AN1006 – Hologic Combination Measurement

Combination Measurements

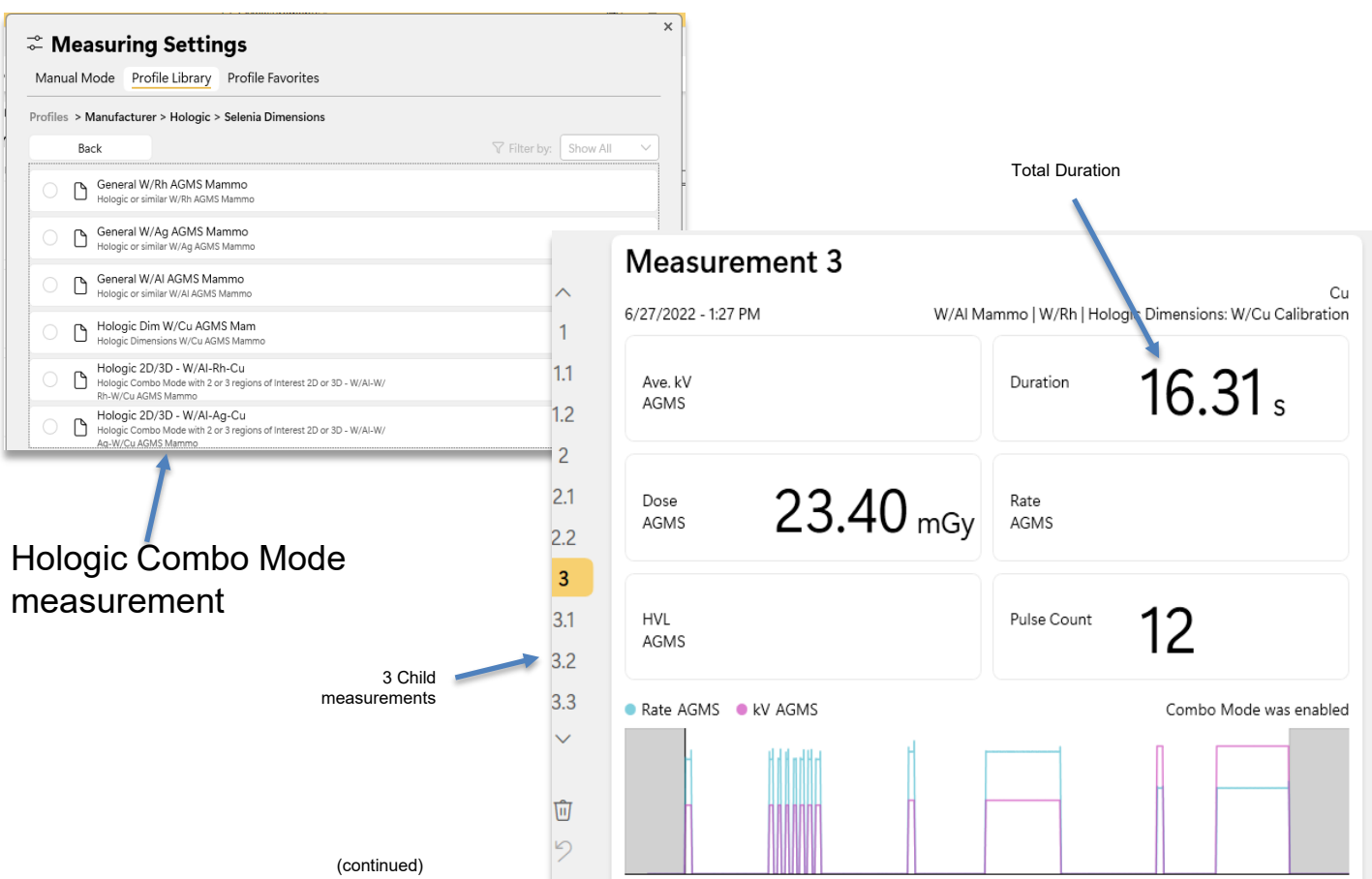
Mammography machines are increasingly supporting multi-mode or combination mode exposures in which multiple modalities such as 2D, Tomographic 3D, and High Contrast are incorporated in a single exposure (see below). Radcal's Accu-Gold instruments support these modes in a number of ways.

Radcal's 10X6-6M ion chamber has excellent energy uniformity and provides accurate dose measurements for all mammography beam qualities. As a result, this sensor is an excellent solution for reliable dose measurement for combination modes.

