- Load the driver on the main controller and configure the serializer and deserializer chips.

Set Resolution

After poweron, enable POC output (the RED LED will on), connect HDMI to a video source (for example a PC), from the PC side, it is an normal display, its name is XREAL9295 or YYT-GMSL-XXX.

It is recommended to use the extended display mode (the normal use of the computer will not be affected when video is output).

The device and the display will negotiate a preset resolution. For example 4K（3840×2160）@30fps。

You may need to enter “Advanced settings” to confirm settings:

- In “advanced display settings”, choose display of the HDMI2GMSL device, make sure the source signal resolution is the same as what you set.
- If it is not, click link below, and open display adaptor properties window.
- In the opened window, set appropriate resolution and framerate.
- Click confirm to save settings.

（Please noted, for different windows version, the UI maybe different, please modify accordingly.）

CSIRX Settings

Information useful when setup receivers：

- 4K 3840*2160:

```
format: YUV422 8BIT
resolution: 3840*2160
mipi lane: 4
mipi rate: 1200 ~ 1350 Mbps
```

- 2K 1920*1080:

```
format: YUV422 8BIT
resolution: 1920*1080
mipi lane: 4
mipi rate: 560-640 Mbps
```

调试建议

MAX9296: Mode and settings