



Anitoa ULS24 Hardware Errata

Listed below are known design problems in ULS24 engineering sample device (Release ES01). These will be corrected before commercial release of ULS24.

1. Pixel output value freeze when input saturates

Problem: When light input caused a pixel to saturate, the digital output from the affected pixel will remain unchanged. In other words, the pixel ADC will return the last pixel output value from the buffer.

Observed behavior: When the sensor is exposed to light level exceeding its dynamic range, instead of having part or whole of the image turn white, the portion of the image will keep the image pattern from the previous exposure before reaching saturation.

Work around: Adjusting integration time to avoid signal saturation. Use high dynamic range mode (HDR mode) to reduce the chance of input saturation.

2. Pixel read out noise out of spec for some pixels

Problem: Due to a design issue in pixel ADCs, some pixels could show abnormal read out noises in portions of its dynamic range.

Normally the standard deviation of the digital read out is 6-7. But sometimes, a small number of pixels will demonstrate much higher variations, as much as 30-40. Some pixels are worse than others. For the affected pixels, this happens in only certain partial regions of the dynamic range of the pixel.

Observed behavior: When repeated attempts were made to sample a still image, some pixels show significantly more variations in output level than others.

Work around: When signal level is close to the read out noise level, customer is advised to increase integration time to boost signal level and maintain reasonable signal to noise ratio.

We have found the root cause of the problem in the design and will correct the problem in the next release of the hardware.

(Errata date: Feb. 12 2015)