Radcal's AGMS multi-sensors also support accurate dose measurements for a number of combination mode systems. In particular, the Hologic Dimensions systems are well characterized by the AGMS sensors. Simply select the Hologic Selenia Combo mode profile, as shown below for the 2D+3D Tomographic combination mode.

AG3

The following illustrates how this measurement can be made using AG3 which conveniently makes the measurement in one step using the multisensor, AGMS.



(continued)

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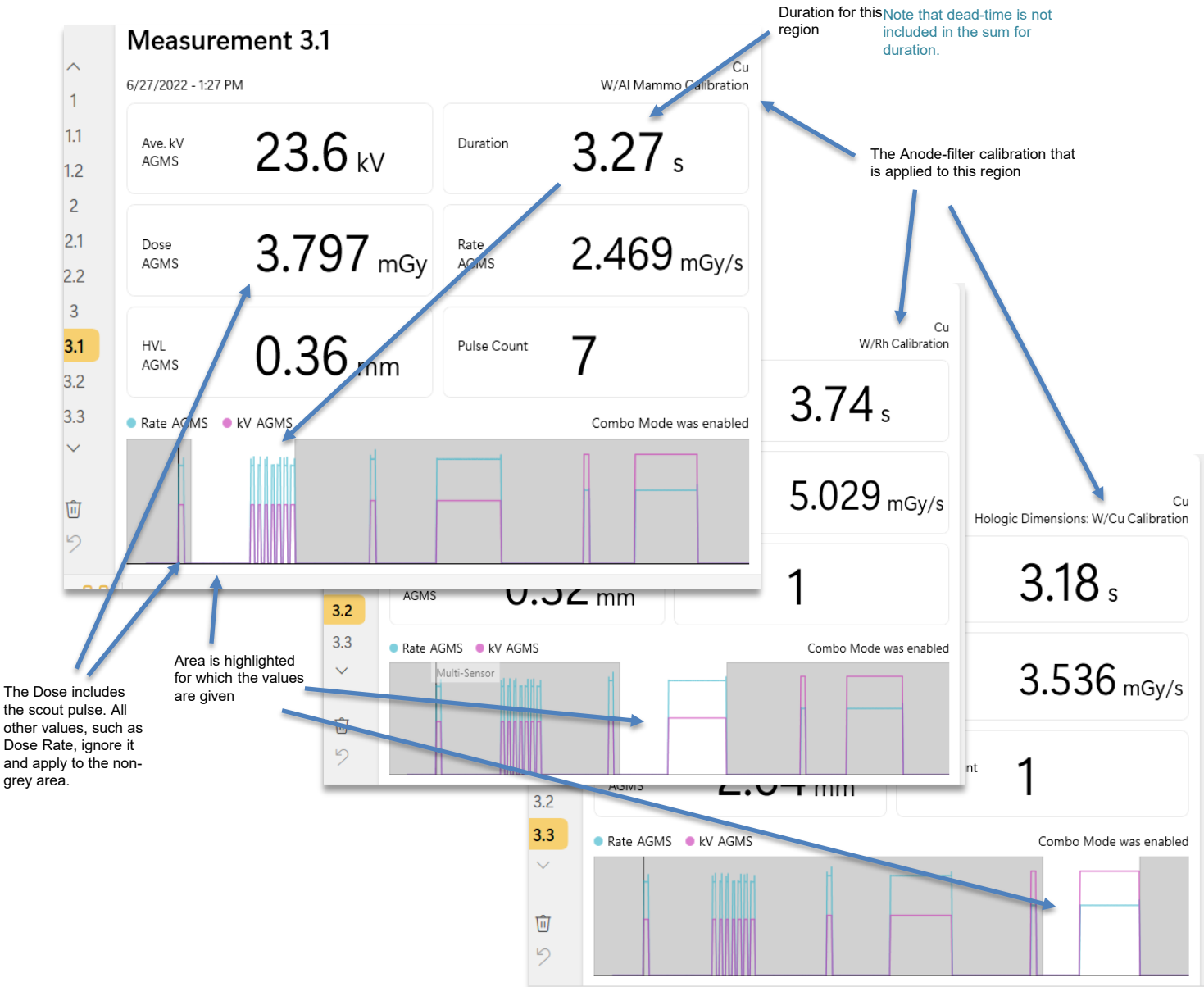

