



# Accu-Gold kV Outputs

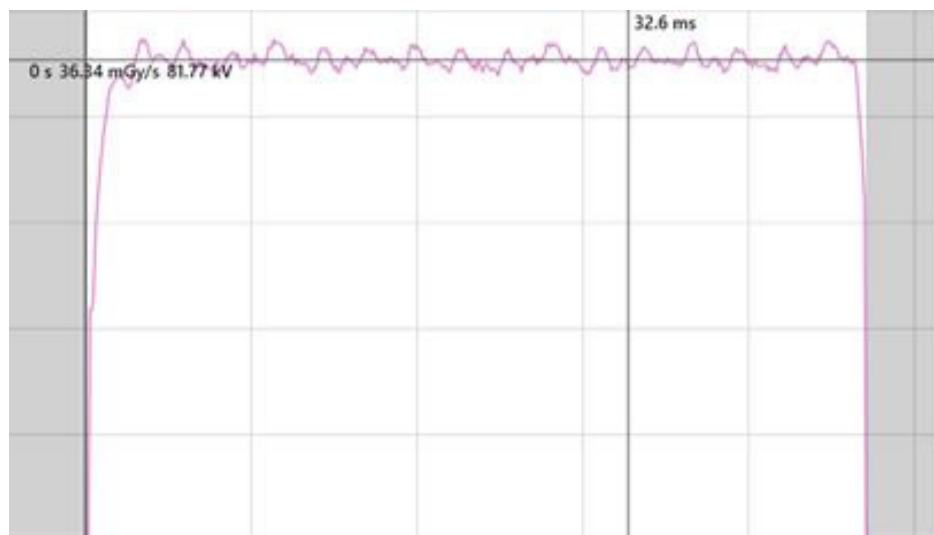
Accu-Gold products have several selections for measuring kV. Each has a unique function depending on machine type or desired region of interest. Selecting the wrong measurement type for kV, can provide undesired results. The following describes the various kV measurement selections and when to use them.

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**kV (default)**

Ave. kV in AG2, kV in Touch are average kV which is the intensity-weighted average of the entire kV waveform during the exposure less 5 ms from the trigger boundaries.

Use this for high-frequency and constant-potential machines. This default kV setting is the one that is the least affected by noise. In the example below, the high frequency generator may produce noise (from the mA control circuit) that appears on the top of the kV signal; kV Average ignores this noise.



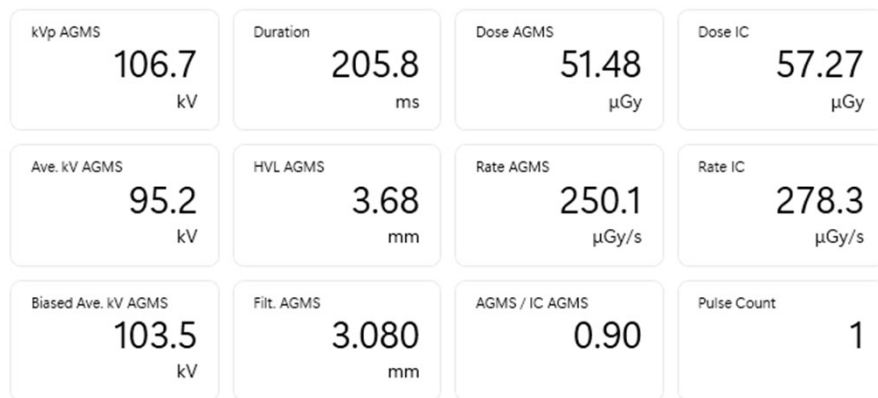
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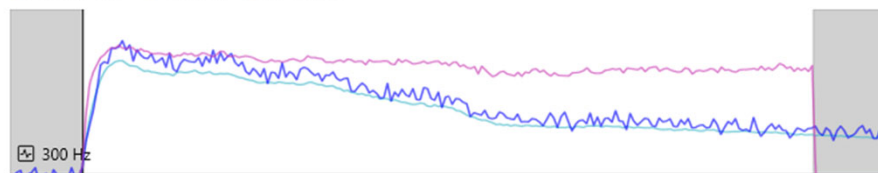
### kVp

kVp is essentially the average of the highest (peak) measured values of kV during the exposure. The kVp value results from the Fast Fourier Transform of the entire region of interest. Then the frequency for the largest amplitude in the frequency spectrum is found, and this zero-to-peak amplitude is added to the average value of kV. For changing peaks the result is effectively the average of the peaks.

Use this setting for single-phase generators or other generators with noticeable ripple (example below).



● Rate AGMS ● Rate IC ● kV AGMS

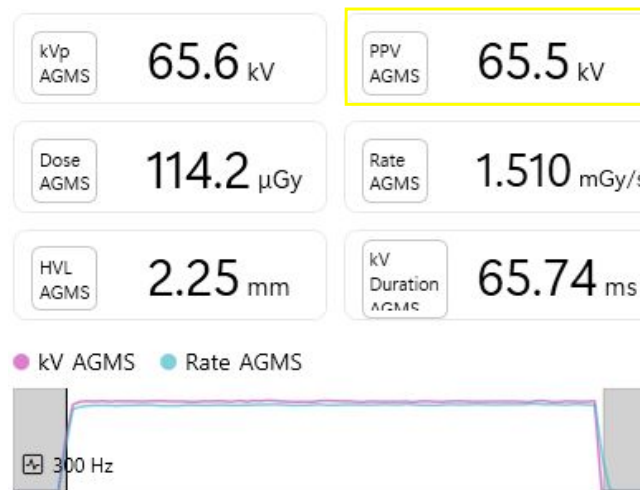
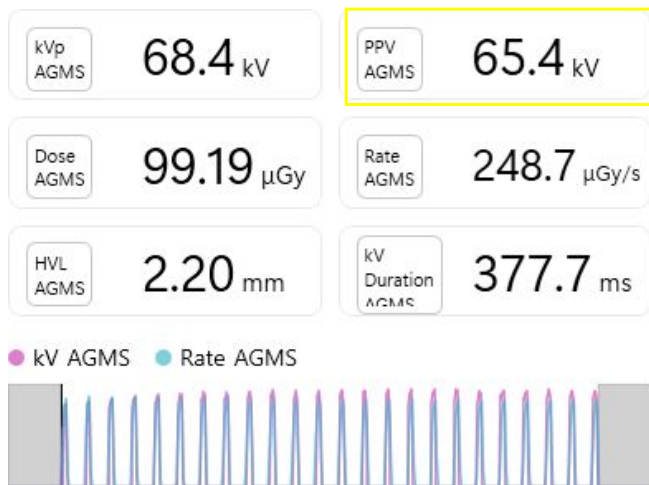


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### PPV

Practical Peak Voltage (PPV<sup>1</sup>) is a weighted average of kV values that gives the kV setting for a constant-potential machine with approximately the same image quality. This is useful in determining the proper imaging technique between dissimilar generators. On a constant-potential generator, the kVp, PPV and average kV should have approximately the same value.



### Biased kV

Biased kV is the average of kV values that are 90% of the peak kV. This is similar to kVp and is used for troubleshooting certain waveforms.

<sup>1</sup> IEC 61267 Annex B

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## End Average kV

End Average kV is a measurement of the last 1 second of a fluoro exposure or the last 15% of a Rad exposure. This is useful on fluoro exposures where the AEC is active or adjustments are being made during the exposure to see what was the result of the adjustment. End ignores the last 5 ms when calculating the values. In the example below, notice the End kV can be quite different than the kVp present initially or the average kV (which accounts for the waveform in it's entirety).

