Moxtek is a manufacturer of miniature x-ray sources which are used in portable and handheld XRF instruments. We will show some comparisons between Moxtek’s new optiMAG and standard Magnum X-ray sources, including spot size, spot stability, flux stability, start-up speed, power consumption, and power efficiency. The presented data show significant improvements in the performance of the new tubes and Moxtek’s ultra-light high voltage power supplies. Presently, the optiMAG tubes are getting a ~30% increase in x-ray flux at identical operating conditions compared to standard Magnum tube. With new ultra-light high voltage power supplies, the X-ray source is getting excellent flux stability and repeatability as well.

Additionally, Moxtek is taking a substantial effort to fully characterize the optiMAG mini x-ray sources and our ultra-light high voltage power supplies. Some of the aspects of these metrology efforts will be presented as well.