

Supplementary Material:

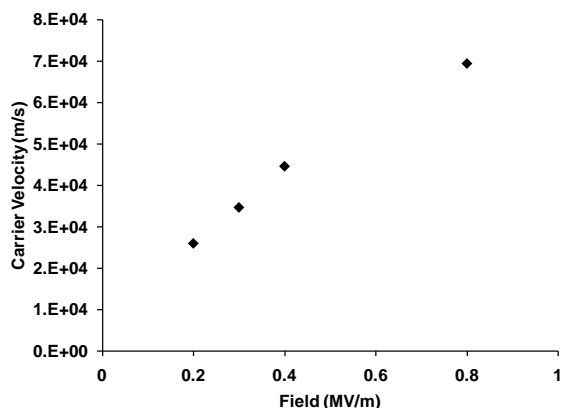


Figure S1

Carrier velocity as a function of field in the diamond.

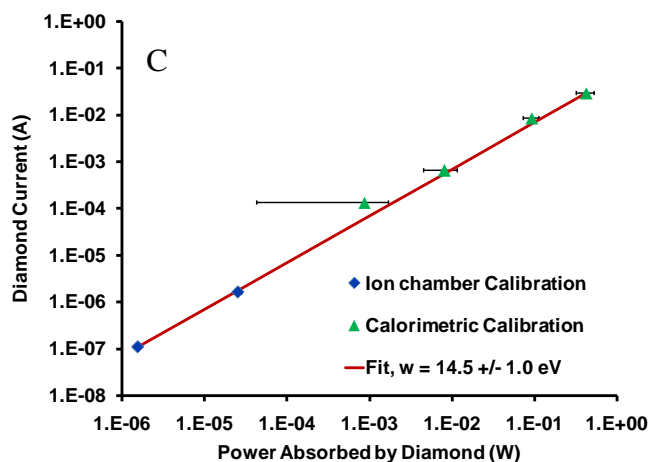
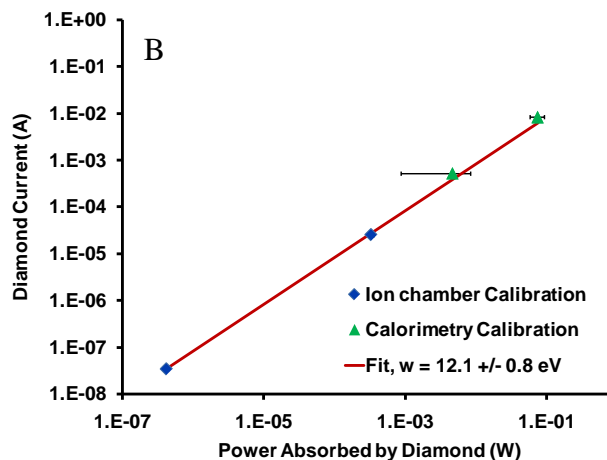
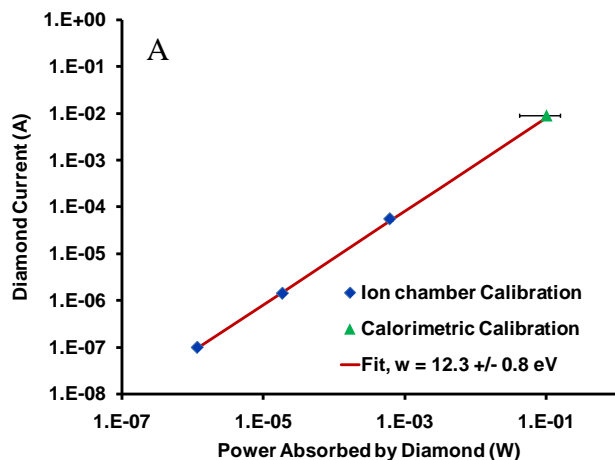


Figure S2

Additional single crystal detector calibrations at X28C. A) Single-channel detector built on the same diamond that was subsequently acid etched and resputtered as the quadrant detector shown in B) and also in figure 5. B) Quadrant detector measured under lower flux conditions (focusing mirror tuned to normal experimental parameters for synchrotron protein footprinting, the principal purpose of the X28C beamline). C) Calibration for a second quadrant detector; this experiment was plagued by poor contact issues, providing valuable insight for future mount design.