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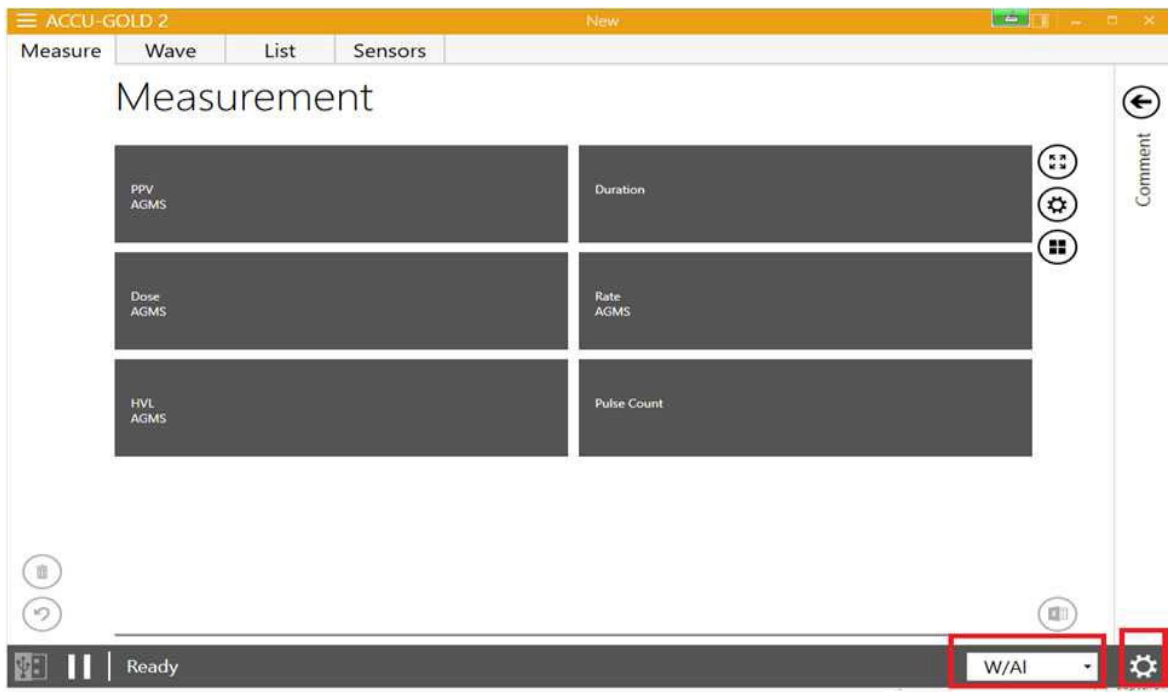
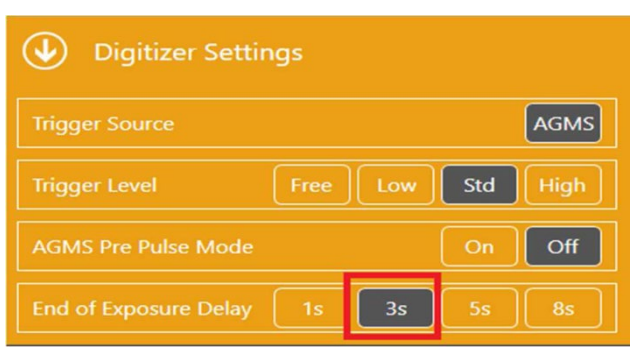
AG2

The following description describes how to use the AG2 software to make measurements on a Hologic Selenia when it is running in “Combo mode”, i.e. changing A-F during the measurement.

- Make sure all hardware is connected and the system is in the "Ready" state.
- Select W/Al from the drop-down list located on the bottom right.



- Click on the Settings button on the bottom right and set "End of Exposure Delay" to 3 seconds. If additional time is required change to 5 seconds.



