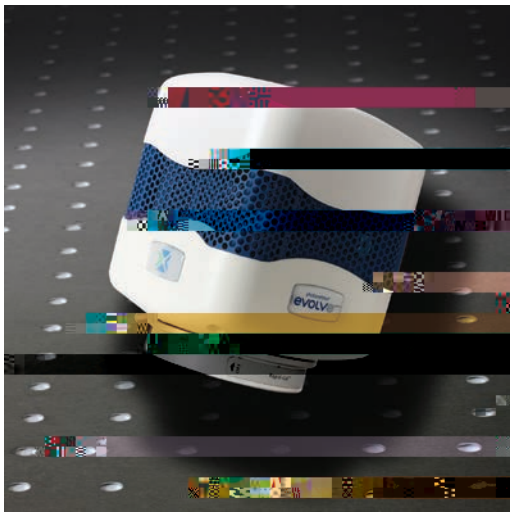
PHOTOMETR



Primary applications:

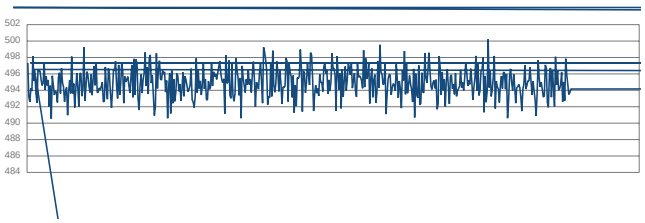
Quantitative FRET

Multiprobe experiments

Ratiometric ion imaging

Confocal microscop microscop microscop microscop 1mative FRET

Specifications
Read noise (e- rms @ Gain State 3) 10 MHz EM Porta 54.75 170.5C ţ751GS2 gs 0 -1dan <</MCID 113noise (e- rms @ Gain State 3)e- rms @ Gain St1cm 0e 3)



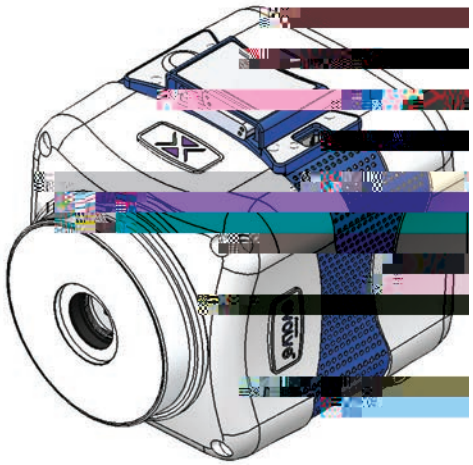
Note: Actual data.

Region

Binning	512 x 512	256 x 256	128 x 128	64 x 64
1 x 1	33.7	65.5	124	224
2 x 2	65.8	124.4	224	376
4 x 4	124	224	376	563
8 x 8	224	374.5	562	748

(Frames per second)

Note: Frame rates are measured at 10 MHz with 0-second exposure times.



#1 Bias stability – The imaging stability of the EMCCD camera can be assessed by measuring its output with no light falling on the sensor and measuring the slope of the average intensity. The slope of the average intensity value of a 200 frame sequence (where y=mx+b of the least squares fit) is measured.

#2 Gain stability – The actual amount of EM Gain applied on each image in a stream of images can vary depending on many electrical engineering factors. The slope of the average intensity value of a 200 frame sequence (where y=mx+b of the least squares fit) (@ 10MHz, 350X, GS 3, 20K ADU) is measured. An ideal value would be zero.

#3 Field uniformity – Specification was obtained using the following formula: -m(bias)/(m(bias$_1$-bias$_2$)*.707)) 1.15

4 Dark current – This is measured in a traditional manner (as with all CCD cameras) by taking a long integration to obtain a signal. An average measurement is taken over the CCD area (excluding blemishes). It should be noted that dark current can vary significantly between different CCDs, and the numbers here are typical.

5 Background events – As EMCCD cameras are actually capable of detecting single photons, the real detection limit of these cameras is set by the number of dark background events. These can arise from