Android 10 camera 模组选型指南

1.0

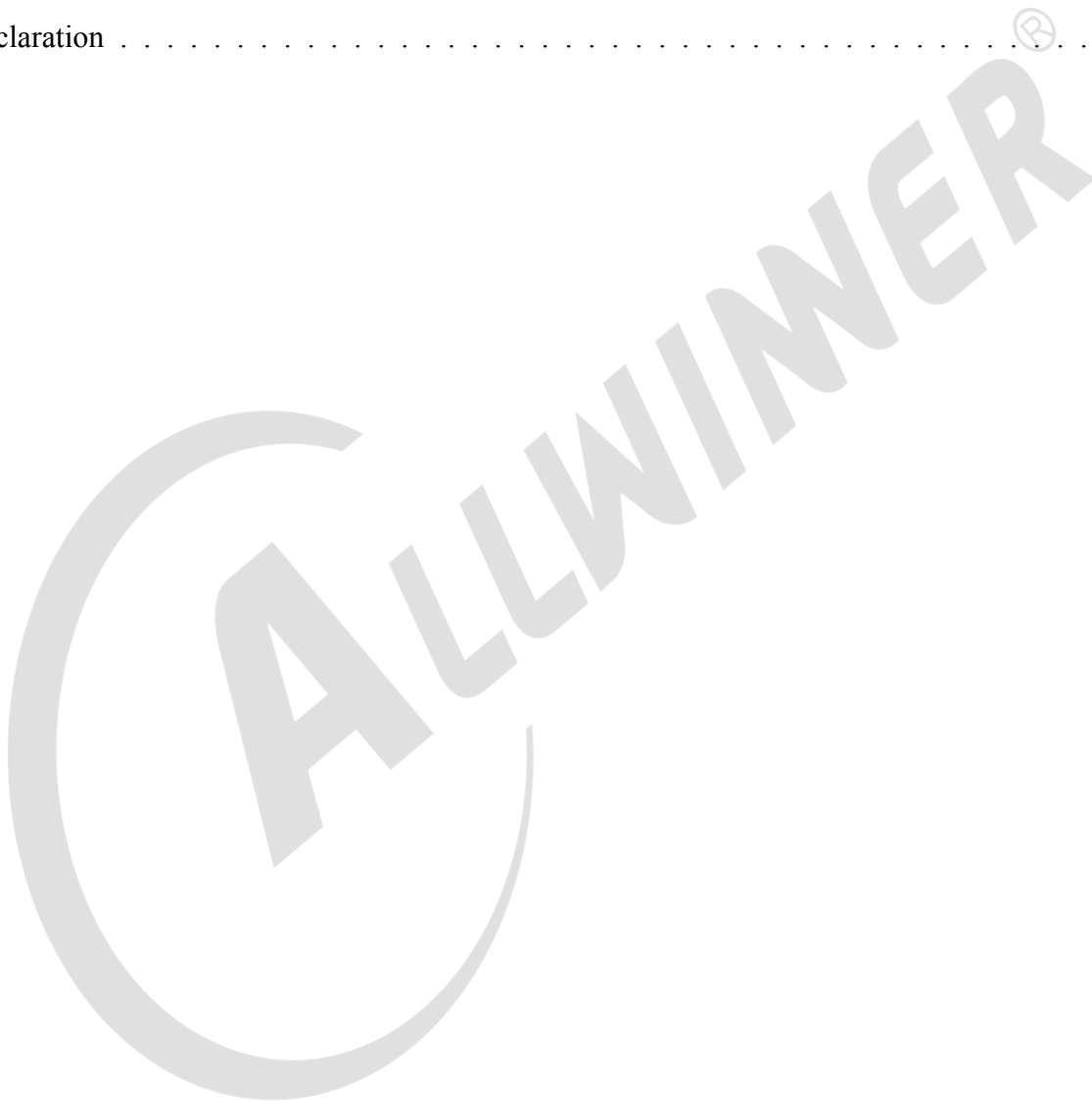**2020.02.27**

文档履历

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1.0	2020.02.27		正式版本

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1. Camera 模组选型

　　对物理横屏（如分辨率：1280x800）和物理竖屏（如分辨率：800x1280），对摄像头成像角度是有不同的要求的。

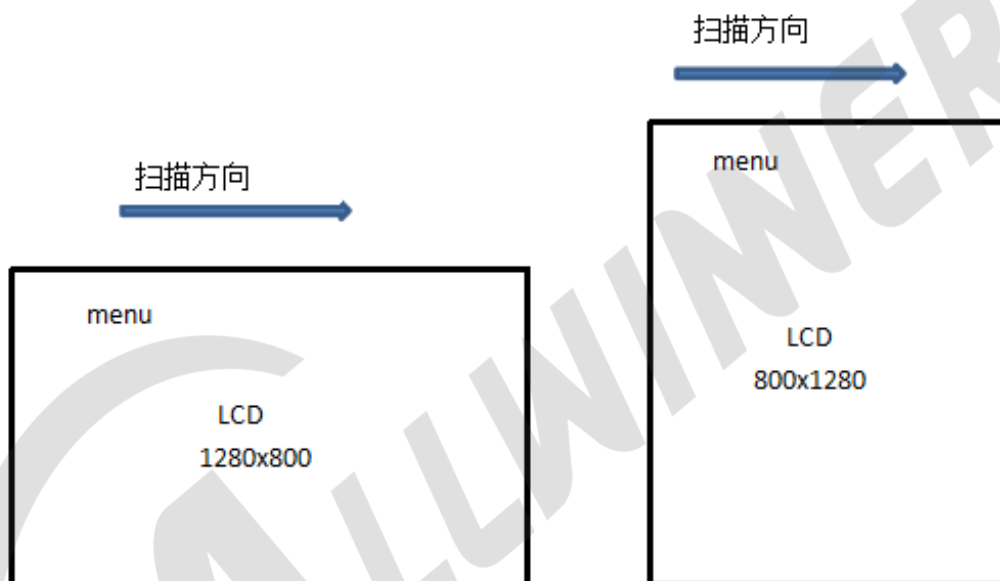　　横屏与竖屏差别（下面左边是物理横屏，右边是物理竖屏）：
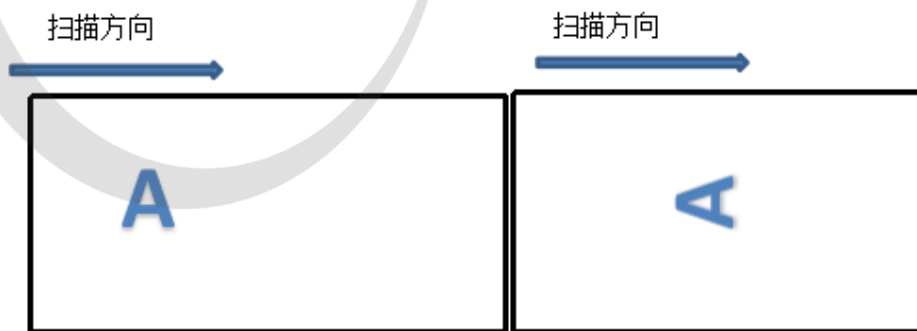

图 1: 1

　　摄像头成像方向有如下两种（左边为 0 度，右边为 90 或 270 度）：
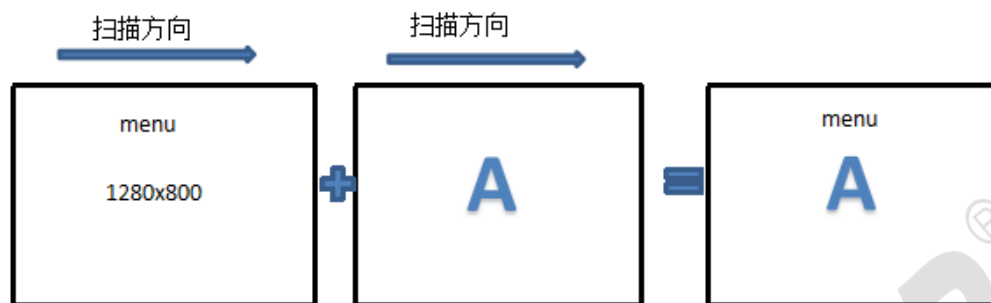

图 2: 2

正确的配对方式为：横屏时应选择摄像头成像角度为 0 度的模组。
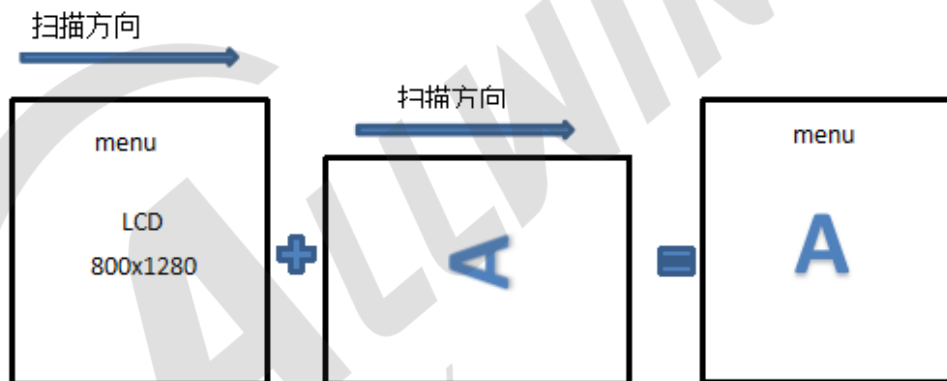

图 3: 3

竖屏竖屏时应选择摄像头成像角度为 90 度或者 270 度的模组

图 4: 4

正确选型后，在配置文件 camera.cfg 中将 camera_orientation 配置为摄像头成像角度，这样系统就可以正确识别摄像头的成像角度。

2. 后置摄像头分辨率要求

谷歌 GMS 测试强制要求后置摄像头分辨率宽 x 高的像素必须大于等于 200 万像素，否则 GMS camera 模块 android.hardware.camera2.cts.ExtendedCameraCharacteristicsTest#testAvailableStreamConfigs 这一项会过不了测试。因此在 Camera 模组选型的时候后置摄像头的分辨率宽 x 高的像素必须大于等于 200 万像素。

```
private static final Size FULLHD_ALT = new Size(1920, 1088);
private static final Size HD = new Size(1280, 720);
private static final Size VGA = new Size(640, 480);
private static final Size QVGA = new Size(320, 240);

private static final long MIN_BACK_SENSOR_RESOLUTION = 2000000;
private static final long MIN_FRONT_SENSOR_RESOLUTION = VGA.getHeight() * V
private static final long LOW_LATENCY_THRESHOLD_MS = 200;
private static final float LATENCY_TOLERANCE_FACTOR = 1.1f;  // 10% tolerance
private static final float FOCAL_LENGTH_TOLERANCE = .01f;
private static final int MAX_NUM_IMAGES = 5;
private static final long PREVIEW_RUN_MS = 500;
```

图 5: 5

3. Declaration

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