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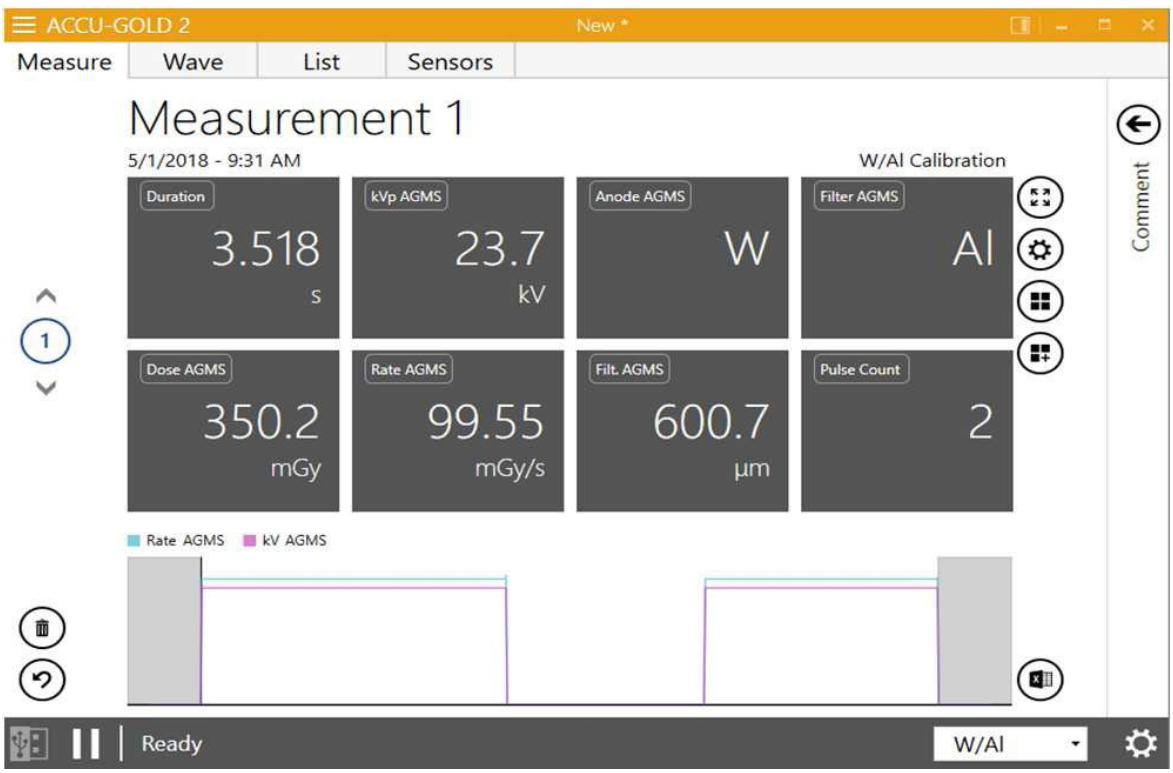
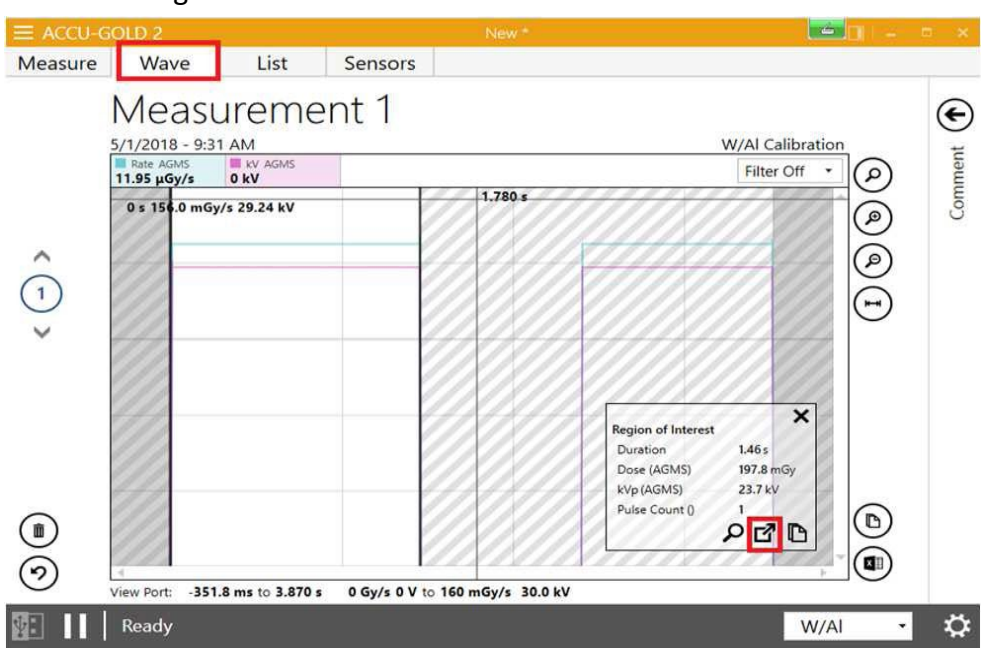
- Run the measurement



- Click on the "Wave" tab on the upper left and left-click the beginning and end of the W/Al section to lock the region of interest.



