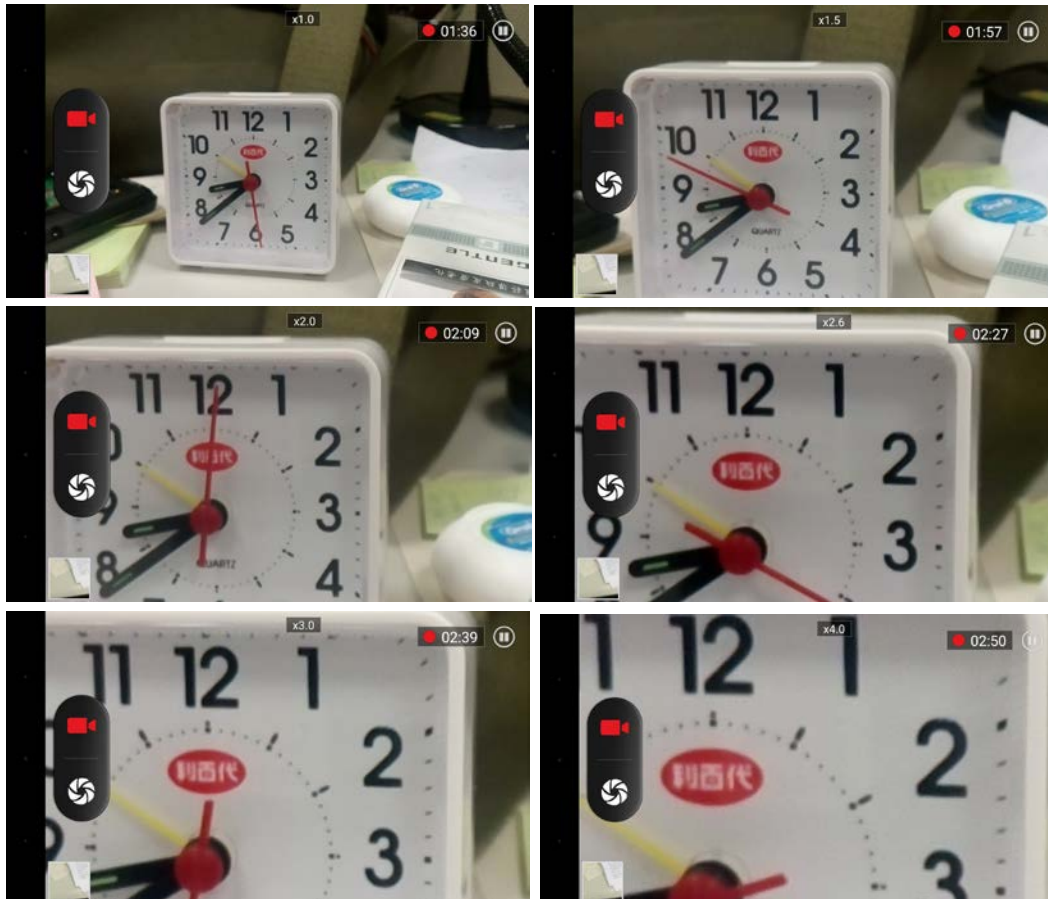# Real-Time Video Zoom-In

MediaTek Technology White Paper
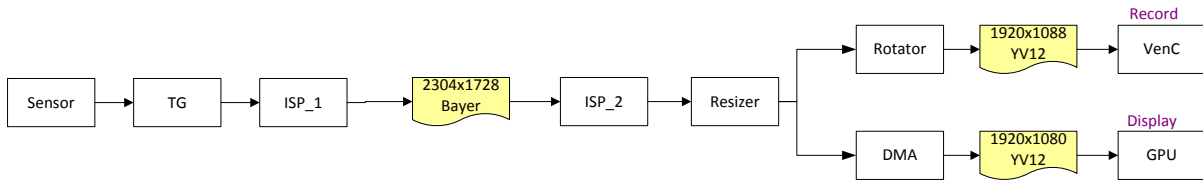
April 2015

Introducing Real-Time Video Zoom-In

Smartphone users would like to use their phone camera like a video camcorder to record and zoom in/out continuously like a camcorder, as shown in the scenario below.

In most smartphones, hardware limitations in real-time zoom-in when recording may restrict hardware bandwidth, hardware image processing capability, and system performance. Mediatek's advanced hardware supports this recording capability up to 4x zoom.

MediaTek Innovation

Indeed Mediatek's SoCs, such as MT6795, MT6752, and MT6735, can provide real-time zoom for a maximum of up to 4x at 1080p @ 30fps. Mediatek's innovative technology optimizes the image processing system, including real-time crop and real-time resize functions. The hardware provides a powerful resizer module to perform crop and resizing at real time.

The above image processing pipeline is an example of Mediatek's real time video zoom-in processing. The pipeline includes two data processings for the raw data received from sensor. In the first pass, it will receive the raw data (Bayer) from image sensor by TG (timing generator) and ISP (Image Signal Processor), and then dump to memory. At the second pass, the ISP will read the image data from memory and perform the image processing by the ISP. At the same time, the resizer will also process for cropping and scaler up/down. The ISP + resizer are combined to ensure real-time zoom in/out processing at 1080p@30fps. After the resizer engine processes the data, it will output two image frames, one is for video record, the other is for display.