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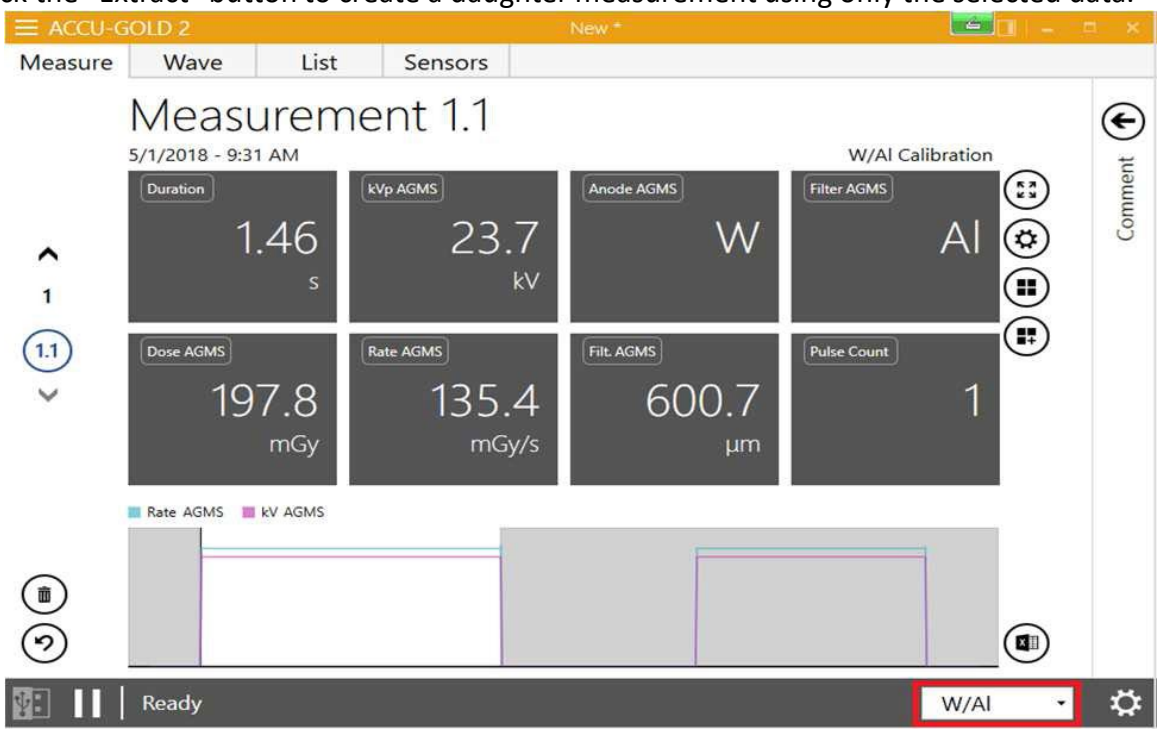
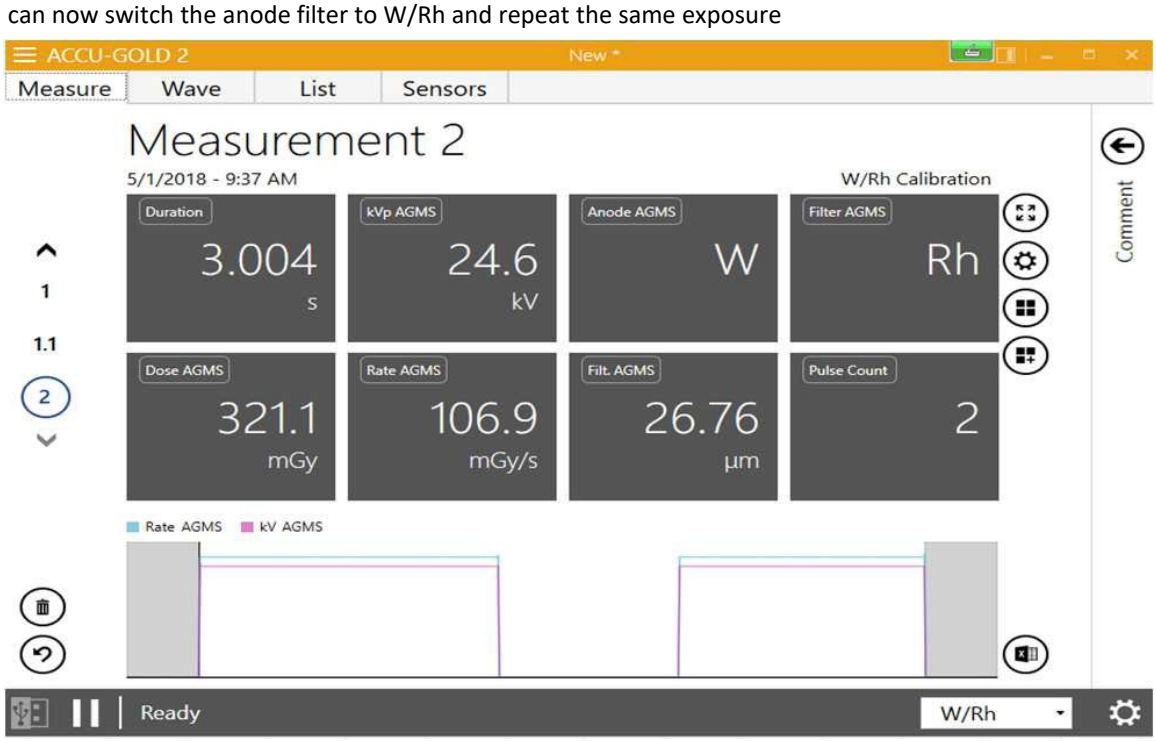
- Click the "Extract" button to create a daughter measurement using only the selected data.



- You can now switch the anode filter to W/Rh and repeat the same exposure



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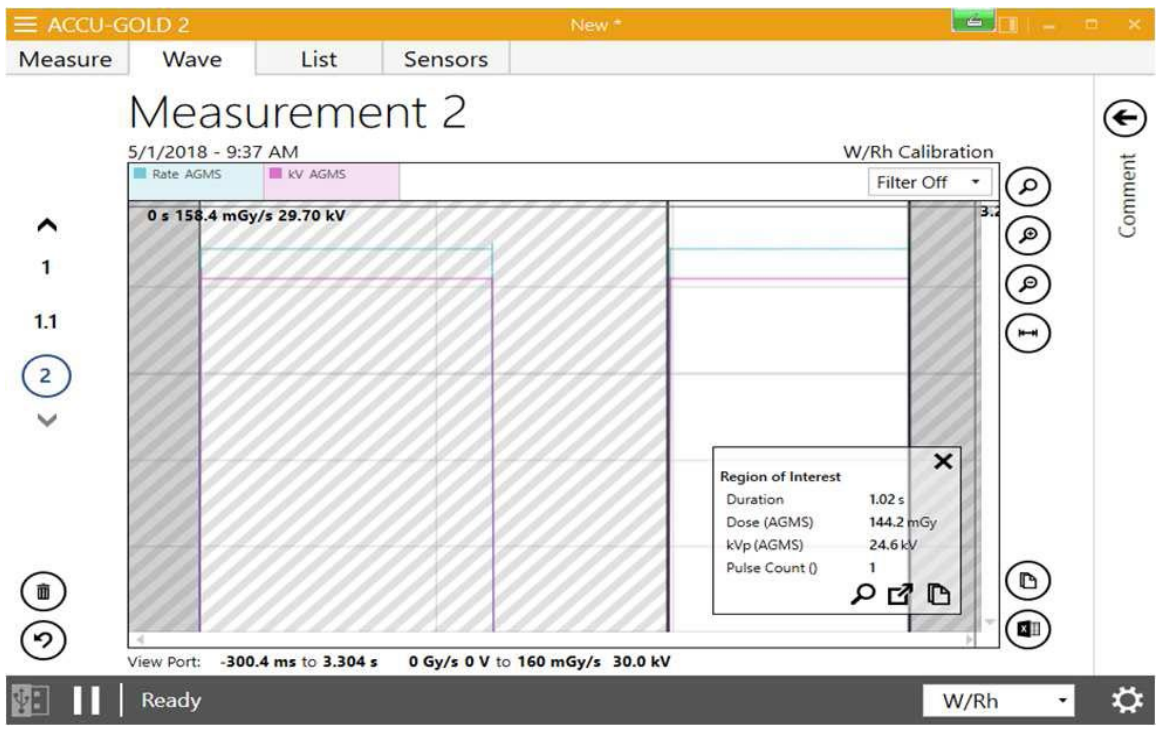
- Select the W/Rh region of interest and extract to a daughter measurement



- You can now tally the Dose from the W/Al and W/Rh daughter measurements for a total.